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UNDERSTANDING NEW PRODUCT PERFORMANCE: A DESCRIPTIVE INVESTIGATION ACROSS MULTIPLE CATEGORIES AND TWO COUNTRIES

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Declaration

I declare that this thesis presents work carried out by myself and does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university; to the best of my knowledge it does not contain any materials previously published or written by another person except where due reference is made in the text; and all substantive contributions by others to the work presented, including jointly authored publications, is clearly acknowledged.

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Kirsten Victory, February 2017

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Abstract

Many manufacturers launch new products to maintain and boost performance, but the launch of new products is one of the riskiest and costliest activities an organisation can perform (Brody & Lord 2002; Gielens & Steenkamp 2007; Martos-Partal 2012). New products *can* be great successes but there is mixed evidence examining new product launches and brand market share and category demand change (e.g. Anselmsson & Johansson 2009; Gielens 2012; Lomax & McWilliam 2001). Many academics suggest reasons why some new products are more successful than others, based on how *different* new products are from what is already in the market, or the decisions made for new products at launch (e.g. Gielens & Steenkamp 2007; Hultink et al. 2000; Sinapuelas, Wang & Bohlmann 2015; Steenkamp & Gielens 2003; Wilkie, Johnson & White 2015). Although examining new product success is important, more research is needed to understand what to expect from new products, in terms of their performance, across different market, category and launch conditions.

This thesis ***describes new product launches, from a sample of 23,642 new products, in terms of their prevalence, performance and share of category sales, across a range of conditions***. Prior work in the area does exist (e.g. Booz-Allen & Hamilton Inc. 1982; Hultink et al. 2000), however these studies often use survey-based methods, relying on managers' memory for information about the launch decisions and performance outcomes for new products. Also, because the past research examining the new product landscape is becoming dated, more updated knowledge is needed to better inform manufacturers and retailers. In addressing these two areas, this thesis uses large-scale, recently observed purchasing, pricing and distribution information from multiple categories.

This thesis describes the new product practice through conducting a comprehensive new product audit, analysing 23,642 new products across 22 consumer packaged goods categories and two countries, over a three to six-year period. The datasets in this thesis are recommended by marketing practitioners as a means to provide comprehensive product audits (see Wilbur & Farris 2014, p.156).

Based on the results from the comprehensive new product audit, four key findings are identified.

The first main finding is that ***larger categories tend to have more new product launches***, suggesting larger categories may be more attractive (or safe) to manufacturers. This finding does not necessarily imply more new products produce higher category sales revenues, but categories with higher sales revenues tend to have more new products launched each calendar year. This thesis also finds categories with wider product assortments tend to have more new products launched each year.

Also, this thesis finds that like categories: ***larger manufacturers tend to launch more new products*** *and* ***new products from larger manufacturers tend to secure wider distribution***, on

average. This finding suggests larger manufacturers have more resources to develop new products, and also more resources to secure wider distribution for their new products to encourage success.

Thirdly and contrary to popular belief, this current research finds ***most new products remain in the market longer than one year***. On average across the 22 product categories, the majority of new products (85.8%) continue to report sales activity in the fourth quarter from launch. Also, this thesis finds most new products that survive one year tend to continue to survive at the end of their second.

The final main finding is ***average new product and existing product price and distribution are different***. This thesis finds the 'typical' new product was priced 17% higher and had 9.2% lower distribution compared to the 'typical' existing product, on average across categories. This finding appears to demonstrate the pricing and distribution decisions made for new products in practice are different to those recommended by academics to encourage successful outcomes.

The four key findings from this thesis offer contributions to academia and marketing practice.

This thesis extends new product knowledge from academic papers (e.g. Hultink et al. 2000), association reports (e.g. Markham & Lee 2013) and published books (e.g. Booz-Allen & Hamilton Inc. 1982) by documenting new product activity using extensive purchasing data. The datasets in this thesis answer calls for research seeking to understand how to best approach innovation in data-rich environments (e.g. Biemans & Langerak 2015). The use of these datasets is one of the main academic contributions of this research. The descriptive results from this thesis also offer academics a clearer description of new product practice in consumer packaged goods categories. This thesis assists in the identification and creation of more relevant future research for marketing practitioners.

The descriptive results also provide marketing practitioners a broader understanding of new products. These results offer manufacturers and retailers an opportunity to benchmark their new product programs with others across categories. These finding may encourage manufacturers to review (and adjust) current success expectations for new products, based on common benchmarks in consumer packaged goods categories. This thesis also encourages practitioners to review past, current and future new product programs and assess how they could be better supported. It is expected this review process may help practitioners in shortening the odds of new product success.

Keywords*: new products, product innovation, launch decisions, manufacturers, retailers, brand, category, product assortment*

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PART ONE

BACKGROUND

CHAPTER 1 Introduction

This thesis investigates new product decisions and outcomes in consumer packaged goods categories. This first thesis chapter will summarise past new product research and will outline the research problem addressed in this thesis. This chapter also summarises the method, main findings and contributions this thesis offers to advance marketing science and also to marketing practice.

1.1 Background

Many businesses engage in new product activities, but launching new products is a very risky and costly activity for organisations to perform (Brody & Lord 2002; Gielens & Steenkamp 2007; Martos-Partal 2012). Some research organisations report new product launch rates have been slowing in recent years (e.g. IRI 2015), whereas other research consultancies report the number of new launches has been increasing (e.g. Nielsen 2015c). Nevertheless, interest in innovation will likely continue, and with this grandiose statements about innovation will inevitably follow, e.g. the '…ability to innovate is the "secret sauce" of business success' (Dyer, Gregersen & Christensen 2009).

Innovation is seen as 'sexy and mysterious' to many (Anthony 2012), and accordingly, there is the need to uncover what innovations or, new products, can achieve for organisations. New launches are often employed to help brands remain competitive, through increasing firm profits through premiumisation, removing penetration barriers or simply by increasing the propensity for consumers to shuffle between brands (Nielsen 2012). Past research has investigated the relationship between new products and financial measures of firm or brand success (e.g. Sorescu & Spanjol 2008), but often these are from durable goods categories, such as medical technologies, automobiles and computer technology products (e.g. Bayus, Erickson & Jacobson 2003; Kang & Montoya 2014; Pauwels et al. 2004; Sood & Tellis 2009; Srinivasan et al. 2009). Very few studies actually report results about how new products relate to brand performance measures in consumer packaged goods categories (e.g. Anselmsson & Johansson 2009; Gielens 2012; Lomax & McWilliam 2001). Through this lens, even fewer studies have investigated new products and changes in category performance, and often these include assortment additions and deletions (e.g. Tan & Cadeaux 2011).

What research for new products in consumer package goods categories finds, is that the majority of new products do not significantly affect parent brand market shares (Gielens 2012), others find a significant moderate relationship (Anselmsson & Johansson 2009), and others report average movement in brand market shares are small (Lomax & McWilliam 2001). The mixed results from these studies are likely because of the different conditions tested, e.g. including different brands types (private labels vs. manufacturer/national brands), new product types and countries chosen for analysis. When examining categories, some research finds major new products can expand category demand (Nijs et al. 2001). Others find most new products do not significantly affect category sales

(Gielens 2012). What research in this area demonstrates is new products *can* be successful, but the common rhetoric is many new products will be unsuccessful (e.g. IRI 2015; Nielsen 2014c; Pellegrini & Zanderighi 1991). This opens up more research streams, some determined to uncover whether some manufacturer decisions offer new products a higher chance at achieving success.

Manufacturers make many decisions for new products, i.e. new product attribute and launch (marketing) decisions. Manufacturers must decide how *different* their new product launches will be compared to other products in the category. There are many conflicting studies investigating the relationship between new product success and the level of new product similarity to what already exists in the market (level of innovativeness). For example, past research finds radically innovative (*very different*) new products are often more successful (e.g. Szymanski, Kroff & Troy 2007), but others find the opposite (e.g. Abril & Martos-Partal 2013). Some find new products are often more successful if they are very innovative or not at all (e.g. Gielens & Steenkamp 2007; Steenkamp & Gielens 2003), but others also find the opposite relationship (e.g. Wilkie, Johnson & White 2015).

Questions manufacturers must address for brand factors and marketing decisions include: what brand should launch the new product, where should it be stocked and how much should the new product should be sold for? Past research finds launch decisions can increase the chance for new product success. For example, research finds larger manufacturers often have more new product success (e.g. Abril & Martos-Partal 2013; Fornari, Grandi & Fornari 2009; Gielens & Steenkamp 2007; Sinapuelas, Wang & Bohlmann 2015). When thinking about pricing, some find new products with lower prices compared to category average are more successful (e.g. Steenkamp & Gielens 2003). Yet for product distribution, wider distributed new products are often more successful than those that fail to secure wider distribution networks (e.g. Hultink et al. 2000; Wilbur & Farris 2014).

There is unwavering interest in product innovation research in examining factors contributing to new product success, yet what this research needs to consider is how much new product success rates can vary because of the measures used. Evaluating new product performance is not easy because research in this area rarely uses consistent *success* and *failure* definitions (Crawford 1977), or they do not offer any clarification on how success was measured (Åstebro & Michela 2005). This makes it difficult to generalise results from many studies (Griffin & Page 1993), meaning variance seen for new product performance may simply come from differences in measurement. Moving away from categorising new products as simply *successes* or *failures*, more research needs to first offer more descriptive information about what most new products do achieve in a category upon launch.

This thesis ***describes new product launches in terms of their prevalence, performance and share of category sales, across a range of conditions***. The results from this thesis aim to better inform manufacturers and retailers on new product practice across consumer goods categories.

1.2 Research Problem

Many new products are launched each year, but there is little understanding about how these products vary and what can be expected from their performance. There have been only a few studies to date that explain the characteristics, sales contribution and launch strategies of new product launches. While prior research in the area exists (e.g. Booz-Allen & Hamilton Inc. 1982; Hultink et al. 2000; Markham & Lee 2013) more work is needed using large-scale and more recent datasets to offer an updated perspective to better equip manufacturers and retailers in understanding new product practice across categories. This thesis extends past research because it uses observed purchasing information, an improvement from studies that rely on the memory of managers for accurate information about new product decisions at launch and subsequent performance outcomes (e.g. Booz-Allen & Hamilton Inc. 1982; Hultink et al. 2000). Also, this thesis extends past research by examining all new product launches, not just those that are deemed successful, which is often the focus in reports from consultancy firms (e.g. Nielsen 2015a).

To provide an in-depth understanding about new products in consumer packaged goods categories, the following three research questions are addressed in this thesis:

RQ1. *What is the prevalence of new products across categories?*

- *How does this vary based on: (RQ1a) category size, or (RQ1b) manufacturer size*

RQ2. *How does new product performance vary across categories?*

- *When conceptualised as: (RQ2a) new product sales contribution, or (RQ2b) new product survival*

RQ3. *What common marketing decisions are made for new products across categories?*

- *How does this vary based on: (RQ3a) manufacturer size, or compare to: (RQ3b) existing products*

1.3 Research Method

To perform the comprehensive new product audit, 150,582 products (124,050 in the United States and 26,532 in France), including 23,642 new products were analysed across the two countries (19,912 in the United States and 3,730 in France) and 22 product categories over the three to six-year period. Multiple categories were used to gain a broader understanding on new product activity across consumer packaged goods categories and markets. This approach follows others who encourage marketing researchers to identify generalisable patterns through a Many Sets of Data (MSoD) approach (e.g. Ehrenberg 1990, 1995; Kennedy, Scriven & Nenycz-Thiel 2014), as researchers have the ability to replicate these findings across multiple categories in multiple studies.

This thesis uses observed store sales information from an external data provider, moving away from the traditional use of mail surveys in new product performance research (Hart 1993). The datasets in this thesis answer calls for research that seeks to understand how to best approach new products in data-rich environments (e.g. Biemans & Langerak 2015). The datasets used in this thesis are comparable to datasets used in past product distribution research (Wilbur & Farris 2014), that were vetted by brand managers from P&G, who 'considered this database to be the census of available products in the US' (Wilbur & Farris 2014, p. 156). The approval from marketing practitioners highlights the breadth and relevance of the datasets in this thesis to academics and practitioners.

Descriptive statistics were completed to gain an understanding of the new products launched each year, as well as the categories that these new products enter upon launch. The metrics in this stage included understanding how many new products are launched each year and their representation in category assortments, how much share do new products capture in overall category sales, how many new products survive from one year to the next, what manufacturers (by size) typically launch new products, what types of new products are launched and what is the average new product volume price and distribution compared to existing products in the category? Descriptive statistics for category performance measures were also included to further understand the categories the new products included in this study are launched into, e.g. near-stationary markets (Ehrenberg 1988).

1.4 Key Research Findings

This thesis offers four key research findings.

The first key finding is ***larger categories tend to have more new product launches***, suggesting larger categories may be more attractive (or safe) to manufacturers. This thesis shows the absolute number of new product launches vary somewhat predicably in line with category sales (revenue) generated and the assortment size of the category. The category sales (revenue) finding has been noted in past product innovation research (e.g. Martos-Partal 2012) and product assortment research (e.g. Tan & Cadeaux 2011). This thesis also finds new product launches represent around 15% of all products available across categories. No past research recent or otherwise (to this author's knowledge) reports the average percentage representation of new products in a category.

This thesis finds like categories: ***larger manufacturers in a category tend to launch more new products compared to their smaller manufacturer counterparts***. This pattern has been noted in past research from one consumer durable category (e.g. Pauwels et al. 2004), but not in consumer packaged goods categories. This thesis also finds evidence that larger manufacturers do offer more resources to support new products, as new products from ***larger manufacturers tend to secure more distribution***. It is thought larger manufacturers launch more new products and secure wider distribution because they have more resources than smaller manufacturers (Rubera & Kirca 2012).

Thirdly and contrary to popular belief, this thesis finds ***most new products that are launched remain in the market for longer than one year.*** This finding contrasts to the widely held belief that around 80% of new products fail, but is much closer to success figures cited in empirical product innovation research on failure rates (see Castellion & Markham 2013). New product success can be conceptualised in many different ways, making survival measures in this thesis (one success measure) difficult to compare with past studies. This thesis finds ***most new products surviving their first year tend to also survive the next year***. This may suggest new products still reporting sales at the end of one year may have a better chance of surviving another (second) year.

The final key finding of this thesis is ***average new product and existing product price and distribution are different***. This thesis finds the 'typical' new product is **(1)** often offered at a more expensive price (17% higher, on average) and **(2)** gain slightly less distribution (-9.2% lower, on average). These findings offer similar results from past research into new product price (e.g. Wilkie, Johnson & White 2015) and distribution (e.g. Hultink et al. 2000; Wilkie, Johnson & White 2015). Yet, researchers conclude that often successful new products are those launched at lower prices (e.g. Ataman, Mela & Van Heerde 2008; Hultink et al. 2000; Steenkamp & Gielens 2003) and with wide distribution (e.g. Ataman, Mela & Van Heerde 2008; Wilbur & Farris 2014). Findings uncovered from past product innovation studies highlight a possible disconnect between common decisions made in marketing practice and decisions *endorsed* by academics.

1.5 Contributions to Marketing Theory and Practice

This thesis builds on past product innovation research and adds to marketing theory and practice.

Firstly, this thesis analyses measures that are commonly found in product innovation reports (e.g. Nielsen 2014c) but through an academic lens. This thesis builds upon the few academic papers (e.g. Hultink et al. 2000), association reports (e.g. Markham & Lee 2013) and published books from consultants (e.g. Booz-Allen & Hamilton Inc. 1982) that use survey-based measures, by documenting the new product practice using extensive purchasing datasets. The use of observed purchasing information is being used more often in product innovation success research (e.g. Gielens 2012; Gielens & Steenkamp 2007; Sinapuelas, Wang & Bohlmann 2015; Steenkamp & Gielens 2003), steering away from the use of mail surveys (Hart 1993). The datasets in this thesis answer calls for research seeking to understand how to best approach new products in data-rich environments (e.g. Biemans & Langerak 2015), making the use of these datasets one of the main academic contributions of this thesis.

Secondly, the results from this thesis also offer academics with an objective, comprehensive description of new products across consumer packaged goods categories in two countries. This offers academia a greater understanding about the new product practice, paving the way for more relevant research for marketing practitioners based on current practice in consumer packaged goods categories.

Many companies use new product launches to compete in consumer packaged goods categories (Stremersch & Tellis 2004). With new product launches being so common, manufacturers and retailers need a greater understanding about new products to help with decision making and adjust expectations about what new products can offer. This thesis reports results about new product share of category sales, and new product survival. These results contribute to marketing practice because they encourage manufacturers to review their performance expectations for new products.

Finally, this thesis reports the average pricing and distribution reported for the 'typical' new product does not reflect recommendations found in past research to encourage new product success. This current research highlights the disparity between what is considered as "best practice" from an academic viewpoint and current practice by marketing practitioners. Based on this knowledge, marketing practitioners are encouraged to review launch decisions from past, current and future new product programs and assess how they could or can be better supported. This review process may assist marketing practitioners in shortening the odds of new product success.

1.6 Chapter Summary and Thesis Structure

This chapter has presented a brief background and summarised each section of this thesis. The next three chapters will examine past new product research, with the first chapter discussing new product performance and success measurement across consumer packaged goods categories. This thesis has 10 chapters across three sections. These sections and chapters are outlined below:

PART ONE BACKGROUND

This current chapter, CHAPTER 1, introduces the main research problem this thesis addresses, summarising each core section of this thesis. CHAPTER 2 is the first literature review chapter in this thesis. This chapter presents reported new product success rates, focusing on new product success measurement. CHAPTER 3 investigates product innovation as a condition in new product success, and the final literature review chapter, CHAPTER 4, discusses product launch decisions as a condition in new product success. The literature chapters in this section present what is known about the conditions in new product success. The aim in this section is to outline what is known about new product success, highlighting very little is known about what most new products achieve.

PART TWO METHOD & RESULTS

CHAPTER 5 outlines the research problem, datasets and variables of interest used in this thesis, finishing with a discussion about how each dataset was prepared and analysed. The final three chapters in this section all report results from this thesis based on the research problem outlined in CHAPTER 5. CHAPTER 6 describes the 22 product categories used in this thesis, documenting their assortment sizes, sales and average prices. CHAPTER 7 reports the descriptive results focused on new product prevalence and performance. The final results chapter, CHAPTER 8, reports brand

factor and marketing mix decisions results for new products. Findings summaries are at the end of each section (grey boxes). The key findings across chapters are presented in the Chapter Summary.

PART THREE CONCLUSIONS

CHAPTER 9 reports the four key findings of this thesis, linking these with past new product research. This chapter also presents the main limitations and offers avenues for future research based on this thesis' findings. CHAPTER 10, the final chapter, presents the main contributions of this research to marketing theory and to marketing practice, as well as some concluding statements.

CHAPTER 2 New Product Success & New Product Success Measurement

New products are common and it is thought many new products will not attain successful outcomes. There have been many calls for research to make marketing practitioners more accountable for their marketing decisions, through the development and use of marketing metrics (Mintz & Currim 2013). Measuring and demonstrating business outcomes from innovation is important, but measuring new product success is very hard. This chapter presents new product success rates, common new product success measures and issues in new product success measurement. In this chapter, the discussion is largely focused on *market position* based success measures, e.g. brand market share.

2.1 How Successful Are New Products?

Most new products fail is a common rhetoric in new product research (e.g. Iri 2015; Pellegrini & Zanderighi 1991). Often, failure rates are reported to reach around 70-80% (e.g. Nielsen 2014c), meaning very few new products attain successful outcomes. Some challenge this (see Castellion & Markham 2013), finding new product success rates are much closer to 60% (e.g. Markham & Lee 2013). Although many new products are not successes, new products still continue to be launched to help organisations to be competitive (Brody & Lord 2002). Yet, research investigating the new product and firm, brand or category performance relationship is inconclusive.

Often, research in this area investigates new products from durable goods categories, e.g. medical technologies, automobiles and computer technology products (e.g. Bayus, Erickson & Jacobson 2003; Kang & Montoya 2014; Pauwels et al. 2004; Sood & Tellis 2009; Srinivasan et al. 2009). Very few studies report how new products relate to firm or brand performance measures in consumer packaged goods categories (e.g. Anselmsson & Johansson 2009; Gielens 2012; Lomax & McWilliam 2001; Sorescu & Spanjol 2008) and even fewer empirically investigate how new products may change category performance.

One study finds most (80%) new products do not significantly affect (in either direction) parent brand market shares, across three retailers in the United Kingdom (Gielens 2012). Others find on average movement in brand market shares are small and positive (1.8%) post launch, across 13 line extensions (Lomax & McWilliam 2001). Some report a significant moderate relationship between new product prevalence (new product percentage in each category over four years) and store brand market share change (Anselmsson & Johansson 2009). The mixed results are expected to be because of the conditions included in the analysis, e.g. not all examine in the same countries and new product type.

In examining categories, one study finds most (85%) new products do not significantly affect (in either direction) category sales volumes but some brands, e.g. leading national brands, and standard and premium private labels, are more successful in increasing category sales across three retailers in the United Kingdom (Gielens 2012). On the other hand, others find in the Netherlands, *successful* new products can significantly expand category demand in retailers (Nijs et al. 2001), but no specific increase figure was reported. Assortment research ran in one Australian retailer found product categories with an increase in products (SKUs) had higher category sales, compared to categories that added and delisted products, or those that had only delisted products (Tan & Cadeaux 2011).

2.2 What is New Product Success?

Measuring success is hard because success can be measured in many ways. Although quite often, new product success measures can be classified under two main categories: financial and non-financial measures (Hart 1993). Many have offered a range of new product success measures (e.g. Griffin & Page 1993, 1996; Hultink & Robben 1995), but multiple assessments of success are often used. Multiple assessments are often used because success is a multidimensional construct (Hultink & Robben 1995), which is hard to accurately explain and understand using one single metric. Success measurement is more than just investigating *what* should be measured (e.g. market share, customer satisfaction), because success measurement needs to also include considerations about *when* new product success should be measured (e.g. short-term, long-term). Past research has presented 16 core success measures used by academics and practitioners (Griffin & Page 1993) but others have extended these measures to include a time perspective (see Hultink & Robben 1995). Together, these two papers (Griffin & Page 1993; Hultink & Robben 1995) offer suggestions about *what* should be measured, as well as *when* success should be measured (see Table A.1, in the appendix).

2.3 How is New Product Success Measured?

New product success can be measured in many ways and should include considerations about *what* and *when* success should be measured. Many offer broad recommendations to measure new product performance (e.g. Griffin & Page 1996; Hart 1993; Hultink & Robben 1995), with these measures often discovered through surveying practitioners from varied categories (e.g. durable packaged goods, consumer packaged goods, services, chemicals, agriculture, etc.). New product success measurement suggestions uncovered from examining multiple (and diverse) categories is important, yet research focused on success measures for consumer packaged goods categories is more appropriate, because new products included and analysed in this thesis are from consumer packaged goods categories. To understand common new product success measures used, more recent examples from academia and practice (including research consultancies) are discussed.

Often, more recent academic research uses consumer trial (and/or repurchase) as a success measure (e.g. Abril & Martos-Partal 2013; Gielens & Steenkamp 2007; Sinapuelas, Wang & Bohlmann 2015; Steenkamp & Gielens 2003). Others have used variations on survival measures, e.g. *completely failed* (no more sales activity), as success measures (e.g. Wilbur & Farris 2014). Some others (across categories, including in consumer packaged goods) ask marketing practitioners how successful new products are, based on undefined and internal (most likely, varied) success measures (Markham & Lee 2013). Many consultancies (e.g. Nielsen, IRI) honour new products that reach arbitrary fixed sales benchmarks (IRI 2010; Nielsen 2015a) and survival measures (Nielsen 2014c; TNS 2014). Kellogg Australia use market share and consumer trial and repurchase success measures (Tait 2015). Although only one example from one brand, measures such as these are very common (Tait 2015), with past academic research showing market share (Mintz & Currim 2013) and sales volume measures (Booz-Allen & Hamilton Inc. 1982) are often used in many industries.

Knowing *what* to measure is one thing, but knowing *when* to measure makes new product success measurement even more complicated and fragmented (Hultink & Robben 1995). Often, academics and marketing practitioners wait one year (52-weeks) from launch to assess success (Gielens & Steenkamp 2007; IRI 2010; Nielsen 2014c; Sinapuelas, Wang & Bohlmann 2015). Some extend measurement past one year, measuring success over longer periods (e.g. Brody & Lord 2002; Singh et al. 2012; TNS 2014) but most measure new product success one year (52-weeks) from launch.

2.4 Why is Measuring New Product Success Difficult?

Selecting success measures for new products is hard and currently there is no silver bullet for measuring new product success. Many academics have recommended new product success measures (e.g. Griffin & Page 1993, 1996; Hultink & Robben 1995), but some may be more suited to a few new products based on each new products' (1) objectives, (2) type, or (3) some measures may be more commonly used because of *who* is measuring success (e.g. academics or practitioners).

(1) New products may be launched to meet a range of needs (Johne & Snelson 1988), e.g. increasing *brand penetration* or defending *brand market share*. Since new products are launched for many reasons, blanket success measures may not be appropriate for all launches, e.g. complementary new products aim to sell more to current brand buyers, meaning *brand penetration* measures may be less appropriate. There is evidence reporting 'performance criteria [is] tied to the strategic role played by new products' in one consumer packaged goods company (Booz-Allen & Hamilton Inc. 1982, p.11). More research is needed to understand which success measures are best suited to new products with certain product objectives and time perspectives (Hultink & Robben 1995, p.404).

(2) New products can be classified in many ways, often based on how innovative or *new* they are (see CHAPTER 3). Certain new product types may be more suited to some success measures than others, most likely because different new product types may serve different purposes (Griffin & Page 1996), e.g. brands may introduce *line extensions* in an attempt to defend market share, rather than to

increase it. Past research finds most new products in consumer packaged goods categories are slight revisions to existing product lines (IRI 2010), e.g. new flavours or pack sizes. This suggests measures for *Additions to Existing Product Lines* (see Griffin & Page 1996) may be more suited for new products launched in consumer packaged goods categories (see Figure A.1, in the appendix).

(3) Success can be measured in many ways, and quite often, new product success measures do vary across marketing academics and practitioners. Measures may vary from academics to practitioners because some data types are more accessible than others (Griffin & Page 1993). Academics may find it harder to secure *transparent* profit information from organisations, often collected using survey-based means (e.g. Booz-Allen & Hamilton Inc. 1982), but academics may have *easier* access to observed sales information from external data providers (e.g. Nielsen, IRI). Although it is not always simple for academics to access comparable data used in practice (Griffin & Page 1996), academics need to use measures relevant to practitioners to make research usable for end-users.

Comparing new product success rates across past research is hard for many reasons. One reason comparison is hard is because past research often uses different definitions for *success* and *failure* across studies (Crawford 1977). Many studies use commercial success measures (e.g. financial or market share objectives) to assess new product performance (Montoya-Weiss & Calantone 1994) but new launches could still be successful providing their intended purpose was met (e.g. bar competitor entry, secure more space in retailers) (Johne & Snelson 1988). Organisations do not often measure new product success based only on profit criteria, as shown in past new product research (Page 1993). New product success measures indeed vary across studies, yet most new product performance studies 'have skilfully side-stepped the issue of what the essence of new product success is' (Hart 1993, p.23). The inconsistent measurement and concealed definitions (Åstebro & Michela 2005) in past research makes it difficult to generalise results across studies (Griffin & Page 1993). Whilst more work is needed to understand new product success measurement, this is not the aim of this current research. Instead, this thesis describes new product practice (and performance), using successful and unsuccessful new products, across 22 consumer packaged goods categories.

2.5 Chapter Summary

The key themes covered in this chapter include:

- *Most new products fail* is a common rhetoric, but evidence seems to be inconclusive.
- There is no silver bullet to evaluate new product performance. New product success can be measured in many ways, making it difficult to compare across studies and with industry.
- In past research and in practice, academics and marketing practitioners often use sales related performance measures. Sales performance measures are used in this thesis.

This chapter has described the difficulty of new product success measurement and has outlined common new product success measures used by academics and marketing practitioners. The remaining chapters in PART ONE (CHAPTER 3, CHAPTER 4) explore common new product success conditions, with the following chapter examining innovation as a condition in new product success.

CHAPTER 3 New Product Success Conditions – Innovativeness Decisions

Exploring conditions in new product success is in the interest of many academics and practitioners, with academics often investigating how different *levels* or *types* of product innovation may be closer associated with certain new product success outcomes (e.g. Gielens & Steenkamp 2007). Although important, this thesis does not aim to predict conditions where new products are more or less successful, but instead is interested in uncovering the performance that can be expected from different new product *types* (e.g. new brands, line extensions, etc.). This chapter outlines how innovation can be classified and identified in new products, as well as what is known about product innovation as a condition in new product success. The results of cited studies are grouped into three main product innovation classifications: *Categorical*, *Characteristic*, and *Continuum* classifications.

3.1 What is Innovation?

Innovation can be considered in many ways (Goldsmith & Foxall 2003), but it is largely done so from a product, firm or consumer perspective (Roehrich 2004). Product perspectives are concerned with the 'possession of newness', firm perspectives are concerned with the 'creation of newness', and consumer perspectives focus on the 'consumption of newness' (Roehrich 2004, p.671). This thesis explores innovation using a product perspective to document *how* new products are different and the common performance outcomes associated with new products with these varying differences.

Although there is ongoing academic interest in product innovation (Szymanski, Kroff & Troy 2007), not one definitive product innovativeness definition exists (Danneels & Kleinschmidt 2001). Some warn until there is a 'consistent, explicit, and precise definition and measurement of product innovativeness', end-users will not have practical and generalised insights (Danneels & Kleinschmidt 2001, p.358). Putting this aside, it is often agreed *innovation* means there is some *newness* (Johannessen, Olsen & Lumpkin 2001), with 'relative difference between new and previous offerings…at the core of product innovativeness definitions' (Szymanski, Kroff & Troy 2007, p.36). Others also find in 60 academic papers across seven disciplines, *innovation* is often considered as something that is new or changed from what was already available (Baregheh, Rowley & Sambrook 2009). In this thesis using the conceptualisations above, *innovation* broadly includes all new product launches because these offer something new or changed from current category offerings. New products can also be further classified based how innovative they are, grouping new products based on *how* different these new products are to others. In this thesis and in the remainder of this chapter, innovation refers to *why* and *how* new products are different to existing products already offered in a category.

3.2 How is Product Innovation Classified & Identified?

At its core, *newness* themes are common to many innovation conceptualisations. However, when using this as foundation, innovation conceptualisations become more complex and more abundant. Once new products are detected, evaluations are often made about *how* these new products are different to other products. There is ongoing interest in *how* new products are different and just how their difference may shorten the odds of new product success in consumer packaged goods categories (e.g. Gielens & Steenkamp 2007; Steenkamp & Gielens 2003). This chapter outlines common approaches to classify new products and reports success outcomes in consumer goods categories. Note: classification groupings in this chapter are based on the authors' assessment.

3.2.1 Categorical Classifications

Innovation in new launches are often labelled as possessing none or very little innovation, or having significant innovation present. This approach places new products into two broad groups: those that are innovative and those that are not. This classification names innovation in new products as being:

- pioneering or incremental (e.g. Ali 1994),
- radical or incremental (e.g. Hauser, Tellis & Griffin 2006),
- innovative or not-innovative (e.g. Sinapuelas, Wang & Bohlmann 2015),
- discontinuous or continuous (e.g. Sharp 2013), or
- new to the world or new to the firm (e.g. Chang et al. 2014).

Although each example has slightly different phrasing, each is polarised into two groups based on *newness*. Very different products, i.e. radical, pioneering innovations, are often defined as new launches breaking free of category norms. These new product launches are often thought to be able to create entirely new categories (Sharp 2013). An example in consumer packaged goods categories is the emergence of *Ready-to-Heat Rice*, spurred on from radical innovations in *Rice*. Very similar products, i.e. incremental innovations, are often defined as new products that do not offer anything vastly different to products in the category (Sharp 2013). An example in consumer packaged goods is the *Cookies n' Creme Oreo*, launched in 2013 (Waxman 2013). This flavour was a new addition to *Oreo* but in essence, this product's flavour was not too different to others from *Oreo* or the category.

This classification approach is very common but could be considered inappropriate in consumer packaged goods categories because radical innovations are very uncommon. Past research finds only 7% of new products are breakthrough innovations (Sorescu & Spanjol 2008), as most new products are only additions or revisions to existing product lines (Iri 2010; Kleinschmidt & Cooper 1991). Because radical innovations are thought to create new categories, it is unsurprising substitutable products (incremental innovations) are most often found across product categories.

The lack of pioneering innovation suggests more descriptive classifications may be needed to help describe the difference in new products that are similar to existing category offerings. One seminal book (Booz-Allen & Hamilton Inc. 1982) presents a new product framework that is often seen in some of the most highly cited innovation and new product performance papers (e.g. Kleinschmidt & Cooper 1991). This framework (see Table A.2, in the appendix) classifies new products as being: *new-to-world products*, *new product lines* to the firm, *additions to existing product lines* at the firm, *improvements in/revisions to existing products* at the firm, *repositionings* of existing firm products and *cost reductions* to existing firm products. The framework's categories have varying newness levels (e.g. *new-to-the-world* products have a higher degree of newness compared to *cost reductions*), but most new launches were not considered to be very innovative, e.g. majority (52%) are additions or improvements to existing lines (Booz-Allen & Hamilton Inc. 1982). This does offer a more realistic innovation viewpoint because newness is accommodated, without assuming new products in consumer packaged goods categories can or should be very innovative. Others categorise new products in a similar fashion (Goldsmith & Foxall 2003), as presented in Table A.3, in the appendix. This framework classifies new products as being: *innovations* (i.e. *new-to-the-world* products), *new brands*, *brand extensions*, *line extensions* and *modifications*. This framework is not only simpler than the former (Table A.2), but it is also more flexible because new products can be allotted into categories without help from each firm (e.g. *cost reductions* are hard to detect using sales information from external data providers). The two frameworks include "pure SKU proliferation" new products, sometimes excluded in studies (e.g. Gielens 2012), making each framework more inclusive and capturing more new products to better understand current new product practice.

3.2.2 Characteristic Classifications

Another common way to describe how new products are different is to examine their characteristic differences compared to existing items. One past study conceptualises new product characteristic change as being an: *intrinsic change*, *extrinsic change*, or simply a *change in usage* for existing products (Gielens 2012). An *intrinsic* change is one that alters the physical properties and formulation of a product. An example includes *Extra Dessert Delights* adding cinnamon roll flavour (e.g. Wrigley 2012). An *extrinsic* change is one that does not alter the physical properties of a product. An example includes *Cadbury Dairy Milk*'s changing block sizes (e.g. Ma 2015). A *change in usage* is where an existing product is used to meet a new purpose outside of the target category. An example includes products in *Baking Soda* and *Breakfast Cereals* categories because these products are often repurposed for other uses (e.g. *Baking Soda* products used as skincare and products from *Breakfast Cereals* used in desserts). Others use a similar approach, labelling changes as *vertical differentiation*, *horizontal differentiation by physical attributes*, e.g. flavour changes, and *horizontal differentiation by product perception*, e.g. pack size changes (Pellegrini & Zanderighi 1991).

3.2.3 Continuum Classifications

More researchers have begun extending innovation classifications, moving toward evaluating how unique new products are, compared to existing products in the category. *Degree of innovation* as a measure is becoming more and more prevalent in academic research (e.g. Abril & Martos-Partal 2013; Gielens 2012; Gielens & Steenkamp 2007; Steenkamp & Gielens 2003). Because most new products are incremental innovations (IRI 2010) and share comparable characteristics (Pellegrini & Zanderighi 1991), using this measure may be more appropriate to describe innovation. This is because *degree of innovation* measures can detect slight changes to existing products. An example in consumer packaged goods is *Doritos Roulette*, launched in 2015 (Schultz 2015). This product was more novel compared to others in the *Potato Chips* category, but may have been labelled as *non-innovative* because the subtle differences may not be accounted for in other classification methods.

Most academic researchers use experts to judge new product newness (e.g. Abril & Martos-Partal 2013; Gielens 2012; Gielens & Steenkamp 2007; Goldenberg, Lehmann & Mazursky 2001; Steenkamp & Gielens 2003). Measurement items vary across studies, but most apply a five-point scale to the item, "this product is very new to the market" (e.g. Abril & Martos-Partal 2013; Gielens & Steenkamp 2007). This measure presupposes innovation can be found in consumer packaged goods categories, but past studies using this measurement tool still report low to medium newness levels (e.g. Abril & Martos-Partal 2013; Gielens & Steenkamp 2007; Steenkamp & Gielens 2003).

In order to measure relative difference in new product characteristics, researchers have begun to use the Gower distance coefficient (see seminal research, Gower 1971) in recent marketing studies (e.g. Sinha, Sahgal & Mathur 2013; Ter Braak, Dekimpe & Geyskens 2013; Wilkie & Johnson 2016; Wilkie, Johnson & White 2015). The Gower distance coefficient assigns each product a *difference* score, based on its characteristics, ranging from 0 to 1 (Sinha, Sahgal & Mathur 2013; Wilkie & Johnson 2016; Wilkie, Johnson & White 2015). A product assigned a value closer to 0 reports the product is not very different to others, and a value closer to 1 reports the product is very different to others. For example, a product sharing two of six characteristics with another item would report a score of 0.66. This measure has been advocated by some academics because it assumes some brands (e.g. *M&M's* and *Smarties*) are more similar than other brands (e.g. *Ferrero Rocher*) (Sinha, Sahgal & Mathur 2013, pp.4-5). The Gower distance coefficient is somewhat new to marketing research, but could offer researchers an objective way to measure new product *difference* in a product category.

3.3 How Does Product Innovation Impact Performance?

There is mixed evidence reporting how new products affect brand and category performance (see Section 2.1), but it is undisputed new products can still be successes. Innovation is often thought to sway new product success, so it is worthwhile to investigate whether more or less innovative new products are more closely associated with certain types of new product success outcomes.

Many have investigated new product newness and new product performance outcomes. It is often thought more radical innovations have more successful outcomes (Szymanski, Kroff & Troy 2007). One paper reports breakthrough innovations have the greatest impact on company performance in consumer packaged goods categories (Sorescu & Spanjol 2008), yet others find new products with high levels of newness tend to have a negative impact on success (Abril & Martos-Partal 2013). It is reasoned very new products may be less successful because they are deemed too risky by consumers (Goldenberg, Lehmann & Mazursky 2001). Others find a U-shaped relationship between new product newness and success (Gielens & Steenkamp 2007; Steenkamp & Gielens 2003). The U-shaped relationship suggests new products with low or high newness are often more successful, measured using a newness (expert judged) scale item and new product trial. Yet, more recent research finds an inverted U-shaped relationship for line extension newness and success (Wilkie, Johnson & White 2015), measured using the Gower distance coefficient and brand market share.

The mixed results in past academic research may stem from the innovation and success measures used (CHAPTER 2). In response, more research is needed to first gain an understanding about the performance outcomes often attained from most new products and certain product innovation types. The mixed results may also be because product innovation is one condition in new product success, so more is needed to understand how other conditions, e.g. launch decisions, impact success outcomes. The next chapter, CHAPTER 4, examines new product launch decisions and success.

3.4 Chapter Summary

The key themes covered in this chapter include:

- There are many ways to classify innovation in new products, with categorical classifications being most simple. In consumer packaged goods where *real* innovation seldom exists, many innovation classifications may be insufficient to describe difference in new products.
- Many factors may contribute to new product success, with innovation being one condition. Although innovation is thought to be important in success, results in this area are mixed.

This chapter has provided an overview about how product innovation can be conceptualised and how different new product *types* may be associated with different new product success outcomes. Although one success condition, product innovativeness is not the sole factor affecting new product performance outcomes. The following and final chapter in this literature review (CHAPTER 4) presents what is known about launch decisions and how they affect new product performance.

CHAPTER 4 New Product Success Conditions – Launch Decisions

Much of the existing knowledge in the new product area is about how to increase the success of new launches (e.g. Ataman, Mela & Van Heerde 2008). These studies often focus on the decisions manufacturers make when launching new products, seeing if certain brand factors or marketing mix conditions can increase the success of new products. Brand factors and marketing mix decisions manufacturers make include: what brand should launch the new product, *where* should it be stocked and *how much* should the new product be sold for? This chapter discusses what is known about these brand factors and marketing mix decisions for new products across categories and how these decisions can affect new product performance. The results of these studies are grouped by decision. In this thesis, brand factors and marketing mix decisions are also referred to as *launch decisions*.

4.1 Brand Factors

There are many brand factors marketing practitioners need to consider when launching new products. It is important marketing practitioners understand how varying brand factors, such as brand size and brand type (e.g. private label or national brands) can impact new product success.

4.1.1 Brand Size

Bigger brands often have more advantages than their smaller share counterparts. Bigger brands often have more resources at their disposal, such as more brand associations (Romaniuk & Sharp 2016), wider distribution networks (Farris, Olver & de Kluyver 1989; Reibstein & Farris 1995) and a larger scale to reduce production costs (Rubera & Kirca 2012). These resources are important in shortening the odds of success when launching new products, with the combined result of these resources (and many more) being shown in studies using the measure of brand strength. Past research finds that parent brand strength (measured as the parent brand market share in the previous year) can influence the propensity for consumers to trial the new launches (Abril & Martos-Partal 2013; Gielens & Steenkamp 2007; Sinapuelas, Wang & Bohlmann 2015) and that around 70% of “successful” new products were from the leading brands in their consumer packaged goods categories (Fornari, Grandi & Fornari 2009). It has also been found that brands with more *strength* (defined as brand awareness and brand associations, measured on a seven-point scale), increased the trial of new launches (Steenkamp & Gielens 2003). This result also matches past research, reporting the majority (60%) of consumers *prefer* to purchase new products from familiar brands (Nielsen 2015b). There is an abundance of research showing brand size is important, but a lot less showing how new product strategies and launch decisions vary by manufacturer or brand size.

4.1.2 Brand Type

Private labels are in the majority (up to 90%) of consumer packaged goods categories (Cuneo et al. 2015). Globally, private label brands have an average weighted share of around 17% (Nielsen 2014b), with this figure over 40% in some markets (e.g. Switzerland, Spain, UK). Private label brands often have different marketing strategies and resources for advertising, distribution, positioning and pricing compared to their national brand counterparts (Dawes & Nenycz-Thiel 2013; Romaniuk, Dawes & Nenycz-Thiel 2014). For example, private label brands often have (1) an expansive but restricted distribution network (sell in many stores but from one single retail-chain) and (2) rarely advertise outside of the store. National brands have traditionally used innovation as a strategy to compete against private labels (Gielens 2012) with national brands often launching more new products on average than private label brands (Martos-Partal 2012). Indeed, private label brand success is often higher in categories with low levels of innovation (Kumar & Steenkamp 2007). Prior research finds that new product lines from national brands can assist in sustaining brand market share (Gielens 2012). However, they also find that all new product lines affect competitors, with the exception of economy private labels (Gielens 2012). In contrast, other studies find that new product launches from manufacturer brands were not more successful (measured as trial purchase) than private labels, with the authors concluding that national brands cannot rely on innovation alone (Abril & Martos-Partal 2013). More research is encouraged to document new products from private label brands across categories and countries.

4.2 Marketing Mix Decisions

Marketing practitioners make pricing, promotional, advertising and distribution decisions for new products upon their launch (Hultink & Robben 1999). Or, more simply, the marketing decisions for new products can include: *how much* should the new product be sold for, *how often* should I advertise the product and *where* should the new product be sold? These marketing mix decisions are thought to affect the sales performance of new products (Di Benedetto 1999). An example includes the Cadbury Marvellous Creations launch. This was a sales success for Cadbury in Australia, securing a 6.5% share of the *Chocolate Block* category in less than one year (Ma 2013). The success of this range is often attributed to the multi-platform advertising campaign and aggressive distribution strategy at launch (Marketing Mag 2013). Although this is only one example reporting the importance of marketing mix decisions at launch, there is an abundance of past research that investigates how marketing mix decisions at launch can affect new product success.

4.2.1 Price

One of the launch decisions manufacturers need to consider is the price of new products. Price is a consideration in consumer choice (Scriven & Ehrenberg 2004) and is a known factor that can impact the performance of new products (Henard & Szymanski 2001; Ingenbleek, Frambach & Verhallen

2013). Setting prices is one of the most difficult tasks upon launch (Mckinsey & Company 2003), because new products enter an established category structure (Gabor & Granger 1979). There are two common pricing approaches manufactures can select upon launch: penetration pricing or skim pricing. A product following a *penetration pricing* approach has a low introductory price, whereas a product following a *skim pricing* approach has a premium introductory price (Calantone & Di Benedetto 2007). Selection between the two is widely situation-dependent (Calantone & Di Benedetto 2007). For very new products, a skim pricing approach *may* be most appropriate, given this approach is often successful in categories with products with a high relative advantage (Guiltinan 1999). On the other hand, penetration pricing approaches may assist with increasing the speed of diffusion for a new product (Guiltinan 1999), which *may* be more appropriate for new products with slight changes (e.g. modifications to existing products).

It is often thought that introducing new products at a premium price is one way that categories can expand (Nielsen 2014a). Yet, the previous studies in this area do not provide any conclusive evidence on what the most prevalent pricing strategies in packaged goods categories are. One study, that investigated one consumer durables category, found that around 60% of new products are priced using a market based pricing approach, whereas the remaining 40% of products use a penetration (20%) or skim pricing approach (20%) upon launch (Spann, Fischer & Tellis 2015). This study also revealed that new products using a penetration pricing strategy upon launch were priced 18% below the category average, but new products with a skimming pricing strategy had new products priced 16% above the category average (Spann, Fischer & Tellis 2015). When looking at the research in consumer packaged goods, previous research has shown that penetration pricing strategies are most prevalent (Hultink et al. 2000). Others find that when investigating new brands, new brand name “me-toos” were not prone to being launched at a lower price than the feature pioneer (Sinapuelas & Robinson 2012). External research providers who award successful new products each year (based on arbitrary benchmarks), found the majority of “winners” were priced at a premium (IRI 2015; Nielsen 2014a). However, empirical research finds new products in consumer goods categories with prices higher than the category average have a lower probability of being trialled by consumers (Steenkamp & Gielens 2003). Some argue that this effect could be expected (Sinapuelas, Wang & Bohlmann 2015), given price’s negative elasticity with sales (e.g. Simon 1989). Some authors have questioned the conditions that new products may be able to command higher prices, stating that having “innovative” line extensions ‘may not fully justify higher relative prices’ (Sinapuelas, Wang & Bohlmann 2015, p.13). More recent research is required reporting how new product prices compare to existing products in consumer packaged goods categories. This thesis uses price paid (purchase price) to document new product pricing. This measure includes products sold at list price and on promotion, making it important to investigate literature on price promotions.

4.2.2 Price Promotions

While selecting pricing strategies is an important decision manufacturers make for new products, this is just one side of the pricing coin. On the other side, manufacturers are required to make decisions about price promotions in retailers. Price promotions are common across categories and markets (Bogomolova et al. 2015; Dunn, Trinh & Bogomolova 2012). Some report up to 54% of products are sold on promotion in the United Kingdom (Street 2012), with others finding the average proportion of products offered on promotion in a category is slightly lower at 30% in the United Kingdom and 47% in the United States (Bogomolova et al. 2015). While price promotions can lead to short-term increases in sales volumes (Blattberg & Neslin 1989), they have been shown to have no long-term effects for brands but can lead to declines in the long-term category sales volume (Dawes 2004). For new brands, price discounts can accelerate diffusion (Ataman, Mela & Van Heerde 2008), but these price discounts did not assist in increasing their market potential. These findings are similar to what is known about line extensions, with one study finding price promotions are not as effective as other elements in the marketing mix (Sinapuelas, Wang & Bohlmann 2015). The results of these studies are similar to what is known in marketing science, as research shows promoted brands gain more sales from previous buyers rather than new buyers (Ehrenberg, Hammond & Goodhardt 1994). Some academics (e.g. Ehrenberg & Goodhardt 2001) acknowledge further investigation into how temporary price reductions affect new brand success (and arguably, all new launches) is needed because these new launches have no previous buyers to draw upon. Building on this, more recent research has found that buyers of new variants are often heavy buyers of the parent brand (Tanusondjaja, Trinh & Romaniuk 2016). This presents an issue in increasing brand sales because promotions may only encourage existing brand buyers to purchase new products. This thesis documents price paid for new products, including new products sold at list price and on promotion. However, new product price promotion frequency and depth is not explicitly stated in this thesis.

4.2.3 Distribution

The advantages of larger brands have been mentioned throughout and perhaps the most powerful resource they hold is the ability to gain wider (and possibly, faster) distribution for their products. Distribution is important for all brands and products because category buyers do not have the opportunity to purchase these items even when thought of in a buying situation, if they are not physically available (Romaniuk & Sharp 2016; Sharp 2010). Past research finds the relationship between distribution and brand market share follows a double jeopardy pattern because brands with higher market shares tend to also have gained wider distribution (Farris, Olver & de Kluyver 1989; Reibstein & Farris 1995). This has been found to apply for products (SKUs), with higher share products (SKUs) in a brand's portfolio also receiving wider distribution (Wilbur & Farris 2014).

Previous research reports new consumer products are introduced with similar expenditures in existing channels, but successful new consumer products are typically introduced with higher

relative distribution expenditures (Hultink et al. 2000). The importance of distribution has been found in many studies, with one finding distribution is one of the most crucial factors in the launch of new brands (Ataman, Mela & Van Heerde 2008). Recent holdout evidence suggests the relationship between distribution and market share also applies for new products (SKUs) (Wilbur & Farris 2014), as higher market share new products (SKUs) tend to also have wider distribution (%ACV). All Commodity Volume (%ACV) is an industry-accepted measure of distribution (measuring distribution breadth), that is often used in past studies (e.g. Wilbur & Farris 2014). Distribution is important to all new launches, yet one study finds that distribution (%ACV) was more important to non-innovative new line extensions (Sinapuelas, Wang & Bohlmann 2015). The authors also find one unit increases in distribution have marginal returns for innovative new line extensions, but larger increases in the trial of non-innovative new line extensions, at 27% and 76% respectively (Sinapuelas, Wang & Bohlmann 2015). Given the reported low level of innovation taking place in many consumer packaged goods categories (CHAPTER 3), the substitutability of new products may place a greater emphasis on physical availability for *all* new products launched in these product categories. Although past research reports the importance of distribution in new product success outcomes, very few studies document distribution gained at launch and how this differs to existing products.

4.3 Chapter Summary

The key themes covered in this chapter include:

- Many factors may contribute to the success of new product launches. These broadly include brand factors and marketing mix decisions, or more simply, *launch decisions*.
- Larger manufacturers and brands have more resources to leverage upon. These resources include the ability to gain wider distribution and refresh more memory structures.
- Distribution is an important *launch decision* that can influence new product success.

This chapter has provided an overview of what is known about brand factors and marketing mix decisions for new launches and how these can contribute to the success of new products. This chapter, along with CHAPTER 3, outline two conditions that may encourage new product success. This is the final chapter in PART ONE. The following chapters in PART TWO outline the research problem and method (CHAPTER 5) and report the results from this thesis (CHAPTERS 6 to 8).

PART TWO

METHOD & RESULTS

CHAPTER 5 Research Method

PART ONE has presented an overview of this thesis and the key past new product research. This current chapter outlines the datasets and analysis techniques used to explore the three research questions in this thesis. The results are presented in the following three chapters: CHAPTERS 6 to 8.

5.1 Research Questions

New product launches are common in consumer packaged goods categories and continue to be an area of interest to academics and marketing practitioners, alike. There is an abundance of studies investigating the conditions in new product success, often examining how product innovativeness (e.g. Gielens & Steenkamp 2007; Steenkamp & Gielens 2003) and marketing decisions upon launch (e.g. Hultink et al. 2000) play a role in new product performance outcomes. Although understanding the conditions in new product success is useful, it is also important to consider is how new product success rates can vary because of the performance measures used. Many studies use inconsistent measures for *success* and *failure* (Crawford 1977), making it difficult to generalise results from across studies (Griffin & Page 1993). This suggests some of the variance seen in new product success outcomes may stem from differences in performance measurement, making it important to have more descriptive information about what the majority of new products can achieve in a category.

This thesis extends past research by documenting all new product launches, not only the successful few often focused on in consultant reports (e.g. Nielsen 2014a, 2015c, 2015d). This thesis also extends past research because it uses real purchasing data, an improvement from research that relies on managers' memory for information about the performance outcomes of new products and the marketing decisions made at launch (e.g. Booz-Allen & Hamilton Inc. 1982; Hultink et al. 2000). In essence, this current research will comprehensively document new product practice from a range of consumer packaged goods categories in two countries. The findings from this thesis are expected to provide marketing practitioners with a clearer understanding about new product performance and also help academics to develop more relevant research for industry, informed by current practice.

This thesis ***describes new product launches, from a total sample of 23,642 new products across two countries, in terms of their prevalence, performance and share of category sales, across a range of conditions***. The following research questions are addressed in this thesis:

RQ1. *What is the prevalence of new products across categories?*

- *How does this vary based on: (RQ1a) category size, or (RQ1b) manufacturer size*

RQ2. *How does new product performance vary across categories?*

- *When conceptualised as: (RQ2a) new product sales contribution, or (RQ2b) new product survival*

RQ3. *What common marketing decisions are made for new products across categories?*

- *How does this vary based on: (RQ3a) manufacturer size, or compare to: (RQ3b) existing products*

The remainder of this chapter explains the (A) datasets, (B) analysis tools and (C) variables used to address the research question. This chapter also outlines how the analysis process was executed.

5.2 Datasets

This investigation on new product launches uses Nielsen Retail Audit data from a total 33 consumer packaged goods sub-categories across the United States and France (both developed markets across two continents), over a four to seven-year period (for the United States and France, respectively). For the United States, Nielsen Answers access was granted to extract the product categories from the database, but for France, Nielsen Europe provided datasets for the product categories in this analysis. The categories used in this thesis were from four broad packaged goods category groupings (*Confectionery*, *Gum*, *Food* and *Petcare*), which were refined into 33 sub-categories. Categories were refined by matching each SKU's product attribute information and grouping products together into sub-categories, based on the identified sub-category (e.g. *Dry Cat Food* and *Wet Cat Food* products were separated into two categories). Some sub-categories were omitted from analysis because they were not deemed to have enough new products each calendar year to draw conclusions, i.e. categories not containing a minimum 15 new products each calendar year. This figure was derived from halving the median number of new product launch figure across the categories (M= 29). This process retained a total of 22 sub-categories across the two countries, with each country containing 11 sub-categories. Despite being classified as sub-categories in the datasets and in this section, sub-categories will be referred to simply as *categories* for the remainder of this thesis. This process was completed to ensure products in each category were functionally similar (e.g. *Ready to Heat Rice* is functionally different to *Dry Rice*, but both are from the larger *Rice* "mega-category"). This process has been used in past marketing research (e.g. Jung, Gruca & Lopo 2010; Pare & Dawes 2011) and it is expected to generate categories that are more representative to the way practitioners assess products in a category, making this current research more relevant to academics and practitioners. All manufacturer names are masked in this thesis and are aggregated and arranged into three groups based on market share (sales revenue): *Large*, *Medium*, and *Small*.

This thesis uses observed sales information (observed sales information used in this thesis is store scan, e.g. store transaction information) from Nielsen, an external data provider. More recent studies have been using observed sales information (e.g. Gielens 2012; Gielens & Steenkamp 2007; Sinapuelas, Wang & Bohlmann 2015; Steenkamp & Gielens 2003), moving away from the focus of

using mail surveys in new product performance research (Hart 1993). The datasets in this thesis answer calls for research that seeks to understand how to best approach new products in data-rich environments (e.g. Biemans & Langerak 2015). One recent study examining new product distribution and market share has used comparable Nielsen datasets for consumer packaged goods categories in the United States (see Wilbur & Farris 2014). Authors report datasets used in their paper were vetted by brand managers from P&G, who 'considered this database to be the census of available products in the US' (Wilbur & Farris 2014, p. 156). The approval from marketing practitioners of the datasets accurately representing product activity (including new and existing products) highlights the accuracy and relevance of the datasets used in this thesis to marketing academics and practitioners.

This thesis analysed new product activity from 22 product categories across two countries. Multiple categories were used to gain a broader understanding on new product activity across consumer packaged goods categories and markets, as analysing a select few may offer a skewed perception in our understanding of new product launches. This approach follows others who encourage marketing researchers to identify generalisable patterns through a Many Sets of Data (MSoD) approach (e.g. Ehrenberg 1990, 1995; Kennedy, Scriven & Nenycz-Thiel 2014), as researchers have the ability to replicate these findings across multiple categories and in multiple studies.

Nielsen Answers access was granted for categories in the United States for manual extraction. The 17 variables extracted from the Nielsen Answers platform included *Sales Value*, *Unit* and *Volume*, *Average Unit* and *Volume Price*, *Promotional* and *Non Promotional Unit* and *Volume Price*, *ACV (All Commodities Volume)* and *TDP (Total Distribution Points)*, and *Promotional* and *Non Promotional Sales Value*, *Unit* and *Volume*. Not all SKUs listed on the online Nielsen Answers database could be extracted for analysis. This was because metrics from some SKUs would simply not generate and export any information from the online platform. However, this thesis still reports information from 19,912 new products from the United States categories alone (product categories with less than 15 new products each calendar year removed). All exported files (2791 files were exported across the 11 United States product categories) were appended together (for all 17 collected variables) using R.

Nielsen Europe provided datasets for France, so the extraction process discussed above was not required for this country. The 11 variables offered included a range of Pricing, Distribution and Sales Metrics. Google Translate and communication with Nielsen was required to understand the metrics, as the labels were not the same as those from the United States. One distribution metric defined as "% of stores in the universe which have been selling the product within the period" is thought to be similar to Nielsen Answers United States' ACV metric. These files were also processed using R.

5.3 Research Method

Descriptive statistics were completed to gain an understanding of the new products launched each year, as well as categories included in this analysis. The metrics in this stage included (A) new product prevalence and representation percentage in category assortments, (B) new product share

of category sales (revenue and volume), (C) new product survival, (D) average new product volume price and distribution, compared to existing products in the category. Many of these metrics also included additional measures, to see how they varied by new product type and manufacturer size.

5.4 Variables of Interest

This section presents and describes the variables of interest in this thesis. This section has three sub-headers, each presenting the main variables of interest in each of the three next results chapters (Section 5.4.1 and CHAPTER 6, Section 5.4.2 and CHAPTER 7, Section 5.4.3 and CHAPTER 8).

5.4.1 Product Prevalence & Category Performance

Product Availability Status: Product is available (i.e. sold) in the calendar year.

> ***Reason*****:** Identifying the products that were available each calendar year underpins many metrics used in this thesis.
>
> ***Calculation*****:** Products are coded as Available (1) or Not Available (0) for each calendar year. Products were identified as being available if they had any sales (based on revenue) activity instances in the calendar year. Products are on SKU (stock-keeping unit) level.

Product Sales: Yearly aggregate sales (revenue or volume) for each product in the calendar year.

> ***Reason*****:** Reporting product sales is important because it underpins many metrics in this thesis.
>
> ***Calculation*****:** This metric is calculated as aggregate (yearly) figure for *Product Sales* for each product, each calendar year. This metric has two calculations, including *Product Sales Revenue* and *Product Sales Volume.*

Category Sales: Yearly aggregate sales (revenue or volume) for each category in the calendar year.

> ***Reason*****:** Category sales are reported because it is a recognised performance metric for categories (e.g. Gielens 2012). Two variations of category sales are used. The first variation of category sales (Category Sales Revenues) is important because it offers a different perspective of category sales, given the continued volume sales declines in consumer packaged goods categories (e.g. IRI 2016). This second variation offers another perspective.
>
> ***Calculation*****:** This metric is calculated as aggregate (yearly) figure for *Product Sales* for each category, each calendar year. This metric has two calculations, including *Category Sales Revenue* and *Category Sales Volume.*

Category Average Volume Price: Yearly aggregate average volume price for each category in the calendar year.

***Reason*:** Category average price is a category performance metric used in this thesis. Average volume price is used to ensure products and categories are comparable with price.

***Calculation*:** This metric is calculated as aggregate average (yearly) figure for *Product Average Volume Price* for each category, each calendar year.

5.4.2 New Product Prevalence & Performance

New Product Status: Product is new (i.e. sold this year, not available last year) in the calendar year.

***Reason*:** Identifying which products were new each calendar year is important because it underpins many metrics in this thesis.

***Calculation*:** Products that were sold are coded as New (1) or Existing (0) for each calendar year. New products were identified as being new if they did not have any sales (based on revenue) activity in the previous calendar year but had at least one instance of sales activity in the following calendar year (e.g. Abril & Martos-Partal 2013; Abril & Sanchez 2016). This was deemed more appropriate than other identification techniques, e.g. rolling 52-week period (Victory, Nenycz-Thiel & Dawes 2015), because other methods may exclude some infrequently purchased products (categories may report low category purchase frequency) and identify them as new products. Similar methods for identifying product additions have been used in product assortment studies (e.g. Tan & Cadeaux 2011). Others have used sales presence (and absence) to identify new products in Nielsen datasets, but this research excluded products as new that did not enter with a unique reference (Wilbur & Farris 2014, via email correspondence). This thesis uses a sales presence and absence method but does not exclude products without a unique reference in the Nielsen database. The method used in this thesis is more inclusive and may capture a wider range of new product launches because some products do not need a unique reference, e.g. minor packaging modifications or reoccurring seasonal products (Garry 2009; Janssen 2015).

Percentage of New Products (Rate of Innovation): Proportion of new products compared to existing products in the calendar year.

***Reason*:** Calculating the proportion of new products launched compared to existing product each calendar year is important because it is one metric that can reports new product activity as a relative measure, allowing for more direct, accurate comparisons across the product categories. A similar variation of this calculation has been used in past research (Anselmsson & Johansson 2009).

$$Percentage\ of\ New\ Products\ (Rate\ of\ Innovation) = \frac{\Sigma\ number\ of\ products_{new\ products}}{\Sigma\ number\ of\ products_{total\ products}}$$

***Calculation*:** This metric requires two listed variables; *New Product Status* and *Product Availability Status*. This metric is calculated as the aggregate (yearly) figure for *New Product*

Status divided by the aggregate (yearly) figure for products coded as *Available (1) – Product Availability Status* and *Existing (0) – New Product Status*, in each category, each calendar year.

New Brand Classification: New product is from a completely new brand in the calendar year.

***Reason*:** The types of new products launched each calendar year are identified because it can offer insights about the prevalence of the new product types offered and whether certain types are more closely associated with different types of category sales performance.

***Calculation*:** New products are coded as being from a New Brand (1) or an Other New Product Type Classification (0), each calendar year. New products were identified as New Brands if the brand was not active the previous calendar year (no sales revenue activity across products) but had at least one product with one sales revenue occurrence the following calendar year.

New Sub-Brand Classification: New product is from a completely new sub-brand in the calendar year.

***Reason*:** See *New Brand Classification*.

***Calculation*:** New products are coded as being from a New Sub-Brand (1) or an Other New Product Type Classification (0), each calendar year. New products were identified as New Sub-Brands if the sub-brand was not active the previous calendar year (no sales revenue activity across products) but had at least one product with one sales revenue occurrence the following calendar year.

Line Extension Classification: New product is a line extension in the calendar year.

***Reason*:** See *New Brand Classification*.

***Calculation*:** New products are coded as being Line Extensions (1) or an Other New Product Type Classification (0), each calendar year. New products were identified as Line Extensions if the new products did not meet the requirements of a New Brand, New Sub-Brand or Undefined, i.e. new products must be from an existing brand, with a new combination of product attributes.

Undefined Classification: New product has an undefined change compared to existing products in the calendar year.

***Reason*:** See *New Brand Classification*.

***Calculation*:** New products are coded as being Undefined (1) or an Other New Product Type Classification (0), each calendar year. New products were identified as Undefined if the new product shared identical attributes to products available in the previous calendar year. This new product type does not necessarily mean that these new products had no attribute change, as new products in selected categories may be placed here because of limited attribute information.

Deleted Product Status: Product is unavailable (i.e. product reported no sales this year but was sold last calendar year).

***Reason*:** Identifying product deletion is important because it is a component to calculate product churn, i.e. number of products introduced compared to the number of products deleted.

***Calculation*:** Products are coded as Deleted (1) or Not Deleted (0) for each calendar year. Products were identified as being deleted if they had any sales (based on revenue) activity the previous calendar year but did not have any sales activity the following calendar year.

Product Churn Ratio: Rate of new products compared to outgoing products in the calendar year.

***Reason*:** Reporting product churn offers some more insight around figures seen for new product introduction rates across categories. This metric offers more information about whether more new products may be launched to replace deleted products.

$$Product\ Churn\ Ratio = \frac{\Sigma\ number\ of\ products_{new\ products}}{\Sigma\ number\ of\ products_{deleted\ products}}$$

***Calculation*:** This metric requires two listed variables; *New Product Status* and *Deleted Product Status*. This metric is calculated as the aggregate (yearly) figure for *New Product Status* divided by the aggregate (yearly) figure *Deleted Product Status* in each category, each calendar year.

New Product Survival: Proportion of new products surviving (i.e. continued to have sales activity at least once each quarter) in a category, until a maximum 104-weeks (eight quarters) after launch.

***Reason*:** Identifying the percentage of new products that survival from the week following launch, to the 52-week observation period can help affirm or offer evidence against the (thought to be) high new product failure rate over one year. Extending this analysis to a 104-week observation period is also important because it offers insight about survival and the propensity for new products to survive their second year if they also survived the first year.

$$Survival_{newproducts} = \frac{\Sigma\ number\ of\ sales\ activity\ occurrences Qx_{new\ products}}{\Sigma\ number\ of\ launches\ Q1_{new\ products}}$$

***Calculation*:** This metric required use of two variables; *New Product Status* and *Product Sales Revenue*. The launch week for new products is recorded and 104-weeks post launch is measured for each. The first reiteration of this metric was calculated as the aggregate number of new products recording any sales activity in the following week/s, divided by the total number of new products launched in the calendar year. Results from this first calculation are contained in the appendix, below. This metric was then revised for use in the main results section in this thesis, to

report the percentage of new products reporting sales activity in each quarter.[1] This is calculated at each 13-week period (quarter), as the aggregate number of new products reporting sales activity over the quarter, divided by the total number of new products launched in the calendar year. New products surviving each quarter are those continuing to report sales activity each quarter. In the first quarter, new products that only reported one week of sales was omitted from the analysis because they were considered to be transient. Seasonal new products that could be identified were also omitted because of their transient nature. This thesis uses sales activity, i.e. number of new products sold, rather than a fixed sales amount, e.g. new product must have reported at least $200 in sales revenue or have sold at least 500 units to have "survived". This calculation means new products would "survive" even with very low sales, e.g. one unit sold across the entire United States. This is one of the limitations in this thesis (see Section 9.5). A 52-week observation period was selected because it is thought that consumer product acceptance lasts up to 12 months from launch (Gielens & Steenkamp 2007). A 104-week observation period was also selected to extend current research. Also, a variation on the survival measure was used to investigate changes in new product sales, distribution and price, to 104-weeks (eight quarters).

New Product Category Sales Contribution: New product sales (revenue and volume) as a proportion of total category sales (revenue and volume) in the calendar year.

***Reason*:** Calculating the proportion of new product sales as a proportion of total category sales identifies the extent to which category sales come from current new products in each category.

$$Category\ Sales\ Contribution_{newproducts} = \frac{\Sigma\ sales\ (revenue\ or\ volume)_{new\ products}}{\Sigma\ sales\ (revenue\ or\ volume)_{total\ products}}$$

***Calculation*:** This metric requires four listed variables; *New Product Status*, *Category Sales Revenue*, *Product Sales Revenue*, *Category Sales Volume*, *Product Sales Volume*. This metric is calculated as the aggregate (yearly) figure for *Product Sales Revenue* for new products, divided by the aggregate (yearly) figure for *Category Sales Revenue* each calendar year. This was also replicated with *Product Sales Volume* and *Category Sales Volume*. This metric is also used to investigate new product category sales contribution from new products over time. For this, new products from the first year available in each country are used to see maximum change over time.

5.4.3 New Product Brand Factors & Marketing Mix Decisions

Private Label Brand Status: Product is from a private label brand (store brand) in the calendar year.

[1] The initial weekly survival metric offers an unclear picture because not all new products may have sales each week. The revised aggregating to quarters takes this into account, reporting a clearer picture of survival.

***Reason*:** Identifying private label brand status is important because innovation is often thought to be one vehicle national brands can compete with private label brands (Gielens 2012). Identifying private label products is also important to ensure these are removed in some analyses to gain a more accurate assessment of new product type classifications and calculation of manufacturer size analyses. This is an important step because private labels are often aggregated into one manufacturer/brand but may come from many.

***Calculation*:** Products sold are coded as being from a Private Label Brand (1) or National Brand (0), for each calendar year. Private Labels were identified if the manufacturer information included "PL" or "PRIVATE LABEL" (or a variation of these two phrases) in the manufacturer string.

All Other Manufacturer / Brand Status: Product is from an "All Other" manufacturer or brand (i.e. unidentified manufacturer or brand in the Nielsen datasets) in the calendar year.

***Reason*:** Identifying all other manufacturer/brand status is important because removal of these products ensure more accurate calculation of new product type classifications and manufacturer size metrics. This is done because product lines for these manufacturers or brands cannot be assessed (products are often aggregated into one manufacturer/brand but come from many).

***Calculation*:** Products sold are coded as being from an Unidentified Manufacturer/Brand (1) or an Identified Manufacturer/Brand (0), for each calendar year. Products from Unidentified Manufacturer/Brands were identified if the manufacturer or brand information was incomplete, featuring a variation of "AO" or "AO BRAND" in the manufacturer or brand string.

Manufacturer Size: Manufacturers are categorised as *Large*, *Medium* or *Small*, based on same year market share (sales revenue) from products, in the calendar year.

***Reason*:** Identifying products from different sizes manufacturers will uncover who launches new products and how they are launched each calendar year. This can assist in identifying whether these new launches are launched by a powerful few, who can have more resources (Rubera & Kirca 2012), and whether these manufacturers can leverage relationships to gain wider distribution. Manufacturer size calculations exclude products from private label brands and products with insufficient manufacturer or brand information (all other manufacturers/brands). Similar variations of this calculation has been used in past research (e.g. Sorescu & Spanjol 2008; Srinivasan et al. 2009).

$$Manufacturer\ Market\ Share = \frac{\Sigma\ sales\ revenue_{manufacturer\ x\ products}}{\Sigma\ sales\ revenue_{total\ products}}$$

***Calculation*:** This metric requires the use of one primary variable; *Product Sales Revenue*. This metric is calculated as aggregate (yearly) figure for *Product Sales Revenue* for each manufacturer, divided by the aggregate (yearly) figure for *Product Sales Revenues* for the entire category.

Manufacturers are classified as *Large*, *Medium* or *Small*, and will be sorted into the three groups based on the aggregate sales revenues from products in the same calendar year. The market shares in this analysis do not include private label brands or have been calculated with the revenues of private label brands (or "all other manufacturers/brands"). Note, aggregate new product figures for manufacturer analyses are reduced given new products that identify as "private label brands" or from "all other manufacturers/brands" are taken out in this stage.

Product Seasonality Status: Product is seasonal (i.e. transient) in the calendar year.

***Reason*:** Seasonal products are identified because it provides context to how many new products are launched with transient motives and how may are launched for the long term.

***Calculation*:** Products are coded as Seasonal (1) or Non Seasonal (0) for each calendar year. Products were identified as Seasonal if they did not contain any mention of "NON" in the "SEASONAL PACKAGING" attribute string. Seasonal information was only available for four product categories in the United States. These product categories are from Confectionery.

Average Product Volume Price: Yearly aggregate average volume price for each product in the calendar year.

***Reason*:** Reporting product average price is important to identify the different pricing strategies of new products at launch and to enable a comparison of new product prices to existing products.

***Calculation*:** This metric is calculated as an aggregate average (yearly) figure for *Average Product Volume Price* for each product, each calendar year. This uses price paid by buyers, meaning this variable incorporates regular (ticketed) price and products sold at any discounted price.[2]

Average New Product Volume Price Ratio: Ratio comparing aggregate new product average price to aggregate existing product average price in the calendar year.

***Reason*:** Reporting average volume price ratio offers some more insight about how new product prices differ compared to existing products in the market.

$$Average\ Volume\ Price\ Ratio_{newproducts} = \frac{\mu\ average\ volume\ price_{new\ products}}{\mu\ average\ volume\ price_{existing\ product}}$$

***Calculation*:** This metric requires two listed variables; *New Product Status* and *Average Product Volume Price*. This metric is calculated as the aggregate average (yearly) figure for *Average*

[2] Categories from the United States use a price per volume metric, *Avg EQ Lbs Price*, from Nielsen. Categories from France use a price per volume metric, *Prix Moy. Conv.*, from Nielsen.

Product Volume Price for new products divided by the aggregate average (yearly) figure for *Average Product Volume Price* for existing products in each category, each calendar year.

Interpreting: When the average new product volume price ratio reports 1.0, this shows the mean combined price of new products in the category is equal to the mean combined price of existing products, in the same calendar year. When the average new product volume price ratio reports figures above (below) 1.0, this indicates the mean combined volume price of new products was higher (lower) than the mean combined volume price of existing products in the same year. This does not indicate that all new products are launched with higher prices during the calendar year of launch, but that the 'typical' new product has a higher price.

Average Product Distribution: Yearly aggregate average ACV distribution for each product in the calendar year.

***Reason*:** Reporting product average distribution is important to identify the different distribution strategies of new products upon launch and ascertain the extent to which new product achieve distribution, given distribution is highly correlated with market share (Reibstein & Farris 1995). This variation of distribution measurement assesses distribution depth for each product. ACV is used because it is a common metric used in academia and industry (Sinapuelas, Wang & Bohlmann 2015; Wilbur & Farris 2014).

***Calculation*:** This metric is calculated as aggregate average (yearly) figure for *Average Product Distribution* for each product, each calendar year. This is actual distribution from products.[3]

Average New Product Distribution Ratio: Ratio comparing aggregate new product average distribution to aggregate existing product average distribution in the calendar year.

***Reason*:** Reporting average ACV distribution ratio offers some more insight about how new product distribution differs compared to existing products in the market.

$$Average\ Distribution\ Ratio_{newproducts} = \frac{\mu\ average\ distribution_{new\ products}}{\mu\ average\ distribution_{existing\ product}}$$

***Calculation*:** This metric requires two listed variables; *New Product Status* and *Average Product Distribution*. This metric is calculated as the aggregate average (yearly) figure for *Average Product Distribution* for new products divided by the aggregate average (yearly) figure for *Average Product Distribution* for existing products in each category, each calendar year.

[3] Categories from the United States use a %ACV distribution metric, *%ACV*, from Nielsen. Categories from France use a distribution metric, DN Vendant, from Nielsen. Note, this metric has been explained to be comparable to the United States metric, because it measures "% of stores in the universe which have been selling the product within the period" (see Section 5.2).

Interpreting: When the average new product distribution ratio reports 1.0, this shows the mean combined distribution of new products in the category is equal to the mean combined distribution of existing products, in the same calendar year. When the average new product distribution ratio reports figures above (below) 1.0, this indicates the mean combined distribution of new products was higher (lower) than the mean combined distribution of existing products in the same year. This does not indicate that all new products are launched with wider distribution during the calendar year of launch, but that the 'typical' new product has wider distribution.

5.5 Data Analysis

New products, for the purpose of this thesis, are products that recorded no sales revenue activity in the previous calendar year, but recorded at least one sales revenue occurrence in the following calendar year (see Section 5.4). Incomplete calendar years were removed from this analysis to ensure sold, new and deleted products were identified correctly and consistently. The remaining years to analyse new products were 2012 to 2014 for United States categories and 2008 to 2013 in France.

One the datasets had been extracted or received from Nielsen, multiple programs were used to clean, prepare and analyse the data. The programs used for both countries in the cleaning and analysis process include R, SPSS and Microsoft Excel. Once the files from the United States had been appended together after extraction, files were imported into R to prepare the data from each category. Each category was stripped to include total market level information for the United States and France, as prior to this, each file contained metric information for each product by retailer, store type (e.g. Drug and Food) and market level. This code then also saved the files as *.csv* for further analysis in R and SPSS. If category files contained products from multiple categories were functionally different (e.g. *Dry Cat Food* and *Wet Cat Food*), an additional code was run in the same format but with the inclusion of another condition to split the file into the additional categories.

The data was then imported back into R for the final preparation. This syntax lead to the calculation of (A) sales, (B) average volume price and distribution, (C) sold, new or deleted status, (D) new product type, seasonal and private label status for all products, each calendar year. Characteristic information (e.g. brand, flavour, pack size) from Nielsen for each product was then merged the calculated metrics information.

The finalised datasets were then exported into SPSS to calculate manufacturer market shares and to run the descriptive statistics. Each dataset that was loaded in to SPSS was checked and altered at this stage to ensure that all numerical variables were not loaded in as characters (e.g. appropriate "A" variables were changed to "F"), and that all metrics were to 0.2 decimal places for consistency. The descriptive statistics were primarily calculated using **Custom Tables* for flexibility, reducing the need to continuously recode variables. Selected descriptive statistics omitted products from private label brands or from brands that had insufficient information (e.g. "All Other Brands"), because it

would not accurately report manufacturer market share figures (as Nielsen aggregates products from these brand types together, i.e. all private label products are aggregated into one brand) and the different types of new products (as it couldn't clearly identify between line from individual brands).

From here, the output for the descriptive statistics were pasted into an Excel workbook to create tables and graphs found in each results chapter and finalise some calculations reported in tables. *Category Sales* and *Category Average Volume Price* measures from France had an unusual data structure. *Category Sales* was divided by 10 and *the Category Average Volume Price* measure was divided by 100 for France. Some descriptive statistics were not included in the original SPSS output file, so each saved SPSS dataset was re-ran to gain additional information for the new product audit.

Later, new product survival analyses were conducted in Excel. Although analyses in this stage were named as "Survival Analyses", this process investigated how the number of new products and average pricing and distribution changed over time (up to a 104-week period). 52-week observation period was included because it is thought that consumer product acceptance lasts up to 12 months from launch (Gielens & Steenkamp 2007). This period is also common in other product research innovation research areas (e.g. Sinapuelas, Wang & Bohlmann 2015; Steenkamp & Gielens 2003). This was extended to a total of 104-weeks to extend research in this area. Original files for each dataset containing weekly information for all products, on total market level, was used in this stage. Datasets used for the survival analyses were processed in R, removing products that were not identified as being a new product for every category, each calendar year. The new products used in this analysis had the potential to be launched from any week in calendar year, making it important to scale the first launch week of new products from the same calendar year to the same starting location for comparison across time. This process allowed metrics from new products launched in the same calendar year to be reported and compared across time periods, rather than just reporting results from the same calendar year. Metrics were calculated through counting the number of new products with at least one instance of sales activity each quarter and aggregating (average) new product prices or distribution each quarter. For comparison across categories, these measures were expressed as a percentage change across the quarters. New products surviving the entire eight quarters were used for pricing and distribution analyses. This was to ensure metrics each year were representative because price and distribution could vary between surviving and failing new products, e.g. new products with higher market shares tend to have higher distribution (Wilbur & Farris 2014).

Once these processes were finalised, the final number of products (including new and existing products) available for analysis was 150,582 (124,050 in the United States and 26,532 in France), with a total of 23,642 products being identified as new across the two countries (19,912 in the United States and 3,730 in France), and across the 22 product categories over the three to six-year period. Some analyses did not have metric information for all products, meaning sample sizes may vary for analyses not involving new product counts or new product sales revenues (see Section 9.5).

5.6 Chapter Summary

The key themes covered in this chapter include:

- Nielsen Retail Audit (Store Scan) datasets were used. These datasets allowed analysis of 22 categories, across the United States and France from three to six years, respectively.
- Descriptive statistics and correlation analyses were used (completed in Excel, SPSS, R) to perform the new product audit and to assess the strength of the relationships found.

This chapter has detailed the data and analysis method used to answer the three research questions of this thesis. The following three chapters will present the results from this thesis. CHAPTER 9 discusses the results, whereas the contributions of these findings are discussed in CHAPTER 10.

CHAPTER 6 Results – Product Prevalence & Category Performance

This chapter is the first results chapter of this thesis. This chapter offers information about the categories included to analysis new products in this thesis. The results presented in this chapter are produced using the method described in CHAPTER 5. At the end of each section, findings summaries are presented in the grey boxes. The following two chapters, CHAPTER 7 and CHAPTER 8, offer results about new product prevalence, performance and common launch decisions across the 22 consumer goods product categories.

6.1 Category Assortment Size (Product Prevalence)

The 11 product categories in the United States had an average aggregate 37,667 products each year, from 2012 to 2014. In France, the 11 product categories had an average aggregate 4,422 products each calendar year, from 2008 to 2013. The assortment variations across the 22 consumer packaged goods used as the basis of thesis aid in the discovery of patterns and generalisations across a range of different-sized categories. The product categories analysed in this thesis are diverse in nature, coming from *Confectionery*, *Food* and *Petcare*, to also help build a broader understanding of new product practice in consumer packaged goods categories. Table 6.1 and Table 6.2 report assortment sizes for each category in the United States and France, respectively. In the United States, the category with the largest number of products across the years was *Chocolate* at 18,188 products in 2013, which was around 52 times higher than the category with the smallest number of products available in a category that year (*Ready Rice* at 348 in 2013). In France, the range across categories was lower, as the product category with the highest number of products was *Multipack Ice Cream* at 889 in 2008, which was around nine times higher than the category with the smallest assortment in the same year (*Chewy Confections* at 97 in 2008). These examples show category assortment sizes across categories did vary – but – when examining category assortment sizes over time, changes in category assortment size remained rather stable.

Table 6.1 Category Assortment Size & Percentage Change in Category Assortment Size – US

	Category Assortment Size			%Δ Category Assortment Size	
United States	**2012**	**2013**	**2014**	**12-13**	**13-14**
Chocolate	18097	18188	17674	0.5	-2.8
Gum	2551	2424	2281	-5.0	-5.9
Mints	2117	1936	1822	-8.5	-5.9
Other Confections	1384	1422	1310	2.7	-7.9
Dry Rice	4052	4161	4180	2.7	0.5
Ready Rice	330	348	339	5.5	-2.6
Dry Cat Food	1318	1366	1372	3.6	0.4
Regular Cat Treats	358	392	446	9.5	14
Dry Dog Food	2760	2851	2883	3.3	1.1
Rawhide Dog Treats	5144	4958	4537	-3.6	-8.5
Regular Dog Treats	3510	3778	3761	7.6	-0.4
Mean	**3784**	**3802**	**3691**	**1.7**	**-1.7**
Standard Deviation	**4977**	**4999**	**4852**	**5.5**	**6.2**

This thesis examines 11 product categories with varying assortment sizes from the United States.

Note: Red text indicates decline (-5.0%+), black text indicates stability (-4.9% - 4.9%) and green text indicates increase (5.0%+) for percentage change cells.

Table 6.2 Category Assortment Size & Percentage Change in Category Assortment Size - FR

	Category Assortment Size						%Δ Category Assortment Size				
France	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**08-09**	**09-10**	**10-11**	**11-12**	**12-13**
Chewing Gum	541	618	628	651	667	641	14	1.6	3.7	2.5	-3.9
Family Pack Ice Cream	697	644	602	561	546	544	-7.6	-6.5	-6.8	-2.7	-0.4
Multipack Ice Cream	889	887	872	871	851	834	-0.2	-1.7	-0.1	-2.3	-2.0
Other Ice Cream	192	222	250	255	281	275	16	13	2.0	10	-2.1
Single Ice Cream	225	229	224	199	199	189	1.8	-2.2	-11	0.0	-5.0
Enjoyment Confections	679	641	600	555	516	477	-5.6	-6.4	-7.5	-7.0	-7.6
Mints	183	184	180	190	180	187	0.5	-2.2	5.6	-5.3	3.9
Lollypops	254	239	221	199	194	201	-5.9	-7.5	-10	-2.5	3.6
Chewy Confections	97	98	105	124	125	125	1.0	7.1	18	0.8	0.0
Gummy Jelly Confections	408	412	398	402	436	446	1.0	-3.4	1.0	8.5	2.3
Other Soft Confections	378	376	364	349	368	357	-0.5	-3.2	-4.1	5.4	-3.0
Mean	**413**	**414**	**404**	**396**	**397**	**389**	**1.3**	**-1.1**	**-0.8**	**0.7**	**-1.3**
Standard Deviation	**256**	**250**	**240**	**236**	**231**	**223**	**7.5**	**6.1**	**8.4**	**5.5**	**3.6**

11 product categories from France with varying assortment sizes were also analysed in this thesis.

Note, following the guidelines used above: Red text indicates decline (-5.0%+), black text indicates stability (-4.9% - 4.9%) and green text indicates increase (5.0%+) for percentage change cells.

When looking across the 11 product categories in the United States, product numbers generally remained stable from 2012-2013 (M= 1.7, SD= 5.5) and 2013-2014 (M= -1.7, SD= 6.2). In France, changes in product assortment sizes were also generally stable from 2008-2009 (M= 1.3, SD= 7.5)), 2009-2010 (M= -1.1, SD= 6.1), 2010-2011 (M= -0.8, SD= 8.4), 2011-2012 (M= 0.7, SD= 5.5) and from 2012-2013 (M= -1.3, SD= 3.6). Table 6.1 and Table 6.2 report percentage change in assortment sizes for each category in the United States and France, respectively. In the United States, one category had continuous increases in assortment size (*Regular Cat Treats*), whilst another had reported continuous declines in assortment sizes (*Mints*). Although spanning a longer period, only one category in France reported continuous decreases in category assortment size each period (*Enjoyment Confections*). Two additional categories exhibited decline in two or more consecutive periods (*Family Pack Ice Cream* and *Lollypops*). No categories in France reported continuous increases across all periods, but two categories did exhibit assortment increases in two or more consecutive periods (*Other Ice Cream* and *Chewy Confections*). Yet, in over half of the cases in the United States (59%) and in France (58%), categories in this analysis reported stable changes in category assortment sizes across the years.

Category assortment size varies across categories. This variance in category assortment size assists in understanding new product practices across a range of conditions.

6.2 Category Sales Revenue

The 11 product categories in the United States had an average aggregate sales revenue of almost $30 billion — generated from an average 37,667 products each calendar year, from 2012 to 2014. The 11 product categories in France had an average aggregate sales revenue of around €1.5 billion – generated from an average 4,422 products each calendar year, from 2008 to 2013. The sales revenue variations in each of the 22 consumer packaged goods used as the basis of thesis aid in the discovery of patterns and generalisations across 22 different-sized categories. Table 6.3 and Table 6.4 report generated sales revenues for each category in the United States and France, respectively. In the United States, the product category with the highest sales revenues generated across the years was *Chocolate* at around $13 billion in 2014, which was around 117 times higher than the category that generated the lowest sales revenues across categories in the same year (*Other Confections* at around $0.1 billion in 2014). In France, the range across categories was much lower, as the product category with the highest sales revenues generated across the years was *Multipack Ice Cream* at around €0.5 billion in 2013, which was around 48 times larger than the category with the lowest sales revenues in the same year (*Single Ice Cream* at around €11 million in 2013). This example continues to show that variance between the sales revenues generated across categories did vary – but – when examining the sales revenues of these categories over time, changes in sales revenues remained rather stable.

Table 6.3 Category Sales Revenue & Percentage Change in Category Sales Revenue – US

	Category Sales Revenue - $ Billions			%Δ Category Sales Revenue	
United States	**2012**	**2013**	**2014**	**12-13**	**13-14**
Chocolate	12	13	13	4.1	2.4
Gum	3.2	3.0	3.0	-6.4	-1.8
Mints	1.0	1.0	1.1	5.4	4.1
Other Confections	0.1	0.1	0.1	-3.3	-15
Dry Rice	1.9	2.0	2.0	1.7	3.6
Ready Rice	0.2	0.2	0.3	15	9.5
Dry Cat Food	2.2	2.2	2.2	3.4	-0.4
Regular Cat Treats	0.4	0.4	0.5	8.9	7.3
Dry Dog Food	5.2	5.4	5.2	3.0	-2.6
Rawhide Dog Treats	0.6	0.7	0.7	14	2.8
Regular Dog Treats	1.9	2.0	2.0	0.6	3.1
Mean	**2.7**	**2.7**	**2.8**	**4.2**	**1.1**
Standard Deviation	**3.6**	**3.7**	**3.8**	**6.5**	**6.5**

The 11 product categories from the United States also varied in the sales revenue generated. This variability assists in understanding new products across a range of conditions.

Note, following the guidelines used above: Red text indicates decline (-5.0%+), black text indicates stability (-4.9% - 4.9%) and green text indicates increase (5.0%+) for percentage change cells.

Table 6.4 Category Sales Revenue & Percentage Change in Category Sales Revenue – FR

	Category Sales Revenue - € Millions						%Δ Category Sales Revenue				
France	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**08-09**	**09-10**	**10-11**	**11-12**	**12-13**
Chewing Gum	476	435	399	391	368	342	-8.5	-8.4	-2	-5.8	-7
Family Pack Ice Cream	230	247	236	243	248	255	7	-4.3	3.2	2	2.7
Multipack Ice Cream	421	444	452	488	494	507	5.6	1.7	8.2	1.1	2.6
Other Ice Cream	48	62	64	65	59	57	30	2.7	0.8	-8.4	-3.9
Single Ice Cream	6	5	3	4	10	11	-14	-42	28	168	7.5
Enjoyment Confections	70	69	69	72	71	73	-1.2	0.2	3.4	-1.3	2.9
Mints	80	83	85	93	92	94	4.2	2.3	9.1	-1.4	2.9
Lollypops	20	20	21	24	25	25	0.2	1.7	17	3.4	-0.4
Chewy Confections	42	43	45	48	50	50	0.5	6.3	6.4	3.2	1.4
Gummy Jelly Confections	81	96	111	115	129	148	18	16	3.7	11	15
Other Soft Confections	52	53	60	56	58	60	2.9	13	-7.5	4.5	3.6
Mean	**139**	**142**	**140**	**145**	**146**	**147**	**4.1**	**-1.0**	**6.4**	**16**	**2.5**
Standard Deviation	**164**	**160**	**154**	**160**	**157**	**157**	**11.9**	**15**	**9.5**	**51**	**5.7**

An additional 11 categories from France with varying category sales revenue were also analysed.

Note, following the guidelines used above: Red text indicates decline (-5.0%+), black text indicates stability (-4.9% - 4.9%) and green text indicates increase (5.0%+) for percentage change cells.

When looking across years, changes in sales revenues for product categories in the United States generally remained stable from 2012 to 2013 (M= 4.2, SD= 6.5) and then from 2013 to 2014 (M= 1.1, SD= 6.5). In France, changes in sales revenues typically remained rather stable from 2008 to 2009 (M= 4.1, SD= 12), from 2009 to 2010 (M= -1.0, SD= 15) and from 2012 to 2013 (M= 2.5, SD= 5.7), whilst 2010 to 2011 (M= 6.4, SD= 9.5) and 2011 to 2012 (M= 16, SD= 51) reported percentage changes increases in category sales revenues above 5.0%. The 16% percentage change increase in sales revenues from 2011 to 2012 is considered as unusual and most likely a product of large increase in one product category (*Single Ice Cream* at 168%). Upon removing this percentage change instance, on average the percentage change in sales revenues across categories decreases back to a stable change (M= 0.9, SD= 5.6). Percentage change in sales revenues across categories did vary, across the United States and France. In the United States, some product categories reported higher percentage change increases in sales revenues. For example, *Ready Rice* and *Rawhide Dog Treats* reported the largest sales revenue percentage change increases of 14% and 15%, respectively, from 2012 to 2013. In the following period (2013 to 2014), *Ready Rice* continued to report high increases in percentage change in sales revenues (9.5%), while *Rawhide Dog Treats* had appeared to revert to a stable change (2.8%). In the United States, *Other Confections* reported the most extreme decline in sales revenue at -15% from 2013 to 2014. For product categories in France, *Single Ice Cream* and *Gummy Jelly Confections* had continued to report sales revenue percentage change increases in three to four (out of five) periods included in this analysis. Only one product category in France, *Chewing Gum*, had ongoing declines larger than -5.0% in four out of the five periods (this category was stable at -2.0% from 2010 to 2011). Yet, in over half of the cases in the United States (64%) and France (56%), categories used in this analysis reported stable revenues, with small changes across the years. Table 6.3 and Table 6.4 report category sales revenue percentage change year-on-year for categories in the United States and France, respectively.

To understand new products across a range of conditions, new products from different sized categories (sales revenue) were analysed. Category sales revenue was stable just over half of the time.

6.3 Category Sales Volume

The 11 product categories in the United States had average aggregate volume sales of almost 52 billion each calendar year, from 2012 to 2014. In France, the 11 product categories had average aggregate volume sales of around 259 million each calendar year, from 2008 to 2013. Table 6.5 and Table 6.6 report generated sales volumes for each product category in the United States and France, respectively. In the United States, the product category with the highest volume sales generated across the years was *Gum* at 39 billion in 2012, which was around 1556 times higher than the category that generated the lowest sales revenues across categories in same year (*Other Confections* at around 25 million in 2012). In France, the range across categories was again much

lower, as the product category with the highest volume sales generated across the years was *Multipack Ice Cream* at around 89 million in 2009, which was around 227 times larger than the category that generated the lowest volume sales across categories in the calendar year (*Single Ice Cream* at around 400 thousand in 2009). These examples demonstrate the variance in the sales volume generated across categories but when examining the sales volume of these categories across time, changes in sales volumes remained rather stable.

Table 6.5 Category Sales Volume & Percentage Change in Category Sales Volume – US

	Category Sales Volume - Billion			%Δ Category Sales Volume	
United States	**2012**	**2013**	**2014**	**12-13**	**13-14**
Chocolate	2.2	2.2	2.2	1.4	0.5
Gum	40	38	37	-5.7	-0.9
Mints	0.1	0.1	0.1	1.6	0.5
Other Confections	0.0	0.0	0.0	-7.3	-12
Dry Rice	1.4	1.4	1.5	1.5	3.4
Ready Rice	0.1	0.1	0.1	10	6.9
Dry Cat Food	2.1	2.1	2.1	-1.1	0.4
Regular Cat Treats	0.0	0.1	0.1	7.2	12
Dry Dog Food	7.5	7.4	7.2	-1.2	-1.9
Rawhide Dog Treats	0.5	0.5	0.5	7.7	-5.8
Regular Dog Treats	0.5	0.5	0.5	1.6	0.1
Mean	**4.9**	**4.7**	**4.7**	**1.4**	**0.3**
Standard Deviation	**12**	**11**	**11**	**5.4**	**6.1**

To extend new product knowledge across a range of conditions, 11 product categories from the United States with varied category sales volume were analysed.

Note, following the guidelines used above: Red text indicates decline (-5.0%+), black text indicates stability (-4.9% - 4.9%) and green text indicates increase (5.0%+) for percentage change cells.

Table 6.6 Category Sales Volume & Percentage Change in Category Sales Volume – FR

	Category Sales Volume - Million						%Δ Category Sales Volume				
France	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**08-09**	**09-10**	**10-11**	**11-12**	**12-13**
Chewing Gum	56	49	46	46	44	41	-11	-6.9	-0.9	-4.1	-5.7
Family Pack Ice Cream	62	68	62	62	61	58	9.2	-8.7	-0.7	-1.9	-3.8
Multipack Ice Cream	82	89	88	89	84	86	8.6	-1.3	1.1	-4.7	1.6
Other Ice Cream	11	14	13	13	12	10	23	-2.9	-0.9	-9.9	-15
Single Ice Cream	0.5	0.4	0.2	0.3	0.6	0.6	-16	-37	6.8	115	16
Enjoyment Confections	6.9	6.9	6.9	7.0	6.6	6.8	-0.9	0.0	1.8	-5.0	2.6
Mints	6.7	6.8	6.7	6.8	6.6	6.7	1.7	-0.6	0.9	-2.1	1.3
Lollypops	1.8	1.9	1.9	2.2	2.1	2.1	5.8	2.1	15	-2.3	-2.2
Chewy Confections	5.5	5.8	6.4	6.9	6.9	6.9	5.1	10	7.4	1.3	-0.3
Gummy Jelly Confections	17	20	22	22	23	26	15	11	0.7	6.0	10
Other Soft Confections	7.4	7.5	7.8	7.6	8.0	9.1	1.2	3.5	-1.9	5.1	14
Mean	**23**	**24**	**24**	**24**	**23**	**23**	**3.8**	**-2.8**	**2.7**	**8.8**	**1.7**
Standard Deviation	**29**	**30**	**29**	**29**	**28**	**28**	**11**	**13**	**5.1**	**35**	**8.9**

The 11 product categories from France also varied in the category sales volume generated.

Note, following the guidelines used above: Red text indicates decline (-5.0%+), black text indicates stability (-4.9% - 4.9%) and green text indicates increase (5.0%+) for percentage change cells.

When looking across years, on average, changes in volume sales generated for product categories in the United States remained stable from 2012 to 2013 (M= 1.4, SD= 5.4) and then from 2013 to 2014 (M= 0.3, SD= 6.1). In France, on average, changes in volume sales remained rather stable from 2008 to 2009 (M= 3.8, SD= 11), from 2009 to 2010 (M= -2.8, SD= 13), 2010 to 2011 (M= 2.7, SD= 5.1) and from 2012 to 2013 (M= 1.7, SD= 8.9), whilst 2011 to 2012 (M= 8.8, SD= 335) reported percentage change increases in category sales revenues above 5.0%. Similar to what was found for category sales revenue, the 8.8% percentage change increase in sales volume from 2011 to 2012 is unusual and because of large increase in one impulse product category (*Single Ice Cream* at 115%). Upon removing this percentage change instance, on average the percentage change in volume sales across categories decreases back to a more stable percentage change (M= -1.8, SD= 4.8). Percentage change in volume sales across categories did vary, across the United States and France. In the United States, some product categories reported higher percentage change increases in volume sales. For example, *Ready Rice* had continued volume sales percentage change increases each period, whereas *Rawhide Dog Treats* had reported a period of increase (7.7%), followed by a period of decline (-5.8%). For decline, *Other Confections* reported continual decreases from 2012 to 2013 (-7.3%) and from 2013 to 2014 (-12%). For product categories in France, similar to what was seen for the United States, product categories that had experienced percentage change increases in sales revenue also tended to report percentage change increases in sales volume. However, few product categories did report percentage change increases (*Lollypops* and *Chewy Confections* from 2009 to 2009) or decreases (*Enjoyment Confections* and *Other Soft Confections* from 2011 to 2012

and 2010 to 2011, respectively) in sales volume where the categories had shown stability in percentage change for category sales revenue. One category in France, *Gummy Jelly Confections*, did show continual increases in volume sales, when excluding one instance of percentage change volume sales stability from 2010 to 2011 (0.7%). Yet, in over half of the cases in the United States (59%) and in France (53%), categories used in this analysis reported stable changes in sales volume across the years. Table 6.5 and Table 6.6 report category sales volume percentage change year-on-year for each product category in the United States and France, respectively.

Like sales revenue, categories included in this analysis varied in their category sales volume. Category sales volume was stable more than half of the time, across categories and years.

6.4 Category Average Volume Price

The 11 product categories in the United States had an average aggregate average category volume price of around $11 each calendar year, from 2012 to 2014. In France, the 11 product categories had an average aggregate average category volume price of around €20 each calendar year, from 2008 to 2013. The pricing figures are the actual, average category volume price paid by category buyers, rather than the average category list price found in retailers. Table 6.7 and Table 6.8 report the average volume price for each product category in the United States and France, respectively. In the United States, the average highest priced category across the years was *Mints* at $44 in 2013, which was around 32 times higher than the average lowest priced category in that year (*Dry Dog Food* at $1.4 in 2013). In France, the average highest priced category across the years was *Lollypops* at €94 in 2009, which was around 15 times higher than the average lowest priced category in that year (*Family Pack Ice Cream* at €6.3 in 2009). Yet, this example only continues to show average volume price paid across categories does vary but when examining the average volume price paid of these categories across time periods, changes in the average volume price paid remained rather stable.

Table 6.7 Category Average Volume Price & Percentage Change in Category Average Volume Price – US

	Category Average Volume Price - $ USD			%Δ Category Average Volume Price	
United States	**2012**	**2013**	**2014**	**12-13**	**13-14**
Chocolate	16	17	17	5.2	0.3
Gum	6.6	7.9	7.9	20	0.1
Mints	43	44	37	2.7	-16
Other Confections	8.8	9.1	9.2	3.1	1.2
Dry Rice	3.1	3.3	3.4	5.7	3.0
Ready Rice	4.0	4.0	4.1	1.6	1.6
Dry Cat Food	1.7	1.7	1.8	4.4	0.8
Regular Cat Treats	21	20	19	-5.5	-3.2
Dry Dog Food	1.3	1.4	1.4	4.1	3.2
Rawhide Dog Treats	6.1	6.8	7.6	11	12
Regular Dog Treats	10	11	12	8.3	5.6
Mean	**11**	**12**	**11**	**5.5**	**0.8**
Standard Deviation	**12**	**12**	**11**	**6.3**	**6.8**

This thesis analysed 11 product categories from the United States, each varying in the category average volume price. This assists in understanding new products across a range of conditions.

Note, following the guidelines used above: Red text indicates decline (-5.0%+), black text indicates stability (-4.9% - 4.9%) and green text indicates increase (5.0%+) for percentage change cells.

Table 6.8 Category Average Volume Price & Percentage Change in Category Average Volume Price – FR

	Category Average Volume Price - € EUR						%Δ Category Average Volume Price				
France	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**08-09**	**09-10**	**10-11**	**11-12**	**12-13**
Chewing Gum	14	14	16	20	21	23	2.5	17	25	2.7	7.8
Family Pack Ice Cream	6.3	6.3	6.4	6.4	6.6	6.8	1.3	0.3	0.0	4.0	3.0
Multipack Ice Cream	7.4	7.3	7.4	7.5	7.7	8	-1.4	1.5	1.8	3.0	3.1
Other Ice Cream	8.6	8.4	8.7	8.7	9.2	9.2	-1.5	3.4	-0.4	5.6	-0.1
Single Ice Cream	16	18	17	18	18	18	10	-0.8	4.1	-1.7	-1.2
Enjoyment Confections	21	21	22	22	23	24	0.1	3.2	1.6	4.3	3.3
Mints	29	29	28	30	31	35	1.2	-2.4	6.8	3.8	12
Lollypops	86	94	72	57	46	37	8.4	-23	-21	-20	-19
Chewy Confections	11	11	11	10	10	10	-3.8	0.2	-5.0	-2.4	0.3
Gummy Jelly Confections	9.4	9.8	10	10	11	11	4.7	4.5	0.5	8.5	0.4
Other Soft Confections	23	27	28	31	29	25	21	1.2	13	-8.0	-12
Mean	**21**	**22**	**21**	**20**	**19**	**19**	**3.8**	**0.4**	**2.4**	**0.0**	**-0.2**
Standard Deviation	**23**	**25**	**19**	**15**	**12**	**11**	**7.0**	**9.2**	**11**	**8.0**	**8.5**

An additional 11 product categories from France with varying category average volume prices were also analysed.

Note, following the guidelines used above: Red text indicates decline (-5.0%+), black text indicates stability (-4.9% - 4.9%) and green text indicates increase (5.0%+) for percentage change cells.

When looking across years, on average, the average category volume price for product categories in the United States increased slightly from 2012 to 2013 (M= 5.5, SD= 6.3) and then stabilised from 2013 to 2014 (M= 0.8, SD= 6.8). In France, on average, average category volume price remained stable across all periods, from 2008 to 2009 (M= 3.8, SD= 7.0), 2009 to 2010 (M= 0.4, SD= 9.2), 2010 to 2011 (M= 2.4, SD= 11), 2011 to 2012 (M= 0.0, SD= 8.0) and from 2012 to 2013 (M= -0.2, SD= 8.5). The on average percentage change of 0.0% seen from 2011 to 2012 does not indicate the absence of any change when investigating within the categories. This result is most likely a product of the dramatic (and ongoing) high declines of *Lollypops* (-20% in 2011 to 2012) combined with the declines seen in *Other Soft Confections* (-8.0% in 2011 to 2012). Upon removing these percentage change instances, on average, the percentage change in average category volume price across categories increases to 3.1% (SD= 3.4). Percentage change in average category volume price across categories did vary, across the United States and France. In the United States*, Rawhide Dog Treats* and *Regular Dog Treats* had continued volume sales percentage change increases from 2011 to 2012 and 2013 to 2014. When thinking about decline, only *Regular Cat Treats* (-5.5% in 2012 to 2013) and *Mints* (-16% from 2013 to 2014), had reported any instance of declines equal to or greater than -5.0%. In France, some categories had demonstrated random (i.e. non-ongoing) increases in percentage change for average category volume price, with only one category showing continual decreases in the average category volume price in four out of five periods (*Lollypops*, greater than -19% each period from 2009 to 2013). In cases where the percentage change for the average category volume price was no longer considered stable, changes were most commonly increases at 78% for cases in the United States and 65% of cases for France. Yet, in over half of the cases in the United States (59%) and in France (69%), categories reported stable changes in average category volume prices across years. Table 6.7 and Table 6.8 report category average volume price percentage change year-on-year for each category in the United States and France, respectively.

A range of categories varying in their category average volume price was analysed to understand new products across conditions. Category average volume price was stable just over half of the time.

6.5 Chapter Summary

The key themes covered in this chapter include:

- Categories vary in the sales revenues and volume sales generated and the number of products sold each calendar year, yet their sales and products remain relatively stable.

This chapter presented results for category performance and assortment measures, to offer context about the categories included in this thesis. The following chapter (CHAPTER 7) begins to present new product results, focusing on new product prevalence and performance across the categories.

CHAPTER 7 Results – New Product Prevalence & Performance

This chapter is the second results chapter of this thesis and offers information about the prevalence and performance of new products. The results presented in this chapter are produced using the method described in CHAPTER 5. The following (and final) results chapter will offer present information about new product launch decisions from the 22 consumer goods product categories.

7.1 Number of New Products (New Product Prevalence)

The 11 product categories in the United States had an average 6,637 new products each calendar year, from 2012 to 2014. In France the 11 product categories had an average 622 new products each calendar year, from 2008 to 2013. Table 7.1 and Table 7.2 report new product numbers across categories in the United States and France, respectively. In the United States, the category with the most number of new products when looking across the years was *Chocolate* at 3,758 in 2012, which was around 53 times more than the category with the least number of new launches in the same year (*Ready Rice* at 71 in 2012). In France, the range across categories was much lower, as the category with the highest number of new product launches when looking across the years was *Multipack Ice Cream* at 172 in 2009, which was around 10 times larger than the category that had the least number of new products in the same year (*Chewy Confections* at 17 in 2009).

Table 7.1 Number of New Products & Percentage Change in Number of New Products – US

	Number of New Products			%Δ Number of New Products	
United States	**2012**	**2013**	**2014**	**12-13**	**13-14**
Chocolate	3758	3484	2969	-7.3	-15
Gum	407	344	272	-16	-21
Mints	316	210	191	-34	-9.0
Other Confections	208	224	106	7.7	-53
Dry Rice	466	409	354	-12	-13
Ready Rice	71	39	29	-45	-26
Dry Cat Food	168	236	206	41	-13
Regular Cat Treats	72	87	110	21	26
Dry Dog Food	554	510	437	-7.9	-14
Rawhide Dog Treats	691	544	417	-21	-23
Regular Dog Treats	655	790	578	21	-27
Mean	**670**	**625**	**515**	**-4.8**	**-17**
Standard Deviation	**1047**	**973**	**830**	**25**	**19**

This thesis examines 11 product categories varying in new product numbers from the United States.

Note, following the guidelines used above: Red text indicates decline (-5.0%+), black text indicates stability (-4.9% - 4.9%) and green text indicates increase (5.0%+) for percentage change cells.

Table 7.2 Number of New Products & Percentage Change in Number of New Products – FR

	Number of New Products						%Δ Number of New Products				
France	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**08-09**	**09-10**	**10-11**	**11-12**	**12-13**
Chewing Gum	127	130	68	72	75	49	2.4	-48	5.9	4.2	-35
Family Pack Ice Cream	79	47	56	54	68	72	-41	19	-3.6	26	5.9
Multipack Ice Cream	154	172	124	144	133	118	12	-28	16	-7.6	-11
Other Ice Cream	51	56	49	41	50	25	9.8	-13	-16	22	-50
Single Ice Cream	45	35	28	44	39	22	-22	-20	57	-11	-44
Enjoyment Confections	70	53	49	49	27	41	-24	-7.5	0.0	-45	52
Mints	21	22	20	25	19	35	4.8	-9.1	25	-24	84
Lollypops	47	36	26	21	32	34	-23	-28	-19	52.4	6.3
Chewy Confections	15	17	29	29	19	23	13	71	0.0	-35	21
Gummy Jelly Confections	81	70	52	74	78	73	-14	-26	42	5.4	-6.4
Other Soft Confections	39	54	57	48	65	53	39	5.6	-16	35	-19
Mean	**66**	**63**	**51**	**55**	**55**	**50**	**-4.0**	**-7.5**	**8.3**	**2.1**	**0.4**
Standard Deviation	**43**	**47**	**29**	**34**	**34**	**29**	**23**	**32**	**25**	**30**	**41**

An additional 11 product categories from France were analysed, varying in new product numbers.

Note, following the guidelines used above: Red text indicates decline (-5.0%+), black text indicates stability (-4.9% - 4.9%) and green text indicates increase (5.0%+) for percentage change cells.

These examples demonstrate that there is variance in the number of new product launches across categories, yet this variance is somewhat predictable. In the product categories in the United States and in France, the number of new products launched by categories is predictable based on the **(1)** sales revenues generated in each category and **(2)** the number of products available in each category in the same calendar year. This finding suggests larger categories, i.e. categories with higher sales (Figure 7.1 and Figure 7.2) and categories with wider assortments (Figure 7.3 and Figure 7.4), tend to have more new products launched each calendar year. This does not mean that more new products in the category produce higher category sales revenues but that ***larger categories are most likely more attractive (or, safe) for manufacturers to launch new products***. In addition to the variance seen in the number of new products available each year, variance was also seen when examining the change in the number of new products across categories and years.

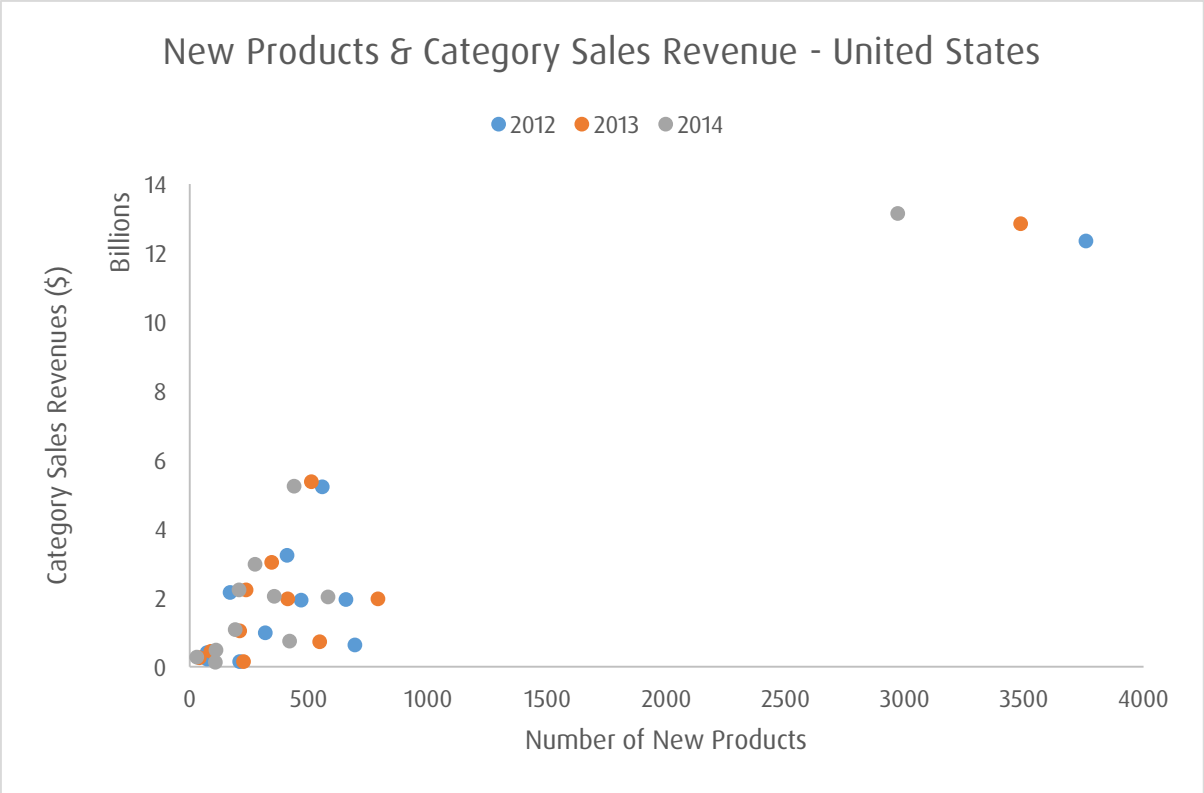


Figure 7.1 Number of New Products & Category Sales Revenue Relationship – US

This shows a relationship between the number of new products in a category and the sales revenue generated in a category, in the same calendar year across United States product categories.

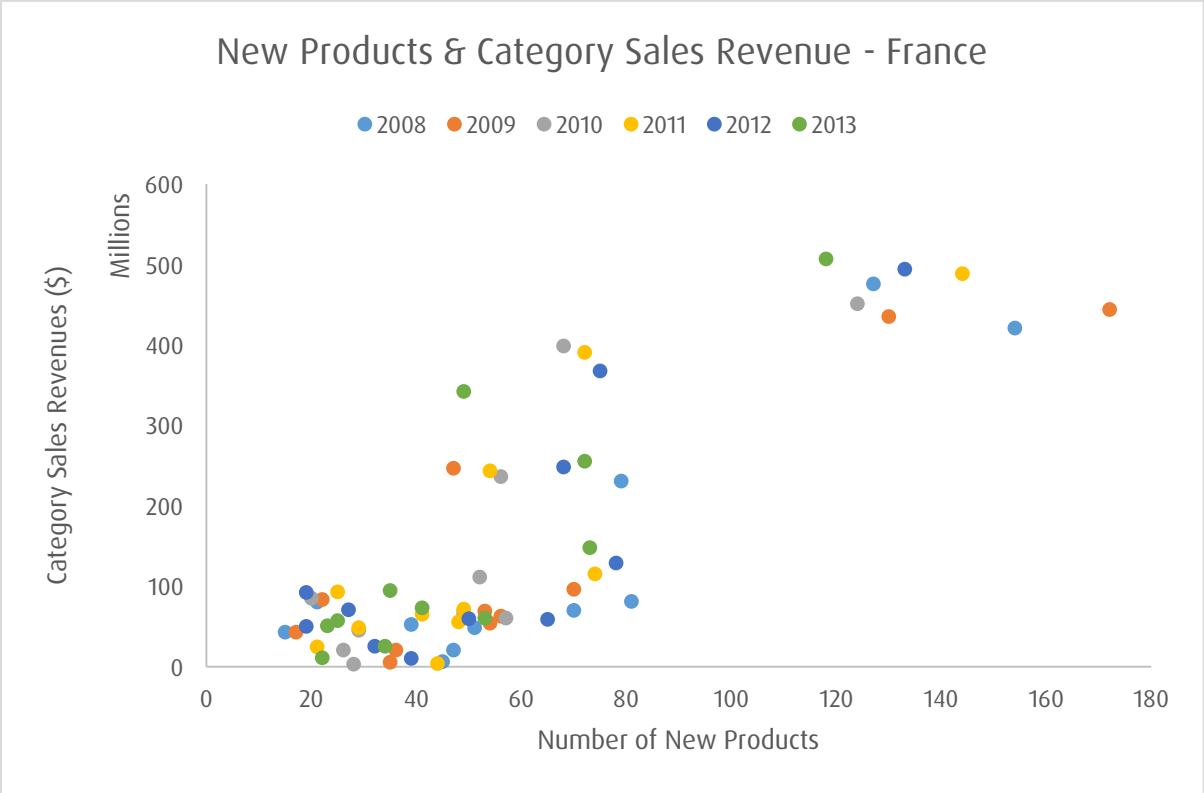


Figure 7.2 Number of New Products & Category Sales Revenue Relationship – FR

Like above, this shows a positive relationship between the number of new products in a category and the category sales revenue generated, in the same calendar year across categories in France.

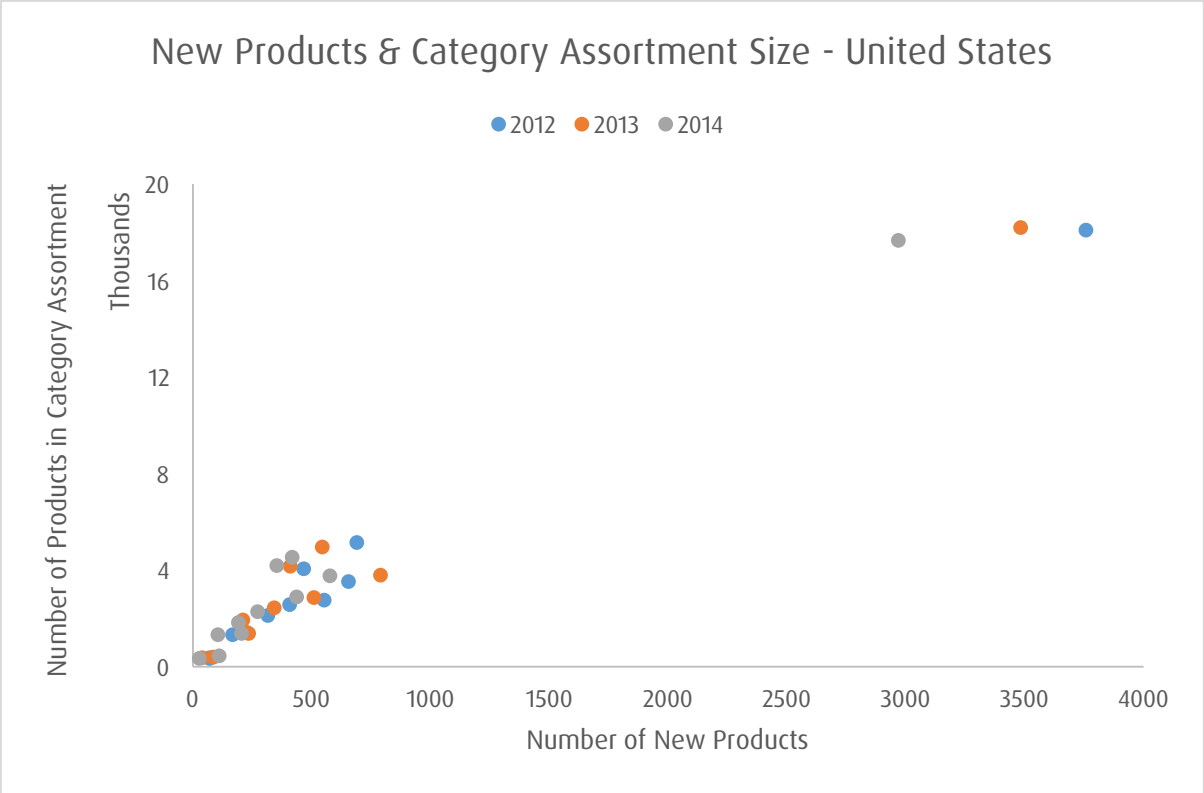


Figure 7.3 Number of New Products & Category Assortment Size – US

This shows a relationship between the number of new products in a category and the total number of products in a category, in the same calendar year across product categories in the United States.

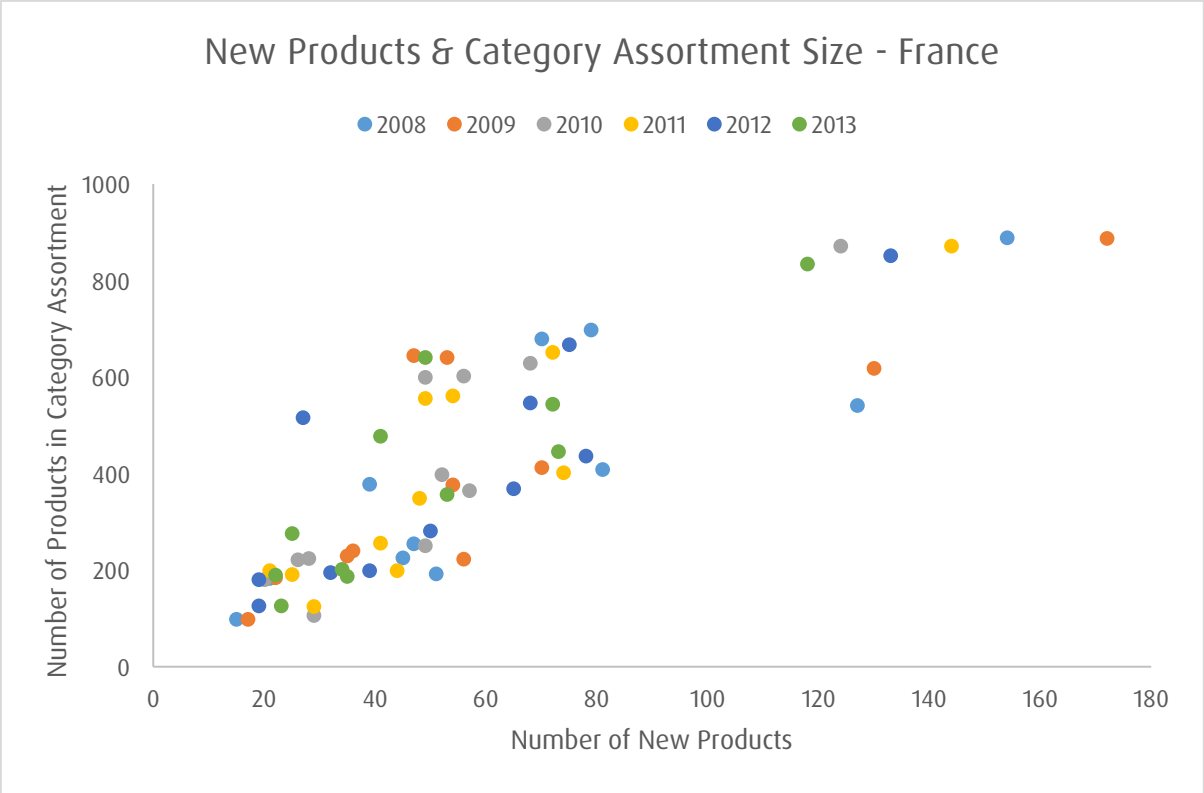


Figure 7.4 Number of New Products & Category Assortment Size – FR

Like above, this shows a relationship between the number of new products in a category and the total number of products in a category, in the same calendar year across France product categories.

When looking across years, changes in the number of new product launches for product categories in the United States generally declined in 2012 to 2013 (M= -4.8, SD= 25) and then from 2013 to 2014 (M= -17, SD= 19). In France, the average figures across categories varied across the years, from a slight (2008-2009, M= -4.0, SD= 23) to a deeper decline (2009-2010, M= -7.5, SD= 32), then to an increase (2010-2011, M= 8.3, SD= 25) but then stabilising in the final two periods (2011-2012, M= 2.1, SD= 30, 2012-2013, M= 0.4, SD= 41). These figures are reported in Table 7.1 and Table 7.2 for United States and France categories, respectively. Percentage change in new product numbers across varied across categories in the United States and France, as shown through the inflated standard deviation scores. In the United States, only one product category *(Regular Cat Treats)* had continuous increases in new products in 2012 to 2013 (21%) and again in 2013 to 2014 (26%). No categories had stable new product numbers, with over three quarters of categories reporting declines in new product numbers over the two periods. In France, no categories had continuous increases or decreases in the percentage change of the number of new products. Most categories reported either increases or declines in new product numbers, with only 11% of stable changes cases in new product numbers. Declines in new product numbers were more common but they were just under half the non-stable cases (49%).

The 11 product categories in the United States and the 11 product categories in France had an aggregate 23,642 new products launched over a three and six-year period, respectively. Yet, what is still to be understood is what types of new products entered the market during this period. Figure 7.5 demonstrates average prevalence of new product types each calendar year, across the United States and France. Table A.4 and Table A.5, in the appendix, report the prevalence of new products by type (e.g. new brands) for each product category for the United States and France, respectively.

On average, across the categories in the United States:

- **New brands** represented 3.8% of new product launches, or, 1.4% (SD= 2.0) of all new product launches in 2012, 4.0% (SD= 5.9) in 2013 and 6.0% (SD= 17) in 2014.
- **New sub-brands** represented 7.7% of new product launches on average, or, 7.4% (SD= 5.9) in 2012, 7.5% (SD= 5.9) in 2013 and 8.2% (SD= 9.2) in 2014.
- **Line extensions** (e.g. new flavours, pack sizes) represented 49% of new product launches on average, or, 48% (SD= 16) in 2012, 47% (SD= 13) in 2013 and 51% (SD= 26) in 2014.
- **Undefined** represented, on average, 40% of new product launches, or, 44% (SD= 18) in 2012, 42% (SD= 16) in 2013 and 35% (SD= 19) in 2014.

On average, across the categories in France:

- **New brands** represented 9.8% of new products launched, or, 11% (SD= 17) in 2008, 8.8% (SD= 6.8) in 2009, 9.1% (SD= 8.7) in 2010, 13% (SD= 14) in 2011, 12% (SD= 13) in 2012 and 4.8% (SD= 6.6) in 2013.
- **New sub-brands** represented 22% of new product launches on average, or, 26% (SD= 19) in 2008, 22% (SD= 17) in 2009, 25% (SD= 19) in 2010, 21% (SD= 14) in 2011, 19% (SD= 17) in 2012 and 16% (SD= 13) in 2013.
- **Line extensions** represented, on average, 69% of new product launches, or 63% (SD= 20) in 2008, 70% (SD= 16) in 2009, 66% (SD= 18) in 2010, 65% (SD= 17) in 2011, 69% (SD= 23) in 2012 and 80% (SD= 14) in 2013.
- **Undefined** were not present in any categories in France. This is thought to be because of the characteristic information provided and the way the data is coded (see Section 9.5).

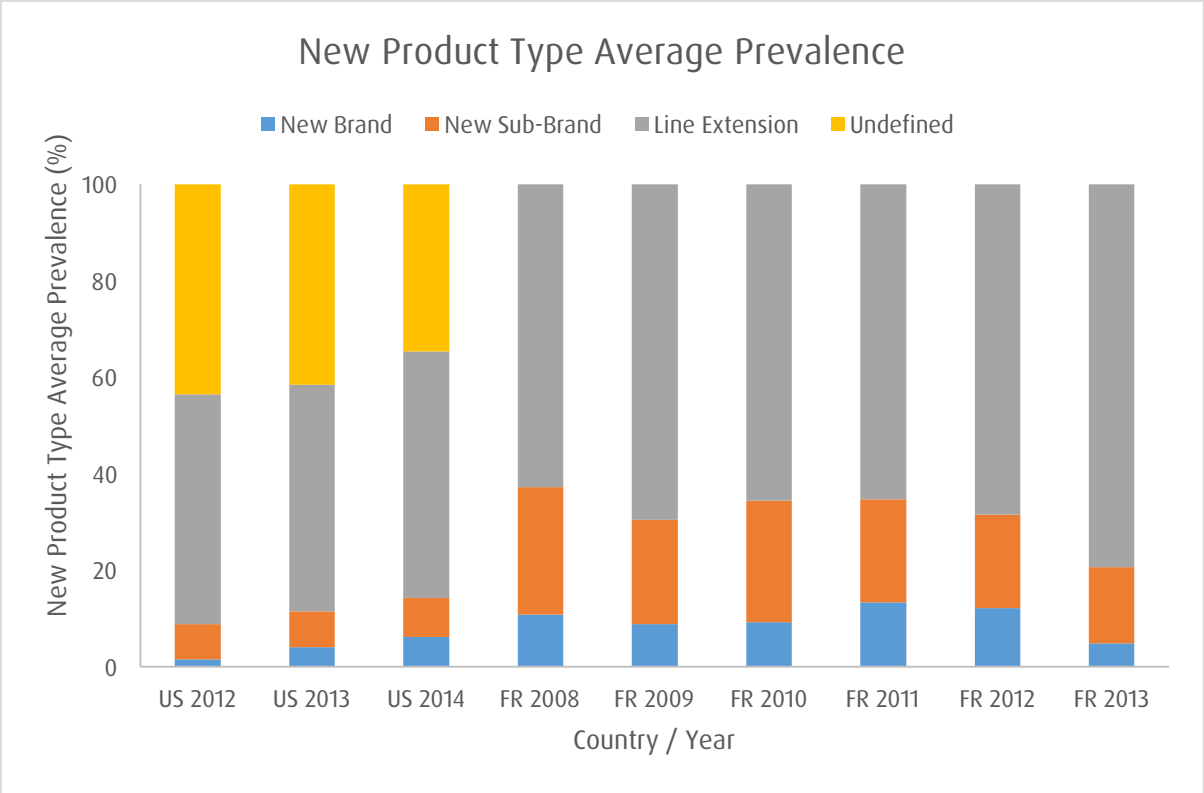


Figure 7.5 New Product Type Average Prevalence

Although new product types vary across categories, on a whole, new brands and new sub-brands are far less common than line extensions, across categories in the United States and in France.

There was a lot of variation in these figures for each type of new product, as shown in the inflated standard deviation figures for the majority of new product types across most years. For example, new brands in the United States ranged from zero in numerous categories, to over half of all new products launched in *Ready Rice* in 2014 (at 57%). This is a near identical spread as to what is seen in France, with some categories reporting that not one of their new products was a new brand, but others reporting that over half of all new products launched were new brands (e.g. *Single Ice Cream* in 2008 at 58%). These figures for new brands are considered unusual as each of these categories reported much lower percentages in the preceding and proceeding years.

Larger categories (higher sales revenues and wider assortments) launch slightly more new products. Line extensions are often more common than new brands or sub-brands.

7.2 Percentage of New Products (Rate of Innovation)

The 11 product categories in the United States had an average 6,637 new products each calendar year from 2012 to 2014. These new products represented on average 15% of products in the

category, or an average 17% (SD= 3.6) in 2012, 16% (SD= 4.4) in 2013 and 13% (SD= 5.0) in 2014. In France, the 11 product categories had an average 622 new products each calendar year from 2008 to 2013. These new products represented on average 15% of products in the category, or an average 17% (SD= 5.5) in 2008, 16% (SD= 5.3) in 2009, 14% (SD= 5.5) in 2010, 15% (SD= 4.9) in 2011, 15% (SD= 4.2) in 2012 and 14% (SD= 3.9) in 2013. Table 7.3 and Table 7.4 report figures showing the percentage representation of new products across categories in the United States and France, respectively. In both the United States and in France, the percentage that new products represent in categories, on average, showed a downward trend with each passing calendar year (2010 in France was lower than expected). In both countries, new products represented the minority of products across the categories. *Regular Cat Treats* in the United States reported the highest percentage representation of new products in the product category in 2014 at 25%. This figure is similar to *Chewy Confections* in France as it reported the highest representation of new products in the product category in 2010 at 28%. In each of these examples, around one in four products sold in retailers had not been seen in the previous calendar year, yet this was the highest percentage representation found in any category in both countries. These figures did vary, with *Other Confections* in the United States reporting that a mere 8.1% of products were new products in the category in 2014. In France, the lowest percentage of new products was reported in *Enjoyment Confections* in 2012 at 5.2%. These examples demonstrate how the percentage representation of new products can vary (but is similar) across categories, yet within the same product category the percentage representation of new products remains stable across time.

Table 7.3 Percentage of New Products & Change in Percentage of New Products – US

	Percentage of New Products			Δ Percentage of New Products	
United States	**2012**	**2013**	**2014**	**12-13**	**13-14**
Chocolate	21	19	17	-1.6	-2.4
Gum	16	14	12	-1.8	-2.3
Mints	15	11	11	-4.1	-0.4
Other Confections	15	16	8.1	0.7	-7.7
Dry Rice	12	10	8.5	-1.7	-1.4
Ready Rice	22	11	8.6	-10	-2.7
Dry Cat Food	13	17	15	4.5	-2.3
Regular Cat Treats	20	22	25	2.1	2.5
Dry Dog Food	20	18	15	-2.2	-2.7
Rawhide Dog Treats	13	11	9.2	-2.5	-1.8
Regular Dog Treats	19	21	15	2.2	-5.5
Mean	**17**	**16**	**13**	**-1.3**	**-2.4**
Standard Deviation	**3.6**	**4.4**	**5.0**	**3.9**	**2.6**

New products represent 15% of products on average across the United States product categories.

Note: Red text indicates decline (-5.0 +), black text indicates stability (-4.9 - 4.9) and green text indicates increase (5.0+) for absolute change cells.

Table 7.4 Percentage of New Products & Change in Percentage of New Products – FR

	Percentage of New Products						Δ Percentage of New Products				
France	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**08-09**	**09-10**	**10-11**	**11-12**	**12-13**
Chewing Gum	24	21	11	11	11	7.6	-2.4	-10	0.2	0.2	-3.6
Family Pack Ice Cream	11	7.3	9.3	10	13	13	-4.0	2.0	0.3	2.8	0.8
Multipack Ice Cream	17	19	14	17	16	14	2.1	-5.2	2.3	-0.9	-1.5
Other Ice Cream	27	25	20	16	18	9.1	-1.3	-5.6	-3.5	1.7	-8.7
Single Ice Cream	20	15	13	22	20	12	-4.7	-2.8	10	-2.5	-8.0
Enjoyment Confections	10	8.3	8.2	8.8	5.2	8.6	-2.0	-0.1	0.7	-3.6	3.4
Mints	12	12	11	13	11	19	0.5	-0.8	2.0	-2.6	8.2
Lollypops	19	15	12	11	17	17	-3.4	-3.3	-1.2	5.9	0.4
Chewy Confections	16	17	28	23	15	18	1.9	10	-4.2	-8.2	3.2
Gummy Jelly Confections	20	17	13	18	18	16	-2.9	-3.9	5.3	-0.5	-1.5
Other Soft Confections	10	14	16	14	18	15	4.0	1.3	-1.9	3.9	-2.8
Mean	**17**	**16**	**14**	**15**	**15**	**14**	**-1.1**	**-1.7**	**0.9**	**-0.3**	**-0.9**
Standard Deviation	**5.5**	**5.3**	**5.5**	**4.9**	**4.2**	**3.9**	**2.8**	**5.3**	**4.0**	**3.9**	**4.9**

On average across the 11 France product categories, new products represent 15% of all products.

Note, following the guidelines used above: Red text indicates decline (-5.0 +), black text indicates stability (-4.9 - 4.9) and green text indicates increase (5.0+) for absolute change cells.

When looking across years on average, absolute change[1] in the percentage representation of new products in categories in the United States remained stable in 2012 to 2013 (M= -1.3, SD= 3.9) and then from 2013 to 2014 (M= -2.4, SD= 2.6). In France, the absolute change in the percentage representation of new products in categories also remained stable on average, from 2008 to 2009 (M= -1.1, SD= 2.8), 2009 to 2010 (M= -1.7, SD= 5.3), 2010 to 2011 (M= 0.9, SD= 4.0), 2011 to 2012 (M= -0.3, SD= 3.9) and then again in 2012 to 2013 (M= -0.9, SD= 4.9). In the United States, only three categories reported absolute change decreases of greater than five percentage points (*Ready Rice* in 2012-2013, and *Other Confections* and *Regular Dog Treats* in 2013-2014), whilst all other categories reported absolute change equal to or greater than -5.0 percentage points and equal to or less than 5.0 percentage points. In France, most product categories reported absolute change increases or decreases of greater (or lower) than five percentage points, with only three product categories reporting continuous stability in the measure for each period (*Family Pack Ice Cream, Enjoyment Confections and Other Soft Confections*). In the United States, most cases (86%) were stable, with only three cases of decline found across categories and years. In France, the majority of cases (80%) were stable but in those that did experience more than five percentage point declines or

[1] Absolute change in percentage figures are used to ensure change in percentages, using percentage change, are not over reported. For example, percentage change would report a -7.7% change from 21% in Year 1 and 19% in Year 2, whereas absolute change would report a -1.6 percentage point change from Year 1 to Year 2.

increases, declines were just over half the non-stable cases. Table 7.3 and Table 7.4 report absolute change in the percentage of new products in the United States and France, respectively.

New products represent around 15% of all products sold. New products may be common but represent no more than 28% of all products sold.

7.3 Product Churn

In calculating product churn ratios, the number of new products in a category is compared to the number of deleted products each calendar year (see Section 5.4.2). Here, a product churn ratio of 1.0 shows that there is an equal amount of new product launches and product deletions in the same calendar year. When the product churn ratio reports figures above (below) 1.0, this indicates that there are more (less) new products in the market than there are product deletions in the same year.

The 11 product categories in the United States had an average aggregate 6,637 new products and an average aggregate 6,576 product deletions each calendar year, from 2012 to 2014. In France, the 11 product categories had an average aggregate 622 new products and an average aggregate 625 product deletions each calendar year, from 2008 to 2013. The product churn ratio in the United States, on average was 1.1, or an average, 1.3 (SD= 0.4) in 2012, 1.2 (SD= 0.4) in 2013 and 0.9 (SD= 0.4) in 2014. This shows that slightly more new products (10%) were being launched than existing products were being deleted in the same calendar year, but there were slightly declines on average with each passing year. In France the product churn, on average was 1.2, or on average, 1.9 (SD= 1.2) in 2008, 1.1 (SD= 0.6) in 2009, 1.0 (SD= 0.5) in 2010, 1.1 (SD= 0.7) in 2011, 1.1 (SD= 0.5) in 2012 and 0.9 (SD= 0.2) in 2013. Again, this shows more new products (20%) were being launched than existing products were being deleted in the same calendar year, but declines did occur on average in later years. Variance in this ratio was seen across the product categories. For example, in the United States the category that had the highest product churn ratio (more new products being cycled in than deletions being taken out) when looking across the years was *Ready Rice* at 2.2 in 2012. This figure indicates that this category had around two times more new product launches than the number of products being deleted in the same calendar year. *Other Confections* in 2014 had the lowest product churn ratio across categories in the United States at 0.5 in 2014. *Other Ice Cream* in France had the highest product churn ratio of all at 3.9 in 2008, which indicates that this category had almost four times more new product launches than the number of products being deleted in the same calendar year. *Enjoyment Confections* in 2012 had the lowest product churn ratio across categories in France at 0.4 in 2012. Table 7.5 and Table 7.6 report product churn ratio figures across categories in the United States and France, respectively.

Table 7.5 Product Churn Ratio & Percentage Change in Product Churn Ratio – US

	Product Churn Ratio			%Δ Product Churn Ratio	
United States	**2012**	**2013**	**2014**	**12-13**	**13-14**
Chocolate	1.2	1.0	0.9	-12	-17
Gum	1.0	0.7	0.7	-30	-10
Mints	1.0	0.5	0.6	-47	17
Other Confections	1.0	1.2	0.5	17	-60
Dry Rice	1.7	1.4	1.1	-22	-23
Ready Rice	2.2	1.9	0.8	-16	-59
Dry Cat Food	1.0	1.3	1.0	32	-18
Regular Cat Treats	1.4	1.6	2.0	16	20
Dry Dog Food	1.4	1.2	1.1	-10	-11
Rawhide Dog Treats	1.1	0.7	0.5	-32	-33
Regular Dog Treats	1.4	1.5	1.0	5.1	-36
Mean	**1.3**	**1.2**	**0.9**	**-8.9**	**-21**
Standard Deviation	**0.4**	**0.4**	**0.4**	**24**	**26**

More new products are released than existing products are deleted, at a rate of 1.1 on average across the 11 product categories in the United States.

Note, following the guidelines used above: Red text indicates decline (-5.0%+), black text indicates stability (-4.9% - 4.9%) and green text indicates increase (5.0%+) for percentage change cells.

Table 7.6 Product Churn Ratio & Percentage Change in Product Churn Ratio – FR

	Product Churn Ratio						%Δ Product Churn Ratio				
France	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**08-09**	**09-10**	**10-11**	**11-12**	**12-13**
Chewing Gum	3.3	2.5	1.2	1.5	1.3	0.7	-25	-52	25	-14	-49
Family Pack Ice Cream	2.4	0.5	0.6	0.6	0.8	1.0	-80	22	-0.5	44	19
Multipack Ice Cream	2.2	1.0	0.9	1.0	0.9	0.9	-56	-10	11	-13	0.6
Other Ice Cream	3.9	2.2	2.3	1.1	2.1	0.8	-45	8.3	-51	83	-61
Single Ice Cream	3.2	1.1	0.8	0.6	1.0	0.7	-65	-25	-25	57	-31
Enjoyment Confections	0.8	0.6	0.5	0.5	0.4	0.5	-24	-6.5	-4.3	-22	25
Mints	0.8	1.0	0.8	1.7	0.7	1.3	30	-21	100	-61	91
Lollypops	0.8	0.7	0.6	0.5	0.9	1.3	-8.4	-16	-17	77	46
Chewy Confections	0.6	1.1	1.3	2.9	1.1	1.0	70	24	120	-64	-5.3
Gummy Jelly Confections	2.0	1.1	0.8	1.1	1.8	1.2	-48	-26	34	68	-35
Other Soft Confections	0.5	1.0	0.8	0.8	1.4	0.8	78	-14	-7.8	86	-41
Mean	**1.9**	**1.1**	**1.0**	**1.1**	**1.1**	**0.9**	**-16**	**-11**	**17**	**22**	**-3.8**
Standard Deviation	**1.2**	**0.6**	**0.5**	**0.7**	**0.5**	**0.2**	**53**	**22**	**52**	**58**	**46**

The pattern was also found when investigating the 11 product categories in France, showing more new products are released than existing products, at a rate of 1.2 on average.

Note, following the guidelines used above: Red text indicates decline (-5.0%+), black text indicates stability (-4.9% - 4.9%) and green text indicates increase (5.0%+) for percentage change cells.

When looking across product categories, product churn ratios fluctuated dramatically from period to period. For example, *Mints* in the United States reported a -47% change in product churn ratio from 2012 to 2013 (1.0 to 0.5) then a 17% increase in the product churn ratio from 2013 to 2014 (0.5 to 0.6). To demonstrate this further, *Other Ice Cream* in France reported a -51% percentage change in product churn ratio from 2010 to 2011 (2.3 to 1.1), then an 83% increase in the product churn ratio from 2011 to 2012 (1.1 to 2.1), then a -61% decrease in the product churn ratio in 2012 to 2013 (2.1 to 0.8). Percentage change in product churn ratios had a similar pattern to the percentage change in the number of new products because in most cases, when one moved in one direction (e.g. percentage change in new product numbers declined), the other also moved in the same direction (e.g. percentage change in product churn ratio declined). When comparing the two measures, each followed the same direction in 96% of cases in the United States and 76% of cases in France. This indicates that given category assortment size remains relatively stable each period (and presumably, product deletions), fluctuation in product churn year-on-year is mostly accounted by changes found in new product numbers each period. Table 7.5 and Table 7.6 report the percentage change in the product churn ratio figures for each category in the United States and France, respectively.

On average, more new products are released than existing products are deleted, but this varies across categories and years.

7.4 New Product Survival

The 11 product categories in the United States had an aggregate 7,366 new products in 2012, whereas the 11 product categories in France had an aggregate 729 new products in 2008. Although it is clear new product launches are common across product categories, it is not yet understood how long new products often remain in the market after launch. This analysis focuses on new launches from 2012 in the United States and new launches from 2008 in France (see Section 5.4.2 for details). For initial results for this analysis using a different measure, please see the appendix (below).

On average***, most new products continue to be sold four quarters from launch*** in the United States (81%) and in France (86%). Looking further from launch, the majority of new products continue to be sold eight quarters from launch in the United States (69%) and in France (67%). This shows new product survival (using this measure) is common in these product categories, and is often much higher than widely cited in studies using *similar* measures (e.g. Wilbur & Farris 2014). New products in this thesis may include established products with slight changes, e.g. 8.8% of new product launches in 2012 from the United States are new brands or sub-brands, which may be one reason survival rates are higher than often reported. Table 7.7 reports new product survival figures for new launches (2012) in the United States and Table 7.8 reports new product survival figures for

new launches (2008) in France. Figure 7.6 and Figure 7.7 demonstrate these survival trends visually for new product launches in the United States and France, respectively.

Survival figures in the fourth quarter did vary across the product categories in the United States, with *Chocolate* reporting the lowest percentage of new products surviving at 53% (or, highest percentage of new products removed from the market at 47%). Almost half of the new products launched in *Chocolate* were seasonal, which may offer an explanation to why almost 47% of new products were removed this period. When re-analysing this category with seasonality removed, the survival rate for *Chocolate* new products was much higher at 75% (25% removed), making it more comparable to other product categories. The category reporting the highest percentage of new products in the market was *Ready Rice* at 94% (or, lowest percentage of new products removed at 5.8%).

Looking further from launch, survival figures in the eighth quarter also varied across United States categories. Although more pronounced, *Chocolate* still reports the lowest percentage of new products surviving at 37% (or, highest percentage of new products removed from the market at 62.8%). When re-analysing this category with seasonality removed, *Chocolate* survival rate was higher, with over half of new product launches (56%) still sold during this period. Again similar to fourth quarter results, *Ready Rice* still reports the highest percentage of new products still in the market at 90% (or, lowest percentage of new products removed from the market at 10%).

Survival figures in the fourth quarter also varied in France across categories, with *Lollypops* reporting the lowest percentage of new products surviving at 66% (or, highest percentage of new products removed from the market at 34%) and *Other Soft Confections* reporting no failures. The reporting of no new product failures (i.e. continued sales) past the second quarter is unusual in the datasets analysed, with this observed in only two categories (*Gummy Jelly Confections* and *Other Soft Confections*).

Looking further from launch, survival figures in the eighth quarter varied across categories in France. Again, although more pronounced, *Lollypops* still reports the lowest percentage of new products surviving at 41% (or, highest percentage of new products removed from the market at 59%). Unlike the results from the fourth quarter, *Chewing Gum* reports the highest percentage of new product surviving at 89% (or, lowest percentage of new product removed from the market at 11%).

Table 7.7 New Product Survival – US

	New Product Survival							
United States	**Y1 Q1**	**Y1 Q2**	**Y1 Q3**	**Y1 Q4**	**Y2 Q1**	**Y2 Q2**	**Y2 Q3**	**Y2 Q4**
Chocolate	100	79	63	53	49	45	41	37
Gum	100	87	79	72	69	66	63	61
Mints	100	92	83	77	74	72	70	66
Other Confections	100	92	82	70	64	58	55	47
Dry Rice	100	96	92	87	85	83	81	78
Ready Rice	100	99	97	94	93	93	91	90
Dry Cat Food	100	95	92	89	85	83	79	74
Regular Cat Treats	100	94	92	91	89	87	86	86
Dry Dog Food	100	93	89	85	82	77	72	69
Rawhide Dog Treats	100	94	89	86	83	81	78	75
Regular Dog Treats	100	95	91	88	85	80	76	73
Mean	**100**	**92**	**86**	**81**	**78**	**75**	**72**	**69**
Standard Deviation	**0.0**	**5.2**	**10**	**12**	**13**	**14**	**14**	**16**

Most new products continue to report sales four quarters from launch in United States categories (81% on average). 69% of new products continue to report sales eight quarters from launch.

Note: To be included in this analysis new products must have had at least two weeks of continuous sales in the first two weeks of the first quarter. Thus, all new products included "survived" the first quarter. Y = Year and Q = Quarter.

Table 7.8 New Product Survival – FR

	New Product Survival							
France	**Y1 Q1**	**Y1 Q2**	**Y1 Q3**	**Y1 Q4**	**Y2 Q1**	**Y2 Q2**	**Y2 Q3**	**Y2 Q4**
Chewing Gum	100	98	97	95	93	93	92	89
Family Pack Ice Cream	100	95	89	89	87	85	81	81
Multipack Ice Cream	100	92	88	88	87	84	83	79
Other Ice Cream	100	98	96	92	92	85	71	63
Single Ice Cream	100	93	80	75	73	71	59	57
Enjoyment Confections	100	97	93	85	81	78	77	72
Mints	100	95	71	67	67	62	48	48
Lollypops	100	89	80	66	59	57	52	41
Chewy Confections	100	93	93	93	87	73	73	73
Gummy Jelly Confections	100	100	97	94	92	91	78	71
Other Soft Confections	100	100	100	100	97	93	76	62
Mean	**100**	**95**	**89**	**86**	**83**	**79**	**72**	**67**
Standard Deviation	**0.0**	**3.5**	**9.0**	**12**	**12**	**12**	**14**	**15**

Survival rates were similar in France, with 86% of new products on average reporting sales four quarters from launch. 67% of new products continue to report sales eight quarters from launch.

Note: To be included in this analysis new products must have had at least two weeks of continuous sales in the first two weeks of the first quarter. Thus, all new products included "survived" the first quarter. Y = Year and Q = Quarter.

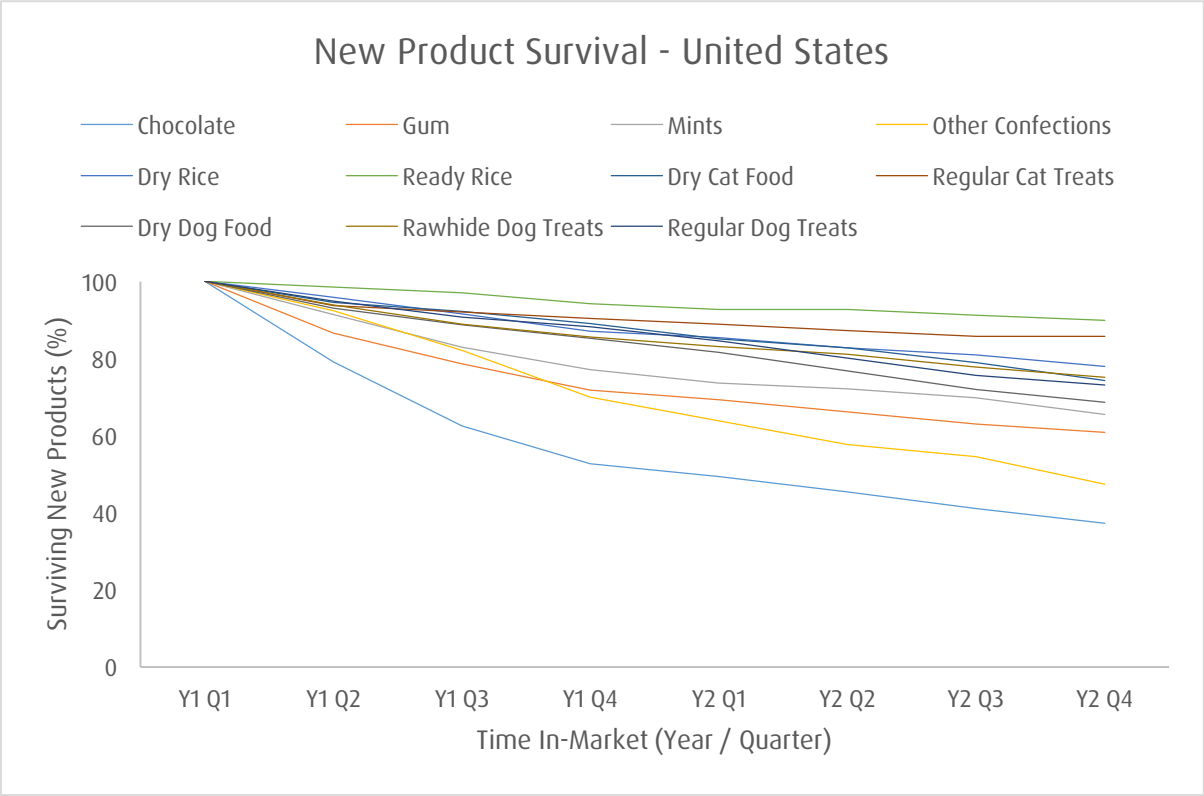


Figure 7.6 New Product Survival – US

This graph visually shows new product survival over time for United States product categories. New product survival varies across product categories, with Chocolate reporting the lowest survival.

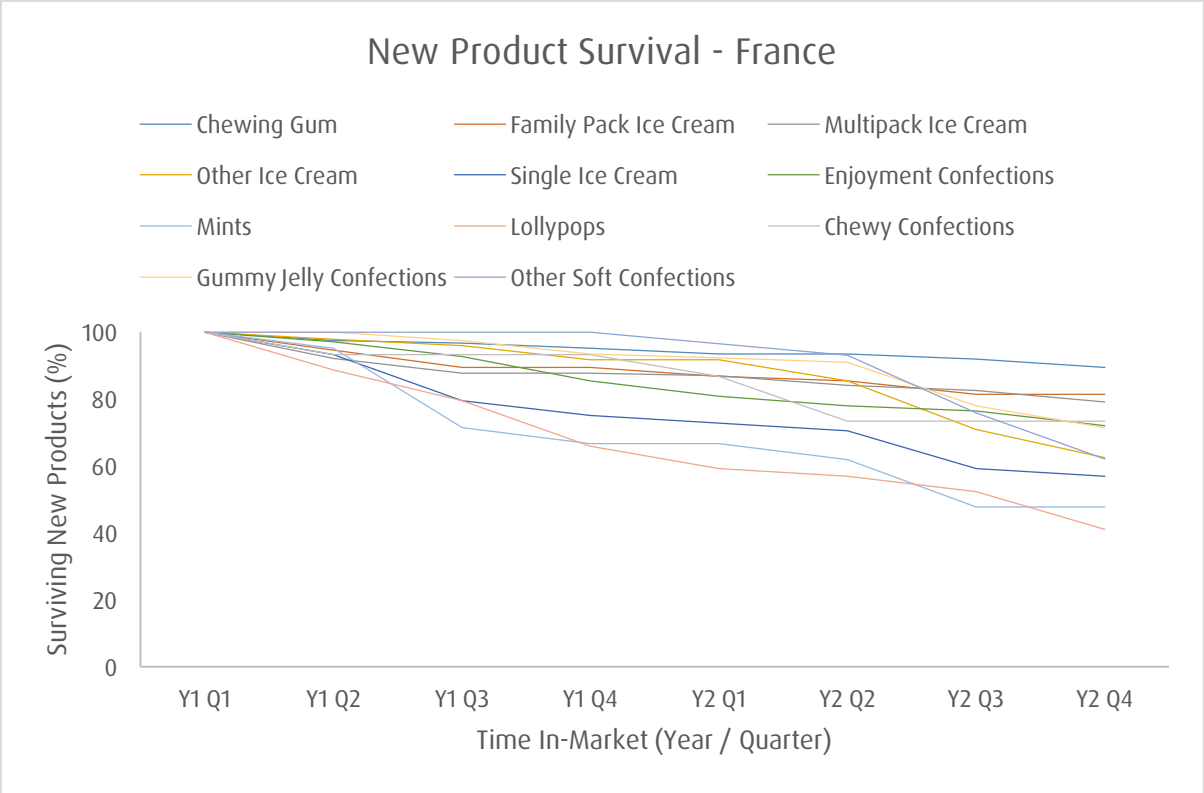


Figure 7.7 New Product Survival – FR

This graph visually demonstrates new product survival rates across France product categories. Chewing Gum reported the highest survival rate, four and eight quarters from launch.

Most new products continue to be sold in the final quarter of the first year, with survival figures dropping further in the last quarter of the second year. In the United States, survival rates in the final quarter of the second year were 12 percentage points lower on average (SD= 5.3), compared to survival rates in the last quarter of the first year. When accounting for seasonal new products in the United States, this figure remains seemingly unchanged at 13 percentage points lower (SD= 5.7). In France, survival rates in the final quarter of the second year were 19 percentage points lower on average (SD= 9.7), compared survival rates in the last quarter of the first year. Table 7.9 and Table 7.10 report absolute change (percentage points) in new product survival rate across categories in the United States and France, respectively. Although this reports how new product survival rates change over time, what is not known is the likelihood that new products will complete a full second year of sales, if it achieved continued sales in its first year.

When examining the likelihood that new products that survive the first year will also survive to the end of the second year, ***the majority of new products that can survive one year will also survive the next.*** On average, 84% (SD= 8.6) of new products surviving the first year continued to have sales at the end of the second year. The figure was similar across categories in France at 78% (SD= 11.3), on average. This figure did vary but the minimum figure in the United States was 68% in *Other Confections* and 62% in both *Single Ice Cream* and *Other Soft Confections* in France. This shows

new products continuing to sales in the final quarter in the first year of launch will most often continue to report sales another year (i.e. four quarters) later. Table 7.9 and Table 7.10 report the percentage of new products with sales activity in the last quarter of the first year, that continue to report sales activity in the last quarter of the second year (i.e. conditional survival rate), for categories in the United States and France, respectively.

Table 7.9 New Product Survival Y1 Q4, Y2 Q4 Comparison – US

	New Product Survival Y1 Q4 - Y2 Q4 Comparison			
United States	**Y1 Q4**	**Y2 Q4**	**Δ Y1 Q4 - Y2 Q4**	**% Survival Y1 - Y2**
Chocolate	53	37	-16	71
Gum	72	61	-11	85
Mints	77	66	-12	85
Other Confections	70	47	-22	68
Dry Rice	87	78	-9.1	90
Ready Rice	94	90	-4.3	95
Dry Cat Food	89	74	-15	83
Regular Cat Treats	91	86	-4.8	95
Dry Dog Food	85	69	-17	81
Rawhide Dog Treats	86	75	-11	88
Regular Dog Treats	88	73	-15	83
Mean	**81**	**69**	**-12**	**84**
Standard Deviation	**12**	**16**	**5.3**	**8.6**

On average across the 11 United States product categories, 84% of new products that survive to the end of their first year, continue to report sales in the final quarter of their second year.

Table 7.10 New Product Survival Y1 Q4, Y2 Q4 Comparison – FR

	New Product Survival Y1 Q4 - Y2 Q4 Comparison			
France	**Y1 Q4**	**Y2 Q4**	**Δ Y1 Q4 - Y2 Q4**	**% Survival Y1 - Y2**
Chewing Gum	95	89	-5.7	94
Family Pack Ice Cream	89	81	-8.0	91
Multipack Ice Cream	88	79	-8.7	90
Other Ice Cream	92	63	-29	68
Single Ice Cream	75	57	-18	76
Enjoyment Confections	85	72	-13	85
Mints	67	48	-19	71
Lollypops	66	41	-25	62
Chewy Confections	93	73	-20	79
Gummy Jelly Confections	94	71	-22	76
Other Soft Confections	100	62	-38	62
Mean	**86**	**67**	**-19**	**78**
Standard Deviation	**12**	**15**	**9.7**	**11**

Similar to the results from the United States, most new products surviving to the end of year one tend to also report sales in the final quarter of the second year after launch in France (78%, on average).

On average, five in six new products continue to have sales in the final quarter of their first year. Around eight of out ten new products that survive their first year, also survive their second year.

7.5 New Product Sales Contribution

7.5.1 Sales Revenue

Across the 11 product categories in the United States, new products generated 7.3% of total category sales revenues on average, or 8.9% (SD=5.2) in 2012, 7.5% (SD= 5.1) in 2013 and 5.7% (SD= 4.6) in 2014. In France, new products generated 11% of total category sales revenues on average, or 11% (SD= 6.2) in 2008, 9.8% (SD= 5.6) in 2009, 6.5% (SD= 4.6) in 2010, 9.6% (SD= 9.3) in 2011, 14% (SD= 23) in 2012 and 13% (SD= 9.0) in 2013. In the United States, the category where new products contributed the most to category sales revenues was *Dry Dog Food* in 2012 at 18%, which was around 16 times more than the category that contributed the least to category sales revenues in the same year (*Dry Rice* at 1.2% in 2012). In France, the variance across categories was much higher in some years, as the category where new products contributed the most to category sales revenues was *Single Ice Cream* in 2012 at 82%, which was around 393 times more than the category that contributed the least to category sales revenues in the same year (*Mints* at 0.2% in 2012). Table 7.11 and Table 7.12 report new product sales revenue contribution figures from the United States and France, respectively.

These examples may suggest that there is a lot of variance in the contribution of new products to category revenue sales, yet ***new products capture the minority share in category sales revenue in the same calendar year***. In the United States, new products contributed 18% or less to category sales revenues, whereas in France (once the unusual 82% figure for *Single Ice Cream* was removed) new products contributed 36% or less to category sales revenue (arguably, this contribution figure is also much higher than in the other cases, the next highest figure was 26%). When examining the sales contribution from new products to category sales revenues, categories with higher percentage contribution from new products to category sales revenues tend to also have a higher percentage of new products represented in their categories. The results do not imply launching more new products will *steal* more sales revenue away from existing products, as deviations from this pattern are seen.

Table 7.11 New Product Sales Revenue Contribution & Change in New Product Sales Revenue Contribution – US

	New Product Sales Revenue Contribution			Δ New Product Sales Revenue Contribution	
United States	**2012**	**2013**	**2014**	**12-13**	**13-14**
Chocolate	6.4	5.2	4.2	-1.2	-1.0
Gum	5.6	2.9	2.2	-2.7	-0.8
Mints	5.9	2.5	2.7	-3.5	0.2
Other Confections	13	6.8	3.3	-5.8	-3.4
Dry Rice	1.2	1.1	2.1	-0.1	1.1
Ready Rice	2	1.9	0.6	-0.1	-1.3
Dry Cat Food	8.9	11	11	2.3	-0.4
Regular Cat Treats	13	13	15	0.1	2.2
Dry Dog Food	18	16	8.7	-2.4	-7.3
Rawhide Dog Treats	12	11	3.6	-1.2	-7.3
Regular Dog Treats	11	11	9.1	-0.7	-1.4
Mean	**8.9**	**7.5**	**5.7**	**-1.4**	**-1.8**
Standard Deviation	**5.2**	**5.1**	**4.6**	**2.2**	**3.1**

New products contribute around 7.3% to category sales revenue on average, across the 11 product categories in the United States. New product sales revenue contribution varies little year-on-year.

Note, following the guidelines used above: Red text indicates decline (-5.0 +), black text indicates stability (-4.9 - 4.9) and green text indicates increase (5.0+) for absolute change cells.

Table 7.12 New Product Sales Revenue Contribution & Change in New Product Sales Revenue Contribution – FR

	New Product Sales Revenue Contribution						Δ New Product Sales Revenue Contribution				
France	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**08-09**	**09-10**	**10-11**	**11-12**	**12-13**
Chewing Gum	17	12	5.2	8.4	4.3	2.4	-5.1	-6.8	3.2	-4.0	-1.9
Family Pack Ice Cream	13	4.6	8.1	8.3	8.6	19	-7.9	3.5	0.2	0.3	10
Multipack Ice Cream	16	10	12	11	22	10	-5.9	1.9	-1.5	11.3	-12
Other Ice Cream	19	16	16	8.6	7.0	26	-3.4	0.6	-7.4	-1.7	19
Single Ice Cream	19	7.2	5.4	36	82	21	-12	-1.8	31	46	-62
Enjoyment Confections	7.4	3.6	4.2	2.0	1.1	2.6	-3.8	0.6	-2.2	-0.9	1.4
Mints	0.8	3.0	0.5	2.2	0.2	14	2.1	-2.4	1.7	-2.0	14
Lollypops	10	11	2.4	5.0	4.7	5.3	0.4	-8.1	2.6	-0.3	0.5
Chewy Confections	8.2	22	6.5	11	6.8	26	14	-16	4.8	-4.5	19
Gummy Jelly Confections	9.1	7.4	2.4	8.1	6.8	11	-1.7	-5.0	5.7	-1.4	4.3
Other Soft Confections	3.1	12	8.9	5.4	11	3.6	9.2	-3.4	-3.6	5.4	-7.1
Mean	**11**	**10**	**6.5**	**10**	**14**	**13**	**-1.3**	**-3.3**	**3.1**	**4.4**	**-1.3**
Standard Deviation	**6.2**	**5.6**	**4.6**	**9.3**	**23**	**9.0**	**7.4**	**5.4**	**10**	**15**	**22**

Across the 11 product categories in France, new products contribute around 11% to category sales revenue. New product sales revenue contribution varies little year-on-year, with some exceptions.

Note, following the guidelines used above: Red text indicates decline (-5.0 +), black text indicates stability (-4.9 - 4.9) and green text indicates increase (5.0+) for absolute change cells.

When looking across years, absolute change in the percentage contribution of sales revenue from new product launches in the United States typically remained stable in 2012 to 2013 (M= -1.4, SD= 2.2) and then from 2013 to 2014 (M= -1.8, SD= 3.1). In France, the absolute change in the percentage contribution of sales revenue from new product launches, on average, remained stable from 2008 to 2009 (M= -1.3, SD= 7.4), 2009 to 2010 (M= -3.3, SD= 5.4), 2010 to 2011 (M= 3.1, SD= 10.0), 2011 to 2012 (M= 4.4, SD= 15) and then again in 2012 to 2013 (M= -1.3, SD= 22). The absolute change in percentage contribution from new product to category sales revenue did vary, more so in France than in the United States, as shown through some inflated standard deviation scores in the later years. The inflated scores are mostly credited to the large increases and decreases for *Single Ice Cream* in France (31 percentage points in 2012, to 46 percentage points in 2013 and then -62 percentage points in 2014). In the United States, only three categories reported absolute change decreases of greater than five percentage points (*Other Confections* in 2012-2013, and *Dry Dog Food* and *Rawhide Dog Treats* in 2013-2014), whilst all other categories reported absolute change equal to or greater than -5.0 percentage points and equal to or less than 5.0 percentage points. In France, most product categories reported absolute change increases or decreases of greater than five percentage points, with only one reporting stability for each period (*Enjoyment Confections*). In the United States, the majority of cases (86%) were stable, with only three cases of decline being found across categories and years. In France, the majority of cases (58%) were stable but in those that did experience more than five percentage point declines or increases, declines were just over half the non-stable cases. Table 7.11 and Table 7.12 report absolute change in new product sales revenue contribution across categories in the United States and France, respectively.

When considering new product contribution to category sales revenue it is important to report how new products contribute to category sales revenues over time, not just in the same calendar year. In the United States new products, on average, contribute 8.9% (SD= 5.2) to category sales revenue in the same calendar year, but increase to 15% (SD= 8.5) in their second calendar year (2013) and then decline to 14% (SD= 7.6) in their third calendar year (2014).[2] This is an average increase of 74% in new product category sales revenue contribution from 2012 to 2013 and then a -11% decline in new

[2] This analysis only considers new product launches from the earliest time period in each country to show the most complete sales information over many more calendar years. In the United States, this includes new products that were launched in 2012. For France, this includes new products that were launched in 2008.

category sales revenue contribution from 2013 to 2014. France new products, on average contribute 11% (SD= 6.2) to category sales revenues in the same calendar year, but increase to 15% (SD= 8.1) in their second calendar year (2009) but then show continual declines in their third (2010) (M= 12, SD= 5.8), fourth (2011) (M= 8.2, SD= 5.4), fifth (2012) (M= 7.1, SD= 5.2) and sixth calendar year (2013) (M= 6.2, SD= 4.5). This is an average increase of 34% in new product category sales revenue contribution from 2008 to 2009 and a -21%, -30%, -13% and -12% decline from 2009 to 2010, 2010 to 2011, 2011 to 2012 and 2012 to 2013, respectively. Table 7.13 reports sales revenue and volume contribution figures for 2012 new launches, each calendar year from launch for United States categories. Table 7.14 reports new product sales revenue and volume contribution figures for 2008 new launches, each calendar year from launch for France categories.

Table 7.13 New Product Sales Revenue & Volume Contribution Over Time – US

	% New Product Sales Revenue			% New Product Sales Volume		
United States	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
Chocolate	6.4	11	10	7.0	11	10
Gum	5.6	12	8.2	4.2	9.0	6.1
Mints	5.9	11	11	11	18	18
Other Confections	13	18	17	12	16	15
Dry Rice	1.2	3.2	2.7	1.5	3.3	2.6
Ready Rice	2.0	13	14	1.8	11	11
Dry Cat Food	8.9	19	16	8.3	19	15
Regular Cat Treats	13	8.0	5.4	15	9.1	6.0
Dry Dog Food	18	35	31	20	39	34
Rawhide Dog Treats	12	21	20	13	20	17
Regular Dog Treats	11	19	16	11	17	15
Mean	**8.9**	**15**	**14**	**10**	**16**	**13**
Standard Deviation	**5.2**	**8.5**	**7.6**	**5.7**	**9.3**	**8.3**

On average across the 11 United States product categories, new products contribute more to category sales in the second calendar year after launch and slightly less in the third calendar year.

Note: This table demonstrates new product sales contribution to categories over time, e.g. Chocolate new products (2012 launch) contributed 6.4% to category sales revenue in the first year, 11% in the second (2013) and 9.9% to category sales revenue in the third calendar year after launch (2014).

Table 7.14 New Product Sales Revenue & Volume Contribution Over Time – FR

	% New Product Sales Revenue						% New Product Sales Volume					
France	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Chewing Gum	17	31	23	19	17	15	15	28	21	17	16	15
Family Pack Ice Cream	13	12	10	8.5	7.8	6.9	7.2	6.9	6.2	4.9	4.5	4.2
Multipack Ice Cream	16	14	14	12	9.4	9.1	11	10	11	9.3	7.9	8.0
Other Ice Cream	19	20	12	10	11	7.2	11	14	9.1	8.0	8.8	7.8
Single Ice Cream	19	25	19	2.9	0.6	0.3	10	16	13	2.2	0.7	0.2
Enjoyment Confections	7.4	11	10	9.4	9.4	9.4	5.5	9.1	8.8	8.7	8.8	8.8
Mints	0.8	2.9	3.1	3.1	3.3	2.8	0.5	1.2	1.4	1.4	1.4	1.2
Lollypops	10	16	14	7.7	4.8	5.2	7.7	11	8.6	4.9	3.4	3.8
Chewy Confections	8.2	15	8.6	0.9	0.1	0.1	6.5	15	8.7	0.8	0.0	0.0
Gummy Jelly Confections	9.1	13	14	14	12	9.3	6.1	8.4	8.6	9.1	7.7	6.1
Other Soft Confections	3.1	4.5	3.4	3.5	3.6	3.2	3.3	6.2	6.7	7.0	6.9	5.5
Mean	**11**	**15**	**12**	**8.2**	**7.1**	**6.2**	**7.7**	**11**	**9.4**	**6.7**	**6.0**	**5.5**
Standard Deviation	**6.2**	**8.1**	**5.8**	**5.4**	**5.2**	**4.5**	**4.1**	**6.8**	**4.8**	**4.7**	**4.7**	**4.3**

Like the United States, new products from France product categories often contribute more to category sales revenue in the second calendar year but then decline each calendar year, on average.

Note: This table demonstrates new product sales contribution to categories over time, e.g. Enjoyment Confections new products (2008 launch) contributed 7.4% to category sales revenue in the first year, 11% in the second (2009), 9.8% to category sales revenue in the third calendar year after launch (2010), etc.

The 11 product categories in the United States and the 11 product categories in France had an aggregate, 23,642 new products launched over the three and six-year period combined. These new products capture around 10% to category sales revenue in the same calendar year, yet, what is still to be understood is what types of new products generate what levels of sales revenue. Figure 7.8 demonstrate average sales revenue contribution by new product type each calendar year, across both countries. To view differences in sales revenue contribution for new product types by category, see Table A.6 and Table A.7 in the appendix, for the United States and France, respectively.

On average, across the categories in the United States:

- **New brands** represented 0.4% of new product sales revenue, or, 0.5% (SD= 1.0) of all new product sales revenues in 2012, 0.3% (SD= 0.7) in 2013 and 0.5% (SD= 1.5) in 2014.
- **New sub-brands** represented 10% of new product sales revenue on average, or, 9.8% (SD= 14) in 2012, 7.5% (SD= 9.6) in 2013 and 13% (SD= 16) in 2014.
- **Line extensions** (e.g. new pack size) represented 42% of new product sales revenue on average, or, 30% (SD= 24) in 2012, 50% (SD= 22) in 2013 and 45% (SD= 34) in 2014.

- **Undefined** represented around half of new product sales revenue on average (48%), or, 59% (SD= 25) in 2012, 24% (SD= 21) in 2013 and 42% (SD= 34) in 2014.

On average, across the categories in France:

- **New brands** represented 7.9% of new product sales revenue, or, 18% (SD= 34) in 2008, 8.8% (SD= 13) in 2009, 8.2% (SD= 12) in 2010, 1.4% (SD= 2.6) in 2011, 10% (SD= 17) in 2012 and 0.4% (SD= 0.8) in 2013.
- **New sub-brands** represented 25% of new product sales revenue on average, or, 30% (SD= 30) in 2008, 28% (SD= 27) in 2009, 31% (SD= 26) in 2010, 23% (SD= 25) in 2011, 13% (SD= 15) in 2012 and 23% (SD= 23) in 2013.
- **Line extensions** represented, on average, 68% of new product sales revenue, or 52% (SD= 32) in 2008, 64% (SD= 26) in 2009, 61% (SD= 26) in 2010, 76% (SD= 25) in 2011, 77% (SD= 25) in 2012 and 77% (SD= 24) in 2013.
- **Undefined** were not present in any categories in France. This is thought to be because of the characteristic information provided and the way the data is coded (see Section 9.5).

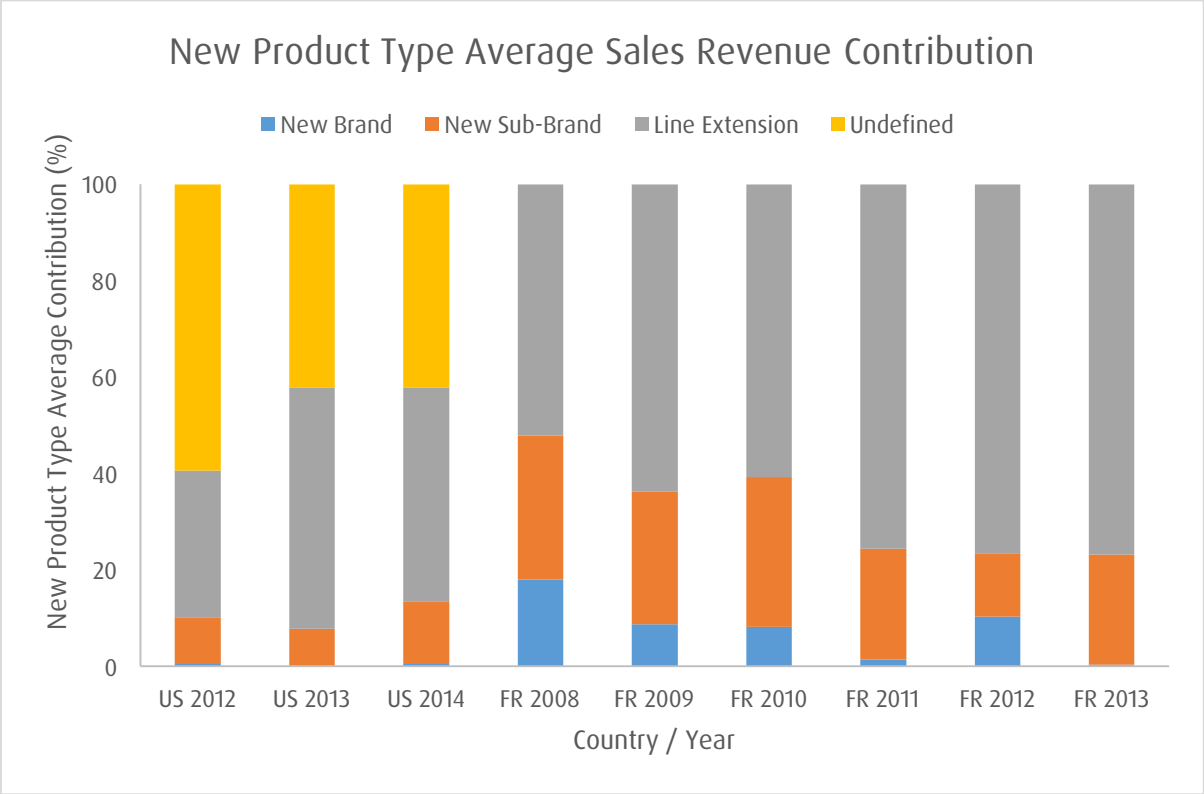


Figure 7.8 New Product Type Average Sales Revenue Contribution

New brands and new sub-brands contribute less to category sales revenue in the same calendar year compared to line extensions, across categories in the United States and in France.

The high standard deviations for most of these means indicate that there is considerable variance in the figures provided. One clear result from this is that new brands are small in numbers and do not contribute too much to new product sales revenue in the same calendar year of launch (but of course, they may contribute more in subsequent years). There appears to be a relationship between the percentage representation of new product types and the contribution of these new product types to new product sales revenue. Meaning, new product types that represent a smaller percentage of the different new products available, also tend to represent a smaller percentage of the sales that new products contribute to category sales revenue. However, some categories report new product types that contribute slightly more (or less) to new product sales than expected. Figure 7.9 and Figure 7.10 demonstrate this relationship as an aggregate across categories by new product type in the United States and France, respectively.

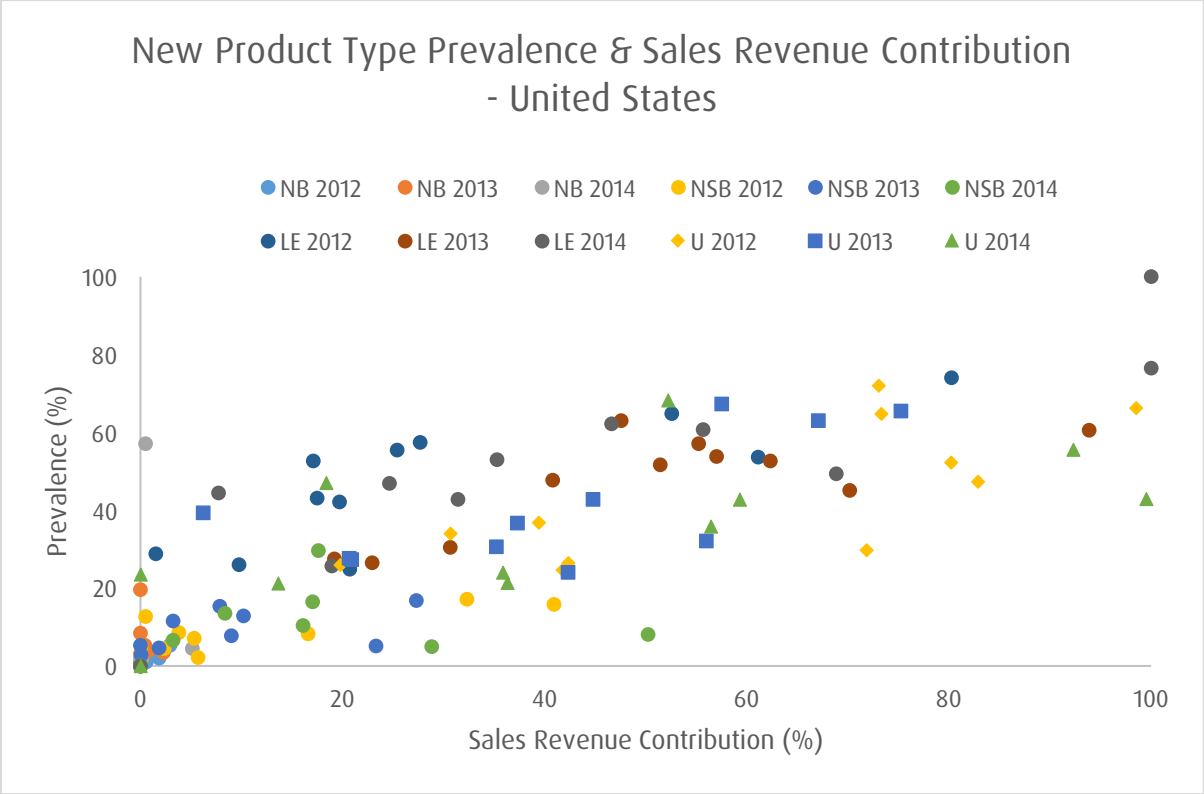


Figure 7.9 New Product Type Prevalence & Sales Revenue Contribution Relationship – US

New product type prevalence and sales revenue contribution vary across categories but often, these measures vary in line with each other across United States product categories.

Note: NB = New Brand, NSB = New Sub-Brand, LE = Line Extension, and U = Undefined

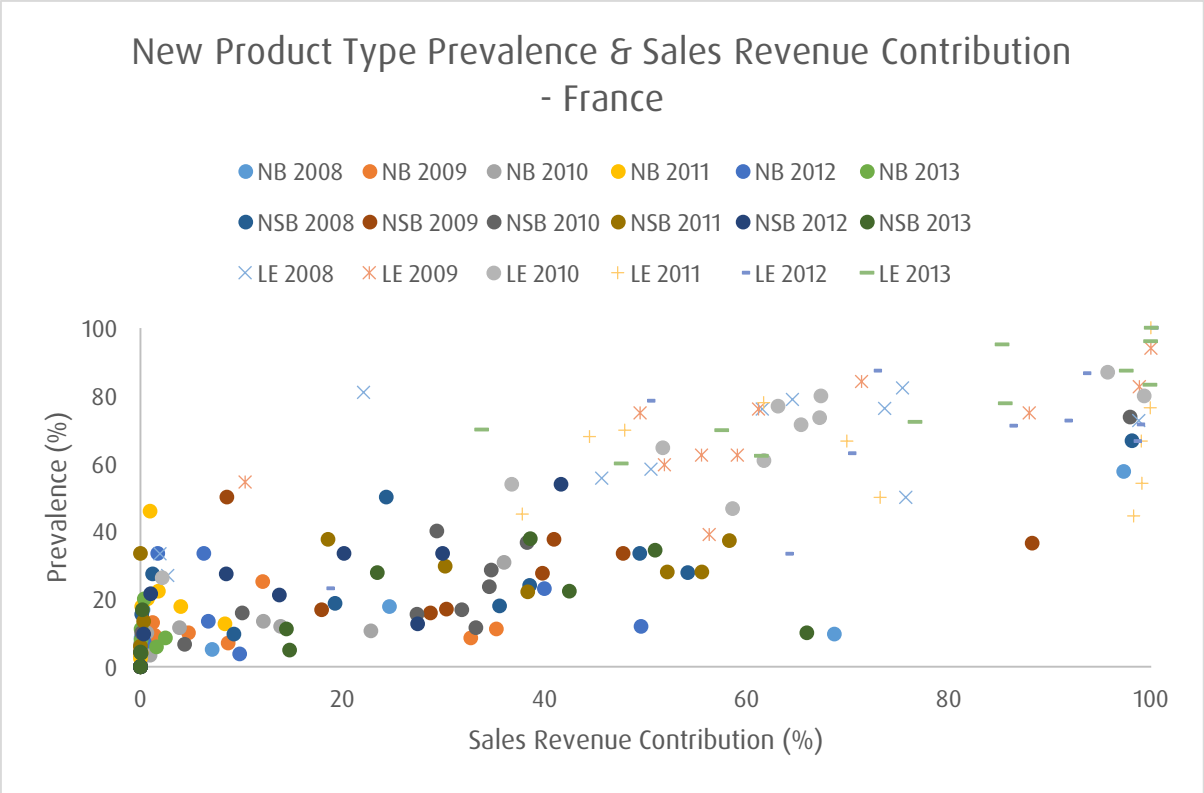


Figure 7.10 New Product Type Prevalence & Sales Revenue Contribution Relationship – FR

Similar to above, new product type prevalence and sales revenue contribution from new products by type vary in line with each other across the France product categories.

Note: NB = New Brand, NSB = New Sub-Brand, and LE = Line Extension

On average, new products contribute almost 10% to category sales revenue in the same calendar year. New products contribute more to category sales revenue in the second calendar year from launch, but this often plateaus shortly after.

7.5.2 Sales Volume

In the 11 product categories in the United States, new products generated 7.4% of total category sales volume on average, or 10% (SD= 5.7) in 2012, 6.8% (SD= 4.3) in 2013 and 5.9% (SD= 5.4) in 2014. New products in the 11 product categories in France generated on average 8.1% of total category volume sales, or an average, 7.7% (SD= 4.1) in 2008, 7.6% (SD= 5.4) in 2009, 4.8% (SD= 2.7) in 2010, 7.1% (SD= 6.5) in 2011, 11% (SD= 21) in 2012 and 10% (SD= 8.2) in 2013. In the United States, the category where new products contributed the most to category volume sales was *Dry Dog Food* in 2012 at 20%, which was around 13 times more than the category that contributed the least to category volume sales in the same year (*Dry Rice* at 1.5% in 2012). In France, the variance across categories was much higher in some years, as the category where new products contributed

the most to category volume sales was *Single Ice Cream* in 2012 at 74% (this was considered unusually high), which was around 574 times more than the category that contributed the least to category volume sales in the same year (*Mints* at 0.1% in 2012). These examples may appear that there is a lot of variance in the contribution of new products to category volume sales, yet new products capture the minority share in category sales volume in the same calendar year. In the United States, new products contributed 20% or less to category volume sales, whereas in France (once removing the unusual 74% figure for *Single Ice Cream*) new products contributed 25% or less to category volume sales. When examining the sales contribution from new products to category volume sales, categories with higher percentage contribution from new products to category volume sales tend to also have a higher percentage of new products represented in their categories. These results do not imply that launching more new products will automatically *steal* more volume sales from existing products in the category, as deviations from this pattern are seen. Table 7.15 and Table 7.16 report new product sales volume contribution figures from categories in the United States and France, respectively.

Table 7.15 New Product Sales Volume Contribution & Change in New Product Sales Volume Contribution – US

	New Product Sales Volume Contribution			Δ New Product Sales Volume Contribution	
United States	**2012**	**2013**	**2014**	**12-13**	**13-14**
Chocolate	7.0	5.0	4.0	-2.0	-1.0
Gum	4.2	3.0	1.5	-1.2	-1.5
Mints	11	3.7	2.9	-7.1	-0.8
Other Confections	12	5.2	5.7	-6.5	0.5
Dry Rice	1.5	1.5	1.9	0.0	0.4
Ready Rice	1.8	2.1	0.6	0.3	-1.4
Dry Cat Food	8.3	10	13	1.3	3.7
Regular Cat Treats	15	13	17	-2.2	4.2
Dry Dog Food	20	14	10	-6.2	-4.2
Rawhide Dog Treats	13	8.4	2.3	-4.2	-6.1
Regular Dog Treats	11	9.1	5.7	-1.6	-3.3
Mean	**10**	**6.8**	**5.9**	**-2.7**	**-0.9**
Standard Deviation	**5.7**	**4.3**	**5.4**	**2.9**	**3.1**

Similar to sales revenue results, new products contribute around 7.3% to category sales volume, on average across product categories in the United States. Again, contribution varies little year-on-year.

Note, following the guidelines used above: Red text indicates decline (-5.0 +), black text indicates stability (-4.9 - 4.9) and green text indicates increase (5.0+) for absolute change cells.

Table 7.16 New Product Sales Volume Contribution & Change in New Product Sales Volume Contribution – FR

	New Product Sales Volume Contribution						Δ New Product Sales Volume Contribution				
France	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**08-09**	**09-10**	**10-11**	**11-12**	**12-13**
Chewing Gum	15	11	5.4	7.9	3.9	2.2	-4.4	-5.2	2.4	-4.0	-1.7
Family Pack Ice Cream	7.2	2.8	4.4	5.3	4.4	11	-4.3	1.5	0.9	-0.9	6.9
Multipack Ice Cream	11	8.2	8.1	7.4	14	6.0	-2.8	-0.1	-0.6	6.6	-8.0
Other Ice Cream	11	10	8.5	5.7	4.4	17	-1.6	-1.2	-2.8	-1.3	13
Single Ice Cream	10	5.1	4.5	25	74	24	-5.3	-0.6	21	49	-51
Enjoyment Confections	5.5	2.6	3.5	2.0	0.9	2.8	-2.8	0.9	-1.5	-1.1	1.9
Mints	0.5	3.1	0.4	2.2	0.1	5.4	2.6	-2.7	1.8	-2.1	5.3
Lollypops	7.7	12	2.0	3.8	4.1	5.2	4.6	-10	1.8	0.4	1.0
Chewy Confections	6.5	20	7.4	10	7.2	25	14	-13	2.5	-2.6	17
Gummy Jelly Confections	6.1	6.1	1.8	5.9	5.2	8.6	0.0	-4.3	4.0	-0.7	3.5
Other Soft Confections	3.3	3.0	6.3	2.8	5.6	2.9	-0.3	3.3	-3.4	2.8	-2.7
Mean	**7.7**	**7.6**	**4.8**	**7.1**	**11**	**10**	**-0.1**	**-2.9**	**2.3**	**4.2**	**-1.3**
Standard Deviation	**4.1**	**5.4**	**2.7**	**6.5**	**21**	**8.2**	**5.5**	**5.0**	**6.5**	**15**	**18**

Similar to above, new products contribute around 8.1%to category sales volume on average, across the categories in France. Apart from Single Ice Cream, year-on-year contribution was mostly stable.

Note, following the guidelines used above: Red text indicates decline (-5.0 +), black text indicates stability (-4.9 - 4.9) and green text indicates increase (5.0+) for absolute change cells.

When looking across years, on average, absolute change in the percentage contribution of volume sales from new products to category volume sales in the United States remained stable in 2012 to 2013 (M= -2.7, SD= 2.9) and then from 2013 to 2014 (M= -0.9, SD= 3.1). In France, the absolute change in the percentage contribution of volume sales revenue from new products to category volume sales on average remained stable from 2008 to 2009 (M= -0.1, SD= 5.5), 2009 to 2010 (M= -2.9, SD= 5.0), 2010 to 2011 (M= 2.3, SD= 6.5), 2011 to 2012 (M= 4.2, SD= 15) and again in 2012 to 2013 (M= -1.3, SD= 18). The absolute change in percentage contribution of volume sales from new products to category volume sales did vary, more so in France than in the United States, as shown through some inflated standard deviation scores in the last two analysis periods. These inflated scores are largely credited to the large increases and decreases across the years for *Single Ice Cream* in France (49 percentage points in 2013 and -51 percentage points in 2014). In the United States, four categories reported absolute change decreases of greater than five percentage points (*Mints*, *Other Confections and Dry Dog Food* in 2012-2013 and *Rawhide Dog Treats* in 2013-2014), whilst all other categories reported absolute change equal to or greater than -5.0 percentage points and equal to or less than 5.0 percentage points. In France, eight product categories reported absolute change increases or decreases of greater than five percentage points. In the United States, the majority of cases (82%) were stable, with four cases of decline being found across categories and the years. In France, the majority of cases (75%) were stable but in those that did experience

more than five percentage point increases or decreases, increases were slightly more common. Table 7.15 and Table 7.16 report absolute change in new product sales volume contribution for categories in the United States and France, respectively.

When considering new product contribution to category volume sales it is important to report how new products contribute to category volume sales over time, and not just in the same calendar year. In the United States new products, on average, contribute 9.5% (SD= 5.7) to category volume sales in the same calendar year, but increase to 16% (SD= 9.3) in their second calendar year (2013) and then decline to 13% (SD= 8.3) in their third calendar year (2014). This is an average increase of 66% in new product category volume sales contribution from 2012 to 2013 and then a -14% decline in new product category volume sales contribution from 2013 to 2014. In France, new products, on average contribute 7.7% (SD= 4.1) to category volume sales in the same calendar year, but increase to 11% (SD= 6.8) in their second calendar year (2009) but then show continual declines in their third (2010) (M= 9.4, SD= 4.8), fourth (2011) (M= 6.7, SD= 4.7), fifth (2012) (M= 6.0, SD= 4.7) and sixth calendar year (2013) (M= 5.5, SD= 4.3). This is an average increase of 48% in new product category volume sales contribution from 2008 to 2009 and a -17%, -28%, -10% and -8.9% decline from 2009 to 2010, 2010 to 2011, 2011 to 2012 and 2012 to 2013, respectively. Table 7.13 and Table 7.14 report sales revenue and volume contribution figures over time for 2012 new launches in the United States categories and 2008 new launches from France, respectively.

New products in the 11 product categories in the United States and the 11 product categories in France represent under 10% of total category sales volume, yet, what is still to be understood is what types of new products generate what types of volume sales for new products. Figure 7.11 demonstrates average sales volume contribution by new product type each calendar year, across the United States and France.

On average, across the categories in the United States:

- **New brands** represented 0.3% of new product sales volumes, or, 0.5% (SD= 1.0) in 2012, 0.1% (SD= 0.2) in 2013 and 0.3% (SD= 0.7) in 2014.
- **New sub-brands** represented 6.9% of new product sales volumes on average, or, 7.2% (SD= 8.9) in 2012, 5.1% (SD= 5.7) in 2013 and 8.3% (SD= 10) in 2014.
- **Line extensions** represented 43% of new product sales volumes on average, or, 30% (SD= 25) in 2012, 50% (SD= 24) in 2013 and 49% (SD= 34) in 2014.
- **Undefined** represented about half of new product sales volumes on average (50%), or, 62% (SD= 25) in 2012, 50% (SD= 24) in 2013 and 43% (SD= 35) in 2014.

On average, across the categories in France:

- **New brands** represented 7.3% of new product sales volumes, or, 13% (SD= 29) in 2008, 10% (SD= 18) in 2009, 8.6% (SD= 12) in 2010, 1.0% (SD= 1.7) in 2011, 10% (SD= 19) in 2012 and 0.3% (SD= 0.6) in 2013.
- **New sub-brands** represented 23% of new product sales volumes on average, or, 30% (SD= 29) in 2008, 26% (SD= 27) in 2009, 29% (SD= 27) in 2010, 22% (SD= 24) in 2011, 10% (SD= 12) in 2012 and 20% (SD= 22) in 2013.
- **Line extensions** represented, on average, 70% of new product sales volumes, or 57% (SD= 31) in 2008, 64% (SD= 28) in 2009, 63% (SD= 27) in 2010, 77% (SD= 24) in 2011, 80% (SD= 24) in 2012 and 79% (SD= 22) in 2013.
- **Undefined** were not present in any categories in France. This is thought to be because of the characteristic information provided and the way the data is coded (see Section 9.5).

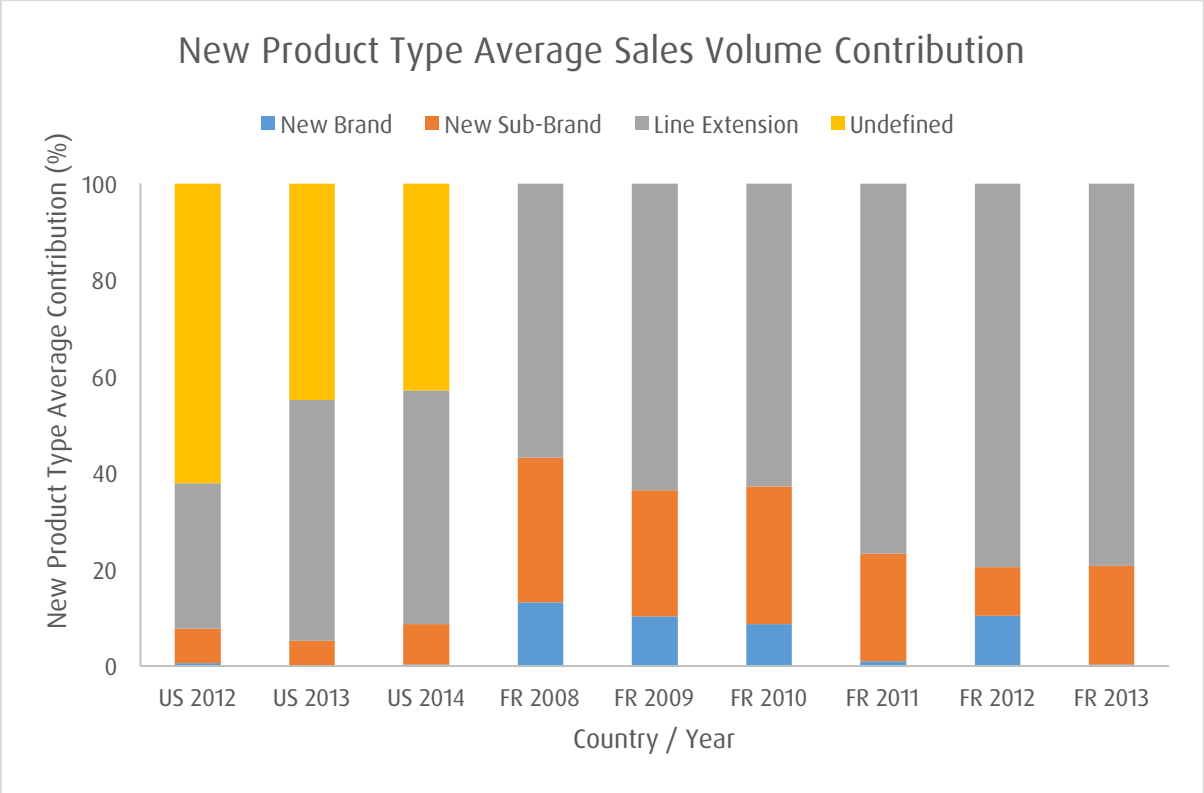


Figure 7.11 New Product Type Average Sales Volume Contribution

Like for sales revenue, new brands and new sub-brands contribute less to category sales revenue in the same calendar year, whereas line extensions often contribute the most to category sales volume.

The high standard deviations for most of these means do indicate that there is variance in the figures provided, yet, one result from this is that ***new brands are small in numbers and do not contribute too much to new product volume sales in the same calendar year of launch*.** Similar to the relationship seen for new product sales revenue contribution, there appears to be a relationship between the percentage representation of new product types and the contribution of these new product types to new product volume sales. Meaning, new product types that represent a smaller

percentage of the different new products available (e.g. new brands), also tend to represent a smaller percentage of the sales that new products contribute to category volume sales. However, some categories report that some new product type contributed slightly more (or less) to total new product volume sales than expected. Figure 7.12 and Figure 7.13 demonstrate this relationship as an aggregate average prevalence across categories by new product type in the United States and France, respectively.

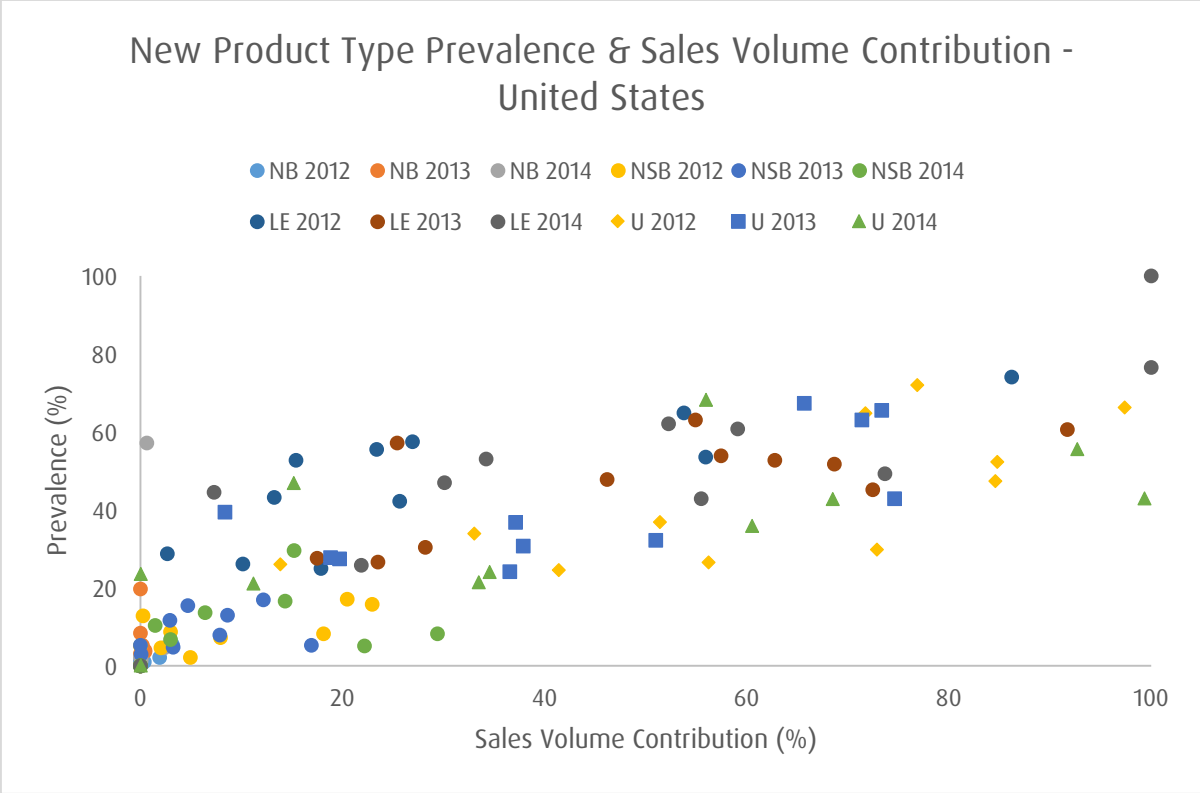


Figure 7.12 New Product Type Prevalence & Sales Volume Contribution Relationship – US

New product type prevalence and sales revenue contribution vary across categories but often these vary in line with each other across the 11 product categories in the United States.

Note: NB = New Brand, NSB = New Sub-Brand, LE = Line Extension, and U = Undefined

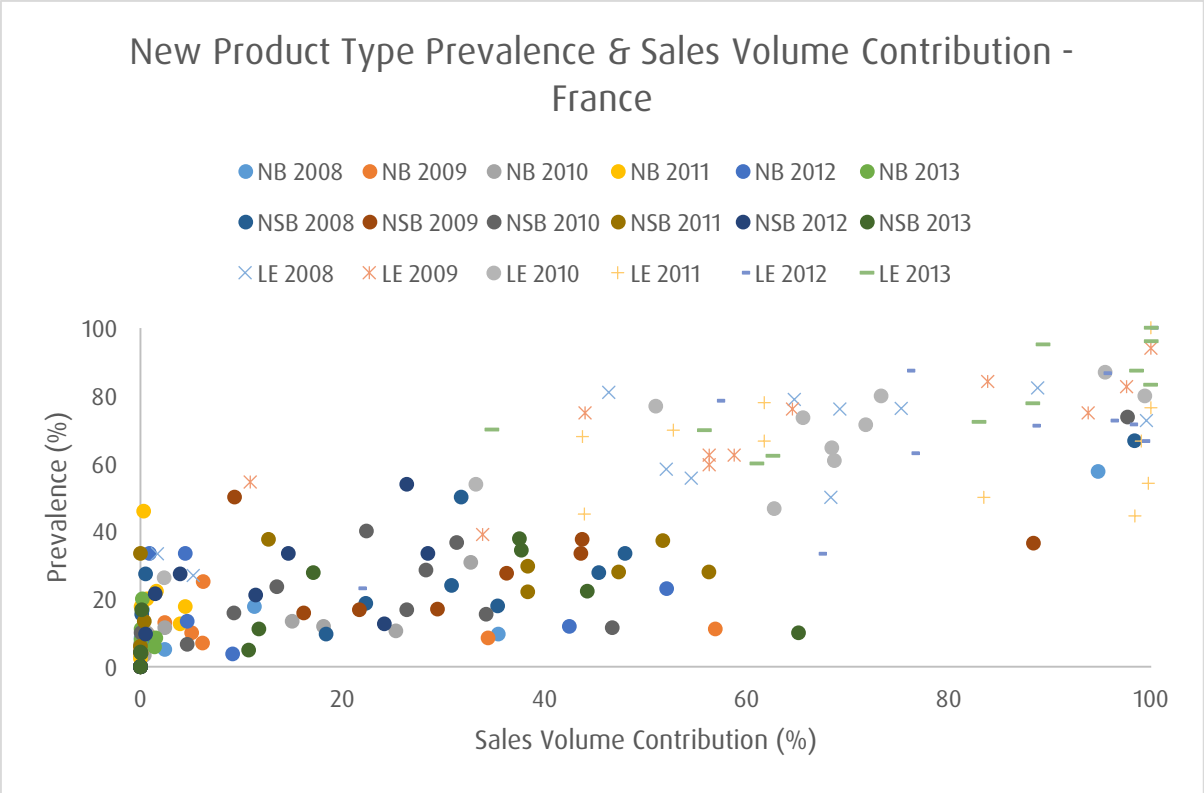


Figure 7.13 New Product Type Prevalence & Sales Volume Contribution Relationship – FR

Again, there is a relationship between new product type prevalence and sales volume contribution for different new product types. This is shown for new products across the product categories in France.

Note: NB = New Brand, NSB = New Sub-Brand, and LE = Line Extension

Similar to the new product sales revenue findings, new products contribute more to category sales volume in the second calendar year from launch, but often this plateaus shortly after. New brands are not only uncommon but they also contribute much less to new product sales volume.

7.6 Chapter Summary

The key themes covered in this chapter include:

- Categories also vary in the number of new product launches each calendar year, yet they vary somewhat predicably based on the sales and products available in their category.
- Most new products survive longer than a year and most of these will also survive the next.

This chapter has presented descriptive results about new product prevalence and performance across categories. The results in this chapter offer information about what manufacturers and retailers can expect from new products. The following chapter (CHAPTER 8) will be the last to present new product results, but will focused on common launch decisions made for new products.

CHAPTER 8 Results – New Product Brand Factors & Marketing Mix Decisions

This chapter is the final results chapter of this thesis. This chapter offers insights about the common launch decisions made for new products. For purposes of results in this thesis, *launch decisions* include selected brand factors (e.g. private label status) and marketing mix decisions (e.g. price, distribution). The results presented in this chapter are produced using the method described in CHAPTER 5. The next two chapters (CHAPTER 9 and CHAPTER 10) in the next section will discuss the results and present the main contributions of this research to marketing theory and practice.

8.1 Private Label Brands

The 11 product categories in the United States had an average of 20% private label brand products (SD= 11). This indicates, on average, one in five products in the analysed categories were from private label brands. The 11 product categories in France had an average of 15% private label brand products (SD= 12). There is a lot of variance in the average percentage of private label products by category in each of the two countries, as shown by the inflated standard deviation figures stated above. In the United States, the prevalence of private label brand products in a category ranged from 5.1% in *Regular Cat Treats* to 35% in *Ready Rice* (*Ready Rice* has around seven times more private label products on average across the years). In France, the prevalence of private label brand products in a category range from 2.3% in *Chewy Confections* and 38% in *Multipack Ice Cream* (*Multipack Ice Cream* has around 17 times more private label products on average across the years). These examples demonstrate the variance in the number of private label products available across categories, with this variance also seen when examining the percentage of new launches in these categories that are also launched from private label brands.

In the United States, on average 21% of new products were launched from private label brands, or an average 22% (SD= 13) in 2012, 19% (SD= 9.0) in 2013 and 22% (SD= 13) in 2014. In France, on average 14% of new products were launched from private label brands, or an average 13% (SD= 12) in 2008, 16% (SD= 14) in 2009, 15% (SD= 8.3) in 2010, 13% (SD= 12) in 2011, 14% (SD= 11) in 2012 and 13% (SD= 11) in 2013. There is a lot of variance in the average percentage of private label new products by category in each of the two countries, as shown by the inflated standard deviation figures stated above. For example, in the United States, the highest percentage of private label new products was seen in *Dry Rice* in 2014 at 42%. In the same calendar year, the category that reported the lowest percentage of private label new products was *Gum* at 4.4%. In France, the category with the highest percentage of private label new products was *Other Ice Cream* in 2009 at 45%, whilst multiple categories reported no private label new products launched. Table 8.1 and Table 8.2 report private label new product prevalence for categories in the United States and France, respectively.

Table 8.1 Private Label Brand New Product Prevalence – US

	Private Label Manufacturer / Brand New Product Prevalence			
United States	**Category Mean**	**2012**	**2013**	**2014**
Chocolate	4.7	5.4	8.2	10
Gum	5.2	6.9	8.4	4.4
Mints	24	31	23	24
Other Confections	13	21	18	27
Dry Rice	31	30	32	42
Ready Rice	35	41	26	28
Dry Cat Food	30	22	27	27
Regular Cat Treats	5.1	6.9	4.6	5.5
Dry Dog Food	27	16	22	25
Rawhide Dog Treats	30	38	28	39
Regular Dog Treats	20	18	16	13
Mean	**20**	**22**	**19**	**22**
Standard Deviation	**11**	**13**	**9.0**	**13**

Across the 11 United States product categories, an average 21% of new products were launched from private label brands. The percentage of private label new launches did vary across categories.

Table 8.2 Private Label Brand New Product Prevalence – FR

	Private Label Manufacturer / Brand New Product Prevalence						
France	**Category Mean**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Chewing Gum	4.9	2.4	10	22	2.8	2.7	10
Family Pack Ice Cream	22	15	15	23	20	19	24
Multipack Ice Cream	38	25	38	32	35	29	36
Other Ice Cream	34	41	45	18	32	20	16
Single Ice Cream	8.7	11	11	11	0.0	28	23
Enjoyment Confections	9.3	11	19	12	12	7.4	7.3
Mints	17	19	14	15	16	26	11
Lollypops	6.6	0.0	11	3.8	0.0	0.0	2.9
Chewy Confections	2.3	0.0	0.0	3.4	6.9	0.0	0.0
Gummy Jelly Confections	10	7.4	7.1	12	6.8	10	1.4
Other Soft Confections	12	7.7	1.9	16	10	12	13
Mean	**15**	**13**	**16**	**15**	**13**	**14**	**13**
Standard Deviation	**12**	**12**	**14**	**8.3**	**12**	**11**	**11**

On average, product categories in France had slightly less new products launched from private label brands at 14%. Again, the percentage prevalence does vary across categories.

For the United States and France, categories with more private label brand products often had more new products from private label brands. Figure 8.1 demonstrates the average private label brand product prevalence and private label brand new product prevalence relationship from United States categories. Figure 8.2 demonstrates this relationship for product categories from France. There were

a few instances where the pattern did not hold as clearly for some years. For example, in the United States, *Other Confections* in 2014 launched slightly more private label brand new products than the category average (around 10 percentage points higher). This is a similar to what was found in France for *Chewing Gum* in 2010, with the new launch figure being four times higher than the category average. These results show that national brands and private label brands use product innovation strategies to compete in the category, so national brands cannot rely on new product launch alone.

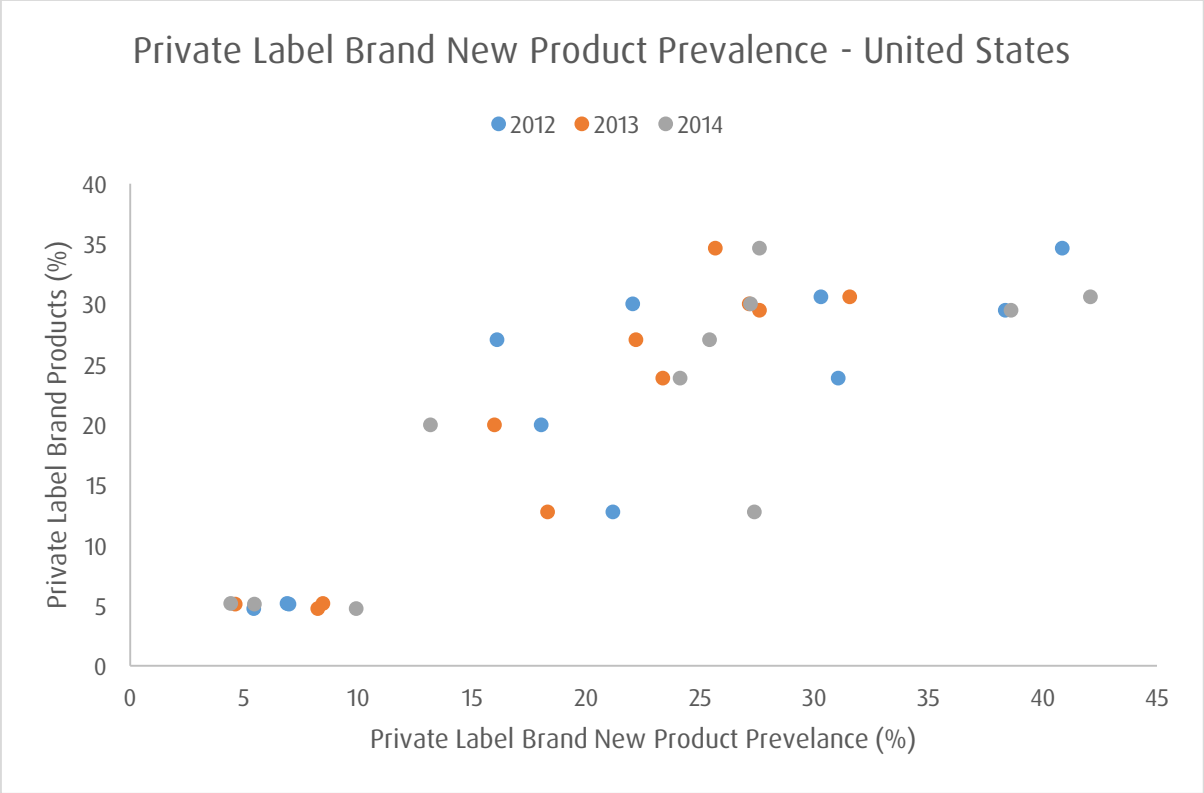


Figure 8.1 Private Label Brand & New Product Prevalence Relationship – US

This graph visually demonstrates product categories in the United States reporting a higher prevalence of private label brand products, tend to also have more private label brand new products.

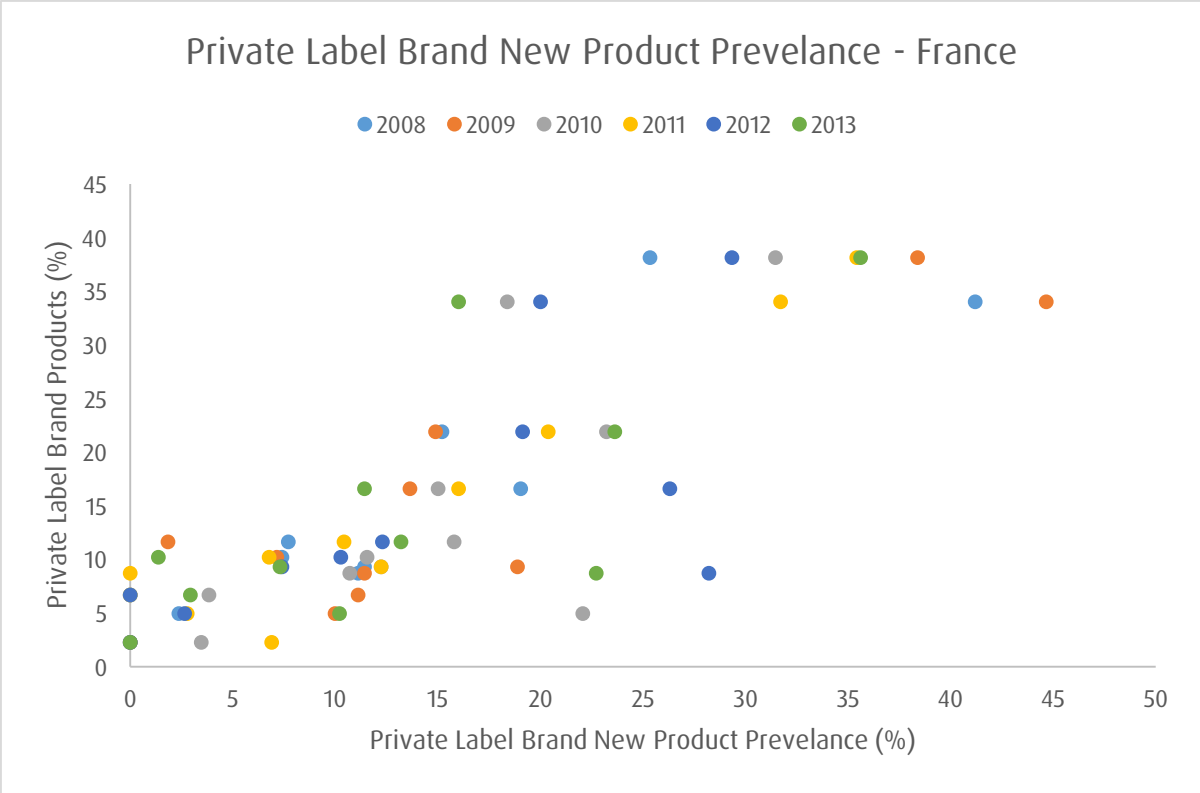


Figure 8.2 Private Label Brand & New Product Prevalence Relationship – FR

Like above, this graph visually shows the relationship between the prevalence of private label products in a category and the number of new private label products, across categories in France.

New product launches are not just reserved for national brands. On average, private label brands launched 16% of all new product launches across the United States and France. Categories with more private label brand products tend to launch more private label brand new products.

8.2 Manufacturer Size

The 11 product categories in the United States and the 11 product categories in France had an aggregate 23,642 new products launched over the three and six-year period combined. What is not understood is how new product strategies (e.g. number of new product launches) and marketing decisions for new products (e.g. price, distribution) vary depending on manufacturer size. Table A.8, in the appendix, reports manufacturer analyses for the United States. Table A.9 and Table A.10, in the appendix, report manufacturer analyses for France from 2008 to 2010 and 2011 to 2013, respectively. Tables are not displayed in-text due to page size and orientation constraints. A condensed table for one category, *Chocolate* from the United States, is displayed and will be examined as an example throughout this section, see Table 8.3).

Table 8.3 New Products & Manufacturer Size – US *Chocolate*

	New Products and Manufacturer Size											
	2012				2013				2014			
	% Agg. Size	% Agg. New	M Price New	M Dist. New	% Agg. Size	% Agg. New	M Price New	M Dist. New	% Agg. Size	% Agg. New	M Price New	M Dist. New
Large	97	77	10	2.5	97	80	13	2.2	98	87	18	1.5
Medium	2.2	17	13	1.4	2.1	15	16	1.7	1.7	9.0	11	1.6
Small	0.7	6.1	20	1.1	0.6	5.6	22	0.4	0.4	4.4	37	0.5
Ratio	**147**	**13**	**0.5**	**2.3**	**162**	**14**	**0.6**	**6.2**	**237**	**20**	**0.5**	**2.8**

This table reports manufacturer size information from Chocolate in the United States. This shows larger manufacturers often launch more new products, at a lower price and with higher distribution.

The 11 categories in the United States report on average, the average market shares of *Large* manufacturers (26%) are around 126 times larger than average market share of the *Small* manufacturers (0.2%) across categories. On average, *Large* manufacturers across the categories had an aggregate market share of 92%, meaning these manufacturers collect the vast majority of sales revenues within the category, whilst *Medium* and *Small* sized manufacturers capture only a small portion of category sales revenues. On average in France, the average market shares of *Large* manufacturers (45%) were 62 times larger than average market share of the *Small* manufacturers (1.2%) across categories. In France, *Large* manufacturers across the categories on average had an aggregate market share of 79%, meaning *Medium* and *Small* manufacturers capture just under one quarter of category sales revenues, combined. The average aggregate market share figures of *Large* manufacturers are smaller in France but this still demonstrates the difference in market power between *Large* manufacturers and *Small* manufacturers across categories and in both countries. As an example, *Large* manufacturers from *United States Chocolate* in 2012 report an aggregate market share of 97%, which is 147 times larger than the aggregate market share of their *Small* manufacturer counterparts (0.7%). Although these results and this example describe aggregate manufacturer market power, what is not yet known is how new product strategies vary between manufacturers of different sizes (market share) in a category.

The 11 categories in the United States report, on average, the average number of new products launched by *Large* manufacturers (M= 50) was around 10 times higher (9.7) than the average number of new products launched by *Small* manufacturers (M= 2.9*).* ***On average, Large manufacturers launched many more products (M= 161) than their Small counterparts (M= 17)***, most likely because larger manufactures have the advantage of economies of scale. There were some large deviations with the average number of new products and the aggregate number of new products launched by *Large* manufacturers when looking within the categories, often due to the high number of launches by manufacturers in *Chocolate*. Yet, to take into account the varied number of new product launches each category has, the percentage of new products may be a more appropriate

measure. On average, *Large* manufacturers launched the majority of new products each calendar year, representing 67% of new products in the market, compared to *Medium* (20%) and *Small* (13%) manufacturers. The 11 product categories in France reported that, on average, the average number of new products launched by *Large* manufacturers (M= 10) was around 12 times higher than the average number of new products launched by *Small* manufacturers (M= 0.9). This result of *Large* manufacturers launching almost 10 times more new products than their *Small* counterparts was near identical in the United States and in France. On average, *Large* manufacturers together launch many more products (M= 16) than their *Small* counterparts (M= 1.6). Again, to take into account the varied number of launches that new products have each category have, the percentage of new products may be a more appropriate measure. On average, *Large* manufacturers together launch the majority of new products each calendar year, representing 60% of new products in the market, compared to *Medium* (34%) and *Small* (6.0%) manufacturers, with the figure for larger manufacturers being slightly lower than what is found, on average, in the United States. This suggests that larger manufacturers may have more resources to invest in research and development, making it easier for these manufacturers to launch more new products. As an example from *United States Chocolate*, new product launches from *Large* manufacturers in 2013 account for 80% of all new launches, whereas their *Medium* (15%) and *Small* counterparts (5.6%) represent one in five new products. Although this example demonstrates *Large* manufacturers often launch many more new products, what is not yet known is how different launch decisions are across manufacturers of different sizes.

The 11 categories in the United States report, on average, new products from *Large* manufacturers were priced slightly lower compared to new products from *Small* manufacturers, or, when expressed as a ratio, an average 1.0 across categories in 2012, 0.7 across categories in 2013 and 0.8 across categories in 2014. The 11 product categories in France report that, on average, new products from *Large* manufacturers were more often priced higher (but this did vary) compared to new products from *Small* manufacturers, or when expressed as a ratio, an average 2.2 across categories in 2008, 2.0 across categories in 2009, 1.0 across categories in 2010, 3.2 across categories in 2011, 1.5 across categories in 2012 and 0.9 across categories in 2013. The average results across both of the countries show there is no clear pattern for new product prices by manufacturer size (market share). To show as an example from *United States Chocolate*, average volume price for new products launched by *Large* manufacturers are around half the average volume price for new products launched by *Small* manufacturers in all years. This shows the average volume price for new products in this category are consistently lower from *Large* manufacturers. This may be because premium new products may be launched more often from *Small* manufacturers in the category.

This same approach is used to compare combined new product and combined existing product average volume prices, and then combined new product and combined existing product average distribution, in future sections (see Section 8.4). The current calculation is slightly different to that further in this thesis, because it compares aggregate new product average price between *Large* and *Small* manufacturers. Note, this measure does not show all *Large* manufacturers' new products are

launched with lower (higher or equal) prices compared to *Small* manufacturers' new products in the calendar year, but show the average new launch from *Large* manufacturers are lower. Distribution calculations reported below follow this format but use average distribution and not volume price.

When investigating new product distribution, the 11 categories in the United States report, on average, new products from *Large* manufacturers often gain more distribution in the calendar year of their launch compared to new products from *Small* manufacturers, or when expressed as a ratio, an average 4.8 times more distribution across categories in 2012, 21 times more distribution across categories in 2013 and 41 times more distribution across categories in 2014. The 11 categories in France report, on average, new products from *Large* manufacturers often gained more distribution in the calendar year of their launch compared to new products from *Small* manufacturers, or when expressed as a ratio, an average 7.9 times more distribution across categories in 2008, 7.4 times more distribution across categories in 2009, 13.2 times more distribution across categories in 2010, 2.7 times more in 2011, 6.8 times more distribution across categories in 2012 and 6.5 time more distribution across categories in 2013. To show as an example from *United States Chocolate*, average distribution gained by new products from *Large* manufacturers was 2.8 times higher than the average distribution gained by new products *Small* manufacturers in 2014. The average results in the example and across both countries show that there is a clearer pattern for new product distribution by manufacturer size, as larger manufacturers often launch more new products with wider distribution, in the same calendar year of their launch. This may suggest *Large* manufacturers leverage their wider distribution channels for the new products.

Larger manufacturers not only launch more new products, but new products from larger manufacturers are often launched with wider distribution compared to their smaller counterparts.

8.3 Seasonality

Of the 11 product categories in the United States, only four product categories included information about whether products in the category were seasonal or non-seasonal. These four *Confectionery* product categories in the United States had, on average, 14% seasonal products (SD= 14). Of the 11 product categories in France, no categories had information about whether products in the category were seasonal or non-seasonal. So, only conclusions about new products and seasonality can be made from the four categories in the United States, across three years. There is a lot of variance in the average percentage of seasonal products by category in the United States, as shown by the inflated standard deviation figure stated above. In the United States, the prevalence of seasonal products in a category ranged from 5.0% in *Other Confections* to 36% in *Chocolate* (*Chocolate* has around seven times more seasonal products on average across the years). This example

demonstrates the variance in the number of seasonal products available across categories, with this variance also seen when examining the percentage of seasonal new launches in these categories.

In the United States, on average 21% of new products were seasonal, or on average, 20% (SD= 17) in 2012, 20% (SD= 15) in 2013 and 23% (SD= 18) in 2014. Table 8.4 reports seasonal product and new product prevalence across *Confectionery* categories. There is variance in the average percentage of seasonal new products by category, as shown by the standard deviation figures. For example, the highest percentage of seasonal new products was 50% in *Chocolate* in 2014, whilst the *Other Confections* reported the lowest percentage of 9.4% in the same calendar year *(Chocolate* was around five times higher than reported for *Other Confections*). Categories that had more seasonal products often had more new products that were also seasonal. This does not mean majority of new products are seasonal in these categories (as they are the minority), but seasonal new product launches are slightly more common in categories with more seasonal products. Figure 8.3 demonstrates the average seasonal product prevalence and seasonal new product prevalence relationship from four *Confectionery* categories in the United States.

Table 8.4: Seasonal New Product Prevalence – US

	Seasonal New Product Prevalence			
United States	**Category Mean**	**2012**	**2013**	**2014**
Chocolate	36	44	42	50
Gum	8.0	15	15	19
Mints	8.7	13	14	14
Other Confections	5.0	7.2	8.9	9.4
Mean	**14**	**20**	**20**	**23**
Standard Deviation	**14**	**17**	**15**	**18**

Across the four seasonal United States product categories, an average 21% of new products were classified as being seasonal. This percentage of seasonal new products did vary across categories.

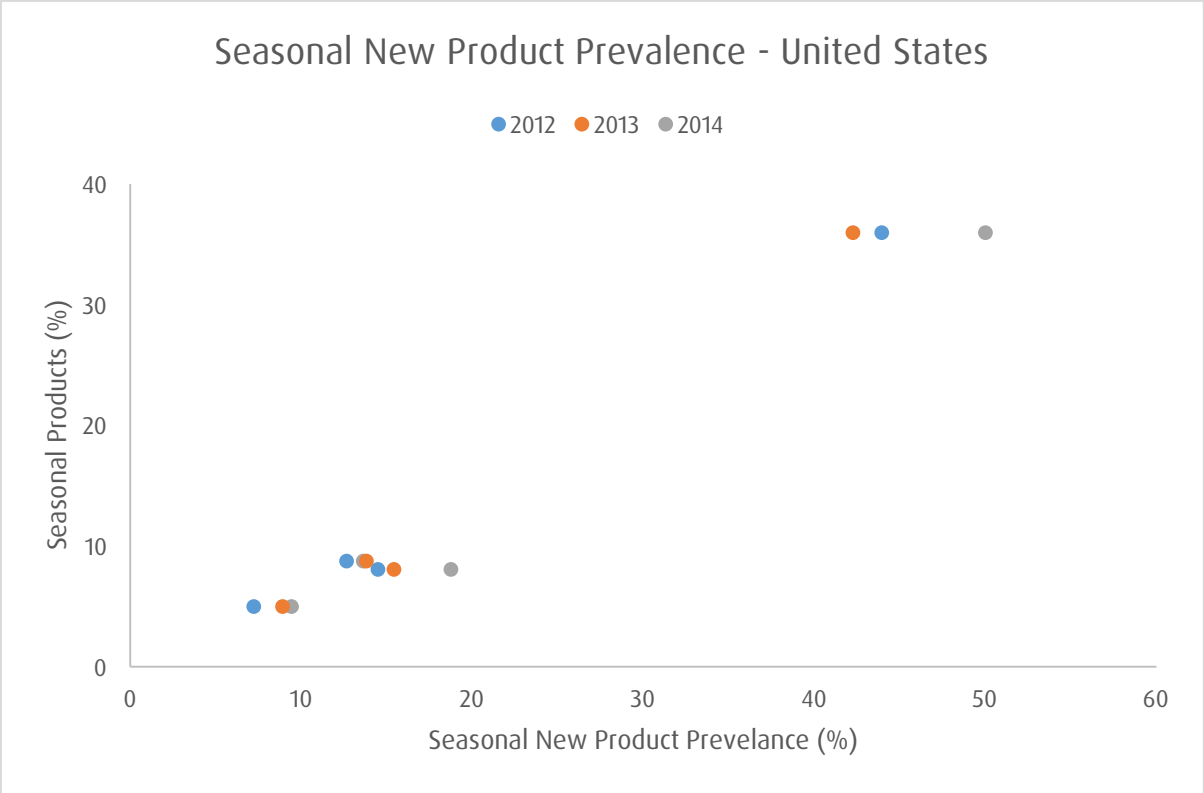


Figure 8.3: Seasonal & New Product Prevalence Relationship – US

This graph visually demonstrates the four product categories in the United States reporting a higher prevalence of seasonal products tend to also have more seasonal new products.

Most new products are not launched for seasonal purposes, but categories with more seasonal products tend to launch slightly more seasonal products than others.

8.4 Average Volume Price Ratio

In calculating average volume price ratio, aggregate new product average price is compared to aggregate existing product average price each calendar year (see Section 5.4.3). Here, a ratio of 1.0 means average new product volume price was comparable (equal) to average existing product volume price, but figures above (below) 1.0 means average new product volume price was higher (lower) than average existing product volume price. This measure does not show all new products are launched with higher (lower or equal) prices compared to existing products in the calendar year.

The 11 product categories in the United States, on average, reported an average new product volume price ratio of 1.1 (SD= 0.3), or, 1.2 (SD= 0.3) in 2012, 1.1 (SD= 0.3) in 2013 and 1.1 (SD= 0.3) in 2014 across categories. The 11 product categories in France, on average, reported an average new product volume price ratio of 1.1 (SD= 0.5), or, 1.3 (SD= 0.4) in 2008, 1.1 (SD= 0.3) in 2009, 1.2

(SD= 0.6) in 2010, 1.3 (SD= 0.8) in 2011, 1.2 (SD= 0.4) in 2012 and 1.1 (SD= 0.2) in 2013 across categories. *This indicates that, on average, the* ***mean combined price of new products is higher than the mean combined price of existing products in the category in the same calendar year****.* This does vary, with the standard deviation of these figures being higher in some calendar years (e.g. France in 2011 reported a standard deviation of 0.8). Table 8.5 reports average new product volume price ratio for United States categories, comparing aggregate new product and aggregate existing product average volume price. Table A.11 in the appendix reports average new product volume price ratio results for France. In the United States, the average new product volume price ratio did vary and report figures as high 1.7 in *Gum* in 2012 (mean combined new product volume price 70% higher than the mean combined existing product volume price), to as low as 0.4 in *Mints* in 2012 (mean combined new product volume price 60% lower than the mean combined exiting product volume price). In France, the ratio did vary reporting figures as high 3.6 in *Chewing Gum* in 2011 (mean combined new product volume price was over three and a half times higher than the mean combined existing product volume price), to as low as 0.5 in *Lollypops* in 2010 (mean combined new product volume price 50% lower than the mean combined existing product volume price).

Table 8.5 Average New Product Volume Price & Average New Product Distribution Ratio – US

	Average New Product Volume Price			Average New Product Distribution		
2012	**Ratio**	**Mean**	**SD**	**Ratio**	**Mean**	**SD**
Chocolate	1.3	20	30	0.6	1.1	3.4
Gum	1.7	10	40	0.8	3.3	7.8
Mints	0.4	20	61	0.6	1.0	3.7
Other Confections	1.1	9.4	10	3.0	0.7	2.2
Dry Rice	1.4	4.1	4.2	0.2	0.5	1.8
Ready Rice	1.0	3.8	2.1	0.4	1.9	3.7
Dry Cat Food	1.2	1.9	3.4	1.2	4.3	9.9
Regular Cat Treats	1.0	22	36	0.9	7.4	13
Dry Dog Food	1.4	1.7	2.9	1.3	2.9	7.8
Rawhide Dog Treats	1.3	7.5	13	1.6	0.9	2.4
Regular Dog Treats	1.2	12	12	0.9	2.1	5.7
Mean	**1.2**	**10**	**20**	**1.0**	**2.4**	**5.6**
Standard Deviation	**0.3**	**7.4**	**19**	**0.8**	**2.1**	**3.6**
2013	**Ratio**	**Mean**	**SD**	**Ratio**	**Mean**	**SD**
Chocolate	1.4	21	28	0.5	1.0	3.4
Gum	0.9	7.2	14	0.5	2.2	5.5
Mints	0.4	21	44	0.4	0.8	2.4
Other Confections	1.1	10	7.8	1.9	0.5	1.7
Dry Rice	1.6	4.9	4.6	0.2	0.4	1.3
Ready Rice	1.3	5.0	3.6	0.4	1.9	3.8
Dry Cat Food	1.2	2.0	1.2	0.9	3.3	7.0
Regular Cat Treats	0.9	19	18	0.7	5.8	10
Dry Dog Food	1.2	1.6	1.4	1.5	3.2	7.7
Rawhide Dog Treats	1.4	9.2	20	1.6	1.0	3.0
Regular Dog Treats	1.2	13	15	0.9	1.9	4.6
Mean	**1.1**	**10**	**14**	**0.9**	**2.0**	**4.6**
Standard Deviation	**0.3**	**7.2**	**13**	**0.6**	**1.6**	**2.7**
2014	**Ratio**	**Mean**	**SD**	**Ratio**	**Mean**	**SD**
Chocolate	1.2	19	48	0.5	1.0	3.4
Gum	0.7	5.6	9.1	0.5	2.3	5.4
Mints	0.6	23	29	0.6	1.1	3.5
Other Confections	1.2	11	6.1	2.4	0.6	2.1
Dry Rice	1.2	4.0	3.6	0.5	1.0	3.4
Ready Rice	1.1	4.5	1.5	0.3	1.4	3.8
Dry Cat Food	1.1	1.9	1.4	0.7	2.8	5.4
Regular Cat Treats	0.9	18	22	1.0	7.6	8.6
Dry Dog Food	1.3	1.8	1.9	0.7	1.7	4.6
Rawhide Dog Treats	1.4	10	26	0.7	0.5	1.7
Regular Dog Treats	1.3	15	17	1.0	2.2	5.8
Mean	**1.1**	**10**	**15**	**0.8**	**2.0**	**4.3**
Standard Deviation	**0.3**	**7.4**	**15**	**0.6**	**2.0**	**1.9**

On average in the United States, the 'typical' new products tends to be more expensive than the 'typical' existing product. This table also reports distribution results, discussed below.

Variability is also seen in the standard deviation of the average product volume prices reported for new products. This figure indicates there is quite a lot of variability in the mean combined price of new products, so these findings to do not indicate that all new products are launched at a higher price, on average, but the **average category volume price of new products are higher than the average category volume price of existing products.** This analysis allows comparison to existing products in the category in the same calendar year but does not show how the average price of new products varies over the same time period (as some products may only have a few week of sales in the same calendar year of their launch, whereas others may have a full 52 weeks of sales). New products in the 11 categories in the United States and the 11 categories in France may have a higher average aggregate price compared to existing products, yet, what is still to be understood is how the price of new products change over time from launch. This is important given the pricing information reported is for new products launched any time in the calendar year, so this pricing information could be for new products that have been in the market for 52 weeks and some for one or two weeks.

Across the 11 product categories in the United States, on average the 'typical' new product had continuous but small changes in average volume price over time. In France, on average across the 11 categories, the 'typical' new product also reported small changes in average volume price over time. This analysis uses new products from the United States (2012) and France (2008) *surviving* two years, i.e. continued sales activity eight quarters from launch (see Section 5.4.2 for method).

Table 8.6 and Figure 8.4 (*Gum* removed) report average new product volume prices change over time in the United States. In the United States, *Gum* had the largest negative percentage change at -36%, as shown from Q7 – Q8 (i.e. Y2 Q3 – Y2 Q4). This category was considered to be unusual in comparison to the other product categories, given most had small changes period-on-period, reporting an average 0.2% change across categories and periods. Table 8.7 and Figure 8.5 show average new product volume price changes over time in France. The largest negative percentage change in France was from *Other Soft Confections* at -6.4%. All other categories had small changes in average new product volume price reporting an average of -0.2% across categories and periods.

Although price continues to fluctuate period-on-period across categories, small changes are often seen. These small changes in average volume price (price paid) do not suggest new products do not engage in price promotion or price increase activities, because this figure reports average volume price change from the 'typical' new products (so promotion and increase effects may not be seen).

Table 8.6 Percentage Change in Average New Product Volume Price - US

	%Δ Average New Product Volume Price							
United States	**Bnchmk**	**Q1 - Q2**	**Q2 - Q3**	**Q3 - Q4**	**Q4 - Q5**	**Q5 - Q6**	**Q6 - Q7**	**Q7 - Q8**
Chocolate	0	-6.1	0.7	1.8	0.1	-2.6	1.4	1.6
Gum	0	48	13	39	7.6	-5.2	-20	-36
Mints	0	-2.5	2.8	-1.5	1.3	-2.2	-0.3	4.6
Other Confections	0	-7.0	1.5	0.6	0.8	-0.3	0.9	-2.3
Dry Rice	0	1.0	-0.3	-0.3	0.2	1.5	-2.0	-0.1
Ready Rice	0	1.1	-2.1	0.0	-1.0	0.6	-2.4	1.2
Dry Cat Food	0	2.5	1.4	-1.7	0.9	1.5	0.3	-2.0
Regular Cat Treats	0	-3.3	0.0	-3.1	-11	-4.2	-1.0	-5.2
Dry Dog Food	0	0.9	1.5	-1.8	-0.5	0.5	-0.8	-0.4
Rawhide Dog Treats	0	-1.9	3.7	1.1	1.3	-2.1	0.2	0.4
Regular Dog Treats	0	-1.8	0.7	0.1	0.0	-0.3	0.0	-0.4
Mean	**0.0**	**2.8**	**2.1**	**3.2**	**0.0**	**-1.2**	**-2.1**	**-3.5**
Standard Deviation	**0.0**	**15**	**4.0**	**12**	**4.2**	**2.3**	**6.1**	**11**

The 'typical' new products across the 11 product categories in the United States tend to report small changes in average volume price over time.

Note, following the guidelines used above: Red text indicates decline (-5.0%+), black text indicates stability (-4.9% - 4.9%) and green text indicates increase (5.0%+) for percentage change cells.

Table 8.7 Percentage Change in Average New Product Volume Price - FR

	%Δ Average New Product Volume Price							
France	**Bnchmk**	**Q1 - Q2**	**Q2 - Q3**	**Q3 - Q4**	**Q4 - Q5**	**Q5 - Q6**	**Q6 - Q7**	**Q7 - Q8**
Chewing Gum	0	-4.0	1.5	0.7	0.8	-0.1	-1.8	-1.0
Family Pack Ice Cream	0	-0.3	-0.3	1.9	-2.0	0.3	-0.7	-0.5
Multipack Ice Cream	0	-0.2	0.0	1.0	-1.2	-0.4	-0.2	-0.4
Other Ice Cream	0	-3.6	3.7	0.1	-3.3	-2.8	1.6	1.8
Single Ice Cream	0	-0.5	-0.8	4.2	-1.5	0.9	-4.4	-1.4
Enjoyment Confections	0	-0.2	1.4	-1.0	0.8	2.3	0.8	0.0
Mints	0	-2.2	2.2	-1.2	-1.8	-4.0	0.8	-1.6
Lollypops	0	0.2	2.6	-3.7	-3.0	3.9	1.4	3.0
Chewy Confections	0	1.4	-0.1	0.6	1.5	0.4	0.4	-1.0
Gummy Jelly Confections	0	-0.7	-0.4	1.6	-1.1	0.0	0.5	-2.0
Other Soft Confections	0	3.3	-1.8	2.8	-4.2	3.1	-6.4	-3.5
Mean	**0.0**	**-0.6**	**0.7**	**0.6**	**-1.4**	**0.3**	**-0.7**	**-0.6**
Standard Deviation	**0.0**	**2.1**	**1.7**	**2.1**	**1.8**	**2.3**	**2.5**	**1.8**

Similar to the United States, the 'typical' new products across the 11 product categories in France tend to report small changes in average volume price over time.

Note, following the guidelines used above: Red text indicates decline (-5.0%+), black text indicates stability (-4.9% - 4.9%) and green text indicates increase (5.0%+) for percentage change cells.

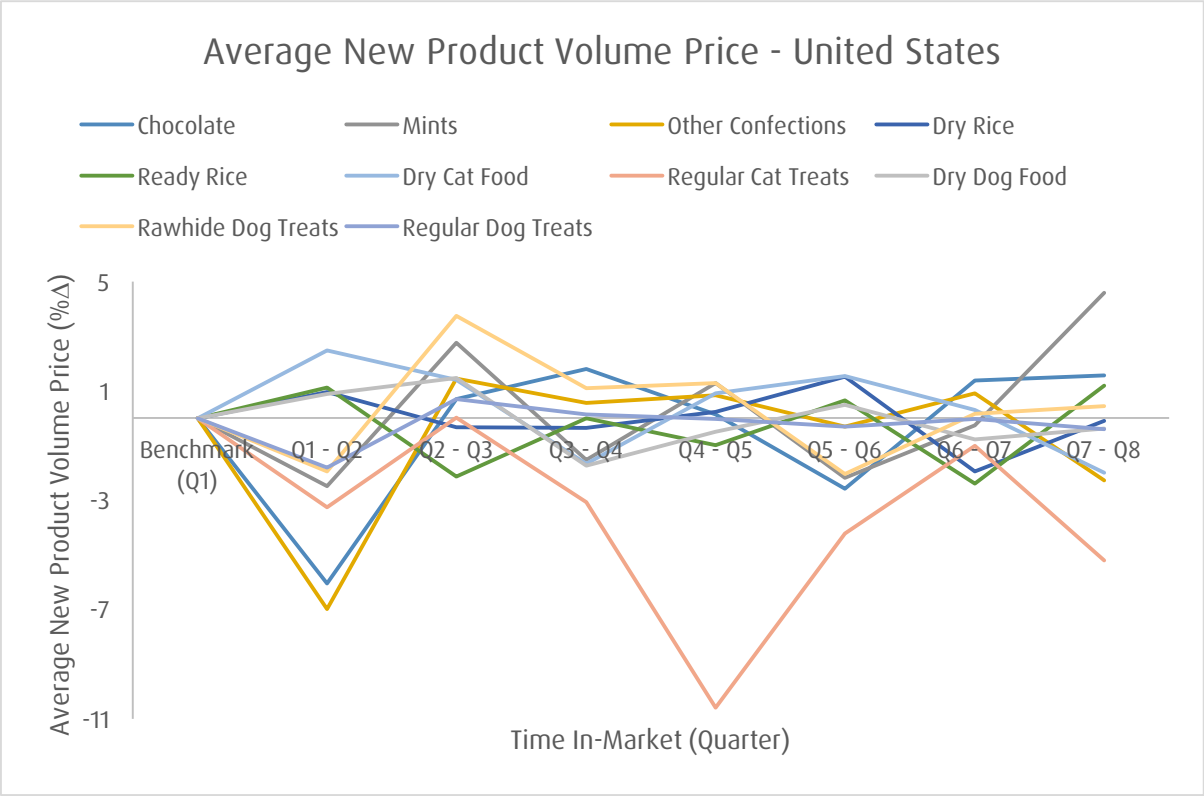


Figure 8.4 Percentage Change in Average New Product Volume Price - US

The 'typical' new product's price changed a great deal period-on-period but this change was small, across the 11 United States product categories.

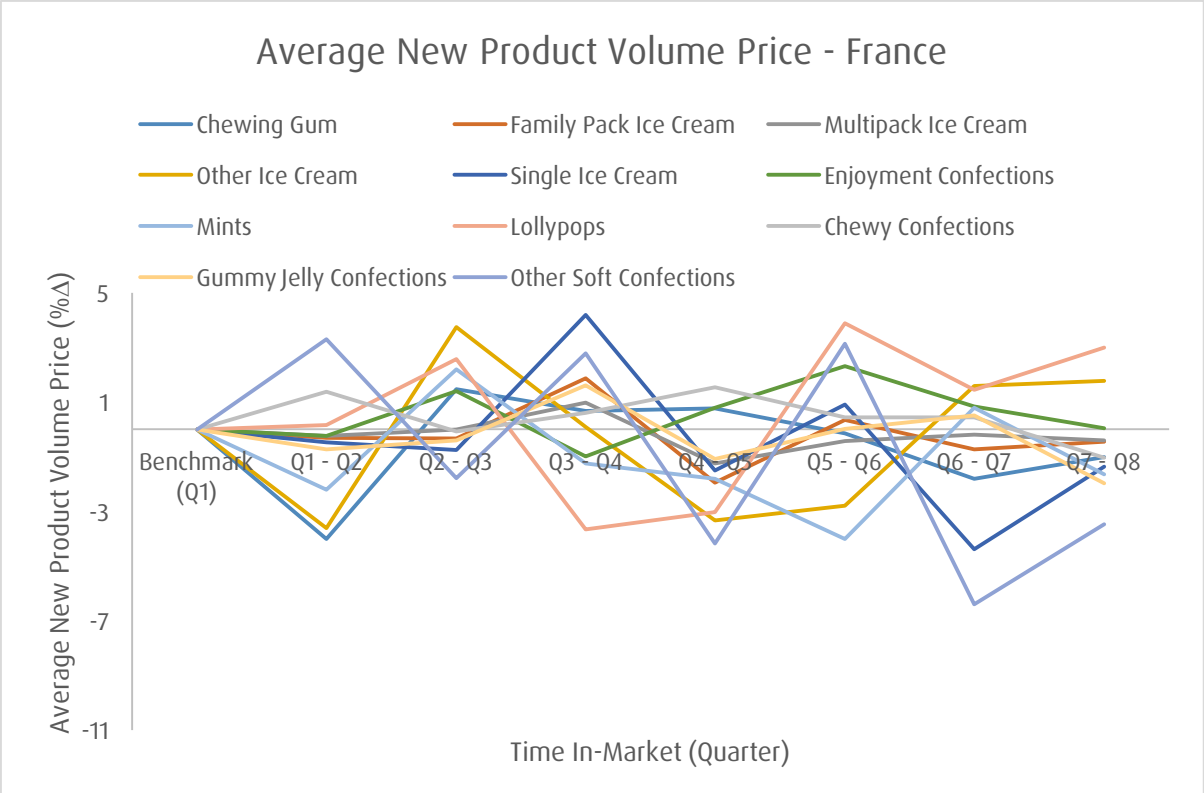


Figure 8.5 Percentage Change in Average New Product Volume Price – FR

Across the 11 product categories from France, the 'typical' new product's price experienced continuous change period-on-period but this change was small.

New product marketing decisions differ to existing products. On average, 'typical' new products are slightly more expensive than 'typical' existing products.

8.5 Average Distribution Ratio

The average distribution ratio calculation adopts the same approach reported for average volume price ratio calculation (above) but examines aggregate new product distribution and aggregate existing product distribution. This measure does not show all new products are launched with wider (narrower or comparable) distribution compared to existing products in the calendar year.

The 11 product categories in the United States on average reported an average new product distribution ratio of 0.8 (SD= 0.6), or, 1.0 (SD= 0.8) in 2012, 0.9 (SD= 0.6) in 2013 and 0.8 (SD= 0.6) in 2014. The 11 product categories in France, on average, reported an average new product volume price ratio of 0.9 (SD= 0.7), or, 0.9 (SD= 0.3) in 2008, 0.9 (SD= 0.3) in 2009, 0.7 (SD= 0.3) in 2010, 0.7 (SD= 0.3) in 2011, 1.1 (SD= 1.5) in 2012 and 1.2 (SD= 0.8) in 2013 across the product categories.

This indicates on average the mean combined distribution of new products is slightly lower than the mean combined distribution of existing products in the category in the same calendar year.

This does vary with the standard deviation of these figures being higher in some years (e.g. 2012 in France reported a standard deviation of 1.5). Table 8.5, above, reports average new product distribution ratio for categories in the United States, comparing combined new product average distribution and combined existing product average distribution. Table A.11, in the appendix, reports average new product volume price ratio results for France. In the United States, ratio did vary and report figures as high as 3.0 in Other Confections in 2012 (mean combined new product distribution three times higher than the mean combined existing product distribution), to as low as 0.2 in Dry Rice in 2013 (mean combined new product distribution 80% lower than the mean combined exiting product distribution). In France, the ratio did vary and reported figures as high 5.4 in Single Ice Cream in 2012 (mean combined new product distribution was almost five and a half times higher than the mean combined exiting product distribution), to as low as 0.1 as reported by *Mints* in 2012 (mean combined new product distribution 90% lower than the mean combined existing product distribution). Often in instances where average new product distribution ratio was quite high, average existing product distribution level was comparably quite low, e.g. France *Single Ice Cream* in 2012 had new product average distribution of 9.2 and an existing product average distribution of 1.7.

Variability is also seen in the standard deviation of the average distribution reported for new products. This figure indicates there is quite a lot of variably in the mean combined distribution of new products, so these findings do not indicate all new products are launched with lower distribution, on average, but the ***average category distribution gained by new products is lower than the average category distribution gained by existing products*.** This analysis allows comparison to existing products in the category in the same calendar year but does not show how average new product distribution varies over the same time period (as some products may only have a few week of sales in the same calendar year of their launch, whereas others may have a full 52 weeks of sales). New products in the 11 product categories in the United States and the 11 product categories in France may have a lower, average aggregate distribution compared to existing products, yet, what is still to be understood is how the distribution of new products change time.

Across the 11 product categories in the United States and the 11 product categories in France, on average, the 'typical' new product had continuous changes in average distribution secured over time. This analysis uses new products from the United States (2012) and France (2008) *surviving* two years, i.e. continued sales activity eight quarters from launch (see Section 5.4.2 for method).

Table 8.8 and Figure 8.6 (*Ready Rice* removed) show average new product distribution change over time in the United States. In the United States, *Regular Cat Treats* had the largest negative percentage change at -52%, as shown from Q3 – Q4 (Y1 Q3 – Y1 Q4), whereas *Ready Rice* had the largest positive percentage change in average distribution at 261% from Q1 – Q2 (Y1 Q1 – Y1 Q2). This figure was considered to be unusual in comparison to the other categories, but most categories

(ten) reported increases in average distribution in this period. Also, Q1 – Q2 (Y1 Q1 – Y1 Q2) reported the highest percentage change on average across categories (M= 71%, SD= 70), compared to any other period. Table 8.9 and Figure 8.7 (Other Ice Cream removed) report average new product distribution change over time in France. The largest negative percentage change in France was from Family Pack Ice Cream at -44% from Q2 – Q3 (Y1 Q2 – Y1 Q3). Other Ice Cream had the largest positive percentage change in average distribution at 122% from Q6 – Q7 (Y2 Q2 – Y2 Q3). Similar to United States reports, most categories (ten) reported increases in average distribution from Q1 – Q2 (Y1 Q1 – Y1 Q2). Also, this year had the highest on average increases across categories, at 53% (SD= 40).

Across both countries, most (positive) movement in average distribution percentage change occurred in the second quarter from launch. **This is similar to what is seen for new product sales revenue change over time, because when average new product distribution increases, aggregate sales revenue generated from new products also increase, on average.** Figure 8.8 and Figure 8.9 demonstrate the new product average distribution and aggregate sales revenue relationship for United States (*Ready Rice* removed) and France (*Other Ice Cream* removed) categories, respectively.

Table 8.8 Percentage Change in Average New Product Distribution - US

	%Δ Average New Product Volume Price							
United States	**Bnchmk**	**Q1 - Q2**	**Q2 - Q3**	**Q3 - Q4**	**Q4 - Q5**	**Q5 - Q6**	**Q6 - Q7**	**Q7 - Q8**
Chocolate	0	17	-4.0	-0.8	42	-16	-17	-8.2
Gum	0	84	14	-3.3	-8.3	-15	-18	-13
Mints	0	70	7.3	-1.1	3.4	-1.8	-0.3	1.5
Other Confections	0	-8.0	-14	13	1.0	-27	-26	20
Dry Rice	0	75	17	11	-2.5	2.3	-4.1	-8.3
Ready Rice	0	261	24	9.0	3.4	-8.2	2.3	-3.4
Dry Cat Food	0	67	-5.9	-2.6	0.6	-3.7	-4.4	-5.0
Regular Cat Treats	0	54	-35	-52	-7.2	-2.1	-3.5	-7.9
Dry Dog Food	0	49	6.1	1.9	-8.4	-5.9	1.2	-4.7
Rawhide Dog Treats	0	27	2.1	-0.1	-3.1	-3.4	-3.1	0.2
Regular Dog Treats	0	90	16	-3.1	0.7	-2.4	-5.1	-7.9
Mean	**0.0**	**71**	**2.5**	**-2.5**	**2.0**	**-7.5**	**-7.1**	**-3.4**
Standard Deviation	**0.0**	**70**	**17**	**18**	**14**	**8.5**	**9.2**	**8.8**

The 'typical' new product often reports changes in average distribution period-on-period, across the 11 product categories in the United States.

Note, following the guidelines used above: Red text indicates decline (-5.0%+), black text indicates stability (-4.9% - 4.9%) and green text indicates increase (5.0%+) for percentage change cells.

Table 8.9 Percentage Change in Average New Product Distribution - FR

	%Δ Average New Product Volume Price							
France	**Bnchmk**	**Q1 - Q2**	**Q2 - Q3**	**Q3 - Q4**	**Q4 - Q5**	**Q5 - Q6**	**Q6 - Q7**	**Q7 - Q8**
Chewing Gum	0	72	7.3	8.2	-4.0	-10	-12	-10
Family Pack Ice Cream	0	22	-44	-14	56	11	-26	1.2
Multipack Ice Cream	0	28	-40	-15	61	11	-29	-14
Other Ice Cream	0	-13	72	-33	22	-33	122	-28
Single Ice Cream	0	17	-33	-14	4.3	-3.0	44	-9.0
Enjoyment Confections	0	63	28	-4.0	8.1	-2.2	-0.4	-2.4
Mints	0	94	5.9	-0.8	4.4	2.3	-8.1	2.6
Lollypops	0	39	17	19	-7.6	2.8	1.5	55
Chewy Confections	0	108	0.0	-13	-5.7	7.9	-14	-19
Gummy Jelly Confections	0	42	21	5.6	0.3	7.6	15.5	1.2
Other Soft Confections	0	107	12	-8.5	2.6	9.5	-4.3	-13
Mean	**0.0**	**53**	**4.1**	**-6.3**	**13**	**0.3**	**8.1**	**-3.3**
Standard Deviation	**0.0**	**40**	**34**	**14**	**24**	**13**	**43**	**22**

The 'typical' new product across categories in France often reports changes in average distribution period-on-period.

Note, following the guidelines used above: Red text indicates decline (-5.0%+), black text indicates stability (-4.9% - 4.9%) and green text indicates increase (5.0%+) for percentage change cells.

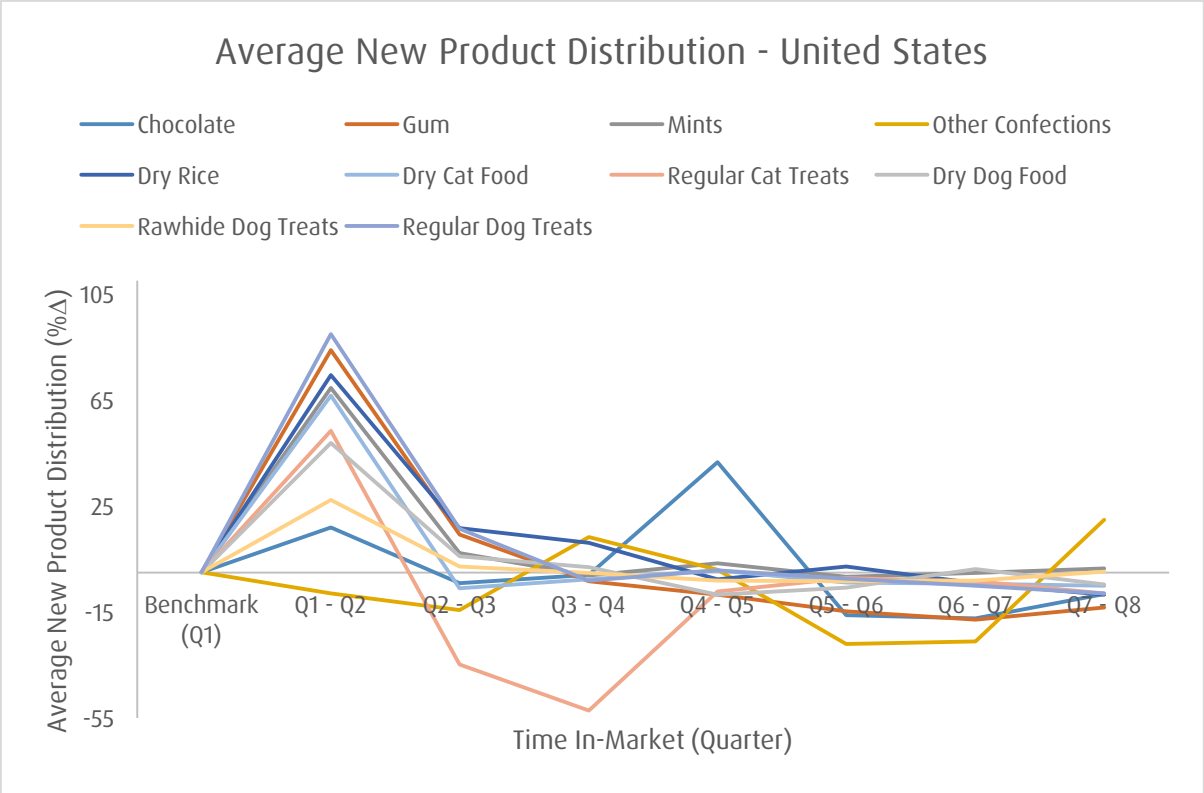


Figure 8.6 Percentage Change in Average New Product Distribution - US

The 'typical' new product in most categories in the United States tend to report the largest increase in average distribution in the second quarter from launch.

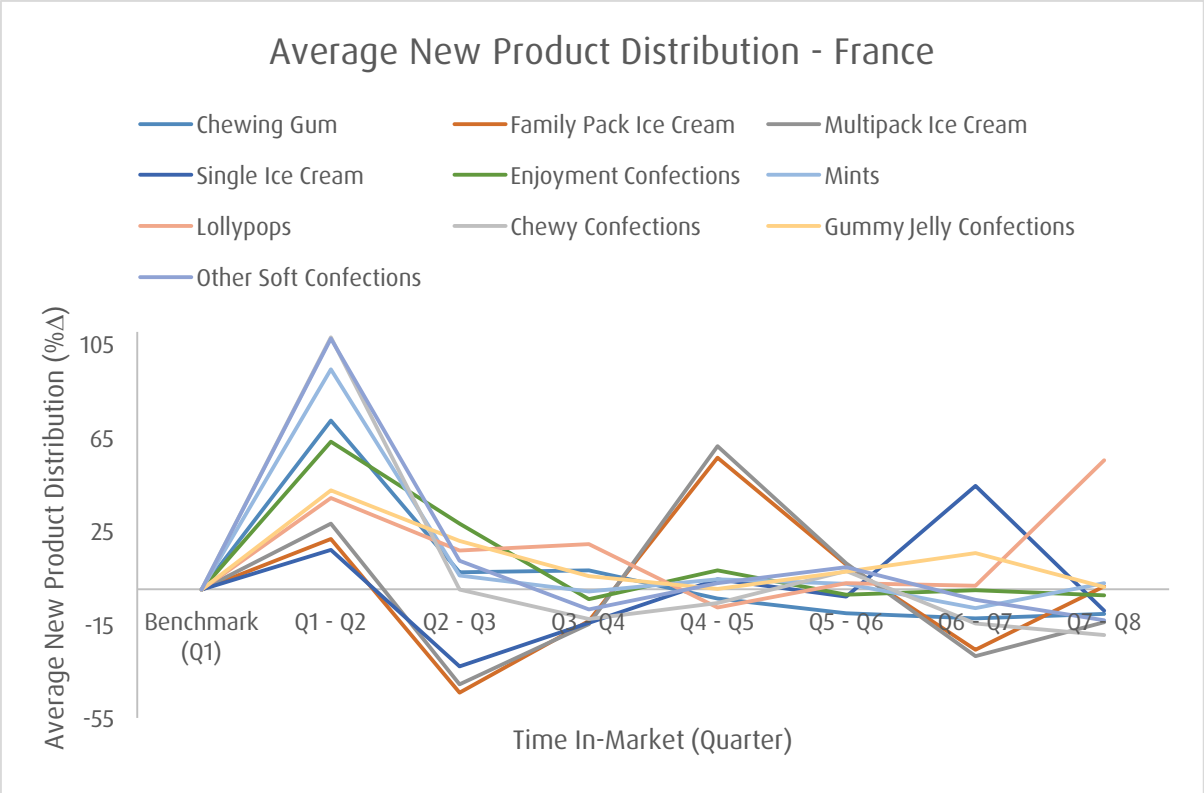


Figure 8.7 Percentage Change in Average New Product Distribution - FR

Similar to the United States, the 'typical' new product across most categories from France tend to report the largest increase in average distribution in the second quarter from launch.

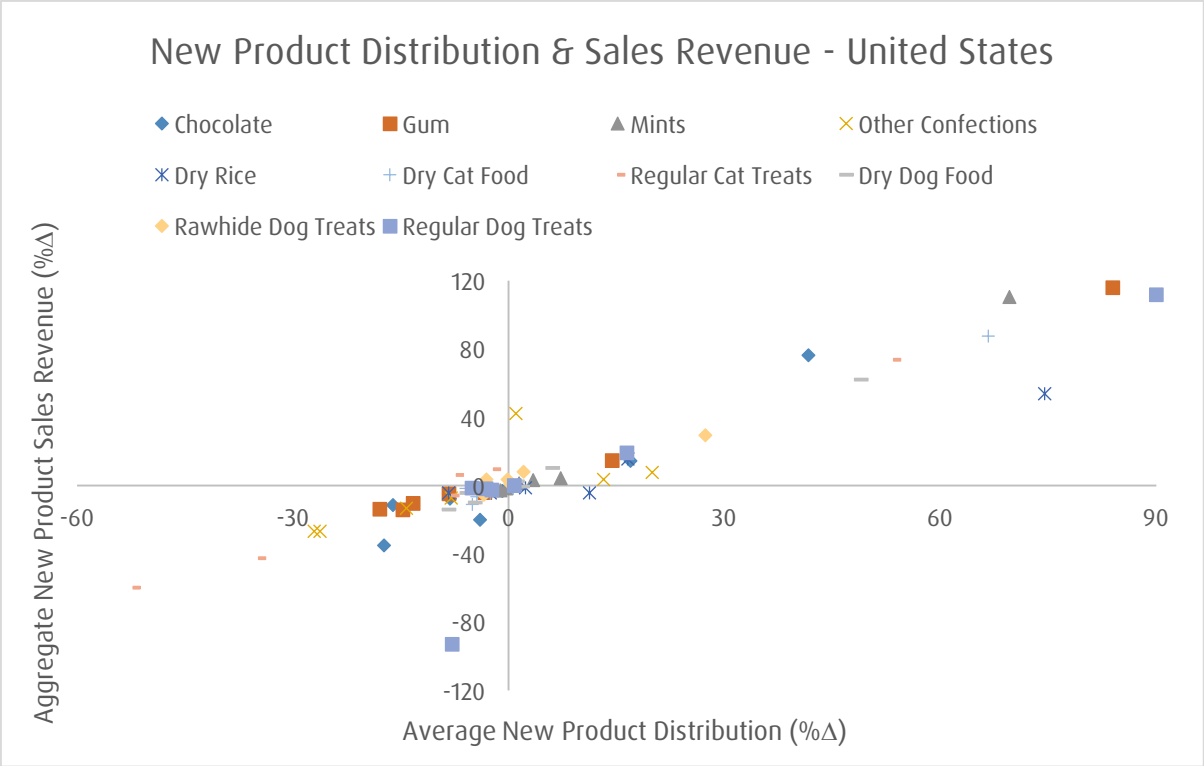


Figure 8.8 Percentage Change in Average New Product Distribution & Aggregate New Product Sales Revenue – US

This graph visually shows the relationship between the aggregate new product sales revenue and the average new product distribution gained for new products from the United States, over time.

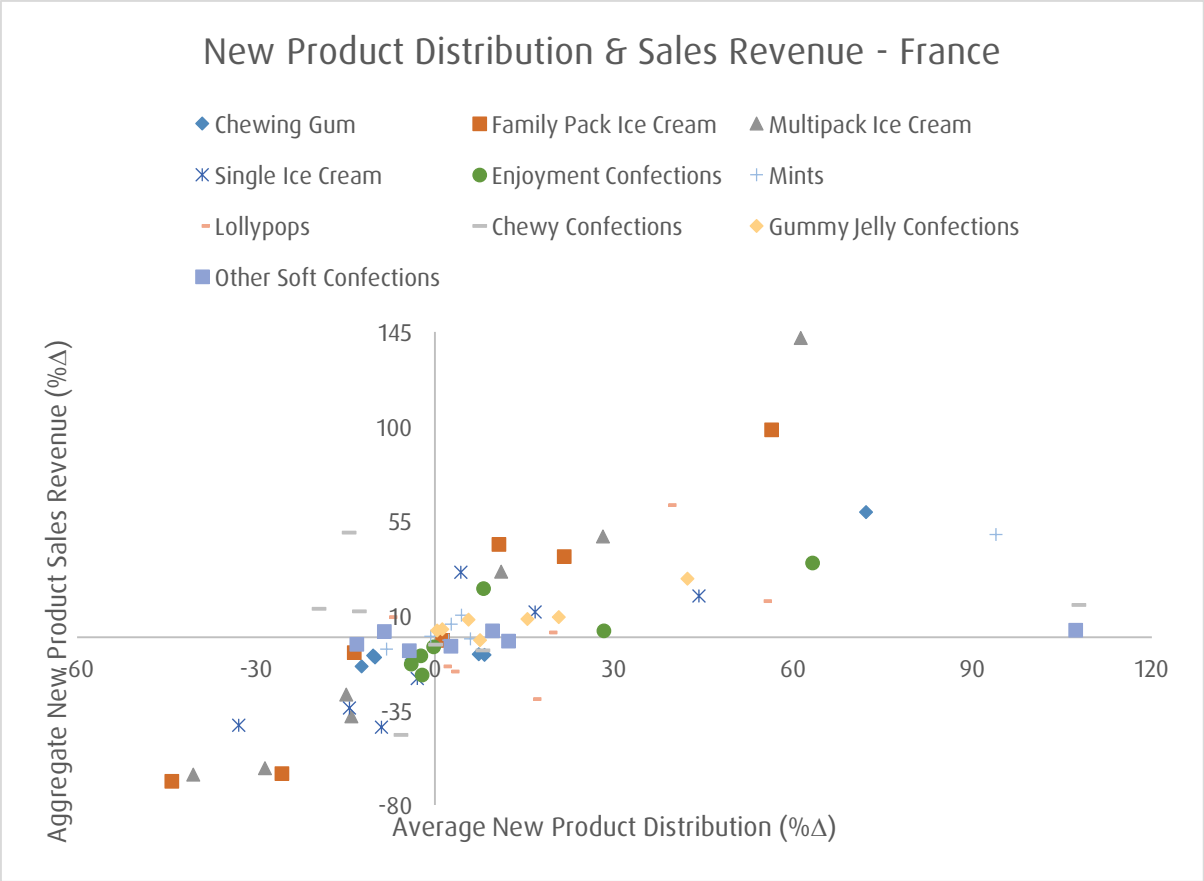


Figure 8.9 Percentage Change in Average New Product Distribution & Aggregate New Product Sales Revenue – FR

This graph visually shows the relationship between the aggregate new product sales revenue and the average new product distribution gained for new products from France, over time.

New product marketing decisions differ to existing products. On average, the 'typical' new product often has slightly narrower distribution compared to the 'typical' existing product. Often, when average new product distribution increases, so does new product aggregate sales revenue.

8.6 Chapter Summary

The key themes covered in this chapter include:

- Larger manufacturers are not only much bigger than their smaller counterparts, but they also launch slightly more new products with wider distribution, on average.
- New products are often slightly more expensive and gain slightly less distribution compared to existing products.

This chapter has presented descriptive results about new product launch decisions across product categories. The results in this chapter offer information about *who* launches new products and *how*

the launch is commonly executed. The final two chapters in PART THREE will present and discuss the key findings of this thesis in the wider business and marketing context (CHAPTER 9) and offer the contributions of this present research to marketing theory and marketing practice (CHAPTER 10).

PART THREE

CONCLUSIONS

CHAPTER 9 Discussion, Limitations & Future Research Directions

This chapter discusses the four key findings from this thesis based on the research method in CHAPTER 5 and results presented in the last three chapters; CHAPTER 6, CHAPTER 7, CHAPTER 7. Based on the results presented in the last three chapters, four key findings are identified. In this chapter, the four key findings are presented and connected with current marketing knowledge. This chapter also presents the major limitations of this thesis and suggests avenues for future research.

9.1 Key Finding 1 – Larger categories tend to have more new product launches

Categories vary in the number of new product launches each calendar year, yet they vary somewhat predicably based on the sales revenues generated and products sold in each category. Although the number of new products launched each calendar year varies by category, new product launches represent around 15% of products sold across product categories on average, each calendar year.

Categories that generate higher sales revenues often have more new products, but this may simply be a product of manufacturers directing investments to categories that have been proven to be profitable and therefore more attractive to competitors (Srinivasan et al. 2009). New products in categories with higher sales revenues may also be more common because quite often, more brands are offered in categories with higher sales (Putsis & Dhar 2001). It is reasonable to suggest that categories with more new product launches may be a function of many more brands seeking to use the launch of products as a tool to compete. Yet without conducting qualitative interviews with manufacturers about their new product launch strategies, this thesis cannot offer conclusions as to why this pattern is seen across categories. Although new product numbers do vary based on category size (sales revenue and category assortment), the percentage representation of new products in a category is rather consistent across product categories. Manufacturers often use new launches as a strategy to compete, but some suggest that new launch strategies are even more rife in mature categories (Trinh, Romaniuk & Tanusondjaja 2015). Given category sales revenues in this thesis were found to be stable most of the time, the persistent percentage representation figure across product categories shows that new product launch is a common strategy used to compete.

This first finding has been noted in past product innovation research (Martos-Partal 2012). This pattern is also supported in product assortment research as categories with higher sales revenues tend to also have wider product assortments (Tan & Cadeaux 2011). Categories do vary in the number of new products that are launched each calendar year but the percentage representation of new products is consistent across product categories. No past research has reported the

percentage representation of new products in a product category, making it is difficult to determine how this finding fits with past studies. To understand how this applies, an example from a retailer was found with one major Australian grocery retailer, Woolworths, reporting that they aim to increase the percentage of new products offered storewide (across categories) from five to ten percent (Grant 2014). Although the representation figure in the article may be slightly higher than found in this thesis, it does demonstrate that new products are often not the majority of products in a category.

9.2 Key Finding 2 – Larger manufacturers tend to have more new products with wider distribution

New products are launched from national and private label brands, but larger manufacturers often launch more new products and with wider distribution, compared to their smaller counterparts.

Larger manufacturers are much bigger (in market share) and launch many more new products compared to their smaller manufacturer counterparts. Past new product research has demonstrated larger manufacturers in consumer durables often have many more product launches (see Pauwels et al. 2004), and it is thought that larger manufacturers launch more new products because they have more resources (Rubera & Kirca 2012) to invest in and to support new launches. This thesis also finds larger manufacturers often secure more average aggregate new product distribution, compared to their smaller manufacturer counterparts. Again, larger manufacturers have more resources to support their new products (Rubera & Kirca 2012), so these manufacturers have more resources to place new products in wider distribution more quickly. This is important as shown through the distribution and market share relationship for new and existing products (Wilbur & Farris 2014). This key finding has received little attention in consumer packaged goods research but focuses on a recognised past finding, larger manufacturers often have more resources to support their new products. For example, bigger brands often have more advantages, such as more brand associations in consumer's minds (e.g. Romaniuk & Sharp 2016), wider distribution networks (e.g. Farris, Olver & de Kluyver 1989; Reibstein & Farris 1995) and a larger scale to reduce production costs (e.g. Rubera & Kirca 2012). Many studies show larger manufacturers often have more resources and that these resources can help support new products. For example, three new product studies have shown parent brand market share can influence the trial propensity for new launches (see Abril & Martos-Partal 2013; Gielens & Steenkamp 2007; Sinapuelas, Wang & Bohlmann 2015). Although this thesis did not examine instances of new product success from different manufacturers, this thesis does demonstrate that larger manufacturers can offer more resources to new products, which may be a reason for the results in many manufacturer size and new product success studies.

9.3 Key Finding 3 – Most stay in market for over a year

The third key finding in this thesis is the majority of new product launches remain in the market for longer than one year. This thesis also finds eight in ten new product launches sold four quarters (one year) from launch, tend to also continue to report sales eight quarters (two years) from launch.

When looking across product categories, most new products often remain in the market for longer than one year. New products may continue to remain in the market as *successes* because they continue to meet other objectives (Johne & Snelson 1988), such as securing more shelf space in retailing outlets or blocking other competitors from entering the category through these new offerings. This thesis finds although new product survival declines from launch, percentage change in average new product distribution for new products surviving two years is often higher one quarter after launch. This finding suggests new products may be launched for many purposes but new products that prioritise distribution may remain in the market. There is empirical evidence for a distribution and market share relationship (Farris, Olver & de Kluyver 1989; Reibstein & Farris 1995; Wilbur & Farris 2014), meaning new products that continue to remain in the market are most likely new products with higher sales because distribution was prioritised. This presents a chicken-and-egg problem where manufacturers may not prioritise building new product distribution because sales are poor, but poor sales may be because building new product distribution was not prioritised. This second key finding, most new products survive one year after launch, contrasts to the widely held belief that 80% of new products fail but is much closer to much of the empirical research about new product failure rates (see Castellion & Markham 2013). It is hard to conclude if new products have been successful or if they have failed, often because many studies use different definitions for "success" and "failure" (Crawford 1977). Yet, a handful of empirical research shows new product failure rates are much closer to 40% (see Castellion & Markham 2013). One cited study reports 61% new products were successful on average, based on each businesses definition of a *successful new product* (Markham & Lee 2013). Although this success figure is similar to survival results in some categories, this study had a slim percentage of businesses in fast-moving consumer goods (5.5%) and allowed businesses to use their definition of success (Markham & Lee 2013), making it difficult to objectively compare success figures across organisations. Inadvertently addressing these limitations, one study reports most new products (around 70%) still had 'failed *completely* by the end of the calendar year' across 37 consumer packaged goods categories (Wilbur & Farris 2014, p. 161). Also, past research using a similar new product survival rate metric reports only 24% of new products remain in the market 52 weeks after launch (Nielsen 2014c). In this thesis, there was variance in the new product survival rate seen between categories, with United States categories (and a select few in France) reporting similar product survival results. This third key finding suggests new product failure may not be as high as widely believed. However, the validity of survival rates reported cannot be commented upon due to in consistent measurement found in past research.

9.4 Key Finding 4 – Marketing decisions for new products vary slightly to existing products

The final key finding in this thesis reports the 'typical' new product is often slightly more expensive (average aggregate new product volume price) and gains slightly less distribution (average aggregate new product distribution) compared to the 'typical' existing product in the category.

When looking across product categories, average aggregate new product volume price was slightly higher than the average aggregate existing volume price, on average. Average new product price could be slightly higher because new products could be thought to be more different and command a price that reflects this advantage in the product category. Yet, past research finds new products are often not that different to other products and breakthrough innovations are extremely rare (Sorescu & Spanjol 2008). Other than this, there are many reasons why manufacturers price new products slightly higher than existing products in the category. Firstly, launching new products with higher prices may be a tactic that is used in mature product categories to increase category sales revenues (e.g. Nielsen 2012). Secondly and more simply, manufacturers may also price new products higher to attempt to recoup the substantial research and development costs for new product programs. This key finding, the average new products' price is slightly higher than average existing products' price, has been supported by past product innovation research (Wilkie, Johnson & White 2015). Although average new product prices are slightly higher than average existing product prices on average, much of the product innovation research has shown new products are often more successful when they are launched with at a lower price (Ataman, Mela & Van Heerde 2008; Hultink et al. 2000; Steenkamp & Gielens 2003). Uncovering when new products can be successful with price is not the focus of this thesis but it is interesting to note that the average aggregate new product prices are often higher, but it is lower priced new products that are often more successful. This finding highlights one disconnect between common practice and *recommended* decisions.

The average aggregate new product distribution was similar but slightly less than what was seen for existing products. Average new product distribution may be slightly lower compared to building products because manufacturers may trial new products first and only follow through with increased distribution if the product shows early signs of success. This presents a paradox where manufacturers may not build distribution for new products in their infancy but brands and (even new) products with wider distribution tend to have higher market shares (Farris, Olver & de Kluyver 1989; Reibstein & Farris 1995; Wilbur & Farris 2014). This finding has been noted in past new product research (Hultink et al. 2000; Wilkie, Johnson & White 2015). Although average new product distribution was slightly lower compared to existing products on average, much of the past new product research shows new products are often more successful when they have higher expenditure on distribution (Hultink et al. 2000) and secure wider distribution (Ataman, Mela & Van Heerde 2008; Wilbur & Farris 2014). Again, this finding highlights another disconnect between theory and practice.

9.5 Limitations

There are some known limitations from this research.

Products in this thesis were individual stock-keeping units (SKUs), but SKUs can be defined in many ways (e.g. Boatwright & Nunes 2001, p.53; Reddy, Holak & Bhat 1994, p.243; Silver, Pyke & Peterson 1998, p.32; Singh, Ehrenberg & Goodhardt 2000, p.1185). For purposes of this thesis, SKUs were identified as items that had brand, flavour, pack size and pack format information. Outside of this, some product categories also included product attributes were unique to the category, e.g. breed size for *Petcare*. The four main attributes were selected as the minimum for constituting an SKU because these attributes are (1) consumer recognisable, (2) objective and (3) collectively exhaustive to all category items (Fader & Hardie 1996, p.441). Although all products followed these guidelines in the United States, some France categories (seven of 11) did not contain all required information to be a "true" SKU for purposes of this thesis (e.g. pack format information was missing). Given not all products in France met these requirements, this is the first limitation.

Secondly, the classification for new products used in this thesis could be considered as a limitation because new product launch information had not been confirmed by each manufacturer. New products were identified as products that did not have any sales revenue activity in the previous calendar year but had at least one sales revenue occurrence in the following calendar year (see Section 5.4). This method has been used in past new product research (e.g. Abril & Martos-Partal 2013; Abril & Sanchez 2016). The calendar year interval was deemed an appropriate length to safeguard against over reporting the instances of new products. Future research using panel data could calculate the average purchase interval information for each category and adjust the length of the previous sales period of interest. This new product classification relies on the consistent and accurate data collection from Nielsen because products were thought to be not available if no sales revenue information had been recorded. Some products could be recorded as new more than once. This would occur when products started to have sales occurrences after dormant sales period equal to or greater than one calendar year. Some new products could be existing products with dormant sales exceeding one calendar year, others could be new products serving a transient purpose (e.g. limited edition charity pack). Some may argue this could over report new products but other measures may exclude unsuccessful new products. Future research identifying new products on distribution information may help combat this issue. In addition, product characteristic information from Nielsen relies on Nielsen's accurate data because this information is used in categorisation for new product types and identifying and organising manufacturers by size (revenue market share).

In this thesis, new products had also been classified into four groups to compare differences in new product types. These groups were adapted from past new product type classification frameworks (see Section 5.4). However, because there is not one consistent framework across all organisations on how they categorise new products (e.g. Brody & Lord 2002; Goldsmith & Foxall 2003), this forms

another limitation of this thesis. Based on the new product classification framework used in this thesis, new brands and new sub-brands may be under-reported because the condition was not set that brands needed to be from the same manufacturer in the past year. For example, new brands may be under reported if one manufacturer launched a brand but another brand in the category already had a brand of the same name in the previous calendar year. Although it is unlikely multiple manufacturers would release products under brands with identical names to others in the category, unless the data provider had simplified brand coding, this still forms a limitation of this thesis.

For manufacturer and new product classification analyses, products from brands with incomplete characteristic information (private label brands and all other brands) were excluded because these analyses would have over exaggerated some measures and under reported instances of others. In each dataset, Nielsen had aggregated private label products into one manufacturer and brand, so information about specific manufacturers and brands where these new products reside were lost. Some products had incomplete information about the manufacturer or brands, with these also being label as being from an all other manufacturer or brand in the datasets. Products that met either condition were noted and used for much of the results but were excluded for the manufacturer and product classification analyses because it would not be an accurate reflection of the market. Although it excludes some new products, so these two analyses are not generalisable to private label new products, it is important to exclude these cases and be more conservative. Given Nielsen's expansive reach across retailers in many markets, classifications for new products (including types) and the metrics used in this thesis for new products are considered to be an accurate representation of each market. Authors from past research using comparable datasets note brand managers from P&G (credited as largest consumer packaged goods manufacturer) consider Nielsen's database 'to be the census of available products in the US' (Wilbur & Farris 2014, p. 156).

It should be noted that measures comparing marketing decisions of new products with existing products has limitations. Average yearly pricing and distribution measures in this thesis were aggregated (mean) for each product to report an average aggregate new product figure and an average aggregate existing product figure for each metric. Yearly pricing and distribution measures were calculated by averaging (mean) the weekly pricing and distribution measures. Although the aggregate average new product pricing or distribution figures may not be a true representation of all new product prices or distribution (because it is an average of the yearly average), this was deemed the most appropriate way to compare pricing and distribution measures between new products and existing products in the same calendar year. These measures may not offer the best representation of price and distribution for new products and existing products, but this does offers information about what the average new product or existing product "looks like" in each product category.

The final limitation to be discussed in this thesis is concerned with the survival analysis calculation. The survival calculation uses sales activity, i.e. number of new products sold, rather than a fixed sales amount, i.e. new product must have reported at least $200 in sales revenue or have sold at

least 500 units to have “survived”. This calculation means new products would “survive” even with very low sales, e.g. one unit sold across the entire United States database. Similar measures have been used in past research (e.g. Wilbur & Farris 2014), but this still is a limitation of this thesis. Also, because the analysis documents new product survival based on observed sales, this thesis did not capture if new products were removed because they were simply not purchased by consumers, or whether manufacturers had planned to discontinue the new product once it had met its intended purpose. Although this thesis did not collect new product deletion reasons from manufacturers, an objective survival measure based on observed purchasing information was used, allowing both academics and marketing practitioners to easily replicate and use this measure across categories.

9.6 Future Research Directions

The key findings and limitations presented in this thesis pose avenues for future research. Firstly, although a considerable sample of 23,642 new products from 22 categories spanning across two countries was used, replication is required in more product categories and more countries. This will help in building understanding on new product practice and performance across categories. The generalised patterns uncovered in some key findings would benefit from being replicated using many datasets (see Ehrenberg 1990, 1995; Kennedy, Scriven & Nenycz-Thiel 2014), to confirm the persistence of these findings or to identify the presence of possible boundary conditions where these findings do not hold. Conditions that are encouraged to be tests include varied product categories (e.g. consumer durable goods, rather than consumer packaged goods), and countries with varied retail formats (e.g. modern and traditional markets in emerging markets) and market concentrations (e.g. countries with a powerful few retailers, such as Australia (IBIS World 2016)).

The main findings for this thesis also encourage future research to understand expectations for new products. For the first key finding, consumer panel datasets could be used to understand whether higher penetration categories, not just higher sales categories, have more new products and whether category penetration figures can predict the number of expected new launches. The results from this research would confirm whether manufacturer and retailers use new product launches in more *popular* categories (high penetration categories) to remain competitive, or if manufacturers and retailers often launch new products in higher sales categories in an attempt to capture sales. This presents an avenue for future research where more work could be done to uncover how retailers and manufacturers make new product decisions, how they think, talk about, and categorise new products, to ensure future research continues to be practical for a wide range of stakeholders.

Based on the second key finding of this thesis, future research should continue to examine the relationship between manufacturer size effects and new product launches. Although it is widely known that larger manufacturers often have more resources to support new products (Rubera & Kirca 2012), this thesis has demonstrated how new product launch decisions vary based on manufacturer size (including number of new products launch and new product distribution). More

research on new product marketing decisions (e.g. advertising) and retailer adoption decisions is encouraged to find other instances where new products from larger manufactures may enjoy an advantage over others from smaller manufacturers because of the manufacturers' size in the market.

Finally, future research is recommended to document and uncover paradoxes in common new product launch decisions in practice and those recommended new product launch decisions from theory. This thesis finds average aggregate new product distribution to most often similar or lower compared to existing products, yet wide distribution is important for new product share (Wilbur & Farris 2014). In understanding how new product decisions are executed in practice, it may uncover the extent that manufacturers are not adopting "best practice" (as found in research) for new launches, hinting to a wider collaboration problem with marketing theory and practice. It is also recommended future research develops more ways to compare launch decisions between new products and existing products. This will advance findings from "what does the average new product look like", to investigating how many new products meet certain conditions, e.g. research could compare how many new products were above or below average aggregate existing product metrics.

9.7 Chapter Summary

The key themes covered in this chapter include:

- Key Finding 1 – Larger categories, i.e. higher revenue, tend to have more product launches.
- Key Finding 2 – Larger manufacturers tend to launch more new products, and these new products tend to secure wider distribution, compared to smaller manufacturers.
- Key Finding 3 – Most new product launches stay in the market for over a year.
- Key Finding 4 – The 'typical' new product often is more expensive and often gains slightly less distribution compared to the 'typical' existing product in the same calendar year.
- Most limitations extend from the use of more novel datasets. Limitations include; relaxed product inclusion, new product identification and product launch decision comparisons.
- Avenues for future research include: extending to more conditions, replicating with varying datasets, further investigation into launch decisions and manufacturer size advantages.

This chapter has identified and discussed four key findings based on results presented in the three results chapters in PART TWO (CHAPTER 6, CHAPTER 7, CHAPTER 8). This chapter also identified the major limitations of this thesis and suggested avenues for future research. The following, final chapter will outline the contributions of this research to marketing theory and marketing practice.

CHAPTER 10 Contributions & Conclusions

This chapter presents and discusses the contribution from this thesis to marketing theory and marketing practice. The contributions are based on the four key findings reported in CHAPTER 9. In this final chapter, key contributions from this thesis will be identified and separated into contributions to marketing theory, and then contributions to marketing practice.

10.1 Contributions to Marketing Theory

This thesis builds upon past product innovation research and continues to develop marketing theory.

Firstly, this thesis analyses measures that are commonly found in product innovation reports (e.g. Nielsen 2014c) through an academic lens. This thesis builds upon the few academic papers (e.g. Hultink et al. 2000), association reports (e.g. Markham & Lee 2013) and published books (e.g. Booz-Allen & Hamilton Inc. 1982) that have traditionally used survey-based measures to understand new products, by documenting new products using large scale observed purchasing datasets. The use of observed purchasing information is being used more and more in new product success research (e.g. Gielens 2012; Gielens & Steenkamp 2007; Sinapuelas, Wang & Bohlmann 2015; Steenkamp & Gielens 2003), steering away from the traditional use of mail surveys (Hart 1993). The datasets used in this thesis answer calls for research that seeks to understand how to best approach new products in data-rich environments (e.g. Biemans & Langerak 2015). The use of these more accessible and objective datasets in this application is one of the academic contributions of this thesis.

Secondly, the descriptive results reported in this thesis contribute to theory through providing an objective, comprehensive description of new products in consumer packaged goods categories across two countries. This documentation of new products offers academics a greater understanding of new product practice, and with this better understanding is the opportunity for more relevant research. The results from this thesis can assist other academics in developing more relevant research based on current practice, across a range of consumer packaged goods categories, which in turn helps research findings to be more actionable for end-users). This opportunity for future research is one of the most important academic contributions from this thesis.

10.2 Contributions to Marketing Practice

This thesis also develops current marketing practice, building on past new product research.

First and foremost for marketing practitioners, the results from this thesis provide practitioners with a broader understanding about new products, offering manufacturers and their retailer partners an

opportunity to compare and benchmark new product programs to category norms across 22 consumer packaged goods product categories in two countries. This thesis helps manufacturers and retailers in making decisions about new products and understanding performance expectations for their new launches. This thesis finds new products are common and most often survive longer than one year. This finding contributes to marketing practice because it encourages manufacturers to establish more realistic expectations to help support new products, as most will need support surpassing a one-year time frame. In short, findings from this thesis encourage manufacturers and retailers to review success expectations against commonly achieved performance measures for new products, based on benchmarks across consumer packaged goods categories in two countries.

The final practical contribution of this thesis is that the 'typical' new product does not display pricing and distribution "best practice" for new launches. This research highlights the disparity between knowledge from academic new product success research and current practice in marketing practice. There is an abundance of research examining conditions in new product success, often suggesting pricing and distribution levels most often associated with greater success, e.g. new products with wider distribution are more success (e.g. Wilbur & Farris 2014, p.156). However, in this thesis, it was found the 'typical' new product across categories often did not possess ideal distribution or pricing levels found in successful new products in the same calendar year (but, new products may need a longer time frame to secure comparable distribution compared to existing products). Based on this knowledge, marketing practitioners are encouraged to review past, current and future new product programs and assess how these new products could have been or can be better supported and executed upon launch. This review process, in turn, is expected to assist marketing practitioners to shorten the odds of new product success across consumer packaged goods product categories.

10.3 Concluding Statements

This thesis investigates new product prevalence, performance and common launch decisions made to arm manufacturers and retailers what knowledge about *who* uses new products to compete, *what* new products often achieve and *what* new products often *look like* upon launch. This research offers a realistic viewpoint about what new products can achieve for manufacturers and retailers alike, and helps to extend to current marketing knowledge about new products. Yes, many academics actively research this area but often documentation in this area is reserved for research consultants (e.g. IRI), with arbitrary new product success benchmarks examined and reported upon.

This research extends knowledge in this area using an academic viewpoint, documenting 23,642 new products launches across 22 product categories from two countries. This research documents new products from many perspectives, with four key findings uncovered in this thesis. **(1)** Larger categories often launch more new products. **(2)** Like categories, larger manufacturers often launch more new products and tend to do so with wider distribution. **(3)** Contrary to popular belief, most new products remain in the market for over one year. **(4)** The 'typical' new product price and

distribution decisions varied compared to the 'typical' existing products and quite often, these marketing decisions did not align with academic recommendations to shorten the odds of success.

The findings from this thesis extend our understanding about new products practice, but more work can be done in this area, as the findings from this thesis are not exhaustive. Many academics and marketing practitioners show interest in innovation, and although lots of research is done in this area, innovation is seen as 'sexy and mysterious' to many (Anthony 2012). Some say successful new products often *look like* less successful new products, so 'broad generalizations or universal guidelines' cannot be developed for successful new product management (Booz-Allen & Hamilton Inc. 1982, p.17). When moving away from a focus on new product success, research seeking to widely document new products will help academics and practitioners to work towards developing broad guidelines to put together more pieces of the seemingly unsolvable product innovation puzzle.

10.4 Chapter Summary

The key themes covered in this chapter include:

- Main theoretical contributions include: use of more objective and accessible datasets, and comprehensive description about new product practice creating base for future research.
- Main practical contributions include: objective description to help manufacturers to compare and benchmark new products, encouraging manufacturers to have more realistic expectations from new products and review launch decisions from new product programs.

This chapter has presented the key contributions of this thesis to marketing theory and marketing practice. The contributions were developed based on the research problem identified from past research (PART ONE), findings reported (PART TWO) and discussion of key findings (PART THREE; CHAPTER 9). This final chapter has also offered concluding statements about this thesis. There are no further chapters in this thesis. The remaining pages contain the reference list and the appendix.

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Appendix

Additional Literature Review Tables & Figures

Table A.1 Success Measures & Time Perspective

Measures Important Regardless of Time	Measures Uniquely Important for	
	Short-Term	Long-Term
Met quality guidelines	Launched on time	Met revenue goals
Customer acceptance		Met unit sales goals
Customer satisfaction		Met market share goals
Product performance level		Attain profitability goals
		IRR/ROI
		Attain margin goals

Note: Table reproduced from Hultink and Robben (1995).

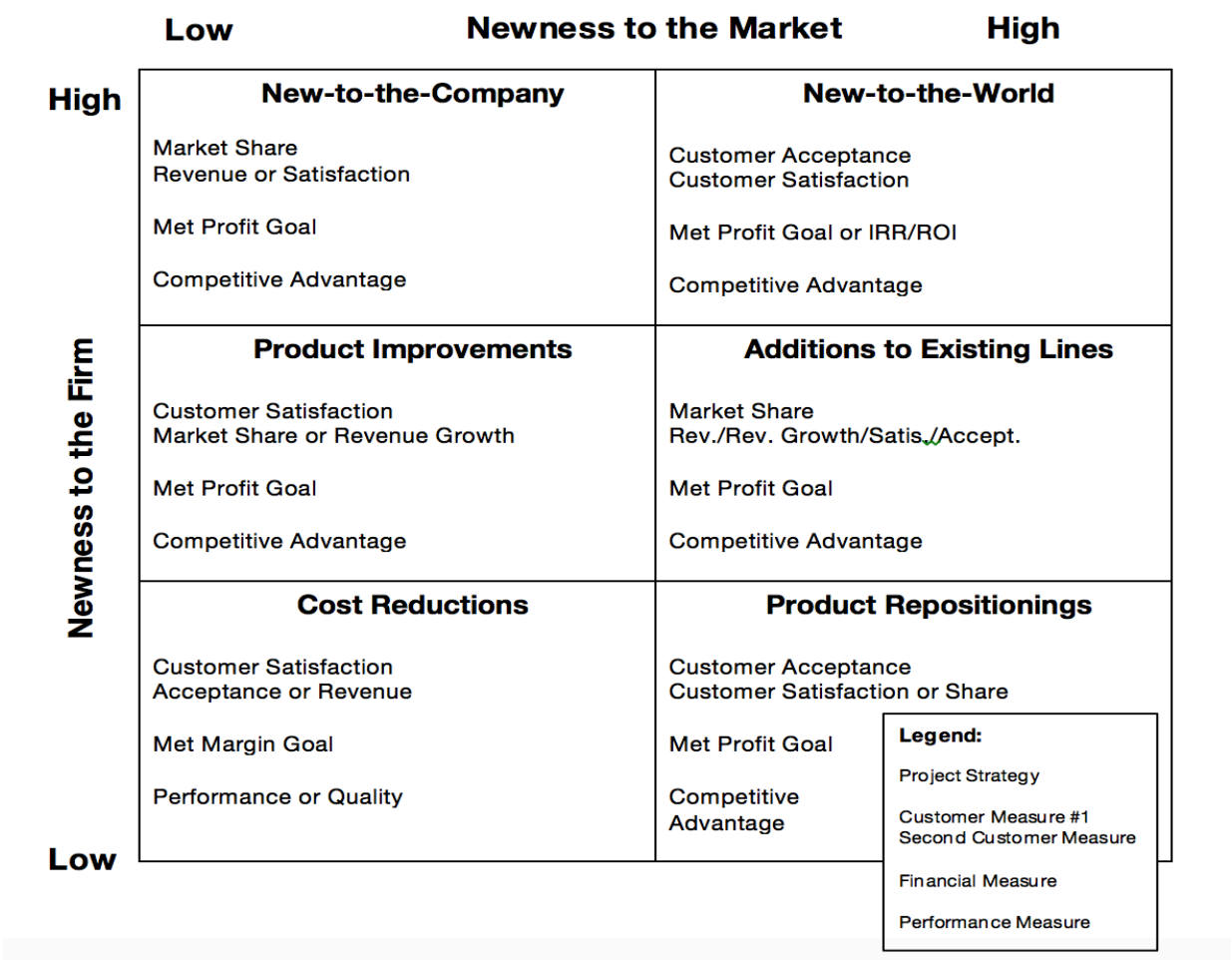


Figure A.1 Most Useful Success Measures by Project Strategy

Note: Take reproduced from Griffin and Page (1996).

Table A.2 New Product Classifications – 1

Framework Categories	Definition
New-to-the-world products	New products that create an entirely new market.
New product lines	New products that, for the first time, allow a company to enter an established market.
Additions to existing product lines	New products that supplement a company's established product lines.
Improvements in/revisions to existing products	New products that provide improved performance or greater perceived value, and replace existing products.
Repositionings	Existing products that are targeted to new markets or market segments.
Cost reductions	New products that provide similar performance at lower cost.

Note: Table produced from definitions in Booz-Allen & Hamilton Inc. (1982, p.8).

Table A.3 New Product Classifications – 2

Framework Categories	Definition
Innovations	New-to-the-world products. It may replace an old version or sit beside it, but the product itself is unlike anything that has existed before.
New brands	The product may be common, but the brand name is new.
Brand extensions	Existing brand name onto products in a different category than the first.
Line extensions	These are different varieties of the product. They are new sizes, flavors, formulations, and packages that supplement the product line and sit side by side with the existing versions.
Modifications	These are the venerable 'new and improved' versions of brands. They may be relatively minor changes, and they replace the existing version, which vanishes.

Note: Table produced from definitions in Goldsmith and Foxall (2003, p.322).

Additional Results Tables & Figures

Table A.4 New Product Prevalence by Type – US

	New Brands Percentage of New Product						New Sub-Brands Percentage of New Product						Line Extension Percentage of New Product						Undefined Percentage of New Product					
	2012		2013		2014		2012		2013		2014		2012		2013		2014		2012		2013		2014	
United States	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**
Chocolate	14	1	0	0.0	12	1	31	2.1	59	5.1	59	5	360	25	318	28	304	26	1043	72	778	67	807	68
Gum	2	1	6	3.5	0	0	17	8.2	5	2.9	15	10	54	26	52	30	68	47	134	65	108	63	62	43
Mints	0	0.0	2	3.1	1	2	4	5	3	4.7	4	8.2	23	29	17	27	21	43	53	66	42	66	23	47
Other Confections	0	0.0	1	5.3	0	0.0	0	0.0	1	5.3	0	0.0	10	53	10	53	1	100	9	47	7	37	0	0.0
Dry Rice	0	0.0	0	0.0	0	0.0	2	4.5	0	0.0	0	0.0	19	43	24	57	28	44	23	52	18	43	35	56
Ready Rice	1	5.3	0	0.0	4	57	3	16	2	15	0	0.0	8	42	7	54	0	0.0	7	37	4	31	3	43
Dry Cat Food	6	5.4	13	8.4	6	4.5	8	7.1	18	12	9	6.7	60	54	74	48	71	53	38	34	50	32	48	36
Regular Cat Treats	0	0.0	10	20	0	0.0	6	13	4	7.8	21	30	27	57	23	45	35	49	14	30	14	28	15	21
Dry Dog Food	8	2	0	0.0	5	1.8	34	8.6	39	13	38	14	256	65	191	63	170	61	97	25	73	24	67	24
Rawhide Dog Treats	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	40	74	20	61	13	77	14	26	13	39	4	24
Regular Dog Treats	2	1	7	3.8	0	0.0	33	17	31	17	40	17	107	55	95	52	151	62	51	26	51	28	52	21
Mean	**3.0**	**1.4**	**4.0**	**4.0**	**3.0**	**6.0**	**13**	**7.4**	**15**	**7.5**	**17**	**8.2**	**88**	**48**	**76**	**47**	**78**	**51**	**135**	**44**	**105**	**42**	**101**	**35**
Standard Deviation	**5.0**	**2.0**	**5.0**	**5.9**	**4.0**	**17**	**14**	**5.9**	**20**	**5.9**	**20**	**9.2**	**115**	**16**	**97**	**13**	**94**	**26**	**304**	**18**	**225**	**16**	**235**	**19**

On average, new brands and sub-brands are less common across the 11 product categories in the United States, compared to line extensions and undefined new products.

Table A.5 New Product Prevalence by Type - FR

	New Brands Percentage of New Product Sales												New Sub-Brands Percentage of New Product Sales												Line Extension Percentage of New Product Sales											
	2008		2009		2010		2011		2012		2013		2008		2009		2010		2011		2012		2013		2008		2009		2010		2011		2012		2013		
France	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**	**n**	**% New**
Chewing Gum	4	3.3	7	7.0	0	0.0	0	0.0	0	0.0	0	0.0	22	18	17	17	14	29	15	22	9	13	2	4.9	97	79	76	76	35	71	53	78	62	87	39	95
Family Pack Ice Cream	0	0.0	0	0.0	2	6.5	1	3.7	1	3.7	0	0.0	12	24	3	16	2	6.5	8	30	9	33	14	38	38	76	16	84	27	87	18	67	17	63	23	62
Multipack Ice Cream	3	5.1	4	10	1	2.4	9	18	4	7.7	2	5.7	11	19	11	28	15	37	19	37	11	21	12	34	45	76	25	63	25	61	23	45	37	71	21	60
Other Ice Cream	0	0.0	1	8.3	4	31	0	0.0	4	33	0	0.0	7	50	2	17	2	15	0	0.0	4	33	0	0.0	7	50	9	75	7	54	7	100	4	33	10	100
Single Ice Cream	15	58	2	11	0	0.0	2	13	3	23	0	0.0	4	15	9	50	14	74	6	38	7	54	1	17	7	27	7	39	5	26	8	50	3	23	5	83
Enjoyment Confections	6	18	5	25	3	12	11	46	2	13	2	8.3	0	0.0	0	0.0	3	12	0	0.0	0	0.0	1	4.2	28	82	15	75	20	77	13	54	13	87	21	88
Mints	0	0.0	1	5.9	2	12	3	18	0	0.0	0	0.0	3	27	0	0.0	4	24	1	5.9	3	27	1	3.8	8	73	16	94	11	65	13	77	8	73	25	96
Lollypops	3	17	1	9.1	2	13	2	22	1	7.1	2	20	5	28	4	36	6	40	3	33	3	21	1	10	10	56	6	55	7	47	4	44	10	71	7	70
Chewy Confections	0	0.0	0	0.0	2	11	1	4.0	0	0.0	0	0.0	8	67	6	38	3	16	7	28	0	0.0	5	28	4	33	10	63	14	74	17	68	15	100	13	72
Gummy Jelly Confections	4	8.3	3	7.1	1	3.3	1	2.3	5	12	5	7.9	16	33	14	33	5	17	12	28	4	9.5	14	22	28	58	25	60	24	80	30	70	33	79	44	70
Other Soft Confections	2	10	3	13	2	10	3	20	6	33	2	11	2	9.5	1	4.3	2	10	2	13	0	0.0	2	11	17	81	19	83	16	80	10	67	12	67	14	78
Mean	**3**	**11**	**2**	**8.8**	**2**	**9.1**	**3**	**13**	**2**	**12**	**1**	**4.8**	**8**	**26**	**6**	**22**	**6**	**25**	**7**	**21**	**5**	**19**	**5**	**16**	**26**	**63**	**20**	**70**	**17**	**66**	**18**	**65**	**19**	**69**	**20**	**80**
Standard Deviation	**4**	**17**	**2**	**6.8**	**1**	**8.7**	**4**	**14**	**2**	**13**	**2**	**6.6**	**7**	**19**	**6**	**17**	**5**	**19**	**6**	**14**	**4**	**17**	**6**	**13**	**27**	**20**	**20**	**16**	**10**	**18**	**14**	**17**	**18**	**23**	**12**	**14**

Like above, on average across the 11 product categories in France, new brands and sub-brands are less common compared to line extensions.

Table A.6 New Product Sales by Type – US

	New Brands Percentage of New Product Sales						New Sub-Brands Percentage of New Product Sales						Line Extension Percentage of New Product Sales						Undefined Percentage of New Product Sales					
	2012		2013		2014		2012		2013		2014		2012		2013		2014		2012		2013		2014	
United States	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**
Chocolate	0.5	0.4	0.0	0.0	0.1	0.1	5.7	4.9	23	17	29	22	21	18	19	17	19	22	73	77	58	66	52	56
Gum	0.4	0.0	2.3	0.4	0.0	0.0	17	18	0.1	0.0	16	1.5	9.7	10	31	28	25	30	73	72	67	71	59	69
Mints	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	3.2	50	29	1.5	2.6	23	24	31	56	99	97	75	73	18	15
Other Confections	0.0	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17	15	62	63	100	100	83	85	37	37	0.0	0.0
Dry Rice	0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.0	0.0	0.0	0.0	0.0	18	13	55	25	7.7	7.3	80	85	45	75	92	93
Ready Rice	0.0	0.0	0.0	0.0	0.5	0.6	41	23	7.9	4.7	0.0	0.0	20	26	57	58	0.0	0.0	39	51	35	38	100	99
Dry Cat Food	2.9	3.1	0.0	0.0	5.1	2.3	5.3	7.9	3.2	2.9	3.2	3.0	61	56	41	46	35	34	31	33	56	51	57	61
Regular Cat Treats	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	9.0	7.9	18	15	28	27	70	73	69	74	72	73	21	20	14	11
Dry Dog Food	1.8	1.9	0.0	0.0	0.1	0.0	3.8	3.0	10	8.6	8.3	6.4	53	54	48	55	56	59	42	41	42	37	36	35
Rawhide Dog Treats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80	86	94	92	100	100	20	14	6.1	8.3	0.0	0.0
Regular Dog Treats	0.0	0.0	0.7	0.4	0.0	0.0	32	20	27	12	17	14	25	23	51	69	47	52	42	56	21	19	36	33
Mean	**0.5**	**0.5**	**0.3**	**0.1**	**0.5**	**0.3**	**9.8**	**7.2**	**7.5**	**5.1**	**13**	**8.3**	**30**	**30**	**50**	**50**	**45**	**49**	**59**	**62**	**42**	**45**	**42**	**43**
Standard Deviation	**1.0**	**1.0**	**0.7**	**0.2**	**1.5**	**0.7**	**14**	**8.9**	**9.6**	**5.7**	**16**	**10**	**24**	**25**	**22**	**24**	**34**	**34**	**25**	**25**	**21**	**24**	**34**	**35**

Across the 11 product categories in the United States, new brands and sub-brands contribute less to category sales revenue and volume, on average, compared to line extensions and undefined new products.

Table A.7 New Product Sales by Type – FR

	New Brands Percentage of New Product Sales												New Sub-Brands Percentage of New Product Sales												Line Extension Percentage of New Product Sales											
	2008		2009		2010		2011		2012		2013		2008		2009		2010		2011		2012		2013		2008		2009		2010		2011		2012		2013	
France	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**	**% Rev**	**% Vol**
Chewing Gum	0.0	0.0	8.6	6.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36	35	30	29	35	28	38	38	27	24	15	11	65	65	61	65	65	72	62	62	73	76	85	89
Family Pack Ice Cream	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	9.1	0.0	0.0	39	31	29	16	4.4	4.6	30	38	20	15	39	38	62	69	71	84	96	95	70	62	70	76	61	63
Multipack Ice Cream	7.1	2.4	4.7	5.0	0.1	0.1	4.0	4.4	0.2	0.3	1.6	1.4	19	22	40	36	38	31	58	52	14	11	51	38	74	75	56	59	62	69	38	44	86	88	48	61
Other Ice Cream	0.0	0.0	33	34	36	33	0.0	0.0	6.3	4.4	0.0	0.0	24	32	18	22	27	34	0.0	0.0	30	28	0.0	0.0	76	68	49	44	37	33	100	100	64	67	100	100
Single Ice Cream	97	95	35	57	0.0	0.0	8.3	3.9	40	52	0.0	0.0	0.1	0.1	8.5	9.3	98	98	19	13	42	26	0.2	0.1	2.7	5.2	56	34	2.1	2.3	73	83	19	22	100	100
Enjoyment Confections	25	11	12	6.2	3.8	2.4	0.9	0.3	6.7	4.6	2.5	1.5	0.0	0.0	0.0	0.0	33	47	0.0	0.0	0.0	0.0	0.0	0.0	75	89	88	94	63	51	99	100	93	95	98	99
Mints	0.0	0.0	0.0	0.0	14	18	0.1	0.0	0.0	0.0	0.0	0.0	1.2	0.5	0.0	0.0	35	14	0.0	0.0	8.5	3.9	0.1	0.1	99	100	100	100	52	68	100	100	92	96	100	100
Lollypops	0.2	0.2	1.4	0.8	12	15	1.7	1.6	0.4	0.6	0.3	0.2	54	45	88	88	29	22	0.0	0.0	1.0	1.5	66	65	46	55	10	11	59	63	98	98	99	98	34	35
Chewy Confections	0.0	0.0	0.0	0.0	23	25	0.0	0.0	0.0	0.0	0.0	0.0	98	98	41	44	10	9.2	56	56	0.0	0.0	23	17	1.9	1.7	59	56	67	66	44	44	100	100	77	83
Gummy Jelly Confections	0.1	0.0	0.4	0.1	1.0	0.4	0.0	0.0	50	42	0.1	0.0	49	48	48	44	32	26	52	47	0.3	0.5	42	44	51	52	52	56	67	73	48	53	50	57	58	56
Other Soft Confections	69	35	1.2	2.4	0.6	0.6	0.7	0.6	1.7	0.9	0.0	0.0	9.3	18	0.0	0.0	0.1	0.1	0.3	0.4	0.0	0.0	14	12	22	46	99	98	99	99	99	99	98	99	86	88
Mean	**18**	**13**	**8.8**	**10**	**8.2**	**8.6**	**1.4**	**1.0**	**10**	**10**	**0.4**	**0.3**	**30**	**30**	**28**	**26**	**31**	**29**	**23**	**22**	**13**	**10**	**23**	**20**	**52**	**57**	**64**	**64**	**61**	**63**	**76**	**77**	**77**	**80**	**77**	**79**
Standard Deviation	**34**	**29**	**13**	**18**	**12**	**12**	**2.6**	**1.7**	**17**	**19**	**0.8**	**0.6**	**30**	**29**	**27**	**27**	**26**	**27**	**25**	**24**	**15**	**12**	**23**	**22**	**32**	**31**	**26**	**28**	**26**	**27**	**25**	**24**	**25**	**24**	**24**	**22**

Like above, new brands and sub-brands contribute less to category sales revenue and volume, on average, compared to line extensions, across the 11 products categories in France.

Table A.8 New Products and Manufacturer Size – US

		New Products and Manufacturer Size																								
		2012									2013									2014						
	United States	% M Size	SD Size	% Agg. Size	Mean New	% Agg. New	M Price New	SD Price New	M Dist. New	SD Dist. New	% M Size	SD Size	% Agg. Size	Mean New	% Agg. New	M Price New	SD Price New	M Dist. New	SD Dist. New	% M Size	SD Size	% Agg. Size	Mean New	% Agg. New	M Price New	SD Price New	M Dist. New	SD Dist. New
LARGE	*Chocolate*	12	18	97	139	77	9.7	4.0	2.5	1.3	12	18	97	115	80	13	6.1	2.2	1.3	10.9	17	98	114	87	18	15	1.5	1.0
	Gum	32	29	96	58	85	24	38	5.1	3.1	32	28	96	51	90	2.1	1.8	3.2	2.8	32	27	95	44	91	3.3	0.9	3.2	3.0
	Mints	23	8.9	93	16	81	20	12	2.1	1.4	23	8.8	93	14	84	25	15	1.6	1.5	23	8.8	94	9.8	80	19	9.2	3.2	2.7
	Other Confections	31	8.8	93	4.0	63	13	4.7	4.9	6.0	31	7.2	92	4.3	68	9.9	3.3	0.1	0.2	32	23	95	0.0	0.0	0.0	0.0	0.0	0.0
	Dry Rice	17	7.7	69	5.8	52	3.5	1.1	5.3	5.9	17	8.2	68	2.8	26	3.0	1.6	1.7	1.8	17	8.7	68	6.3	40	3.8	1.4	1.7	1.7
	Ready Rice	49	44	99	5.5	58	3.8	0.3	3.0	0.4	46	40	92	4.5	69	4.9	2.3	6.2	0.8	45	39	91	1.5	43	3.6	0.0	10	0.0
	Dry Cat Food	20	22	99	17	75	1.5	1.4	6.6	6.2	20	24	99	20	65	1.5	0.7	3.7	4.8	20	24	99	20	75	1.6	0.4	5.5	3.3
	Regular Cat Treats	25	26	100	6.8	57	9.4	2.9	14	12	20	25	100	7.8	77	8.3	2.9	9.1	8.1	25	27	100	15	85	16	13	8.9	7.1
	Dry Dog Food	20	21	99	48	61	1.1	0.3	6.3	5.4	20	21	99	39	64	1.1	0.4	5.9	2.6	20	21	99	38	69	1.4	0.6	3.9	2.6
	Rawhide Dog Treats	40	8.5	80	24	87	13	4.7	2.1	0.2	39	7.2	79	13	76	11	7.5	1.8	0.1	39	9.5	77	5.0	59	9.8	10.7	0.3	0.4
	Regular Dog Treats	19	21	96	23	61	8.2	6.1	6.7	6.6	16	19	96	21	69	14	8.1	5.1	3.7	16	20	97	25	62	18	13	5.1	3.9
	Mean	**26**	**19**	**93**	**32**	**69**	**9.7**	**6.8**	**5.3**	**4.4**	**25**	**19**	**92**	**27**	**70**	**8.5**	**4.5**	**3.7**	**2.5**	**25**	**20**	**92**	**25**	**63**	**8.6**	**5.9**	**3.9**	**2.3**
	Standard Deviation	**11**	**11**	**10**	**40**	**12**	**7.4**	**11**	**3.2**	**3.5**	**11**	**10**	**9.8**	**33**	**17**	**7.1**	**4.4**	**2.6**	**2.4**	**10**	**9.2**	**10**	**33**	**27**	**7.7**	**6.3**	**3.3**	**2.1**
	United States	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**
MEDIUM	*Chocolate*	0.2	0.1	2.2	27	17	13	15	1.4	1.2	0.2	0.1	2.1	19	15	16	16	1.7	1.9	0.2	0.0	1.7	12	9.0	11	6.5	1.6	1.8
	Gum	0.9	1.5	3.5	6.5	13	2.6	3.1	1.3	1.4	1.1	1.8	4.3	4.0	9.4	6.3	5.9	1.8	2.0	1.2	1.9	4.7	3.3	9.0	6.0	8.6	0.4	0.2
	Mints	1.4	2.5	7.1	3.0	19	9.0	8.5	0.3	0.2	1.3	2.4	6.6	1.8	14	35	44	0.7	0.0	1.2	2.3	6.2	1.2	12	9.3	9.2	0.2	0.0
	Other Confections	1.7	1.4	6.7	1.3	26	5.7	2.0	3.8	6.5	1.9	1.8	7.6	0.8	16	6.7	0.0	0.1	0.0	1.2	0.9	4.9	0.3	100	6.8	0.0	0.0	0.0
	Dry Rice	6.1	3.0	25	1.8	16	1.8	0.8	0.0	0.0	6.1	2.9	24	1.5	14	1.8	1.5	1.8	3.1	6.1	2.7	25	4.0	25	2.9	2.0	4.4	7.4
	Ready Rice	0.5	0.2	1.0	2.5	26	6.9	0.4	5.5	7.7	3.9	3.6	7.8	1.0	15	3.2	0.0	0.7	0.0	3.0	3.7	8.9	0.0	0.0	0.0	0.0	0.0	0.0
	Dry Cat Food	0.2	0.3	1.0	3.5	19	2.8	1.6	0.1	0.1	0.2	0.3	1.0	7.5	29	3.0	1.1	0.4	0.8	0.2	0.2	0.8	2.8	10	2.6	1.4	0.1	0.1
	Regular Cat Treats	0.0	0.0	0.1	4.8	40	16	11	0.1	0.2	0.0	0.0	0.1	1.0	9.8	16	5.2	0.1	0.1	0.0	0.0	0.1	0.2	1.4	51	0.0	0.0	0.0
	Dry Dog Food	0.2	0.1	1.0	20	30	5.0	7.4	0.1	0.1	0.2	0.1	1.0	11	22	2.0	0.5	0.1	0.2	0.2	0.1	1.0	8.0	17	2.0	0.9	0.1	0.1
	Rawhide Dog Treats	6.5	8.8	20	2.0	11	32	34	0.0	0.0	7.1	9.5	21	1.3	12	24	0.0	2.3	0.0	7.5	9.5	23	1.3	24	35	0.0	1.7	0.0
	Regular Dog Treats	0.6	0.3	3.7	9.8	31	11	5.9	1.1	2.5	0.6	0.5	3.7	6.2	20	13	7.1	3.2	3.7	0.5	0.4	3.1	7.5	19	15	7.2	1.1	1.0
	Mean	**1.7**	**1.7**	**6.4**	**7.5**	**23**	**9.5**	**8.2**	**1.2**	**1.8**	**2.1**	**2.1**	**7.3**	**5.0**	**16**	**12**	**7.4**	**1.2**	**1.1**	**1.9**	**2.0**	**7.1**	**3.7**	**21**	**13**	**3.2**	**0.9**	**1.0**
	Standard Deviation	**2.4**	**2.6**	**8.1**	**8.5**	**8.9**	**8.6**	**9.7**	**1.8**	**2.8**	**2.5**	**2.8**	**8.2**	**5.6**	**5.7**	**11**	**13**	**1.1**	**1.4**	**2.6**	**2.8**	**8.5**	**3.9**	**28**	**16**	**3.8**	**1.3**	**2.2**
	United States	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**
SMALL	*Chocolate*	0.1	0.0	0.7	11	6.1	20	30	1.1	1.0	0.1	0.0	0.6	7.2	5.6	22	31	0.4	0.4	0.0	0.0	0.4	5.8	4.4	37	49	0.5	0.5
	Gum	0.0	0.0	0.1	2.0	2.9	25	26	4.4	5.8	0.0	0.0	0.0	0.5	1.2	12	16	0.5	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Mints	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.6	30	0.0	0.0	0.0	0.0	0.0	0.0	0.8	8.2	15	10	0.0	0.1
	Other Confections	0.1	0.1	0.2	0.5	11	10	7.7	0.0	0.0	0.1	0.1	0.2	0.8	16	12	6.3	0.0	0.0	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0
	Dry Rice	1.7	1.3	6.9	3.5	32	3.2	1.1	0.8	0.9	1.9	1.4	7.4	6.3	60	4.6	2.9	0.6	1.0	1.9	1.5	7.7	5.5	35	3.7	2.8	0.3	0.3
	Ready Rice	0.2	0.0	0.4	1.5	16	3.3	0.0	5.8	0.0	0.3	0.0	0.6	1.0	15	4.7	0.0	0.3	0.0	0.2	0.2	0.3	2.0	57	2.9	0.0	0.1	0.0
	Dry Cat Food	0.0	0.0	0.0	1.4	6.3	3.8	1.5	0.0	0.0	0.0	0.0	0.0	2.0	6.5	3.4	1.4	0.0	0.0	0.0	0.0	0.0	4.0	15	4.5	0.9	0.0	0.0
	Regular Cat Treats	0.0	0.0	0.0	0.3	2.1	22	0.0	0.0	0.0	0.0	0.0	0.0	1.4	14	23	5.2	0.0	0.0	0.0	0.0	0.0	2.0	14	21	7.2	0.0	0.0
	Dry Dog Food	0.0	0.0	0.0	5.8	8.9	3.1	0.5	0.0	0.0	0.0	0.0	0.0	7.2	14	2.7	0.6	0.0	0.0	0.0	0.0	0.0	6.7	14	3.0	0.5	0.1	0.3
	Rawhide Dog Treats	0.0	0.0	0.1	0.3	1.9	2.4	0.0	0.0	0.0	0.0	0.0	0.0	1.3	12	3.4	0.0	0.0	0.0	0.0	0.0	0.0	1.5	18	9.6	0.0	0.0	0.0

	Regular Dog Treats	0.0	0.0	0.0	2.8	8.8	19	4.1	0.0	0.0	0.0	0.0	0.0	3.3	11	13	5.1	0.2	0.3	0.0	0.0	0.1	8.0	20	19	4.9	0.0	0.0
	Mean	**0.2**	**0.1**	**0.8**	**2.7**	**8.6**	**10**	**6.4**	**1.1**	**0.7**	**0.2**	**0.1**	**0.8**	**2.8**	**14**	**12**	**6.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.8**	**3.3**	**17**	**11**	**6.9**	**0.1**	**0.1**
	Standard Deviation	**0.5**	**0.4**	**2.1**	**3.3**	**8.9**	**9.3**	**11**	**2.0**	**1.7**	**0.6**	**0.4**	**2.2**	**2.7**	**16**	**9.4**	**9.4**	**0.2**	**0.3**	**0.6**	**0.4**	**2.3**	**2.8**	**17**	**12**	**15**	**0.2**	**0.2**
Ratio		**133**	**142**	**120**	**12**	**8.0**	**1.0**	**1.1**	**4.8**	**6.3**	**120**	**129**	**113**	**9.4**	**4.9**	**0.7**	**0.7**	**21**	**12**	**124**	**122**	**113**	**7.7**	**3.7**	**0.8**	**0.8**	**41**	**22**

Across the 11 product categories in the United States, larger manufacturers tend to launch more new products, and these new products tend to have wider distribution.

Table A.9 New Products & Manufacturer Size – FR 1

		New Products and Manufacturer Size																												
		2008									2009										2010									
	France	% M Size	SD Size	% Agg. Size	Mean New	% Agg. New	M Price New	SD Price New	M Dist. New	SD Dist. New	% M Size	SD Size	% Agg. Size	Mean New	% Agg. New	M Price New	SD Price New	M Dist. New	SD Dist. New	% M Size	SD Size	% Agg. Size	Mean New	% Agg. New	M Price New	SD Price New	M Dist. New	SD Dist. New			
LARGE	*Chewing Gum*	48	0.0	48	49	40	41	0.0	25	0.0	50	0.0	50	37	37	27	0.0	15	0.0	52	0.0	52	23	47	13	0.0	18	0.0			
	Family Pack Ice Cream	53	0.0	53	14	28	8.7	0.0	22	0.0	54	0.0	54	10	53	8.0	0.0	13	0.0	51	0.0	51	9.0	29	7.4	0.0	14	0.0			
	Multipack Ice Cream	37	0.0	37	21	36	6.2	0.0	9.6	0.0	37	0.0	37	18	45	9.9	0.0	14	0.0	38	0.0	38	17	41	9.2	0.0	28	0.0			
	Other Ice Cream	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Single Ice Cream	62	0.0	62	2.0	7.7	13	0.0	1.0	0.0	62	0.0	62	1.0	5.6	37	0.0	4.5	0.0	71	0.0	71	1.0	5.3	17	0.0	0.0	0.0			
	Enjoyment Confections	14	11.1	98	3.7	76	17	9.8	13	15	14	12	98	1.0	35	26	20	9.8	3.9	14	13	98	3.0	81	23	19	6.4	8.0			
	Mints	20	16	100	2.2	100	35	25	6.5	8.0	20	16	100	3.4	100	19	24	5.7	0.6	23	19	93	3.5	82	23	23	6.2	6.6			
	Lollypops	49	69	99	5.5	61	31	25	10	0.0	50	69	100	5.0	91	25	0.9	4.6	5.0	33	57	100	4.3	87	27	23	3.3	0.4			
	Chewy Confections	95	0.0	95	10	83	8.1	0.0	32	0.0	97	0.0	97	14	88	8.3	0.0	15	0.0	97	0.0	97	17	89	7.4	0.0	6.6	0.0			
	Gummy Jelly Confections	32	22	97	12	75	8.3	1.7	11	4.2	32	19	96	11	76	6.9	1.6	9.3	3.8	32	18	97	6.3	63	6.7	1.4	5.3	6.1			
	Other Soft Confections	19	11	97	2.2	52	12	6.3	7.7	9.3	23	13	90	3.0	52	21	13	10	4.6	20	18	98	2.8	70	8.3	4.5	2.9	3.3			
	Mean	**43**	**13**	**78**	**12**	**56**	**18**	**6.7**	**14**	**3.7**	**44**	**13**	**78**	**10**	**58**	**19**	**5.9**	**10**	**1.8**	**43**	**13**	**79**	**8.7**	**60**	**14**	**7.1**	**9.1**	**2.4**			
	Standard Deviation	**24**	**21**	**25**	**14**	**28**	**13**	**10**	**10**	**5.4**	**25**	**21**	**24**	**11**	**30**	**10**	**9.3**	**4.0**	**2.2**	**26**	**18**	**24**	**7.6**	**28**	**7.6**	**10**	**8.5**	**3.3**			
	France	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**			
MEDIUM	*Chewing Gum*	26	13	52	36	58	12	3.7	16	3.4	25	14	50	30	60	20	13	19	4.8	24	14	48	13	53	10	0.5	13	1.2			
	Family Pack Ice Cream	24	12	47	18	72	8.3	3.6	11	0.8	23	8.7	45	4.5	47	7.6	3.8	20	3.5	24	4.6	49	11	68	8.8	3.2	11	6.8			
	Multipack Ice Cream	27	9.7	55	16	53	9.2	1.0	20	3.7	28	14	55	8.0	40	11	5.6	25	18	27	12	54	9.5	46	9.6	0.8	19	3.0			
	Other Ice Cream	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Single Ice Cream	19	21	38	12.0	92	24	2.0	2.6	0.0	19	6.2	38	8.0	89	25	13	2.1	1.3	14	11	29	7.5	79	20	6.1	1.0	0.0			
	Enjoyment Confections	0.3	0.3	2.3	0.7	15	19	5.7	1.3	0.6	0.2	0.2	2.0	1.3	50	18	3.2	3.7	2.9	0.2	0.3	1.8	0.5	15	20	2.2	2.8	3.1			
	Mints	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.5	3.2	7.3	0.6	18	22	14	2.0	1.4			
	Lollypops	0.3	0.4	1.0	1.3	22	40	20	0.0	0.0	0.1	0.2	0.4	0.3	9.1	1290	0.0	0.0	0.0	0.0	0.0	0.2	0.5	13	20	0.4	1.0	0.0			
	Chewy Confections	2.3	0.9	4.6	1.0	17	11	0.0	2.3	0.0	1.4	1.4	2.9	1.0	13	10.0	0.0	16	0.0	1.4	1.7	2.8	0.5	5.3	9.3	0.0	0.0	0.0			
	Gummy Jelly Confections	0.8	0.9	3.3	2.8	23	16	5.6	3.0	3.2	1.0	1.5	3.9	1.8	17	15.1	2.1	1.4	0.6	0.9	1.4	3.4	2.3	30	21	9.2	1.3	0.1			
	Other Soft Confections	0.5	0.5	3.3	1.5	43	41	25	1.9	1.2	1.9	2.8	9.5	2.0	43	37	40	5.0	5.6	0.3	0.5	1.6	1.0	25	15	10	1.0	0.0			
	Mean	**10**	**5.9**	**21**	**8.8**	**39**	**18**	**6.7**	**5.8**	**1.3**	**10**	**4.9**	**21**	**5.7**	**37**	**143**	**8.0**	**9.2**	**3.6**	**9.4**	**4.9**	**20**	**4.6**	**35**	**16**	**4.7**	**5.2**	**1.6**			
	Standard Deviation	**12**	**7.5**	**24**	**12**	**29**	**14**	**8.8**	**7.1**	**1.5**	**12**	**5.6**	**23**	**9.0**	**27**	**403**	**12**	**10**	**5.4**	**12**	**5.5**	**23**	**5.0**	**25**	**5.6**	**5.0**	**6.6**	**2.2**			
	France	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**			
SMALL	*Chewing Gum*	0.0	0.0	0.0	3.0	2.4	11	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	Family Pack Ice Cream	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	1.0	3.2	4.9	0.0	0.0	0.0			
	Multipack Ice Cream	7.9	0.0	7.9	7.0	12	14	0.0	14	0.0	3.8	4.8	7.5	3.0	15	13	4.6	11	2.1	4.2	5.5	8.4	2.5	12	13	6.4	5.9	0.8			
	Other Ice Cream	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Single Ice Cream	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	5.6	29	0.0	0.0	0.0	0.1	0.0	0.1	3.0	16	54	0.0	0.0	0.0			
	Enjoyment Confections	0.0	0.0	0.0	0.4	8.8	14	5.1	0.0	0.0	0.0	0.0	0.1	0.4	15	26	13	2.5	2.2	0.0	0.0	0.0	0.1	3.8	41	0.0	0.0	0.0			
	Mints	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	Lollypops	0.0	0.0	0.1	1.0	17	17	7.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
	Chewy Confections	0.3	0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	5.3	11	0.0	0.0	0.0			
	Gummy Jelly Confections	0.0	0.0	0.1	0.3	2.1	12	0.0	0.0	0.0	0.0	0.0	0.0	1.0	7.1	9.0	6.2	0.0	0.0	0.0	0.0	0.0	0.5	6.7	14	5.0	1.0	0.0			

Other Soft Confections	0.0	0.0	0.1	0.2	4.8	14	0.0	1.0	0.0	0.0	0.1	0.2	0.2	4.3	13	0.0	0.0	0.0	0.0	0.0	0.1	0.2	5.0	5.3	0.0	0.0	0.0
Mean	**0.9**	**0.0**	**0.9**	**1.2**	**4.7**	**8.1**	**1.2**	**1.7**	**0.0**	**0.4**	**0.5**	**0.8**	**0.9**	**5.0**	**9.5**	**2.3**	**1.4**	**0.4**	**0.4**	**0.5**	**0.9**	**0.8**	**5.2**	**14**	**1.1**	**0.7**	**0.1**
Standard Deviation	**2.5**	**0.1**	**2.5**	**2.2**	**5.9**	**7.1**	**2.6**	**4.4**	**0.0**	**1.2**	**1.5**	**2.4**	**1.2**	**5.9**	**11**	**4.2**	**3.5**	**0.9**	**1.3**	**1.7**	**2.7**	**1.1**	**5.3**	**19**	**2.4**	**1.9**	**0.3**
Ratio	**50**	**310**	**87**	**10**	**12**	**2.2**	**5.6**	**7.9**	**-**	**105**	**25**	**93**	**12**	**12**	**2.0**	**2.5**	**7.4**	**4.2**	**96**	**23**	**90**	**10**	**11**	**1.0**	**6.3**	**13**	**29**

Like what is seen in the United States, larger manufacturers in France (2008-2010) tend to launch more new products, and these new products tend to have wider distribution. This analysis is presented over two tables, with the second presented below.

Table A.10 New Products & Manufacturer Size – FR 2

		New Products and Manufacturer Size																												
		2011									2012										2013									
	France	% M Size	SD Size	% Agg. Size	Mean New	% Agg. New	M Price New	SD Price New	M Dist. New	SD Dist. New	% M Size	SD Size	% Agg. Size	Mean New	% Agg. New	M Price New	SD Price New	M Dist. New	SD Dist. New	% M Size	SD Size	% Agg. Size	Mean New	% Agg. New	M Price New	SD Price New	M Dist. New	SD Dist. New
LARGE	*Chewing Gum*	52	0.0	52	36	53	90	0.0	9.7	0.0	50	0.0	50	41	58	43	0.0	18	0.0	47	0.0	47	24	59	9.8	0.0	18	0.0
	Family Pack Ice Cream	52	0.0	52	14	52	4.7	0.0	33	0.0	53	0.0	53	13	48	10	0.0	20	0.0	54	0.0	54	10	27	8.6	0.0	28	0.0
	Multipack Ice Cream	38	0.0	38	21	41	10	0.0	15	0.0	38	0.0	38	20	39	8.3	0.0	34	0.0	38	0.0	38	21	60	12	0.0	23	0.0
	Other Ice Cream	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	77	0.0	77	6.0	50	6.7	0.0	9.2	0.0	78	0.0	78	9.0	90	8.6	0.0	36	0.0
	Single Ice Cream	84	0.0	84	4.0	25	21	0.0	0.0	0.0	84	0.0	84	0.0	0.0	0.0	0.0	0.0	0.0	98	0.0	98	5.0	83	21	0.0	16	0.0
	Enjoyment Confections	14	14	98	1.7	50	28	38	7.6	9.0	14	14	99	1.1	53	16	12	3.1	2.2	14	12	99	2.4	71	19	8.4	10	10
	Mints	24	22	95	2.8	65	28	25	16	6.9	24	23	95	2.3	82	29	31	1.3	0.4	24	23	95	5.8	89	38	5.6	22	11
	Lollypops	33	54	100	2.0	67	58	0.0	26	0.0	50	62	99	6.0	86	15	0.0	8.1	0.0	33	53	100	2.7	80	27	0.0	7.0	0.0
	Chewy Confections	97	0.0	97	21	84	8.1	0.0	10	0.0	98	0.0	98	14	93	8.2	0.0	11	0.0	99	0.0	99	18	100	8.5	0.0	27	0.0
	Gummy Jelly Confections	32	21	97	12	84	6.5	0.8	7.4	3.0	31	26	93	8.0	57	7.0	1.9	8.7	1.2	25	27	100	13	81	9.5	3.0	14	3.2
	Other Soft Confections	20	22	99	2.2	73	77	103	11	11.5	20	25	99	2.4	67	18	6.9	9.2	12	20	29	100	3.0	83	13	8.0	6.6	6.2
	Mean	**41**	**12**	**74**	**11**	**54**	**30**	**15**	**12**	**2.8**	**49**	**14**	**81**	**10**	**58**	**15**	**4.6**	**11**	**1.4**	**48**	**13**	**82**	**10**	**75**	**16**	**2.3**	**19**	**2.8**
	Standard Deviation	**29**	**17**	**34**	**12**	**25**	**31**	**32**	**10**	**4.3**	**28**	**20**	**23**	**12**	**26**	**12**	**9.4**	**9.8**	**3.4**	**31**	**18**	**24**	**7.7**	**20**	**9.6**	**3.4**	**9.4**	**4.3**
	France	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**
MEDIUM	*Chewing Gum*	24	13	49	16	47	26	23	18	2.2	25	14	51	15	41	22	20	17	3.8	37	0.0	37	10	24	9.1	0.0	13	0.0
	Family Pack Ice Cream	24	2.7	48	6.5	48	8.3	1.9	25	11	24	3.3	47	7.0	52	8.3	2.8	18	1.5	23	4.7	46	14	73	10	0.2	22	2.5
	Multipack Ice Cream	26	12	51	13	49	9.3	3.1	22	5.7	25	11	50	12	46	13	4.1	23	8.9	26	11	52	6.5	37	10	0.7	31	21
	Other Ice Cream	77	0.0	77	4.0	57	8.7	0.0	28	0.0	23	0.0	23	4.0	33	7.3	0.0	15	0.0	22	0.0	22	1.0	10	6.0	0.0	31	0.0
	Single Ice Cream	7.9	8.1	16	6.0	75	40	19	0.0	0.0	7.7	10	15	6.0	92	23	1.6	0.0	0.0	0.9	1.1	1.8	0.5	17	20	0.0	0.0	0.0
	Enjoyment Confections	0.2	0.3	1.7	1.4	46	27	19	1.0	0.0	0.1	0.1	0.9	0.8	40	30	18	1.5	0.8	0.1	0.1	0.9	0.8	25	33	16	2.1	1.9
	Mints	1.0	2.1	4.9	0.8	24	20	6.5	3.3	0.0	1.2	2.4	4.9	0.3	9.1	29	0.0	0.0	0.0	1.3	2.6	5.3	0.8	12	58	0.0	12	0.0
	Lollypops	0.1	0.0	0.3	0.7	22	20	0.0	1.0	0.0	0.3	0.4	0.9	0.3	7.1	26	0.0	0.0	0.0	0.1	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0
	Chewy Confections	1.3	1.6	2.7	1.0	8.0	7.9	0.0	4.5	0.0	1.0	1.2	2.0	0.5	6.7	7.8	0.0	4.2	0.0	0.5	0.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0
	Gummy Jelly Confections	0.9	1.4	3.4	1.8	16	15	7.0	4.5	5.6	1.7	3.2	6.7	4.0	38	21	7.1	4.9	5.6	0.1	0.0	0.2	1.5	9.5	8.5	4.0	1.0	0.0
	Other Soft Confections	0.2	0.3	1.2	0.3	13	7.4	0.0	0.0	0.0	0.1	0.1	0.6	0.7	22	7.4	0.0	1.0	0.0	0.1	0.0	0.3	0.6	17	7.9	0.8	1.0	0.0
	Mean	**15**	**3.8**	**23**	**4.6**	**37**	**17**	**7.2**	**9.7**	**2.2**	**9.9**	**4.2**	**18**	**4.5**	**35**	**18**	**4.8**	**7.7**	**1.9**	**10**	**1.8**	**15**	**3.2**	**20**	**15**	**2.0**	**10**	**2.3**
	Standard Deviation	**23**	**4.8**	**28**	**5.3**	**21**	**11**	**8.8**	**11**	**3.6**	**12**	**5.0**	**21**	**5.0**	**25**	**9.1**	**7.3**	**8.7**	**3.0**	**14**	**3.4**	**20**	**4.7**	**21**	**17**	**4.9**	**13**	**6.4**
	France	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**	**% M Size**	**SD Size**	**% Agg. Size**	**Mean New**	**% Agg. New**	**M Price New**	**SD Price New**	**M Dist. New**	**SD Dist. New**
SMALL	*Chewing Gum*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.4	11	0.0	0.0	0.0	16	0.0	16	7.0	17	111	0.0	14	0.0
	Family Pack Ice Cream	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
	Multipack Ice Cream	5.4	7.2	11	2.5	9.8	15	7.0	23	27	6.1	8.4	12	4.0	15	13	0.0	10	0.0	5.4	7.7	11	0.5	2.9	14	0.0	16	0.0
	Other Ice Cream	24	0.0	24	3.0	43	6.8	0.0	28	0.0	0.2	0.0	0.2	2.0	17	24	0.0	2.4	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
	Single Ice Cream	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3	1.0	7.7	12	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Enjoyment Confections	0.0	0.0	0.0	0.1	4.2	17	0.0	0.0	0.0	0.0	0.0	0.1	0.1	6.7	11	0.0	1.0	0.0	0.0	0.0	0.0	0.1	4.2	15	0.0	0.0	0.0
	Mints	0.0	0.0	0.0	0.4	12	32	25	1.0	0.0	0.0	0.0	0.0	0.3	9.1	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Lollypops	0.0	0.0	0.0	0.3	11	23	0.0	0.0	0.0	0.0	0.0	0.1	0.3	7.1	9.8	0.0	1.0	0.0	0.0	0.0	0.1	0.7	20	23	0.0	1.0	0.0
	Chewy Confections	0.0	0.0	0.0	1.0	8.0	9.6	2.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Gummy Jelly Confections	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	4.8	12	3.6	0.0	0.0	0.0	0.0	0.0	1.5	9.5	30	14	1.0	0.0

Other Soft Confections	0.0	0.0	0.0	0.4	13	6.5	1.9	0.0	0.0	0.0	0.0	0.0	0.4	11	11	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mean	**1.7**	**0.0**	**1.8**	**1.7**	**8.8**	**8.1**	**1.1**	**2.8**	**0.0**	**2.3**	**0.5**	**2.7**	**1.4**	**9.9**	**9.2**	**2.1**	**2.9**	**0.4**	**2.6**	**0.5**	**3.0**	**1.3**	**8.9**	**14**	**1.0**	**3.1**	**0.1**
Standard Deviation	**3.8**	**0.1**	**3.7**	**2.8**	**15**	**6.8**	**2.5**	**5.4**	**0.0**	**6.2**	**1.4**	**6.4**	**2.2**	**17**	**10**	**4.1**	**6.0**	**0.9**	**7.1**	**1.6**	**7.3**	**1.9**	**13**	**18**	**2.3**	**8.2**	**0.3**
Ratio	**15**	**18**	**24**	**15**	**5.9**	**3.0**	**4.6**	**2.7**	**1.1**	**79**	**18**	**68**	**12**	**7.9**	**1.5**	**11**	**6.8**	**-**	**24**	**19**	**33**	**12**	**15**	**0.9**	**1.9**	**6.5**	**-**

Again, larger manufacturers in France (2011-2013) tend to launch more new products, and these new products tend to have wider distribution. This analysis is presented over two tables, with the first presented above.

Table A.11 Average New Product Volume Price & Average New Product Distribution Ratio – FR

	Average New Product Volume Price			Average New Product Distribution		
2008	**Ratio**	**Mean**	**SD**	**Ratio**	**Mean**	**SD**
Chewing Gum	2.2	23	87	0.8	19	18
Family Pack Ice Cream	1.2	7.2	3.3	1.4	12	10
Multipack Ice Cream	1.2	8.4	4.9	0.8	8.5	11
Other Ice Cream	1.1	9.4	5.2	1.0	9	9.9
Single Ice Cream	1.5	22	8.2	1.1	2.5	2.6
Enjoyment Confections	1.0	21	24	1.0	6.6	9.2
Mints	1.3	36	32	0.3	4.5	5.2
Lollypops	1.7	129	550	0.9	4.9	5.8
Chewy Confections	0.9	11	4.8	1.2	24	18
Gummy Jelly Confections	1.4	12	6.8	0.9	8.2	15
Other Soft Confections	1.0	23	24	0.7	4.7	7.5
Mean	**1.3**	**28**	**68**	**0.9**	**9.4**	**10**
Standard Deviation	**0.4**	**35**	**162**	**0.3**	**6.5**	**5**
2009	**Ratio**	**Mean**	**SD**	**Ratio**	**Mean**	**SD**
Chewing Gum	1.8	22	53	0.8	15	14
Family Pack Ice Cream	1.0	6.6	4.0	1.0	9.2	11
Multipack Ice Cream	1.0	7.4	6.3	0.6	6.9	9.2
Other Ice Cream	0.9	8.1	4.6	0.8	7	8.5
Single Ice Cream	1.3	22	26	1.0	2.1	1.4
Enjoyment Confections	0.9	20	21	0.9	6.4	6.0
Mints	0.9	26	25	0.3	5.1	3.0
Lollypops	0.7	66	211	0.9	5.8	5.7
Chewy Confections	0.9	9.6	4.9	0.9	15	8.7
Gummy Jelly Confections	1.1	10	7.2	0.6	5.5	7.3
Other Soft Confections	1.5	38	54	1.7	12	14
Mean	**1.1**	**21**	**38**	**0.9**	**8.2**	**8.1**
Standard Deviation	**0.3**	**18**	**60**	**0.3**	**4.2**	**4.1**
2010	**Ratio**	**Mean**	**SD**	**Ratio**	**Mean**	**SD**
Chewing Gum	2.8	39	116	0.8	13	15
Family Pack Ice Cream	1.2	7.5	5.9	1.0	11	12
Multipack Ice Cream	1.2	8.6	5.3	0.9	9.9	14
Other Ice Cream	1.3	11	6.2	1.2	9.4	9.7
Single Ice Cream	1.4	24	17	0.6	1.3	0.5
Enjoyment Confections	1.1	23	27	0.7	5.3	8.0
Mints	0.9	27	21	0.2	3.5	3.9
Lollypops	0.5	36	29	0.4	3.0	2.0
Chewy Confections	1.1	12	9.5	0.4	6.5	4.8
Gummy Jelly Confections	1.1	11	7.9	0.3	3.2	5.2
Other Soft Confections	0.7	20	20	0.7	6.2	8.4
Mean	**1.2**	**20**	**24**	**0.7**	**6.6**	**7.6**
Standard Deviation	**0.6**	**11**	**32**	**0.3**	**3.8**	**4.8**
2011	**Ratio**	**Mean**	**SD**	**Ratio**	**Mean**	**SD**

Chewing Gum	3.6	57	134	0.7	13	16
Family Pack Ice Cream	1.0	6.4	2.4	1.2	13	13
Multipack Ice Cream	1.2	8.6	6.0	0.8	8.7	11.8
Other Ice Cream	1.1	9.6	4.7	1.1	8.7	10.9
Single Ice Cream	1.3	22	9.0	0.9	1.5	1.0
Enjoyment Confections	1.1	24	28	0.4	3.2	4.1
Mints	1.1	33	37	0.4	8.1	8.4
Lollypops	0.6	33	37	0.8	5.5	9.2
Chewy Confections	0.7	8.2	2.7	0.7	8.9	9.3
Gummy Jelly Confections	0.9	9.3	5.4	0.5	5.7	8.4
Other Soft Confections	1.4	41	86	0.8	6.4	8.0
Mean	**1.3**	**23**	**32**	**0.7**	**7.5**	**9.1**
Standard Deviation	**0.8**	**17**	**42**	**0.3**	**3.6**	**4.0**
2012	**Ratio**	**Mean**	**SD**	**Ratio**	**Mean**	**SD**
Chewing Gum	2.1	39	94	0.8	17	15
Family Pack Ice Cream	1.3	8.4	3.8	1.1	12	13
Multipack Ice Cream	1.3	9.4	5.6	1.2	13	18
Other Ice Cream	1.3	11	5.3	0.7	5.4	6.4
Single Ice Cream	1.1	19	7.4	5.4	9.2	15
Enjoyment Confections	1.1	25	20	0.4	3.0	2.8
Mints	1.2	37	38	0.1	2.1	1.1
Lollypops	0.5	27	22	0.5	3.6	5.3
Chewy Confections	0.8	8.3	2.0	0.7	10	5.6
Gummy Jelly Confections	1.3	14	12	0.5	5.8	12
Other Soft Confections	0.9	26	44	0.7	5.6	11
Mean	**1.2**	**20**	**23**	**1.1**	**7.9**	**9.5**
Standard Deviation	**0.4**	**11**	**27**	**1.5**	**4.8**	**5.5**
2013	**Ratio**	**Mean**	**SD**	**Ratio**	**Mean**	**SD**
Chewing Gum	1.4	30	74	0.7	14	17
Family Pack Ice Cream	1.3	8.4	4.5	1.3	14	16
Multipack Ice Cream	1.3	9.9	6.3	1.0	11	11
Other Ice Cream	1.1	10	4.2	2.9	19	20
Single Ice Cream	1.1	19	8.2	1.4	6.7	9.1
Enjoyment Confections	1.0	25	19	0.5	4.5	8.8
Mints	1.4	45	39	0.9	18	11
Lollypops	0.9	35	22	0.5	3.5	4.1
Chewy Confections	1.0	10	3.5	2.4	27	18
Gummy Jelly Confections	0.9	10	6.9	0.9	10	15
Other Soft Confections	0.6	16	14	0.4	3.2	4.7
Mean	**1.1**	**20**	**18**	**1.2**	**12**	**12**
Standard Deviation	**0.2**	**12**	**21**	**0.8**	**7.5**	**5.3**

On average across product categories in France, the 'typical' new products tends to be slightly more expensive than the 'typical' existing product. The 'typical' new product tends to gain slightly less distribution. Categories with a higher distribution ratio had a lower mean existing distribution.

Supplementary Survival Results Discussion & Figures

In both countries, new products represent the minority of products available, yet what is not understood the length that new products remain in the market after their launch. This analysis only considers new product launches from the earliest time period in each country. In the United States, this includes new products launched in 2012. For France, this includes new products launched in 2008. Survival at 52 weeks is whether the new product had sold during that week (some may have still been available and just not sold), which explains why survival rise and falls over the weeks.

On average, 63% (or, 37%) of new products from the 11 categories in the United States remain in (are removed from) the market 52 weeks after their launch (from a total 7,366 new product launches in 2012). Figure A.2 presents new product survival figures for 2012 new launches, across categories in the United States. From the 11 categories in France, 75% (or, 25%) of new products remain in (are removed from) the market 52 weeks after their launch (from a total 729 new product launches in 2008). Figure A.3 presents new product survival figures for 2008 new launches, across categories in France. This figure did vary across the product categories in the United States, with *Chocolate* reporting the lowest percentage of new products surviving at 41% (or, highest percentage of new products removed from the market at 59%) and *Ready Rice* reporting the highest percentage of new products in the market 52 weeks later at 90% (or, lowest percentage of new products removed from the market at 9.9%). Almost half of the new products launched in *Chocolate* were seasonal, which may offer an explanation why almost 60% of new products were removed at the 52-week period. Also, *Chocolate* had a slight rise in new product survival rate in three last weeks of analysis (after a category low of 34% remaining in the market in Week 49), possibly because some were sold again because the target season they had been originally launched for was approaching (e.g. Christmas is once a year).

The figures also varied in France across categories, with *Lollypops* reporting the lowest percentage of new products surviving at 45% (or, highest percentage of new products removed from the market at 55%) and *Chewing Gum* reporting the highest percentage of new products in the market 52 weeks later at 88% (or, the lowest percentage of new products removed from the market at 12%). Although survival rates do rise and fall over the 52-weeks, dramatic decreases in the percentage of new products sold are seen from Week 1 to Week 2, with this being more pronounced than other decreases, on average, in the United States than in France. These results may suggest that most new products are launched with long term objectives, but these results may also suggest some new products serve their intended purpose within the first week and then are not sold in later periods.

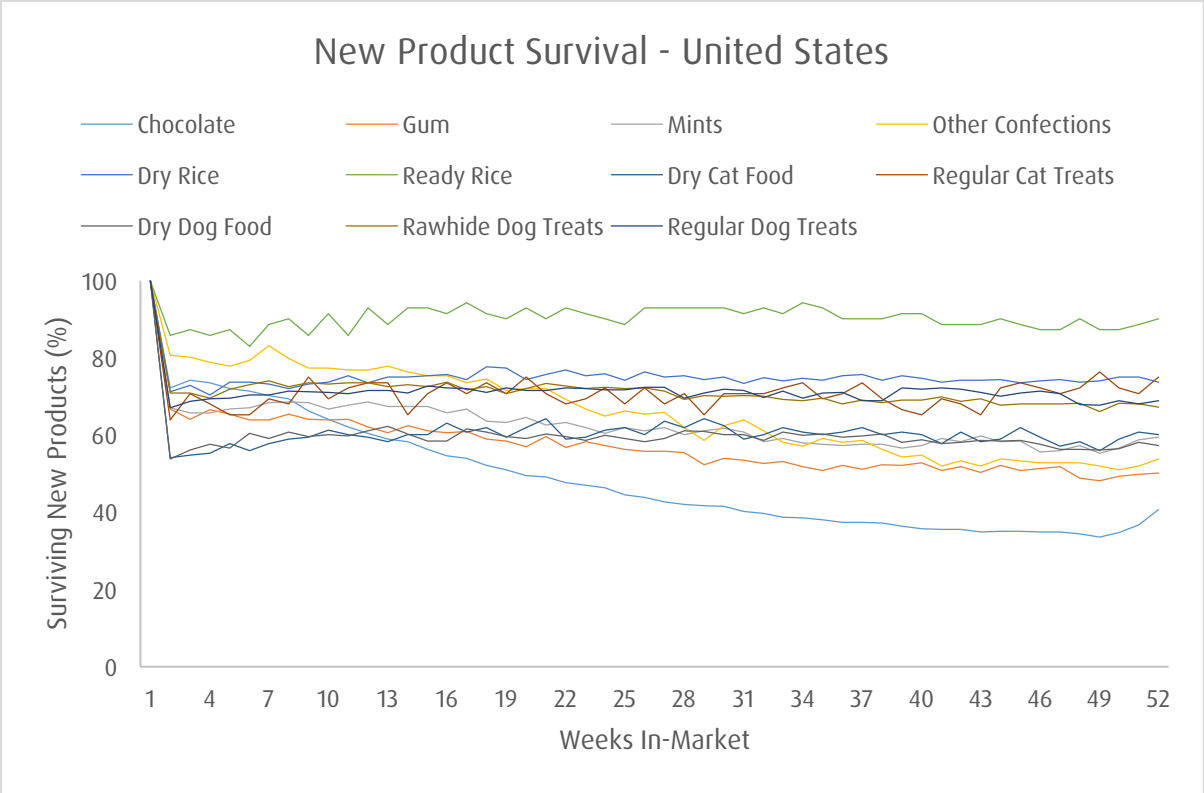


Figure A.2 New Product Survival Over Time – US

The number of new products sold each week varies week-on-week and across the 11 United States product categories.

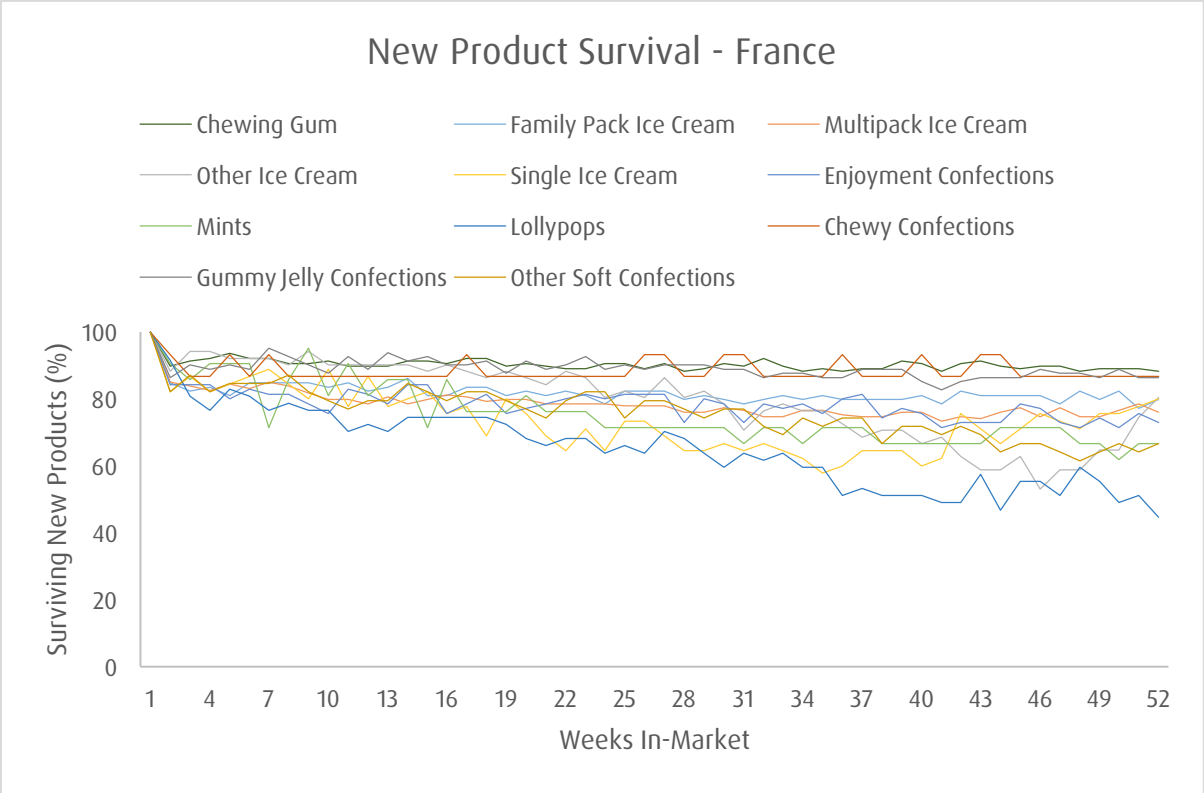


Figure A.3 New Product Survival Over Time – FR

Like product categories in the United States, the number of new products sold each week varies week-on-week and across the 11 product categories in France.

Most new products continue to have sales 52-weeks from launch. On average, around three in five (United States) and three in four (France) new products remain in the market after 52-weeks.