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DEPARTMENT OF FINANCE

A FINANCIAL AND LOGISTICAL ANALYSIS OF DANONE’S ACQUISITION OF
WHITEWAVE FOODS

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ABSTRACT

The food industry is undergoing changes as consumers have begun to place greater value on healthy and sustainable eating and drinking options. This shift from traditional consumer packaged food options to nutritious and organic alternatives is causing movement in the consumer packaged food industry. In order for food giants to penetrate this market, they can either grow organically or merge with or acquire a company already in this market. The conventional approach for analyzing M&A deals is a financial analysis. However, the examination of integration at the logistical level has proven to be a vital component to the success of M&A transactions.

From the viewpoint of Danone’s acquisition of WhiteWave Foods, this thesis provides a financial analysis that can be applied to other companies in the sector. A logistics network analysis framework is developed to determine areas of synergy ranging from raw materials to product and market synergies. Through this combination, this thesis develops and provides a methodology for analyzing horizontal integrations in the food industry.
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Chapter 1

Introduction

As consumers are trending away from packaged and processed foods and more towards healthier and sustainable eating and drinking options, firms in the consumer packaged food industry are taking strides to penetrate this market. However, this has proven to be difficult, as organic foods and drinks are more expensive than conventional foods. In order to achieve organic certification for milk, the cows producing the milk must consume organic feed, which has been in sparse supply over the last several years. In 2015, the United States organic-food market grew by eleven percent reaching $43 billion, while the overall food industry experienced modest growth at 3.3 percent. Food giants have had difficulty achieving growth as consumer trends change. How does a firm enter a new market? Either by growing organically through capital expenditures or by acquiring a company already in this market.

On July 7, 2016, Danone announced its acquisition of WhiteWave Foods for $10.4 billion. Danone’s plan was strongly influenced by altering culture, attitudes, and tastes. Through this acquisition, Danone’s presence in the natural and organic food sector will significantly increase. Not only does this deal increase Danone’s share in this growing market, but also it is also expected to double the size of the France-based company’s United States business. Currently, North American sales represent twelve percent of Danone’s total revenue, which is anticipated to increase to twenty-two percent post-purchase.

This thesis will first focus on the financial benefits of the acquisition, a common and vital component of any merger and acquisition deal. The financials of both Danone and WhiteWave
Foods will be examined to determine the financial incentives of the deal. Key financials and ratios will be analyzed to understand what made WhiteWave Foods an appealing acquisition target.

Although valuation is an indispensible aspect of a merger and acquisition (M&A), there are many other factors that affect the success and prosperity of an acquisition, including organizational cultures, management, and supply chain network integration. This thesis will examine the amalgamation of the two supply chains and examine mergers and acquisitions from a distribution angle, with an emphasis on where the most amount of synergies will be achieved. A key component of this will be their differing market presences, with eighty-five percent of WhiteWave’s business in the U.S. Danone and WhiteWave Foods have common suppliers, common finished products, common outlets, and common indirect materials. These similarities have the potential to allow for numerous synergies, but is there one that is most essential to the successful integration of two supply chains?

This thesis will first examine an overview of mergers and acquisitions including the history, the different types of M&A, and what motivates companies to engage in such a transaction. The subsequent chapter will provide a background on Danone’s acquisition of WhiteWave foods. Following will be two chapters conducting a financial ratio analysis and a logistics network analysis. To conclude, this thesis will project the overall impact on the market as well as methodologies to apply this analysis to future similar M&A deals.
Chapter 2

Mergers and Acquisitions: History, Types, Motives, & Current Trends

This chapter will investigate the general history of mergers and acquisitions and then examine the motives behind merger and acquisition transactions, and the correlation between the type of merger and/or acquisition and the driving force behind the deal. This examination will then be applied to an exploration of the current deal transactions in the food industry.

M&A History

The history of mergers has been divided into six momentous waves, which have been identified by economic history. The first wave, known as The Great Merger Wave, occurred from 1895 to 1905 and was characterized by horizontal mergers, similar companies merging in an effort to enhance their market share and sustain dominance in their sectors. Conversely, the second wave (1916-1929) was marked with vertical mergers, companies in different business sectors merging. From 1965 to 1969, the third wave took place during which more diverse companies merged in an effort to hedge risk and diversify. The fourth wave, from 1981 to 1989, portrayed an unpleasant side to mergers: hostile takeovers. The fifth wave (1992-2000) saw the effects of globalization and was characterized by cross-border transactions. The most recent wave, beginning in 2003, was led by leveraged buyouts and private equity. The 2008 financial crisis brought this wave to an end and resulted in a massive decline in corporate deals across the world. (Rompotis, 2014).
Types of M&A

Merger and acquisition deals can be categorized as either friendly or hostile, and as briefly mentioned previously, horizontal or vertical. These categorizations not only aid in a pre-deal analysis, but also help forecast the post-deal environment and success.

In a friendly transaction, both the acquirer and the target company play an active role in negotiating the terms of the deal (Rompotis, 2014). In addition to taking on a role in the negotiation process, the target company’s board and management are willing and accepting to the idea and recommend shareholder approval (DePamphilis, 2011). To complete the deal and take control, the acquiring company typically offers an additional amount over and above the current stock price. This amount in excess of the target’s pre-merger share price is titled the purchase premium or acquisition premium. The premium indicates the value perceived by the acquirer of gaining a controlling interest in the target company, the value of anticipated synergies ensuing from the combination, and any overpayment for the target firm. A benefit of friendly takeovers is that the post-merger integration process tends to be quicker and more efficient, making this more attractive to acquirers (DePamphilis, 2011).

In contrast, an unfriendly takeover or hostile takeover occurs when the target entity does not consent to the deal and is unwilling to be acquired (Rompotis, 2014). In such an event, the initial action taken by the acquirer was uninvited and the target company was not interested in pursuing a merger (DePamphilis, 2011). In a hostile takeover, the acquirer forcibly takes control of the target company (Rompotis, 2014). To bypass management and the possible difficulties that may arise from their reluctance, the acquirer may offer to purchase shares directly from the target’s shareholders or buy shares in a public stock exchange (DePamphilis, 2011).
Friendly takeovers are often characterized by a lower purchase price when compared to hostile deals. When an acquirer attempts a hostile takeover, it often attracts new bidders, which causes an auction to occur. With potential acquirers competing for the target company, the final purchase price may be bid up to a price much higher than the initial offer price (DePamphilis, 2011).

The differentiating factor of horizontal and vertical mergers and acquisitions is related to the business sectors and type of work the companies involved engage in.

Horizontal integration is the assimilation of competing companies operating in the same industry (Gaughan, 2013). The main products of a company, whether goods or services, remain relatively unaltered in horizontal merger and acquisition (Rompotis, 2014). A driving force behind horizontal integrations is the desire to increase in size and therefore market share, establishing economies of scale and possessing the advantages of larger companies, mainly more resources and the ability to engage in more activities when compared to smaller competitors (Gaughan, 2013). However, concerns exist that horizontal integrations have the ability to decrease healthy competition, which could inhibit price rationalization and the quality of goods and services (Rompotis, 2014).

Vertical integration, although not as prevalent as horizontal integration, deals with the combination of companies that have a buy-sell or upstream-downstream relationship. If uncertainty about accessing and purchasing supplies exists, companies may be able to reduce their risk via vertical integration. Purchasing a supplier increases the dependability of inputs and also provides the acquirer with a competitive advantage in which their competitors will no longer have access to these supplies (Gaughan, 2013).
Motivations

The fundamental question a firm must face when desiring growth is buy versus build. To build refers to internal or organic growth of the existing business. When a firm decides on acquisition of or merger with another firm in order to grow, this is deemed inorganic growth. (Duksaite, 2009) Although the different types of mergers and acquisitions, mainly horizontal compared to vertical, provide insight into the objectives of the deal, it lacks in fully explaining what motivates a company to merge with or acquire another company. This reasoning behind a deal is distinct to each company and the environment they operate in. No definitive list exists to explain the motivations behind M&A, however DePamphilis (2001) has compiled a comprehensive list, displayed in Figure 1 below, on different theories.

<table>
<thead>
<tr>
<th>Theory</th>
<th>Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synergy</td>
<td>Improves operating efficiency through economies of scale or scope&lt;br&gt;Lowers cost of capital by smoothing cash flow</td>
</tr>
<tr>
<td>Diversification</td>
<td>Positions the firm in higher growth markets</td>
</tr>
<tr>
<td>Market power</td>
<td>Increases market share</td>
</tr>
<tr>
<td>Hubris (managerial pride)</td>
<td>Acquirers believe that their valuations of targets are more accurate than that done by markets</td>
</tr>
<tr>
<td>Agency problems and mismanagement</td>
<td>Replace managers who are not acting in the best interests of the owners</td>
</tr>
<tr>
<td>Managerialism</td>
<td>Increases the size of a company to increase the power and pay of managers</td>
</tr>
<tr>
<td>Tax considerations</td>
<td>Obtain unused net operating losses and tax credits, asset a write-ups</td>
</tr>
</tbody>
</table>

*Source* DePamphilis (2001, p. 18)

Figure 1. Theories on Motives of M&A
Synergy occurs when the value of the merged firm is greater than the sum of the values of the two individual firms. In simpler terms, synergy exists when $2 + 2 = 5$. The synergy hypothesis postulates that acquisitions take place for this reason. If a merger or acquisition generates synergies, it results in positive wealth effects for the acquirers. The combining of companies in the same industry sector is known as operational synergy. (Rani, Yadav, Jain, 2016) Operating synergies can be seen because of economies of scale (spreading out fixed costs) and economies of scope (Duksaite, 2009). When the joining firms have different financial resources, financial synergy is the positive consequence (Rani, Yadav, Jain, 2016). Financial synergy also exists when the cost of capital of the newly resulting firm is reduced if the separate firms having uncorrelating cash flows, realize financial economies of scale, or result in an improved matching of investment opportunities (Duksaite, 2009). The joining of firms that exhibit different managerial resources triggers managerial synergy. (Rani, Yadav, Jain, 2016)

In order to improve performance, increase the wealth of shareholders, and improve the value of shares, firms need to diversify. The value of diversification was a major driver during the conglomerate merger wave in the 1960s (Rompotis, 2014). Mergers and acquisitions are frequently a growth strategy utilized by managers to expand their business, while overcoming barriers to entry in a new market (Rani, Yadav, Jain, 2016).

A primary reason for choosing inorganic growth as opposed to internal or organic growth is the desire to expand into another geographic region and therefore increase market share. Timing and risk are two factors that provoke firms to expand geographically through acquisitions as opposed to internal development. Additionally, when the geographic expansion includes international pursuits, there are additional characteristics, such as cultural differences, that need to be considered in order to be prosperous in this new market. (Duksaite, 2009) Recently, cross-
border mergers and acquisitions have become more prominent for a variety of reasons including technological development, globalization, increased economic integration and international trade, favorable regulation and policy changes, firm restructuring, target firm undervaluation, and the most significant being to exploit regional and global business opportunities (Rani, Yadav, Jain, 2016). This corporate strategy allows firms to leverage their existing capabilities, while expanding their current business into new markets and diversifying into related markets (Rani, Yadav, Jain, 2016).

Not all merger and acquisition activity is driven by the desire to positively impact the company. Although hubris and managerialism are both cited as motivations for mergers and acquisitions, these two driving forces result in either naught or negative wealth effects. Hubris occurs when managers of the acquiring firm make incorrect valuation, but proceed with the deal presuming their valuations are accurate. Agency problems exist when there is a misalignment between managers and shareholders’ interests, which results in managers serving their own interests at the expense of their shareholders. Managerialism results when managers are more focused on empire building, leading to acquisitions that destroy shareholder value. (Rani, Yadav, Jain, 2016)

Tax benefits are another reason named for driving merger and acquisition activity. A profitable company may decide to buy a firm making losses in order to use the target company’s accumulated taxable loss in its favor by reducing the acquiring company’s own tax liability. However, the United States and many other countries have implemented regulations to limit the ability of profitable companies to acquire loss-making companies in an effort to achieve tax benefits. (Rompotis, 2014)
Duksaite also includes intangible assets, also known as intellectual capital, in his analysis on why companies decide to participate in mergers and acquisition transactions (Duksaite, 2009). Intangible assets include human capital, relational (customer) capital, and structural capital. Human capital is the aggregation of the skills, capabilities, training and education, experience and knowledge of the members of an organization. Relational capital or customer capital refers to an organization’s external relationships, including suppliers, partners, and clients. Structural capital can be easily defined as what is left after employees leave at night. This includes company’s organization, innovation, processes, information systems, intellectual property, and culture. (Virkus, 2014)

All of the above motivations refer mainly to the acquiring company’s motivations for pursuing a merger or acquisition, however it is vital to note the seller’s reasoning in a friendly merger or acquisition. The target company may feel as though it no longer has the resources to continue to grow. Additionally, the company may believe it has attained maximum growth in its existing market, but lacks the ability to expand into new markets. Another driver for the target company may be that it feels it has reached its historical peak of its valuation. In relation to the financial synergy discussed earlier in the section, the seller may lack access to capital and face restrictions on borrowing capacity. (Duksaite, 2009)

**Current Environment**

The food industry is undergoing a dramatic change, trending away from processed foods and toward organic foods. Consumer interests focus on attentiveness in transparency in the supply chain and a yearning to know where food is sourced. According to the Organic Trade
Association, organic sales were just $3.6 billion in 1997, but in 2015 totaled $43.3 billion. Currently, dairy is the second biggest organic food industry, representing fifteen percent of the total organic food sales, preceded by produce. In 2015, dairy sales grew more than ten percent to $6 billion in sales.

As of recent, discussions of two other potential merger and acquisition deals have taken place in the dairy industry. In early August 2016, the Bel Group announced that it is in negotiations to acquire the MOM Group. It is interesting to note that both companies are based in France, although Bel Brands USA operates cheese plants in the United States. Additionally, in December 2016, Prairie Farms Dairy and Swiss Valley Farms revealed they have entered into a merger agreement.
Chapter 3

The Acquisition

This chapter will include a company profile on WhiteWave Foods, examine former Danone acquisitions, and will provide a background on the overall deal. Following, the chapter will identify four primary motivations for Danone’s acquisition of WhiteWave Foods.

WhiteWave Foods’ Background

The WhiteWave Foods Company was established as a spin-off of Dean Foods Company, which was completed in May of 2013. (Dean Foods Press Release, 2013) Today, WhiteWave Foods is a dominant consumer packaged food and beverage company headquartered in Denver, Colorado with business primarily in North America and Europe. (WhiteWave Stockholder Vote Release, 2016)

WhiteWave Foods is leading the way in a shift in consumer trends seeking substitutions to conventional foods. (Hoovers, 2017) WhiteWave represents the healthy, organic, and nutritious alternative the consumer now desires. The company is a global competitor in the plant-based, organic dairy, and organic produce categories. (Watrous, 2016)

The company represents a wide-range of products that are sold through natural food and grocery stores, in addition to mass merchandisers, restaurants, and food service businesses in the U.S. and Canada, as well as part of Europe. WhiteWave Foods is predominantly known in the U.S. for its Silk soymilk and in Europe for its Alpro brand soy products. The company’s organic
dairy products are represented under the Horizon Organic name. (Hoovers, 2017) Other brands owned by WhiteWave include So Delicious and Earthbound Farm. (Watrous, 2016)

**Former Danone Acquisitions**

In 2001, Danone announced its intention to acquire a forty percent holding in Stonyfield Farms, with the opportunity of obtaining a majority holding in 2004. This deal was attractive to Danone for a variety of reasons. First, as discussed in the prior chapter on the motivations of mergers and acquisitions, this acquisition represented manufacturing, transportation, and distribution synergies. Additionally, this acquisition was identified as a means for entering the U.S. organic yogurt market. Frank Ribound, Danone’s chairman and CEO at the time, explained, “Through this unique partnership, Danone will build upon and expand Stonyfield's leadership in the U.S. natural and organic yogurt segment as we provide pivotal assistance in terms of manufacturing, purchasing, logistics and other efficiencies.” (Natural Products Insider, 2001) Danone’s purchase of Stonyfield provided insight into Stonyfield’s marketing know-how in rapidly growing organic products. (Deogun, 2001) Also noted was both companies’ dedication to consumers who support organic and natural products. (Natural Products Insider, 2001) At this time, Stonyfield was the Number Four brand in the U.S., with Dannon ranked Number Two. According to Information Resources Inc. for the fifty-two weeks concluding September 9, 2001, Stonyfield’s sales were up twenty-seven percent representing $80 million in sales. (Deogun, 2001)
Danone increased its stake in Stonyfield to eighty percent in January of 2004. Stonyfield’s revenue for 2013 was $140 million with a five percent share of the U.S. market. (The Associated Press, 2004)

In 2007, Danone acquired the Dutch company Royal Numico in an effort to further develop its brand portfolio. Up until 2007, this was dubbed Danone’s largest strategic acquisition ever. When examining this acquisition, it is vital to analyze the appeal of Royal Numico to Danone. Royal Numico had two primary businesses, baby nutrition and medical nutrition, allowing Danone to be a world leader in this market following the acquisition. Both of Royal Numico’s businesses exhibited high margins and robust growth worldwide. Royal Numico demonstrated vigorous sales growth, highly reputable research capabilities, a skilled workforce, and extraordinary local brands. Danone’s 2007 Annual Report also acknowledged the similarities in business culture between the two companies. Most pivotal to this deal are both company’s focus on delivering health through food. (Danone 20017 Economic and Social Report)

**Deal Background**

Progress has been made since Danone’s announcement in July of 2016 of its acquisition of WhiteWave Foods. On October 4, 2016, a vote in favor of the deal took place during a stockholder meeting. Holders of about ninety-nine percent of WhiteWave shares, which constitutes seventy-eight percent of WhiteWave’s total outstanding shares, voted in approval of the agreement. Once the deal concludes, WhiteWave stockholders will be entitled to $56.25 in cash for each share of common stock. (Watrous, 2016)
Aside from financials, which will be discussed in the following chapter, there are four primary motivations, described in no specific order, providing rationale for Danone’s acquisition of WhiteWave Foods. The first is WhiteWave’s alignment with the shift in consumer trends in the consumer packaged food and beverage industry. The second is the complementing portfolios of the two companies, avoiding overlap of products. Third is the increased U.S. market presence Danone will achieve with the deal. Lastly is the focus on the successful combination of the two companies emphasizing the similarity of the two companies’ mission.

1) Consumer Trends

Consumers have begun to question the nutritional benefits of the food they are consuming, in particular, dairy milk. According to the Organic Trade Association, in 2015, the U.S. organic food market grew by eleven percent to $43 billion. Compare this to the overall food industry which grew at a merely 3.3 percent. (Bloomberg News, 2016) Natural and organic brands are becoming the new normal. Errol Schweizer, a former Whole Foods executive who is now an industry adviser explains, “We’ve got to stop calling it the natural food industry. It’s just the food industry now.” Recently, this industry has seen a substantial wave of consolidation. It is difficult for food giants to grow as consumers abandon packaged and processed goods, so they have resorted to acquiring industry startups that have already successfully targeted how people are eating today. (Kowitt, 2016). In order to enter this new and ever-present market, Danone had two options: either develop in-house or purchase another company that already had a foothold in the market.
Danone’s acquisition of WhiteWave Foods provided an opportunity to gain a position in the flourishing natural and organic food sector. The deal would considerably increase Danone’s presence in the lucrative organic foods industry and market for plant-based dairy substitutes. The acquisition represents Danone’s fortitude and interest in better meeting the shifting consumer tastes. One of the major changes in consumer tastes is an increased use of organic milk, which is more expensive when compared to conventional milk. Emmanuel Faber, chief executive of Danone, provides reasoning for the acquisition by explaining that, “Consumers want diverse eating and drinking options, but we cannot meet that demand unless we diversify the way we produce food.” Despite apparent steps by Danone in the United States to make changes to its milk supply chain, it is clear from this deal that the company has chosen to merely purchase an organic system. (Strom, 2016) In Danone’s Investor Presentation for its acquisition of WhiteWave, the Executive Summary states, “Creates a truly unique global leader strongly aligned with consumer trends for healthier and more sustainable eating and drinking options.” Figure 2 below is an excerpt from the Investor Presentation, showing that WhiteWave’s portfolio is consistent with consumer trends.
2) Complementing Portfolios

A major benefit of the amalgamation of these two companies is the varying product portfolios each one offers, providing for minimal overlap. WhiteWave’s products will integrate well in areas that Danone already outperforms. (Hall, 2016) Following the completion of the deal, Danone will possess an extensive portfolio of brands and products in organic foods and beverages, fresh dairy, and plant-based alternatives to milk and yogurt. (Miller, 2016)

Prior to the acquisition, Danone’s primary emphasis was on dairy products, however it also holds baby food and water in its portfolio. As mentioned earlier in this chapter, WhiteWave produces and distributes plant-based foods and beverages, coffee creamers, premium dairy products, and organic produce. The companies’ product portfolios are complementary with almost no overlap, making for a very good extension of Danone’s portfolio. (Seeking Alpha, 2016)
It will be interesting to see where Danone’s brand Earthbound Farm fits into the joint company’s product portfolio. Earthbound Farm is the U.S. market leader in organic greens. Earthbound Farm seems to be outside of Danone’s concentration on dairy, water, and baby food. (Seeking Alpha, 2016)

3) U.S. Market Presence

Danone is primarily a European company. In 2015, only eleven percent of its consolidated net sales were attributable to the United States. As exhibited earlier in this chapter with Danone’s acquisition of Stonyfield Farm, Danone has continued to make efforts to enter the U.S. market through acquisition. Currently, Danone’s U.S. business is predominantly comprised of The Dannon Company, Stonyfield Farm, and the Yocrunch Company. Acquiring WhiteWave Foods, a United States-based company, will allow Danone to increase and diversify their presence in the U.S. (Watrous, 2016)

Danone predicts its acquisition of WhiteWave Foods will double the size of its business in the United States. (Miller, 2016) Two statements bulleted on the Executive Summary of the Investor Presentation are “Doubles the size of Danone’s U.S. business” and “High profitable growth in stable geographies.” The presentation goes on to state that this doubling of size will be above $6 billion. Its support for this statement are as follows:

- Fastest growing Food & Beverage company in the U.S.
- Entering the U.S. Top 15 Food & Beverage company
- Creating the U.S. #1 refrigerated Dairy company
  - Must complete range of Dairy & non-Dairy alternatives products
The following chapter will examine whether or not this expectation to double the size of Danone’s U.S. business is possible.

4) Alignment of Missions

The successful integration of two companies is dependent on a variety of factors as discussed in the previous chapter. In addition to the financial benefits and supply chain integrations that may occur, it is vital for both the acquirer and company being acquired to be a cultural fit with similar values, mission, and vision. As discussed previously with Danone’s acquisition of Royal Numico, similarity between the two companies’ missions was of great importance.

Gregg Engles, chairman and chief executive officer of WhiteWave Foods states, “We believe that WhiteWave’s mission to change the way the world eats for the better dovetails nicely with Danone’s mission to bring health through food to as many people as possible. Danone is the ideal strategic partner to support our future and we remain excited about the opportunities this combination will create for WhiteWave’s employees, customers, vendors and partners.” (Watrous, 2016) As for Danone, part of the appeal of WhiteWave as an acquisition target was its consistent mission and sustainability commitments. WhiteWave is in line with Danone’s mission consisting of: superior experience, healthier choice, and community relevant. WhiteWave is also in line with Danone’s sustainability commitments including: zero net carbon, trusted origin, and sustainable agriculture. (Danone Acquisition of WhiteWave Investor Presentation)
Chapter 4

Financial Ratio Analysis

This chapter will examine the financials of both Danone and WhiteWave Foods so as to better understand the financial characteristics that made WhiteWave an attractive target for Danone. This chapter will expand on the qualitative analysis in Chapter 3 and will introduce quantitative factors, including ratios. The ratios and metrics utilized in this financial analysis can serve as tools for private equity firms when determining possible acquisition targets.

Geographical Sales Breakdown

As discussed in Chapter 3, a primary motivation of Danone’s acquisition of WhiteWave Foods is the increase in U.S. market presence it expects to achieve following the deal. Danone is a French company, which allows for just shy of half of its total sales to be in Europe. Figure 3 shows Danone’s net sales broken down by geographical area for 2013, 2014, and 2015. It is interesting to note the consistency of geographical representation over this three-year period. It can be expected that this will drastically change as Danone has predicted a twofold increase in the size of its U.S. business.
This geographical analysis of Danone’s sales can be further broken down into countries. Figure 4 shows the top ten countries contributing to sales for 2014 and 2015. Although Figure 3 depicted that CIS and North America represent only roughly twenty percent of sales, Figure 4 shows that the United States is consistently a top contributor to Danone’s net sales. It is apparent that Danone’s sales are not heavily concentrated in one specific country, but rather distributed across many countries in different geographical areas. This geographic diversification provides a method for limiting risk. However, with the acquisition of WhiteWave Foods, Danone’s sales will be much more heavily concentrated in the United States. This may represent an area of concern in terms of limiting risk.
The geographical breakdown of WhiteWave Foods’ sales is much more focused compared to Danone, with sales split between the Americas and Europe. Figure 5 illustrates the breakdown of WhiteWave’s sales. However it is important to note that both the blue and red bars denote sales in the Americas. Over the past three years, the Americas have consistently represented over eighty percent of WhiteWave’s total sales. This signifies an area of motivation for the acquisition for Danone as the company is attempting to expand its business in the United States. Another trend that was most likely attractive to Danone was the decrease in Europe’s contribution to WhiteWave’s sales over the past three years, as this allows the company to minimize any overlap or cannibalization.
Figure 5. WhiteWave Total Net Sales % by Segment

Growth

An essential factor to examine when determining a potential acquisition target is the opportunity the company offers. One way to measure this opportunity is by looking at the year over year sales growth of a company. Figure 6 and Figure 7 show the year over year sales growth for WhiteWave and Danone, respectively. Despite WhiteWave’s drop in growth from 2014 to 2015, the overall trend is positive and represents great growth potential. This is especially evident when studying Figure 7, showing Danone’s sales growth on the same scale as WhiteWave’s. Danone’s sales growth is minimal, which provides some explanation as to why an acquisition was viewed as a positive strategy for the company.
Figure 6. WhiteWave Year over Year Sales Growth
Source: The WhiteWave Foods Company Form 10-K
Areas of Concern and Improvement

From 2013 to 2015, WhiteWave has seen increasing trends in its Gross Profit, Operating Income, and Net Income. However, the amount by which these income statement numbers have been increasing has decreased from 2013 to 2015. This is illustrated in Figure 8.

The decline in growth of WhiteWave’s Gross Profit is driven in most part by a decline in sales growth, which was shown in Figure 6. The growth in net sales decreased from thirty-five percent in 2014 to thirteen percent in 2015. The cost of sales increased by forty percent from 2013 to 2014, however the increase from 2014 to 2015 was only eleven percent.
This weakening of growth in Gross Profit provides an explanation for both the declining growth in Operating Income and Net Income. It is interesting to note that Total Operating Expenses increased by eighteen percent from 2013 to 2014, however, from 2014 to 2015, they only increased by twelve percent. This confirms that the decline in Operating Income Growth is not due to an increase in operating expenses, but rather a decline in Gross Profit growth. When looking at the decline in Net Income growth, WhiteWave’s Interest Expenses increased by 105 percent from 2013 to 2014 and only by fifty-seven percent from 2014 to 2015. Again, this solidifies that the area of concern stems from the decline in Gross Profit growth, which is due in most part by a decline in sales growth.

Figure 8. WhiteWave % Change in Gross Profit, Operating Income & Net Income
Source: The WhiteWave Foods Company Form 10-K
This downward trend can also be seen in WhiteWave’s year over year change in EBITDA, as depicted in Figure 9. A company’s EBITDA is a method for evaluating operating performance. One reason for WhiteWave’s relatively low EBITDA in 2015 is that there was no depreciation expense on the Income Statement for that year.

![WhiteWave Year over Year EBITDA Growth](image)

**Figure 9. WhiteWave Year over Year EBITDA Growth**  
Source: The WhiteWave Foods Company Form 10-K

**Summary**

The data presented above demonstrates why Danone pursued an interest in WhiteWave, but also shows areas where a company twice its age can provide guidance and stability. Danone’s heavy sales concentration in Europe, with little exposure to the United States, will be complemented by WhiteWave’s sales, which are virtually all in the United States. Danone’s year over year sales growth has been stagnant when compared to WhiteWave’s, which has seen
double-digit growth for the past three years. However, WhiteWhave’s Gross Profit, Operating Income, and Net Income have all decreased from 2014 to 2015 stemming from a decrease in sales growth. This may present an area of concern for Danone or rather an area of opportunity.
Chapter 5

Logistics Network Analysis

This chapter will discuss the importance of supply chain integration in mergers and acquisitions. First, the chapter will provide a simple matrix to aid in the approach of identifying potential areas of synergy between companies. The chapter will then conduct a more in-depth exploration and comparison and provide a framework to be utilized in food manufacturing mergers and acquisitions.

Value of Logistics Integration

Mergers and acquisition analysis frequently takes place with disregard for the combination of the companies’ supply chain networks while focusing solely on financials. However, the successful amalgamation of companies’ supply chains is paramount in reaping the benefits and synergies that can come from mergers and acquisitions. A Deloitte paper entitled “Mergers and Acquisitions Operational Synergies Perspectives on the Winning Approach” explains “that companies can greatly improve their chances for a positive outcome by putting more emphasis on supply chain integration planning, operational analysis, and execution.” (Deloitte Consulting LLP, 2013)

According to PwC’s Deals M&A Integration practice, “Supply Chain plays a critical role in achieving cost synergies, and shareholders expect to realize the benefits of these as soon as possible.” The publication goes on to explain that “Regardless of the industry or complexity of the Supply Chain function, synergies related to Supply Chain are vital to achieving deal goals and delivering the committed value to shareholders.” (PwC Deals Publication, 2016)
The circumstances are no different for Danone’s acquisition of WhiteWave Foods. According to the Chief Financial Officer of Danone, Cecile Canais, Danone is expecting $300 million in synergies at the EBIT level annually. As the PwC Deals M&A Integration practice’s publication stressed, seventy-five percent of this $300 million in synergies are cost synergies. Canais explains, “And of this 75%, 85% will be in the U.S. The cost synergies will basically be the results of efficiencies created through the combination, by scaling sourcing and supply chain and fixed cost optimization.” (Nunes, 2016)

**Supply Chain Synergies Matrix**

The supply chain of food manufacturers can be simply broken down into four categories: raw materials, manufacturing, transportation and distribution, and products/markets, as shown in Figure 10 below. Cost savings can be attained in each of these categories when similarities between the two companies undergoing a merger or acquisition exist.
When examining product and market synergies, it is vital to identify the target market of the products being produced by the food manufacturer. In the case of Danone and WhiteWave, the markets are generally the same: consumers that place an emphasis on healthy diets and lifestyles. Both companies produce a wide-range of products that appeal to the health-conscious demographic. This overlap in markets and products provides significant advantages in the amalgamation of the operations of these two companies. In combination with transportation synergies, similarities in products and markets can provide for even greater transportation synergies, as the new entity will have a greater amount of product going to the same locations. A consequence of similar product lines serving similar markets is similar retail outlets, which for both Danone and WhiteWave are grocery stores. Following the acquisition, Danone will possess a greater amount of product in the same retail outlets, which allows the new entity to have greater negotiating power when working with the retail outlet.

Cost savings in transportation mainly arise from greater opportunities for continuous moves, minimizing empty miles, and larger shipment sizes. There is also opportunity for load consolidation, which “is a method to achieve full truck load by combining or consolidating different products into one container and optimally utilizing the container.” (Saini et. al, 2016) Load consolidation has numerous benefits including reduction in transportation costs: “Companies can reduce freight costs anywhere form 20% to 30% by converting LTL (less than
truck load) to FTL (full truck load).” (Saini et. al, 2016) As both Danone and WhiteWave’s product lines require temperature-controlled vehicles, the companies can take advantage of the same carrier base. Additionally, and similar to the cost savings achieved in raw materials, which will be discussed shortly, a new entity can obtain cheaper transport due to an increase in negotiating power, as they can approach the carrier base with higher volume. (Adenso-Diaz, 2013) As discussed with transportation synergies, temperature-controlled distribution centers that maintain food-grade quality is also homogeneous for the two companies. There is also the potential to consolidate duplicate facilities. Transportation and distribution centers both must comply with FDA requirements for food, an area of sameness for the companies.

In terms of manufacturing, cost savings can be attained through optimizing the workforce, eliminating duplicate facilities and plants, consolidating procurement, and rationalizing product portfolios. (Lam et. al, 2007) Similar to transportation and distribution, manufacturing plants have to be of FDA quality, which is not foreign to Danone. As both companies are producing similar products, there is the possibility of synergies across factories, which could lead to optimization of the manufacturing network. For example, both companies produce yogurt lines, so it may not be necessary to have separate yogurt plants.

Costs savings can be achieved as a result of similar raw materials due to the new entity’s negotiating power with its supply base. This new negotiating power can allow for better prices or higher discounts for the goods and/or services the entity is receiving. When determining raw material synergies prior to a merger or acquisition, it is integral to distinguish between indirect inputs and direct inputs. Direct inputs are those critical items that go into the making of the actual product, such as milk, cream, and sugar. Danone and WhiteWave have significant crossover in their direct inputs, for example, both WhiteWave’s Land O’Lakes Half & Half
Danone’s Yolado are made with milk. Indirect inputs are commodities at risk as they are vulnerable to price fluctuations and shortages. For both Danone and WhiteWave, indirect inputs include rigid plastic, metal, and paper. WhiteWave’s Wallaby Organic yogurt is served in a container made from rigid plastic, as is Danone’s Activia.

This supply chain synergies matrix is a very simple and basic first approach for identifying potential areas of synergies and the resulting cost savings during mergers and acquisitions, especially for food manufacturing companies. In addition to the cost savings that can be achieved in each quadrant, process improvements can also be identified and implemented. Process improvements include product bundling, cross selling, and sharing distribution channels. More broadly, determining and executing best practices, core competencies, and management resources across each of these four main categories will allow for greater supply chain integration and success. (Lam et. al, 2007)

**Dimensions of Food Manufacturing Mergers**

To break down the matrix discussed in the previous section even more and to further analyze the potential for synergies in mergers and acquisitions of food manufacturing companies, this section will identify eight key dimensions to examine when considering supply chain integration.

1. *Markets* (*Consumers*)
   - Is the customer base (wholesale, retail, or both) similar?
   - Are the consumers (target market) of the two companies similar?
2. Retail Outlets
   - Are the retail outlets in which products are sold similar?

3. Transportation
   - Is temperature control necessary in transportation?
   - Are there requirements and standards that must be adhered to (i.e. FDA)?

4. Distribution Center Space
   - Are there similarities in distribution center locations, design and operations, information and technology requirements, and performance measures?
   - Are there requirements and standards that must be adhered to (i.e. FDA)?

5. Temperature Controlled
   - Is temperature a factor throughout the duration of the supply chain?
   - Do the products require temperature control?

6. Manufacturing Capability
   - Is there similarity in the products being produced?
   - Are there requirements and standards that must be adhered to (i.e. FDA)?

7. Product Lines
   - What raw materials are going into the product?
   - Are there duplicates in product lines?

8. Raw Materials
   - Are raw materials being sourced from similar suppliers?
   - Is there overlap in direct materials and/or indirect materials?
This framework details the various dimensions needed to be analyzed to determine the potential synergies. Managers can investigate these various factors across both companies to determine whether or not synergies exist. This framework can be utilized by Danone and WhiteWave to determine similarities between the two companies and identify areas of synergy, allowing for cost savings and process improvement.

Table 1 demonstrates the use of this framework applying these various supply chain dimensions to two recent mergers and acquisitions. The first is Danone and WhiteWave Foods, the focus of this thesis, which is being compared to the Kraft Heinz merger, which was completed in 2015. The framework utilizes a scale ranging from none, to limited, to moderate, all the way to significant. This is a subjective test intending to give managers an idea of the type of criterion that must be examined prior to a merger or acquisition to determine areas of synergy, and therefore cost savings.

The framework distinguishes between direct and indirect raw materials as there may be varying amounts of crossover between the two types of inputs. As is shown in Table 1, both Danone and WhiteWave and Heinz and Kraft have moderate synergies in terms of their direct inputs, but significant synergies across their indirect inputs, which are mainly rigid plastic, metal, and paper. Temperature control is a significant area of overlap in terms of distribution center space and transportation for Danone and WhiteWave as they are dairy-based goods that require refrigeration. However, for Kraft and Heinz, the products vary on temperature control requirements.

This framework can be utilized for food manufacturing mergers and acquisitions as a sliding scale to determine areas where synergies across two companies exist and where major differences lie. The framework requires subjective reasoning on the part of managers and deal
makers, but identifies the key areas of the supply chain that should be examined prior to a transaction. Synergies in the supply chain can not only reduce costs, but can also lead to the greater success of the integration of two companies following a merger or acquisition.
<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Danone &amp; WhiteWave</th>
<th>Kraft &amp; Heinz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Materials (Direct &amp; Indirect)</td>
<td>Moderate (direct)</td>
<td>Moderate (direct)</td>
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<tr>
<td></td>
<td>Significant (indirect)</td>
<td>Significant (indirect)</td>
</tr>
<tr>
<td>Product Lines</td>
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<tr>
<td>Manufacturing Capability</td>
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<tr>
<td>Temperature Controlled</td>
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<td>Distribution Center Space</td>
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<td>Retail Outlets</td>
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</tr>
<tr>
<td>Markets (Consumers)</td>
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<td>Moderate</td>
</tr>
</tbody>
</table>

Table 1: Summary of Food Manufacturing Mergers Dimensions
Chapter 6

Conclusion

The consumer packaged food industry is undergoing a dramatic change as the market has come to value health and sustainability, demanding eating and drinking options that align with these standards. This shift in consumer demand is generating movement in the food industry, whether it is the start up of new and innovative companies or mergers and acquisitions of companies already in this sector striving to remain present and lucrative. Danone’s acquisition of WhiteWave Foods, to be completed in 2017, serves as just one example of this trend and exhibits a major motivation of M&A activity as identified in Chapter 2: positioning the company in higher growth markets.

The traditional methodology for examining a potential target for a merger or acquisition is through financial analysis. Chapter 4 provides financial tools and metrics that can be utilized in the identification of an M&A candidate. This analysis is essential to pre-deal M&A transactions, however, a logistics analysis must also be conducted to ensure a successful post-deal integration. Chapter 5 provides a framework to identify areas of synergy, a major driver of mergers and acquisitions, throughout the supply chains of two companies. This framework should be utilized both before and after a deal to determine the candidacy of a target and to establish a prosperous new entity.

The similarities across the supply chains of Danone and WhiteWave Foods provide for the possibility of numerous areas of synergy, as acknowledged in Chapter 6. Although the pre-deal financial analysis is promising, the success of this acquisition will be dependent on the consideration given to the logistical combination of the two companies.
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EDUCATION
The Pennsylvania State University
Schreyer Honors College, Smeal College of Business
Bachelor of Science: Finance; Two-Piece Sequence: Accounting
CEA Study Abroad
Student
Florence, Italy

EXPERIENCE
L’Oréal
New York, NY
Brand Finance, L’Oréal Paris
- Calculated and analyzed profitability of L’Oréal Paris in-store displays, representing about $28 million in expenses each year, to gain insights on high performing displays and presented findings to Finance, IIR, Marketing, and Sales teams
- Recommended cost avoidance strategies based on historical data on forecasting and destructions costs, as well as information collected from display analysis
- Performed display data extracts, compiled and summarized information in preparation for monthly marketing and sales meetings
- Developed profit and loss template to determine financial impact of promotional activity

The Public Financial Management Group
Philadelphia, PA
Summer Intern, Quantitative Strategies Group
June 2015 – Aug. 2015
- Extracted municipal bond issuer data from Bloomberg and posted to Excel to identify cross-marketing opportunities
- Assisted in the development of an Excel model to calculate and estimate credit ratings for not-for-profit organizations
- Analyzed customer pension data, bond transactions, and administrative demographics to identify service opportunities
- Organized and analyzed Payment Solution Program data for redistribution of tiered system to determine cash rebate

Sigma Delta Tau Sorority
University Park, PA
Treasurer
- Developed budget of approximately $40,000 in expenses representing almost 200 women to determine dues for members
- Cut expenses by 6% per member year over year and cut dues by up to 15% compared to previous years
- Ensured financial health of Sorority by managing and documenting financial activities
- Increased the bank account by 200% during tenure and developed banking relationship with M&T Bank

McKinsey’s Undergraduate Women’s Summit
New York, NY
Attendee
June 2015
- Invited to gain a better understanding of the consulting field, and participated in case study analysis and presentation

Penn State Investment Association (PSIA)
University Park, PA
Member
- Gained an understanding of market analysis and financial skills; focus group on the Consumer Discretionary sector
- Completed weekly assignments demonstrating proficiency in finance and accounting skills

Wall Street Boot Camp
University Park, PA
Graduate
- One of 40 students selected from applicant pool of several hundred students to prepare for a career on Wall Street

The Pennsylvania State University
University Park, PA
Grading Assistant, Microeconomics
- Selected based on course performance to grade assignments, proctor exams and ensure integrity of work for 200 students

Database Solutions
King of Prussia, PA
Summer Intern
June 2014 – Aug. 2014
- Verified, updated, and cleansed over 500 CRM records to prepare for cloud migration

LEADERSHIP
Beta Gamma Sigma Honor Society
University Park, PA
Member
Aug. 2015 – Present
- International Honor Society for Business Students in top 10% of Junior Class

Sapphire Leadership Academic Program
University Park, PA
Lead
Sept. 2014 – Present
- Selected to mentor a freshman student within a selective, academically elite business program
- Specialized curriculum, projects, and events focused on building leadership skills

Sigma Delta Tau Sorority
University Park, PA
Community Service Chair
- Travel
- Community Service
- Fitness

AWARDS & INTERESTS
- 2014 Presidents Freshman Award
- 2015 Presidents Sparks Award
- 2016 Evan Pugh Scholar Award
- Travel
- Community Service
- Fitness