

Analysis of Supply Chains in the Consumer Packaged Goods Industry

by

Marc-Elliott Finkelstein

**Master of Business Administration
University of Toronto (2004)**

**Submitted to the Zaragoza Logistics Center on May 16, 2005 for
partial fulfillment of the requirements for the degree of**

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in the

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at the

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ASSOCIATED WITH THE UNIVERSITY OF ZARAGOZA**

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Abstract

A contribution to the MIT Supply Chain 2020 research project, this paper attempts to delineate factors in the supply chain of InBev which are “excellent”. Using the framework provided by Michael E. Porter in his article *What Is Strategy?*, InBev will be analyzed based on the effectiveness of its underlying operating activities and how they, cohesively, support its competitive strengths.

InBev operates in the consumer packaged goods industry, in a segment called beverages. Manufacturing beer, soft drinks, isotonic beverages, and several others, InBev competes in nearly all categories, against such prominent firms as: Coca-Cola, Diageo, Anheuser-Busch, Pepsi, and several others.

InBev has a presence in 140 countries, producing over 200 brands, and holds a 14% global market share. Broken into five autonomous business units, InBev’s operations are almost entirely disconnected, except for the movement of global brands.

InBev outsources several of their functions in several regions, including information technology, transportation, and other “non-core functions”. InBev claims that brewing is their core competency, despite outsourcing the brewing of their flagship brands in several countries. Through licensing and reciprocal agreements, most beverage firms are outsourcing some of their production as a means to gain entry into desired markets.

In reconciling the research findings to the Porter framework, it is found that the operations in Belgium do not comprise an “excellent” supply chain, and

consequently lack an activity system which is supportive of business practices. In fact, InBev Belgium is found to have no competitive advantage at all, only distinction in their brewing methods. Some degree of “consistency” is apparent, but the chain lacks solid first- and second-order fit.

Comparing InBev’s Belgian operations to their Brazilian operations (AmBev), yields significant differences. AmBev possess a strong competitive advantage, which has resulted in tremendous market dominance in most of South America. AmBev’s support activities are intricate and numerous, and all work to reinforce and strengthen their competitive position.

Finally, this paper examines the future of the beverage industry, remarking on the present trend towards homogeneity. Prognostication takes into account current trends, describing potential outcomes under several conditions.

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Operating Definitions

Competitive Advantage – “Competitive advantage is a function of either providing comparable buyer value to competitors but performing activities efficiently (low cost), or of performing activities at comparable cost but in unique ways that create greater buyer value than competitors and, hence, command a premium price (differentiation).” (Porter, 1986)

Competitive Strategy - “Competitive strategy is about being different. It means deliberately choosing a different set of [business] activities to deliver a unique mix of value.” (Porter, 1996)

Core Competency – “Core competencies are the collective learning in the organization... [they] are enhanced as they are applied and shared. But competencies still need to be nurtured and protected; knowledge fades if it is not used. Competencies are the glue that binds existing business.” “Three tests can be applied to identify core competencies in a company. First, a core competency provides potential access to a wide variety of markets.” “Second, a core competence should make a significant contribution to the perceived customer benefits of the end product.” “Finally [and most importantly], a core competence should be difficult for competitors to imitate.” (Prahalad and Hamel, 1990).

Core Adjacency – “[Core] Adjacency expansion is a company's continual moves into related segments or businesses that utilize and, usually, reinforce the strength of the profitable core.” “What makes adjacency expansion different from other growth strategies is its use of existing customer relationships, technologies or core business skills to build competitive advantage in a new area. Companies pursuing new growth initiatives without jeopardizing a strong core can benefit from methodically inventorying and mapping out their adjacent opportunities.” (Zook, 2004)

Corporate Strategy – “Corporate strategy is what makes the corporate whole add up to more than the sum of its parts.” (Porter, 1987).

Fit – See Appendix 8

Operational Effectiveness – “Operational effectiveness means performing similar activities better than rivals perform them.” (Porter, 1996)

Strategy - “The essence of strategy is in the activities – choosing to perform activities differently or to perform different activities than rivals. Otherwise, a strategy is nothing more than a marketing slogan that will not withstand the competition.” (Porter, 1996).

Chapter 1: Introduction

This thesis examines the beverages industry, specifically focusing on the supply chain practices employed by InBev (formerly InterbrewAmBev), the byproduct of the recent merger of Belgium's Interbrew with Brazil's Companhia de Bebidas das Américas, also known as AmBev.

"The Supply Chain 2020 Project intends to identify and analyze the factors that are critical to the success of future supply chains out to the year 2020. Phase 1 largely entails researching today's excellent supply chains to identify what is important to maintaining a competitive positioning, including the business strategies, operating models, goals, and best supply chain processes. In addition, the enablers of the best business practices will also be researched, as well as the cost-benefit rationale for these micro-based practices in the context of historical macro-based factors." (Lapide, 2004)

The framework used for this analysis is adapted from materials created for Supply 2020 researchers, which include original works from several authors. Attempts have been made to give credit to all contributors, but several have omitted their names, or other pertinent details from these works.

Chapter 2: Literature Review

Sources used in obtaining data for this case study include a wide variety of print media, Internet research, phone conversations with experts, books, and several others.

From existing business literature, much information was obtained from the works of pre-eminent authors Michael Porter, Chris Zook, C.K. Prahalad, Michael Hammer, and several others.

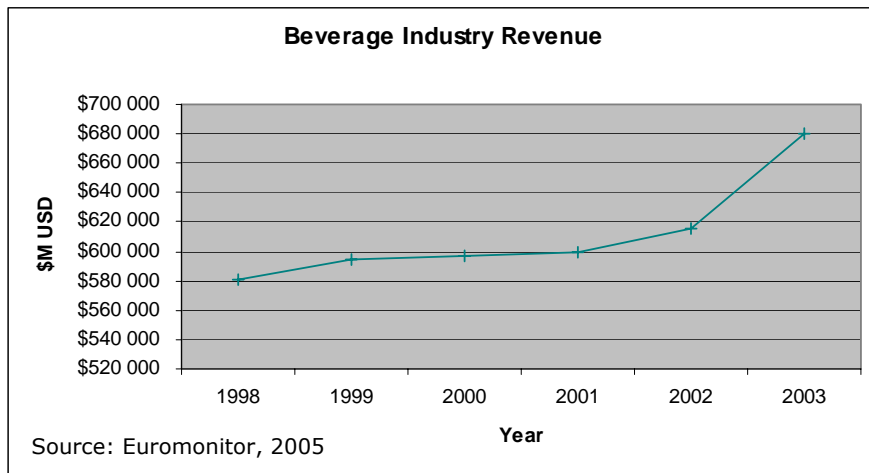
Most financial details were found in the annual reports of the respective companies, all available via corporate websites.

Interviews were conducted with senior InBev staff, and well as with several individuals at SAP who were industry experts in the consumer packaged goods (CPG) industry.

Lastly, numerous articles were found through MIT's online libraries. Through such sources as Euromonitor, Proquest and others, huge repositories of opinion, fact and figures were available.

Chapter 3: Industry Overview

The beverage industry consists of companies involved in the manufacture, bottling, wholesaling, warehousing, distribution or retailing of beverages. The industry of beverages is stratified into alcoholic and non-alcoholic beverages. Alcoholic beverage categories are wine, spirits, flavoured alcoholic beverages (FABs), beer, cider, and other (champagne, "malternatives", etc). Non-alcoholic beverages are often segmented as hot drinks or soft drinks. Hot drinks consists of coffee, tea, and other (hot chocolate, blended products, etc). Soft drinks consist of carbonates, fruit/vegetable juice, bottled water, functional drinks (sports/isotonic, energy, etc.), RTD (ready to drink) coffee, RTD tea, and RTD concentrates ("This comprises liquid and powder concentrates in ready to drink measure. RTD concentrates volumes are calculated by applying an average conversion ratio for each country to 'as sold' liquid and powder volumes.") (Euromonitor, 2005)

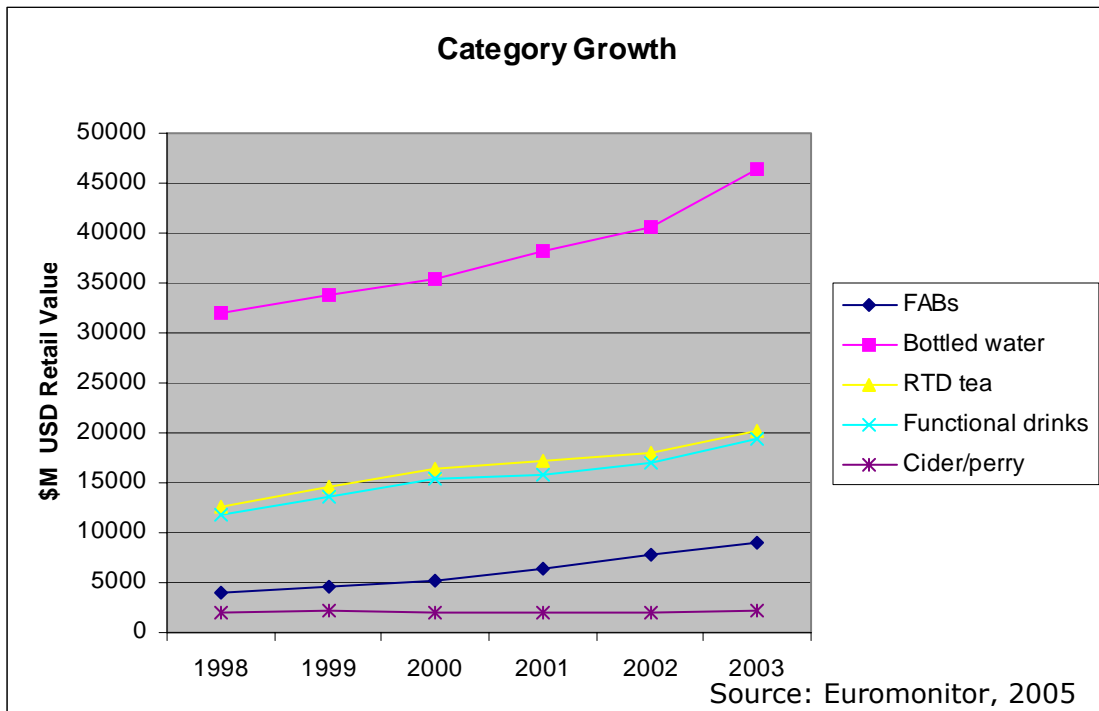


Beverages are sold in two methods: on-trade or off-trade (aka take home). On-trade beverages are sold for

immediate consumption, off-trade beverages are sold through retail outlets for deferred consumption (not resale).

3.1 Industry Trends

The beverage industry has grown in the last five years at a compound annual



growth rate (CAGR) of 3.2% (Euromonitor, 2005) on the sales of beverages. In 2003, global beverage sales totalled nearly \$680B USD (Euromonitor, 2005).

Despite the relatively slow growth of the industry, several segments have experienced much faster growth, such as bottled water and FABs, whereas others have receded in popularity and profitability.

Broken down by primary segment, in 2003 sales of alcoholic beverages totalled \$350B USD, hot drinks \$59B, and soft drinks \$271B (Euromonitor, 2005).

The beverages industry is "highly fragmented" (Mackay, 2002), with the top five companies holding a combined 12.4% of total beverage sales (Euromonitor, 2005), and this comes after a lengthy period of rapid consolidation.

Characteristics of this industry include: low entry barriers; high transportation costs; little to no experience curve; no advantage of size in dealing with buyers or suppliers; diverse product lines; diverse market needs, and; abundant local regulation (Porter, 1980).

Low entry barriers permit entrants with little capital, and in markets where governments resell all alcohol (i.e. Canada), smaller entrants require even less capital to participate in the industry. In the beverage industry, there is plenty of extra capacity, so fixed costs can be minimized for those without sufficient scale to warrant investment in a plant.

Beverages have a low value-to-weight ratio and consequently are often only shipped from the production facilities to a relatively small radius of customers. To counter this limitation, firms in the beverage industry often license out the production of their beverages to firms within the desired consumer markets. This strategy can be a risk to beverage quality, but licensees are often equipped to maintain top beverage quality standards on account of technological parity across the industry. Nevertheless some firms do not opt to outsource production of some of their beverages choosing instead to ship finished goods from one, central source at considerable transportation cost.

Many established firms would contend that premium beverages require a significant experience curve to produce a competitive product. This contention is

countered by the fact that many individuals make their own beverages, recipes for alcoholic beverages can easily be found on the Internet, and make-your-own-wine shops have new clients successfully producing batches on their first attempt. A 1996 Consumer Reports study found that consumers cannot distinguish amongst beverage brands in blind taste tests. Other beverages, such as fruit juices or coffees, require little to no additional formulation prior to consumption readiness, and thus require no experience curve.

The inputs to most beverages are commodities and therefore all buyers procure their raw materials at market prices with no volume discounts. This situation creates a level playing field for all competitors, discouraging industry aggregation for economies of scale in buying.

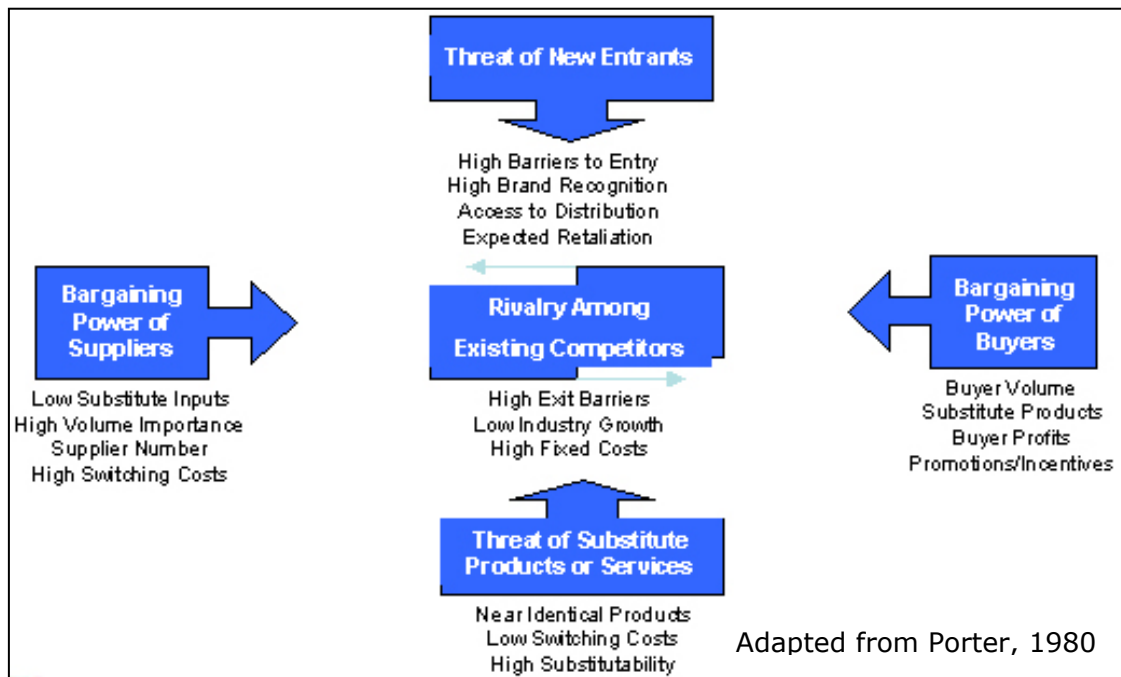
Firms in the beverages industry often have an extensive portfolio of products, many of which are highly diversified. Diageo plc, for example, produces spirits, wine, beer, ready-to-drink (RTD), malt alternatives, drink mixes and others. Of these beverages, they have dozens of brands, many of which are segmented into additional categories (low calorie, low carbohydrate, dark, strong, etc.) (Diageo, 2004).

Diverse market needs are expressed by consumers across all beverage offerings. Russians drink more vodka per capita than any other country, whereas sake in Japan rarely finds popularity outside its borders. Tap water is often free, readily available and potable, yet increasing numbers of consumers are opting for bottled water instead. Regional tastes and preferences vary significantly across man-made and natural borders, and beverage producers often accommodate these

variations by broadening their product lines, and customizing their formulations by region.

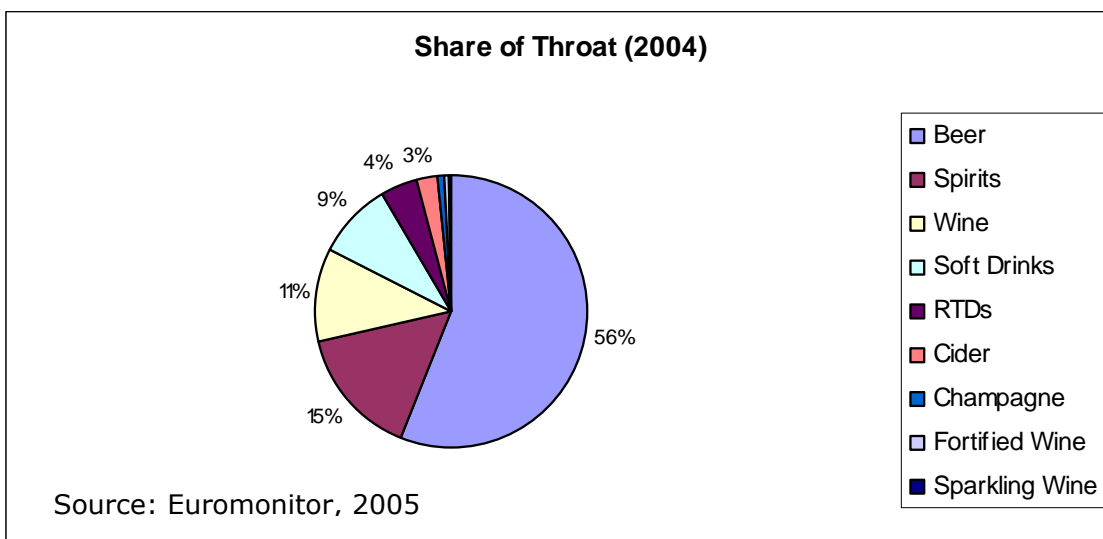
Local regulations have had a tremendous impact on the beverages industry, particularly on alcoholic beverages. Governments, NGOs and other special interest groups have a long history of controlling facets of the alcoholic beverage segment, which has shaped supply chains, product formulations, bottling, labelling, wholesale practices, mergers and acquisitions (M&A), marketing, sales, procurement and several other industry practices. While these controls and regulations are present for all producers of alcohol, the specific conditions vary widely by nation, state/province, and type of alcoholic beverage, each helping to shape the competitive market in each respective country.

3.2 Five Forces Analysis (Porter, 1980)



3.2.1 Rivalry Among Existing Competitors:

The beverage industry allocates a disproportionately high amount of expenditures towards marketing efforts, reflecting a very saturated and competitive marketplace. "Share of Throat", the dominant industry metric used to gauge overall beverage consumption, demonstrates some distinct trends. 2004 on-trade beverage sales took shape as demonstrated (by value) in the below pie chart (Euromonitor, 2005).



Many large competitors in beverages are highly profitable, well recognized globally, technologically advanced, maximize from scale for competitive benefit, employ lobbyists for voices in government, and actively use creative methods for strategic and tactical gain. It is often speculated that certain segments within beverages achieved the success and defensive strength they did on account of the formidable competitive forces present during their early lifecycle, and the strong cooperative, almost oligopolistic, collaboration on pricing and new product development. Coca-Cola and Pepsi, for example, thrived due to their strong rivalry, and in the process they have locked up marketshare from competitors worldwide. It is through their reciprocal efforts that they raced decades ahead of competitors in branding, technology and a host of other sustainable competitive advantages.

In any industry characterized by slow growth, competition becomes far more fierce for capture of new marketshare, despite growth opportunities in emerging markets. Consumers have an enormous variety of beverages to choose amongst, making the battles for shelf space and revenue growth very intense.

3.2.2 Threat of New Entrants:

As aforementioned, the absent or flat experience curve needed to enter the beverages industry welcomes inexperienced newcomers to the market. In tandem with relatively little need for large capital expenditures, high profitability, little product differentiation (in many segments) and low exit barriers, the beverage industry can expect numerous entrants to join the fray. The "Trading-Up" phenomenon (Fiske, Silverstein, 2003) is also sweetening the attractiveness of the market, particularly to firms who seek to establish core adjacencies to their product lines.

Another lure to potential entrants is the experimental nature of consumers in beverages. Consumers are highly receptive to new product offerings, evidenced by the rapid growth the new categories "energy drinks", "FABs" and "malternatives". This trend forces even the largest beverage firms to be responsive; Budweiser is currently testing a beer (Be ["beer with something extra"]) which is "infused with caffeine; guarana, a paste derived from a Brazilian fruit; and ginseng. The aromas of blackberry, raspberry and cherry mixed with the traditional scent of hops give the beer a slightly sweet and tart taste." (Cancelada, 2005) These new categories have increased beverage consumption globally, and opened the market to new possibilities.

Deterrents for potential entrants include intense expected retaliation, brand name recognition of existing firms and limited access to distribution. Expenditures of a company often include market signaling, which is "any action by a competitor that provides a direct or indirect indication of its intentions, motives, goals, or internal situation." (Porter, 1980) Market giants often signal to competitors to ensure that

their strategic and tactical goals remain unimpeded; these signals can take the form of a threat, preemption or provocation, and can seriously limit the operational maneuverability of smaller entrants due to lack of retaliatory capital and flexibility. Price wars are an example where a cash-flush firm can squeeze a smaller entrant to death by pricing products at the point where the industry is unprofitable, which forces exit for firms who rely on sales for operational survival. The strength and aggressiveness of existing firms must be taken into account by potential entrants when considering market entry.

Brand name recognition is something which carries a significant premium in beverages, evidenced, for example, by the higher prices for brand name cola products, which are indistinguishable in blind taste tests. Similarly for spirits and wines, most consumers have a relatively unsophisticated palate able to distinguish any discernable difference in brand name versus generic beverages. Despite this, recognized brands command higher prices, forcing lower-capital entrants to compete solely on the basis of price.

Beverage distribution channels are well-established in many parts of the world, owned mostly by established beverage companies. Budweiser's distribution network in the United States dates back over a century, and several in Western Europe are several centuries old. Through licensing agreements, distribution contracts, and a variety of other methods, beverages traverse international borders. New entrants would be at a decided disadvantage if the owner of a distribution network were to discontinue distribution rights, which is an ongoing threat for the firms at their mercy. AmBev, for example, identifies their distribution network as a strong competitive advantage, which they have used to gain the license contract to

brew Pepsi products in South America. It has further been leveraged to lock potential entrants out of the market.

3.2.3 Bargaining Power of Suppliers:

Most inputs for beverages are commodities, where availability and prices fluctuate from demand and weather conditions. In the past, present and foreseeable future, shortages of inputs is not an issue. To mitigate risk of input shortage, many firms utilize long-term delivery contracts. Financial instruments are another way firms remove variability from procurement.

Leverage to suppliers exists because inputs cannot be substituted in beverage production, and beverage recipes are rarely altered. Beer production will always require yeast and hops, and wine will always require grapes. Additional leverage comes from the need manufacturers have for punctual delivery of inputs. In situations where producers collaborate with suppliers via technological means, producers create switching costs for themselves should they need or want to acquire inputs elsewhere.

There is a high importance to producers receiving large quantities, which aids both parties in their balance of power. Large orders can only be filled by large suppliers, who are often far outnumbered than their smaller counterparts. Therefore producers must concede some degree of compromise in business dealings. Similarly, producers shifting their orders from one supplier to another is devastating to a supplier's operations.

3.2.4 Threat of Substitute Products or Services:

Switching costs vary somewhat across the industry, tending to be low for most parties. Unless exclusive agreements are in place, on-trade establishments can easily switch from one brand of tea to another, for example. Similar to off-trade, stores can retail any beverage brand of their choice, allocating their precious shelf space often to the most popular or profitable brands. While there is a cost associated with switching brands for fountain beverages, these costs are often absorbed by the producer in an attempt to win marketshare.

As previously mentioned, most consumers cannot distinguish among the brands of a category in blind taste tests. Therefore substitutability is very high, as many products are relatively homogenous in taste and appearance. To differentiate, beverage firms attempt to carve out brand images as a distinguishing feature, which seems to be working considering the rapid rise in sales of premium beverages. This mental differentiation is creating a strong psychographic shift between “value” and “premium” brands, which is visible across all beverages. These marketing efforts are yielding positive returns for beverage companies for now, but the future of the Trading-Up phenomenon is uncertain (Fiske, Silverstein, 2003)

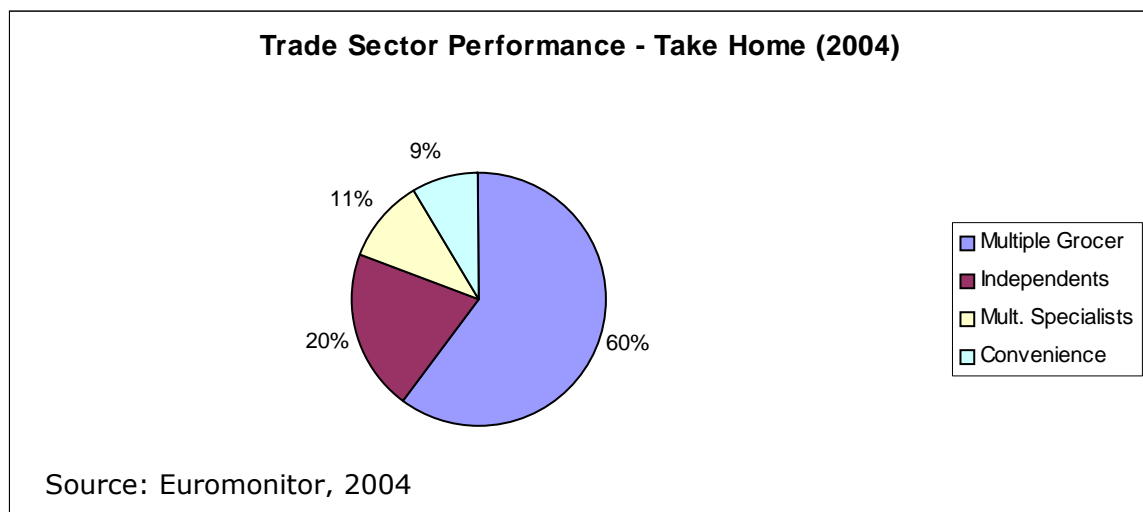
Consumer loyalty is an issue that affects some beverage segments far more than others. While some consumers would rather select a different beverage category than accept a substitute for Guinness beer, it is unlikely a consumer will leave an on-trade establishment for not having Nestlé Ice Tea in stock. Loyalty is being demonstrated to psychographic qualities expounded in marketing efforts, but little else. Yet consumer loyalty is identified as one of the greatest challenges to the industry (Van Schaik et al, 2005). InBev, for example, claims that although

marketing efforts create brand recognition, sales decisions are made at the “point of connection” (when the beverage order is placed) (InBev, 2005). It is the fickle behaviour of consumers that has necessitated AmBev’s in-pub beer fridges, on the philosophy of “more seen, more cold, more sold” (InBev, 2005).

3.2.5 Bargaining Power of Consumers:

“Beverage consumers” consist ultimately of the drinkers, who are the primary target of all marketing efforts. Consumers may have the greatest power in this industry, demonstrated by the quick development of beverages to meet evolving trends. Notable examples include: low-carbohydrate beer and orange juice; calorie-reduced beer; decaffeinated coffee; cold cappuccino, caffeinated beer, and; flavoured water. Furthermore, restaurants, bars, hotels and other establishments usually stock at least one known brand in each beverage category.

Proponents of the argument claiming that beverage firms wield disproportionate power in this industry have strong supporting evidence as well. Beverage firms net very high profits, and rarely offer price promotions. These firms, some of which have retailed the same products for over 100 years, have grown their economic rents in spite of all competitive efforts of upstarts. In the face of rising

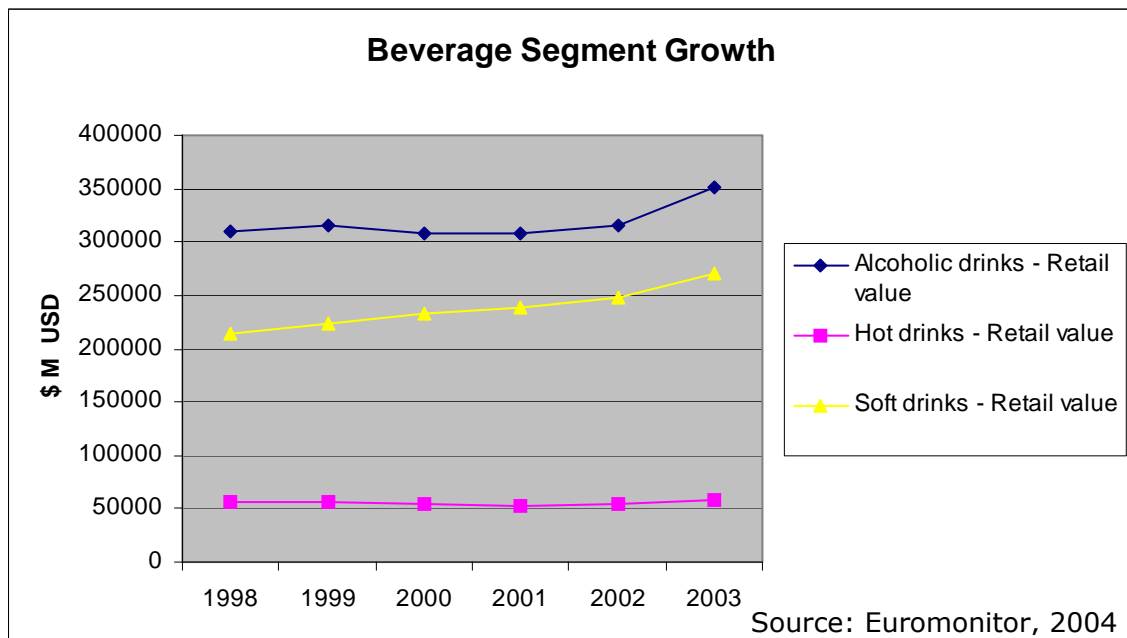


power from retailers, this can be interpreted as an imbalance of power favouring beverage firms. In 2003, the average net income from the top four beverage firms was 21%.

Multiple grocers comprise 60% of off-trade beverages sales (Euromonitor, 2004). While this percentage has risen every year for over a decade, the profitability of beverage firms has not suffered as a result. The trend in retail consolidation is expected to continue, with beverage firms depending on their marketing success to combat the growing power of multiple grocers and retain their strong profitability.

3.3 Industry Drivers

The beverage industry is rapid evolving, due in large part to changes in the core industry economics. Such things as increasing cultural homogeneity, decreasing transportation costs, diminishing need for close local supervision, improved business intelligence, potential for operational economies of scale and



scope, industry power shift to consolidated buyers, and significant technological advances all have lifted the anchor that forced fragmentation in the beverage industry.

More and more media sources are crossing borders, bringing CNN, HBO and Hollywood movies to the world. "In any society, the media are the primary conveyors of culture" (Hill, 2003). This is "creating some homogeneity across markets. Thus greater uniformity replaces diversity" (Hill, 2003), and this is reflected in consumer tastes and preferences. Looking at worldwide cola sales, in North America the top three Coca-Cola beverages are Coke, Diet Coke and Sprite. Contrasted with other regions: Africa's top three are Coke, Fanta and Sprite; Asia's top three are Coke, Sprite and Fanta; top three in EMEA were Coke, Fanta and Diet Coke. (Coca-Cola, 2005)

China recently overtook the United States as the biggest consumer of beer by volume (Euromonitor, 2005), reflecting growing homogeneity in a market which previously favoured rice wines and spirits as their beverages of choice.

While consumer tastes are converging globally, the industry cannot discount divergent consumer desires when they arise. The low-carbohydrate diet fad made a serious impression on orange juice sales, to which producers responded rapidly with a diet-suitable product. Yet to the producers' benefit, homogenized beverage staples are increasingly gaining acceptance.

Transportation costs have been on the decline for several decades, and further innovations, such as containerization, have pushed costs even lower. Beverage producers have mitigated transportation costs with license agreements,

postponement, selling in concentrate, strategic sourcing, contracts and partnerships, and several other methods. In the past the beverage industry was not profitable if it shipped product outside of a fixed radius; now firms recognize the financial benefits of contemporary shipping options, and the resultant economies of scale and scope that can be captured in marketing, distribution, and a variety of other functions.

Beverage production used to require labour-intensive, iterative processes to ensure the integrity of the final product. Modern technological methods have replaced this need, substituting manpower with machinery. Manufacturers can now produce in larger batches, leaving time-sensitive processes to machines.

Technology has also helped aggregate demand forecasts in a more accurate manner. Enterprise Resource Planning (ERP) software has been a boon to the industry to help decrease inventory, stockouts and carrying costs associated with fixed costs. With the addition of an Advanced Planning System (APS), business intelligence can produce finely-tuned forecasts for all plants with little to no human interaction. Furthermore, APSs equipped to integrate such metrics as customer criticality, profitability and available-to-promise, for example, have all served to improve client relationships, increase sales and peak fill rates. Further, technological advances have lessened switching costs of production lines, permitting manufacturers to profitably accept license agreements from competitors.

Economies of scale and scope were not possible in the beverage industry 60 years ago before the widespread adoption of television, Internet, manufacturing automation, automobiles and jet airplanes. These technologies have enabled firms to increase returns to expenditures in marketing, public relations, production,

logistics, and a variety of others. A “global brand” was a rarity twenty years ago, now it is an expectation of any global firm.

The consolidation of retailers has posed a formidable threat to most industries, yet no where is this more obvious than in beverages. Wal-Mart, Carrefour and other retailing giants have pitted producers against each other for shelf space, and further pressed them for lower prices. This pressure has the potential to devastate fragmented industries, yet beverage firms are responding by consolidating in kind.

Other technological advances and innovations have brought down operations costs in the beverage industry. Examples include tracking and communication devices used by vending machine service personnel, RFID tags on kegs, Internet ordering systems, vendor managed inventory (VMI), collaborative planning, forecasting and replenishment (CPFR), electronic data interchange (EDI), and many others. Each of these measures enhances efficiency, reduces costs and improves the bottom line.

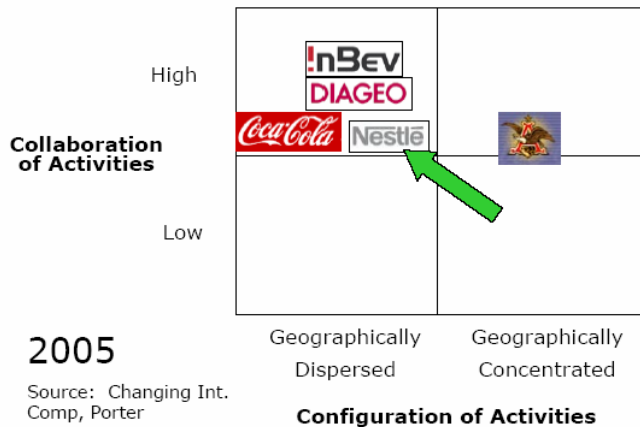
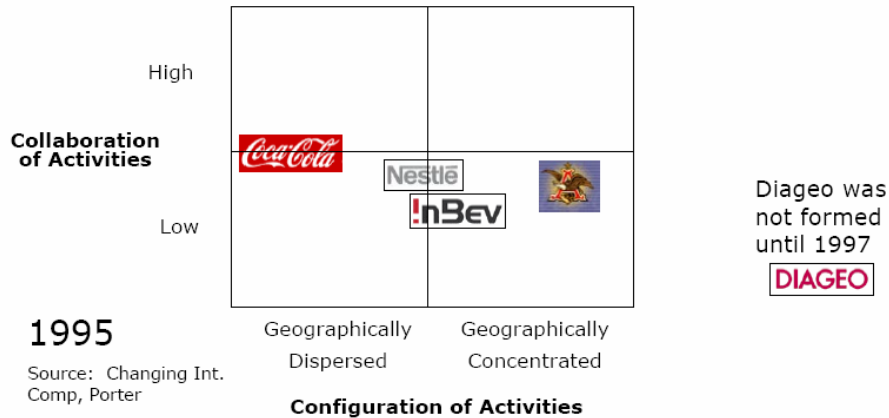
Increased competition and consolidation in the beverage industry has also necessitated changes in strategic decision-making. With downward price pressure on value brands, producers are focusing more on core competencies rather than trying to manage all aspects of the business. Beverage firms increasingly are outsourcing logistics, IT, marketing, and a host of non-core functions, with some firms even outsourcing production. The pace of M&A in beverages has been quite frenetic, and with the landscape of partnerships, equity positions, license agreements, etcetera, further confusing matters, some firms are focusing their efforts primarily on M&A as their core competence.

3.4 Industry Evolution

“The industry is the arena in which competitive advantage is won or lost.” (Porter, 1986) The beverage industry, like most consumer packaged goods industries, can be characterized as a “multidomestic” industry, “in which competition in each country (or small group of countries) is essentially independent of competition in other countries.” (Porter, 1986) “In a multidomestic industry, a multinational firm may enjoy a competitive advantage from the one-time transfer of know-how from its home base to foreign countries.” (Porter, 1986) “The competitive advantages of the firm, then, are largely specific to each country.” (Porter, 1986)

The contrast to multidomestic industries are “global industries”, wherein “a firm’s competitive position in one country is significantly influenced by its position in other countries. Therefore, the international industry is not merely a collection of domestic industries but a series of linked domestic industries in which rivals compete against each other on a truly worldwide basis.” (Porter, 1986)

The beverage industry is shifting from a multidomestic industry to a global industry, evidenced by the advent of global brands, which are sold as differentiated premium products, not on the basis of price competition. “Consumer packaged goods are becoming increasingly prone toward globalization, though they have long been characterized as multidomestic competition.” (Porter, 1986) While value and local brands still exist, most beverage firms recognize this shift and are segmenting their operations to accommodate this evolution. Using a four-box table, we can observe where the top five firms were ten years ago versus where they are now in regards to configuration and coordination of activities.



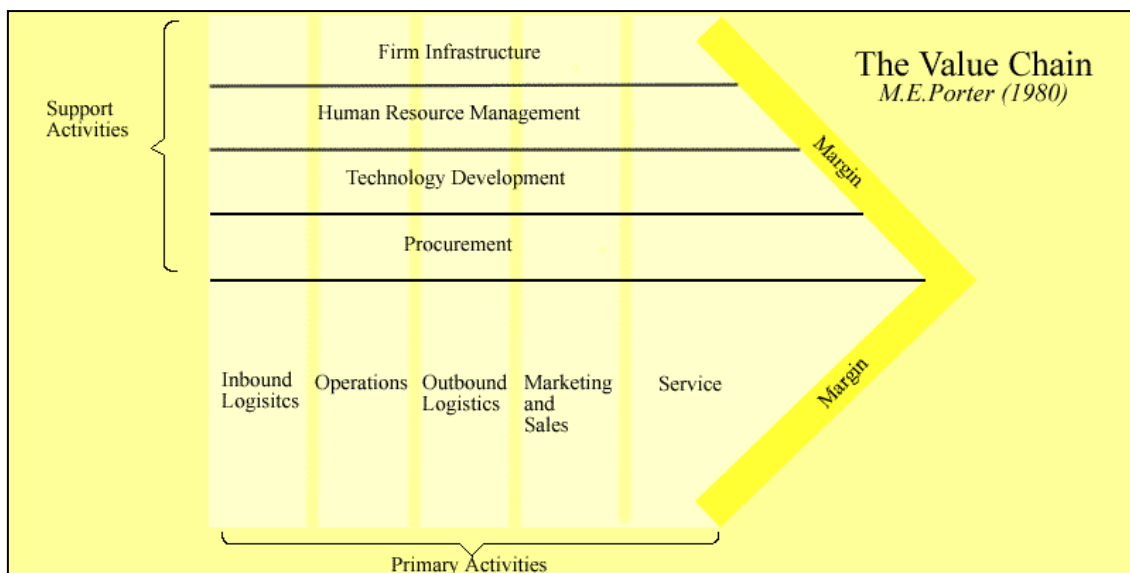
The shift to being a global industry encourages companies to outsource “support” activities, concentrating on “primary” activities. (Porter, 1986)

Outsourcing of support activities is becoming more prevalent with regular announcements of marketing, IT, and logistics outsourcing arrangements. InBev, after several years of standardizing their worldwide IT operations, announced on February 23, 2005 its intention to outsource all global IT operations. Divestment of supporting activities is increasingly commonplace among beverage firms seeking to globalize portions their operations. What is important to note is which functions are considered to be support activities and which are primary activities to the firm. These differences help to distinguish the “core competencies” and strategic trade-offs

of the respective firms. Diageo recently announced that they intended to end the outsourcing of their marketing tasks as they determined marketing to be one of their core competencies, and thus needed to protect it.

Many beverage firms, including InBev, are running multidomestic and global operations in parallel to service all demographics throughout this industry evolution. By definition these activities do not comprise strategy, in fact, the practice of trying to avoid making strategic operational sacrifices is known as “straddling” (Porter, 1996) and it results in competitive weakness. This stuck-in-middle strategy can allow market participants to earn above-average profits only if the industry as a whole is currently attractive.

To analyze the specific activities through which firms can create a competitive advantage, it is useful to model the firm as a chain of value-creating activities (Porter, 1980). The activities the firm completes in-house should be those in which it has a competitive advantage.



3.5 Top Four Beverage Companies

In 2003 the top firms, ranked by gross beverage sales revenue, were: Coca-Cola (Coke), Nestlé, Diageo, Anheuser-Busch (A-B), and InBev (pro forma). (Beverage World, 2004) It should be noted that Coca-Cola bottler Coca-Cola Enterprises achieved \$17.33B USD in revenue (CCE, 2005), which would place it in third spot on the list, but because it is only a bottler, and largely a Coke-run entity, it has purposely been omitted. The focus of this analysis will be on firms which develop, manufacture, market and distribute beverages (or significant portions thereof like in Coke's case).

In the case of Nestlé, where product lines far exceed the realm of beverages, a snapshot has been taken solely of their beverage operations for comparison purposes.

3.6 Coca-Cola

Revenue at Coke from the years 2001 to 2003 was \$17.545B, \$19.564B and \$21.004B respectively (Coca-Cola, 2004), a CAGR of 9.41%. Net income has averaged 20% of gross revenue over the same period, due in large part to cost sharing with bottlers in marketing, beverage preparation, and transportation. In 2003 Coca-Cola Enterprises grossed \$17.33B in sales, and net income was \$674M or 3.9% of sales (CCE, 2005). Coke had 49,000 employees in 2003 (Coca-Cola, 2004) compared to Coca-Cola Enterprises at 75,000 employees over the same period (CCE, 2005).

The Coca-Cola brand is the most recognized brand worldwide (Coca-Cola, 2005); Coke leverages this fact with diversification into several product types including bottled water, sports drinks, juices and teas and coffees.

3.6.1 History

Cola-Cola or Coke, as it is better known, has existed since 1886. Founded in Atlanta, Georgia, incorporated in 1892, Coke achieved tremendous growth due to newspaper advertising and aggressive promotions. Sales began from a single pharmacy, but rapid product adoption quickly necessitated syrup plants in Dallas, Chicago and Los Angeles. By 1895 Coke was being consumed in every US state. Realizing the success of the product, two entrepreneurs secured bottling rights to Coke in 1899, and independently built a nation-wide, efficient bottling system (Coca-Cola, 2005).

Coke's biggest challenge in the early 1900's was product imitation by competitors. To combat this concern Coke advertised itself as "genuine", and the others as "substitutes". In another differentiating tactic Coke adopted a unique "hobble-skirt" bottle to fend off imitators (Coca-Cola, 2005).

In 1919 the company was sold and later reincorporated in Delaware. This launched the era under Woodruff's leadership, which focused on quality management and packaging innovation. Woodruff invented take-home packs, refrigerated vending machines and fountain dispensers, while building Coke's presence and brand internationally. Plants were placed in Canada, Guam, Cuba, and several other locales to service increasing demand in all parts of the world. Coke took the world's stage in 1928 by sponsoring the US Olympic team, merging entertainment with advertising.

During World War II the demand for Coke increased, and troops requested millions of bottles shipped to wherever they were situated. Seeing an opportunity, Woodruff built plants near troop locations, selling more than 5B bottles of Coke. These facilities remained and gave locals a taste for Coke, as well as leaving a fairly robust infrastructure for future worldwide sales.

The years following saw increased product brands, sales growth and advertising campaigns. Coke is now in 200 countries, producing nearly 400 brands; 1.3B servings of Coke are consumed every day." (Coca-Cola, 2005)

3.6.2 Operations

Coke's main business consists of manufacturing and selling beverage concentrates and syrups, and some finished beverages, to bottling and canning operations, distributors, fountain wholesalers and fountain retailers.

Concentrates and syrups are sold to bottling partners, which are authorized solely by the Company to manufacture, distribute and resell its Coke-branded products. This business system is internally referred to as "the Coca-Cola system," or just "the system.", yet is not a single entity from a legal or a management point of view despite Coke's deep involvement in the bottler operations (Coca-Cola, 2005).

The Coke's relationship with its bottling partners is unique in its collaboration. For Coke's success, it is imperative for its bottling partners to be successful. It is a century-old alliance in some cases, and a key strength that empowers the rapid execution of Coke's business strategies. They work together with their bottlers to ensure that Coke's syrup eventually transforms into a high quality final product, properly packaged and distributed (Coca-Cola, 2005).

Coke's relationship with non-owned or controlled bottling partners is still one of tight collaboration. Coke does not control all policies and programs of these bottling partners, but they do still take an active role in overseeing the production of their products. Coke permits the production of other beverages from non-owned bottlers, yet still requires a significant degree of power in all related production decisions.

The "Coca-Cola system" includes over 300 bottling partners. Coca Cola's ownership interest in Coca-Cola Enterprises (CCE), the world's largest bottler of the Coke's beverage products, was approximately 37% as at December 31, 2003. In 2003, net sales of concentrates and syrups by Coke to CCE were approximately \$4.7 billion. "Coca-Cola Enterprises estimates that the territories in which it markets beverage products to retailers (which include portions of 46 states and the District of Columbia in the United States, Belgium, Canada, continental France, Great Britain, Luxembourg, Monaco and the Netherlands) contain approximately 79 percent of the population of the United States, 100 percent of the population of Belgium, 98 percent of the population of Canada and 100 percent of the populations of continental France, Great Britain, Luxembourg, Monaco and the Netherlands." (Coca-Cola, 2005).

Excluding fountain products, in 2003 approximately 62% of the unit case volume of CCE was Coca-Cola trademark beverages, about 32% of its unit case volume was other Coke trademark beverages, and about 6% of its unit case volume was beverage products of other companies. Coca-Cola Enterprises' net operating revenues were approximately \$17.3 billion in 2003 (Coca-Cola, 2005).

Coke's proclaimed strategic priorities are:

1. "Accelerate carbonated soft-drink growth, led by Coca-Cola
2. Selectively broaden our family of beverage brands to drive profitable growth
3. Grow System profitability and capability together with our bottling partners
4. Serve customers with creativity and consistency to generate growth across all channels
5. Direct investment to highest-potential areas across markets
6. Drive efficiency and cost-effectiveness everywhere" (Coca-Cola, 2005)

3.6.3 Geographical Performance

Coke consists of five geographic operating segments (SBUs), as well as a corporate segment. The five SBUs are:

1) North America

Comprised of Canada and the United States, North America accounted for 30% of the Company's 2003 total net operating revenues and 29% of total unit case volume. With a combined population of 330M people, North America is serviced with 92 Coca-Cola brands, which are consumed at a rate of 150-249 per person per annum in Canada, and over 250 servings per annum in the United States. The North American SBU is led by the Coke's president and chief operating officer, Steven J. Heyer, and consists of two divisions: Foodservice and Hospitality and Retail Sales. Company products have been sold in North America since 1886.

"Sales by case volume in 2003 were 70% retail, 30% food service and hospitality. The 5-year CAGR on unit case growth rate was 2%, the 10-year CAGR was 4%." (Coca-Cola, 2005).

2) Africa

African sales accounted for 4% of the Company's 2003 total net operating revenues and 6% of unit case volume. Alexander B. Cummings, executive vice president of Coke, serves as president of this operating segment. The African business is divided into two divisions: North and West Africa and Southern and East Africa.

Coke together with its 40 African bottling partners constitute the largest single private employer in Africa. Coca-Cola was first bottled in Africa in 1929 and today they markets more than 80 brands, with locally-adapted beverages such as Sparletta, Hawaii and Splash complementing core global brands including Coca-Cola, Fanta and Sprite.

“Consumption across Africa generally falls below 50 servings per person per annum, with few exceptions. The 5-year CAGR unit case growth rate is 6% across Africa, 10-year CAGR is 7%.” (Coca-Cola, 2005).

In 2003, the “Real” integrated marketing campaign launched in 55 African countries and territories. The campaign and associated new packaging contributed to net operating revenues of \$827 million, an increase of 21% compared with 2002. Total unit case volume improved 5% and carbonated soft-drink (CSD) unit case volume also increased 5% versus 2002 (Coca-Cola, 2005).

With Africa’s most extensive distribution system, Coke continued to expand their array of noncarbonated beverages. The African bottled-water segment experienced 15% CAGR in volume from 2001 to 2003, and in response to this growth, Coke introduced Dasani on the African continent in 2003. In Ghana and Kenya, Dasani’s marketing has focused on local priorities such as the safety and purity of bottled water. Throughout the year, the African operating segment continued to improve efficiency by centralizing advertising, research and development, and purchasing (Coca-Cola, 2005).

Coke Africa supports several charities and community initiatives, and is active in stakeholder management. In 2003, The Coca-Cola Africa Foundation was involved with healthcare, education, the environment and poverty. It aided orphanages in South Africa, bought schoolbooks in the Ivory Coast, and sponsored the new classrooms in Ghana and Benin. The Foundation also helped to establish a new children's cancer hospital in Egypt. After the earthquake in Algeria, and flooding in Mozambique, the Foundation provided disaster relief to communities in need (Coca-Cola, 2005).

Included in its health benefits package, the Africa SBU offers employees, spouses and dependents HIV/AIDS prevention and treatment, including access to antiretroviral drugs. In 2002, the Foundation started to fund a similar program for African bottling partners, where needed. Approximately two-thirds of African bottling employees completed prevention and awareness programs by the end of 2003 (Coca-Cola, 2005).

3) Asia

This 3.3B person market had a per-capita consumption of 25; Australia and New Zealand consumed over 250 servings per person per annum, whereas China, India and several others were 50 or less. The 5-year CAGR on unit case growth rate in Asia is 7%, 10-year at 8%. The 10-year CAGRs in China and India were 20% and 53% respectively (Coca-Cola, 2005).

Asia accounted for 24% of the Coke's 2003 total net operating revenues and 18% of worldwide unit case volume. The Asian SBU is divided into six divisions:

China, India, Japan, Philippines, South Pacific and Korea, and Southeast and West Asia (Coca-Cola, 2005).

Net operating revenues in the Asia SBU were \$5.1B in 2003, with unit case volume increasing 4% in 2003 compared over 2002. Results were particularly strong in China, India and Thailand where core CSD, particularly single-serve packages, performed well, and noncarbonated beverages, such as Qoo, continued to increase in popularity. Results in Japan and Philippines were worse than expected (Coca-Cola, 2005).

With a prolonged economic slump, and an unseasonably cold and wet summer, Japan posed a challenge for the beverage industry in 2003. In this environment, Coke's opted to re-launch green tea brand Marocha 120, along with Diet Coke with Lemon and Canada Dry. Volume grew 8% in the 4th quarter, compared with 4% and 3% growth in the third and second quarters respectively.

In September, Coca-Cola Japan announced the creation of the Coca-Cola National Beverage Company. "This initiative is the first phase of an integrated supply chain management process that is intended to centralize procurement, production and logistics operations for Coke and all 14 of its bottling partners in Japan." (Coca-Cola, 2005).

In China, the Company rapidly responded to the Severe Acute Respiratory Syndrome (SARS) outbreak, resuming pre-SARS sales momentum by adapting national sales and marketing programs. "For the year, the Coke's sixth-largest volume country worldwide recorded double-digit profit growth as well as double-digit carbonated soft-drink and noncarbonated beverage volume growth. Coca-Cola

branded products were particularly strong, with the "Seize the Feeling" marketing campaign, new graphics and packaging innovation contributing to 13 percent volume growth and record sales in 2003." (Coca-Cola, 2005). The noncarbonated beverage segment continued in volume momentum. Qoo, a juice drink, experienced unit case volume growth of more than 70% in China in 2003 (Coca-Cola, 2005).

4) Europe, Eurasia & Middle East

Europe, Eurasia and Middle East, which accounted for 31% of Coke's 2003 total net operating revenues and 22% of worldwide unit case volume, is comprised of seven divisions: Central Europe and Russia, Eurasia and Middle East, Germany and Nordic, Iberian, Italy and Alpine, Northwest Europe, and Southeast Europe and Gulf.

Net operating revenues increased 25% to \$6.6B, due in large part to favorable foreign currency trends. Unit case volume improved 5% compared with 2002 in spite of the negative impact of the German deposit law on non-returnable packages (Coca-Cola, 2005). The Diet Coke family of brands experienced volume CAGR of 12% between 2001 and 2003, reflecting the strong consumer trend for low-calorie products (Coca-Cola, 2005).

Coke undertook an organizational restructuring across Europe, with a goal of greater efficiency for the business by means of closer alignment with bottling partners and overall reduced costs. The new structure attempts to accommodate the future needs of Coke's operations, which reflect the regional diversity in tastes and preferences, as well as growth rates (Coca-Cola, 2005).

121 brands are sold in this region of 1.2B people. 2003 per-capita consumption was 83 servings, with several countries above 250 servings per person per annum. With several large nations consuming less than 50 servings per capita annually, the 5-year and 10-year CAGRs on unit case growth are expected to continue their trajectories of 4% and 6% respectively for the region. The 10-year CAGR on unit case growth in Eurasia and Middle East has been 14% (Coca-Cola, 2005).

5) Latin America

103 brands are sold in this market of 539M people. Per capital consumption was 211, with Mexico and Chile above 250. Notably, all countries within the region consumed at least 50 servings. The 5-year and 10-year CAGR on unit case sales were 4% and 6% respectively (Coca-Cola, 2005).

Latin America accounted for 10% of Coke's 2003 worldwide net operating revenues and 25% of total unit case volume. The Latin America SBU has four divisions: Brazil, Latin Center, Mexico and South Latin.

Given a challenging economic and political climate, net operating revenues for Latin America were \$2.0B, which include negative foreign currency trends. The Latin American SBU experienced strong growth in 2003 with unit case volume increasing 4% over 2002 (Coca-Cola, 2005).

Mexico, home to the highest per-capita consumption of Coke's products, witnessed total unit case volume growth of 10% in 2003 and carbonated soft-drink

volume growth of 3% (Coca-Cola, 2005).

In Brazil, Coke experienced double-digit earnings growth in 2003 as it offered new packages, in both refillable and one-way presentations. This provides greater choice to consumers, which is well received in this market. Unit case volume declined 6% as a result of both unfavorable economic conditions and Coke balancing volume growth with margin expansion (Coca-Cola, 2005).

After a lengthy economic crisis and significant volume decrease in 2002, unit case volume in Argentina increased 13% in 2003. Coke focused on the needs of customers by customizing their marketing with local insights, and by offering new packages and brands (Coca-Cola, 2005).

6) Corporate

"The corporate segment consists of nine functions: Corporate External Affairs; Customer Management; Finance; Human Resources; Innovation/Research and Development; Legal; Marketing; Quality; and Worldwide Public Affairs and Communications." (Coca-Cola, 2005)

3.6.4 Challenges & Opportunities

Being the most recognized brand in the world has detriments as well as merits. Anti-American sentiment has been directed at Coca-Cola all around the world, expressed via product boycotts, share sales, website hacking, etc. Even some Americans, in protest of the Iraq war, opted to stop selling and consuming Coke

products. While the overall effects cannot be quantified, they are assumed to be relatively insignificant thus far.

Recycling initiatives are increasing globally, and they often target mass producers of disposable, recyclable products to establish momentum and public awareness. Coca-Cola has been responsive to environmental demands, as aforementioned regarding Germany's recycling policies. By means of their bottlers they use glass, aluminum, and PET (polyethylene terephthalate) containers for beverage containment. Because Coke does not bottle, they have effectively sidestepped their recycling onus, yet consumer unawareness of this arrangement would suggest otherwise. Coke is highly cognizant of their stakeholders, and actively manages these relationships in all facets.

While it is possible that Coke may experience input shortages, due to the short list of ingredients actually supplied by Coke to bottlers, it is highly unlikely. They use mostly synthetic chemical compounds and high fructose corn syrup to make their concentrate, which is shipped in raw "concentrate" or syrup form.

Coke employs technology to improve operational efficiency and profitability. The last few years have seen Coke roll-out a centralized North American ERP which streamlines IT, procurement, and supply chain, making operations, "leaner, more efficient, more effective, and more accountable." (Foley, 2004). Meanwhile at Coca-Cola Enterprises Project Pinnacle, a 5-year initiative involves SAP adoption on IBM machines across North America as a, "companywide business-transformation project." (Foley, 2004) "It's all about implementing standardized business processes," CIO Carton says. Noting that, "To squeeze profits out of such a low-growth business will require wringing more efficiencies.", Coke has also attacked the

Japanese supply chain management system for over \$100M savings in procurement, product, and logistics cost savings in 2004. (Foley, 2004)

Coke is working with SAP on their next generation of beverage software. "The companies plan to develop software capabilities to manage price lists, product promotions, and other merchandising efforts, and integrate them into SAP's apps." (Foley, 2004)

In India, Coke and SAP have signed yet another beverage development application for beverage distribution optimization. Robust in its functionality, this application will include NetWeaver middleware for remote connectivity, integrating SAP's ERP and CRM applications. "This should improve market execution, and the consumer will experience better service," said Margaret Carton, CIO at Atlanta-based Coca-Cola. "This will give us a more integrated system that hopefully will give us more information at the store level and account level, and we'll be able to more effectively manage the business on the street." (Songini, 2004) Coca-Cola is currently running a mix of ERP and supply chain management applications, including SAP's R/3 production planning applications. "What has been missing, said Carton, was the ability to connect direct store delivery capabilities to its ERP backbone." (Songini, 2004) This software should permit better coordination and access for vending machine sales and service, field merchandising, and sales, in addition to improving bottling operations.

Coke has developed Coke.net, a website which enables distributors, suppliers, service providers and customers to interact quickly and directly with Coca-Cola and its partners. Via the website Coke offers complete product catalogs, online ordering and real-time shipment tracking to registered distributors. For customers there is a

wealth of merchandising information; for service providers they can find machine schematics, training materials, and online chats with other technicians.

3.6.5 Summary

Coke's supply chain is broken into broad SBUs, relatively centrally controlled, and employs cutting edge technologies to enhance operational performance. Less profitable functions are offloaded to partner firms so Coke's financial statements display superior profitability. The complexion of each SBU's supply network is tailored to accommodate regional differences, which include political, regulatory and cultural variations. Relatively few global synergies are achieved at Coke, with each SBU essentially autonomous in operational latitude.

Coke's core competencies include marketing, supply chain partner management, and consumer market understanding and responsiveness. They are hardly a beverage firm in the sense of production, rather they are suppliers to beverage manufacturers. The transformation Coke makes to their inputs is relatively small, yet they hold disproportionately large market power in determining the distribution of profitability and operations of the entire industry.

Coke's beverages are easily reproducible and non-differentiated from competitors, but marketing efforts have created an image for their products which commands and receives higher prices in retail markets. Regardless of its operational efficiency, supply chain policies, or competitive evolution, Coke has led the industry by creating a value proposition for consumers which focuses on psychographic appeal, not tangible value.

3.7 Nestlé

3.7.1 Overview

Nestlé is a food and beverage conglomerate, who also have divisions in pet foods and pharmaceuticals. In 2003, of their \$75B USD revenue, \$19B (27%) was attributable to their beverages division. (Nestlé, 2003a) 2003 yielded a \$3.3B EBITA (17%) in the beverage division. (Nestlé, 2003b) From their global headquarters in Vevey, Switzerland, Nestlé offers 34 beverage brands, in the categories of soluble coffee (34% of sales), bottled water (34%), and others (32%).(Nestlé, 2003b) 2003 beverage sales by region was Europe 38%, Americas 25%, Asia, Oceania & Africa 37%. (Nestlé, 2003b)

Nestlé's "four pillars of strategy" are:

1. "Innovation and renovation
2. Consumer communication
3. Whenever, wherever, and however
4. Operational efficiency" (Nestlé, 2003a)

Nestlé continually challenges itself to innovate existing products for taste, appearance or other significant improvements to the customer's experience. With over 500 plants worldwide, and significantly diverse operations, Nestlé's intra-corporation technology and knowledge transfer is efficient, and delivers excellent results. For example, expertise in home and office water delivery operations in the United States were successfully replicated in Europe (Nestlé, 2003a).

Nestlé leverages capital for quick-to-market needs; bottled water sales are experiencing 10-15% CAGR globally and Nestlé has rapidly deployed capital to ensure that plant capacity does not hinder product growth. (Beverage Industry, 2004) With expectations to add one plant per year over the next ten years, Nestlé's superior bond rating ensures that any borrowing will not interfere with their low-cost manufacturing goals. (Beverage Industry, 2004)

"In North America, Nestlé Waters produces a number of mostly regionally bottled water brands such as Poland Spring, Arrowhead, Ice Mountain, Deer Park, Zephyrhills, Ozarka and Calistoga. Nestlé Pure Life, one of the company's international brands, also is quietly achieving big sales in the United States. So far, its sales have remained under the radar because much of it is sold through Wal-Mart, which is not measured by the national syndicated data services." (Beverage Industry, 2004)

An example of Nestlé's cost-saving efficiency is the company's choice to use a warehouse delivery system instead of direct store delivery (DSD). ""We don't go to market DSD, we use people's warehouses, and we think it's an advantage in this day and age," Chief Executive Officer Kim Jeffery says. "The bigger customers get, the more they like doing business the way we do it, and if we can be the best guy to do business with, we're really in an advantage situation."" (Beverage Industry, 2004)

"Insofar as logistics, Jeffery says, "We've spent a number of years getting to best-in-class in logistics and manufacturing," he says. "Now that we've done that, we've married up those responsibilities regionally. By decentralizing, we've been able to put a regional focus on best practices from a logistics standpoint."" (Beverage Industry, 2004). Decentralizing beverage distribution is an example of the way

Nestlé Waters has attempted to standardize operations for operational efficiency and put decision-making in the hands of its employees. Nestlé Waters production plants, for example, have incorporated self-guided teams that run their own daily debriefing meetings to discuss what went well during the day and what could be improved. (Beverage Industry, 2004).

3.7.2 Logistics

Nestlé Waters' Hollis plant produces its Poland Spring brand, and serves as the model against which all new Nestlé plants are built. The plant, opened in 2000, is not vastly different from Nestlé's original Poland Spring plant, but beginning "from scratch" allowed the facility to be built with the principles of operational efficiency. The plant is vertically integrated, manufacturing all its own PET pre-forms and bottles, and features a manufacturing configuration designed to flow frictionless from bottle production to the loading docks. "Our new plants are all laid out the same way to maximize the efficiency of what we are doing. They flow from raw material to finished product, and out of the plant," says Kim Jeffery, chief executive officer of Nestlé Waters North America." (Beverage Industry, 2004)

The Hollis plant measures nearly half a million square feet, and features highly automated production lines, which produce about 900 million PET bottles and 65 million cases of finished product per year, with merely 200 employees. It employs seven bottling lines, running retail-sized single-serve and bulk packages. The Hollis plant does not produce for home and office delivery. PET pre-forms manufactured at the plant are used in Hollis and sent to locations that do not make

their own pre-forms. "In 2004, the company expects to produce close to 1 billion bottles and 1.5 billion pre-forms, at a rate of 7,500 to 55,000 per hour, per machine, depending on seasonal fluctuations." (Beverage Industry, 2004)

"Eight blowmolders serve the plant's seven filling lines, with four machines dedicated to the most popular half-liter size. The plant can produce as many as 30,000 PET bottles per hour, per machine in 8-ounce, 12-ounce, half-liter, 24-ounce, 1-liter, 1.5-liter and 1-gallon sizes. Most of the water bottled in Hollis goes into the PET bottles it produces, but the company also features some HDPE packaging. Filling speeds vary, depending on the size of the package, from 90 bottles per minute for the 2.5-gallon HDPE size to more than 1,000 per minute for the half-liter PET size." (Beverage Industry, 2004)

"Water that has been filtered and gone through UV treatment is filled in a positive-pressure enclosure for further protection. Several inspection machines placed along the bottling line check for things such as fill levels and cap placement. In addition, the plant's quality control team continuously performs its own set of tests while the lines run. The plant's QA/QC lab operates seven days a week, testing water samples from the source through filtration and bottling, it also retains samples from every product run." (Beverage Industry, 2004)

Nestlé Waters tries to have dedicated bottling lines for specific sizes and packages, but according to David Burns, Director, Northeast Supply Chain, the plant has become great at integrating newer packages with its standard sizes, and not compromising its high-speed processes. "'We continually have new SKUs," he says. "We've added a two 12-pack [package] on the 24-ounce line, two 12-packs on the half-liter line, and we're reducing material by taking out the tray on some of the cases." One of the company's newest packages is the 12-ounce refrigerator Spring Pack, and it often produces special bonus packages such as 15- or 28-packs." (Beverage Industry, 2004)

"While the plant has a 240,000-square-foot warehouse, with a capacity of nearly 1 million cases, its goal is to move product from the palletizer straight to the loading dock whenever possible. When product is stored in the warehouse, it is arranged with the fastest-moving products closest to the shipping docks. On average, the plant ships 160 loads per day, with more than 200 on peak days. "In order to do this, you need to make sure you're

making [the product] right the first time, every time," Jeffery says. "We feel very confident with the systems we have in place." "The warehouse holds about one million cases, which varies from eight to 10 days' inventory in the winter to three or four days during the height of summer," says Factory Manager Gareth Bowen." (Beverage Industry, 2004)

"The 390,000-square foot Cabazon facility is located at the base of the mountain from which it sources spring water, and produces Arrowhead brand spring water, and occasionally, the Nestlé Pure Life brand. It houses five and a half bottling lines and produces 24 million cases per year. To avoid extra shipping costs, Nestlé Waters prefers to keep bottling operations as close as possible to the final product destination so some of the water from Cabazon's spring is hauled by tanker trucks to other California plants, and some is bottled onsite. Water from the spring is pumped to the facility and held in three 60,000-gallon silos outside the plant. Once inside the plant, the water undergoes two micro-filtration processes - once to remove particles such as sand that might have come in from the outside, and once to ensure it is free from any micro-organisms. The water then goes through ultraviolet treatment as a final safety measure. Filtering operations are located at each bottling line, allowing the water move straight from filtration to the bottling line." (Beverage Industry, 2004).

Unlike most of its competitors, Nestlé Waters do not use direct store delivery (DSD), but ships products directly to customers' warehouses and distribution centres. The Hollis plant, for example, uses only third-party carriers to ship product, and about 90 percent of distribution is done through direct shipping rather than using a third, intermediate warehouse (AmBev, 2004). ""A lot of things have driven this," he says. "If we have the right product mix, we don't have to take it someplace else, bring it back here and ship it out. It's about having the right inventory and changeover flexibility. It's a lot cheaper to changeover these lines quickly - have that pit-stop mentality of changing them over and getting the products we need."" (Beverage Industry, 2004)

"According to Jeffery, it also requires big thinking among Nestlé Waters employees. "It cannot work if the company is not culturally aligned, with a goal that's bigger than the individuals or their specific jobs," he says. The company puts a premium on finding the right employees, and Jeffery says toe selection begins right when a new plant opens. "Our manufacturing assets are all fairly new, and we can build a plant with no baggage," he says. "We

have the pick of the litter as far as employees. We know what we expect from people, and as a result, we have one of the most progressive workforces in the beverage industry in the United States because it's all new and it's all using best practices.'" (Beverage Industry, 2004)

As a unit of one of the largest global food companies, Nestlé Waters has access to several performance meters that help it determine best practices. The company is always measuring itself against its predetermined goals. "Continuous Improvement Manager Val Lovelace says, "It's all about taking apart what we do really well today and making sure we can do it even better tomorrow. One of the things about Hollis, which is an outstanding facility, is that that's not enough. How do we keep it that way five years from now?"' (Beverage Industry, 2004)

"Jeffery adds, "We're working to get better every day and measure ourselves against key performance indicators in every aspect of the business. The way we do this is through developing people." One of the ways it develops people is to put decision-making into the hands of employees. Nestlé Waters plants, including Hollis, use self-directed work teams, and employees are encouraged to meet daily to evaluate production and discuss changes." (Beverage Industry, 2004)

3.7.3 Challenges

Bottled water, more than other beverages, seems to elicit anger from environmentalists. Nestlé Waters has made efforts not only to communicate its view that it is a "natural resource company", but also to incorporate a wide variety of environmentally sustaining measures. Its Cabazon, California facility as well as its Ice Mountain facility in Stanwood, Michigan have both received certification from the Leadership in Energy & Environmental Design (LEED) program of the U.S. Green Building Council (Beverage Industry, 2004).

““We do great environmental work before we come into a place, and continuous monitoring work to make sure the water resources are sustainable for a long time,” Jeffery says. “You can't build a plant on wheels. The spring water source has to be there 100 years from now, and in order to do that, we've got to have good land use practices and aquifer practices. We've got to know what's coming out of there and how fast it's being replenished. The health of the aquifer is paramount to us.”” (Beverage Industry, 2004)

““We want to be transparent with our communities. We want to help create context around what we do so people don't fear it, they understand it. At the state levels where we operate, we are taking a much more proactive position regarding educating legislators and regulators about what we do.”” (Beverage Industry, 2004)

Nestlé Waters continually monitors their spring water sources, ensuring longevity and integrity. They only draw as much water as is safe for the spring, and that which helps maintain the flavour characteristics of each brand. The Hollis plant resides on 1,485 acres of land, which includes the source of their spring water. Water is gathered from boreholes on the property, sent by pipe to an intermediate pumping station, and finally to the plant where it is packaged and filtered. (Beverage Industry, 2004)

“Nestlé Waters' Cabazon, California, plant is one of the company's newest facilities, and was built with both high performance production goals and environmental considerations in mind. This summer, the plant received a Silver rating from the Leadership in Energy & Environmental Design (LEED) program of the U.S. Green Building Council, making it the first food manufacturing plant and one of only a few industrial facilities in the country to earn the distinction. The Cabazon plant is located between Palm Springs and Los Angeles on reservation land owned by the Morongo Band of Mission Indians. A sustainable design was important to both parties, says Operations Manager Mike Franeesehetti: “With the tribe as our partner, it was the goal from the very concept [of the plant]. They're very environmentally conscious.” The plant opened in April 2003, and includes a number of “green” features such as recycled construction materials, energy-efficient systems and water-saving fixtures - and it's managed to do so while maintaining the high-speed operations expected of today's Nestlé Waters plants.” (Beverage Industry, 2004)

"Filtration and other quality measures are performed by the quality control department, which frequently tests for things such as total dissolved solids (TDS), turbidity, pH, bacteria and water levels in the silos. It also is responsible for the plant's clean-in-place (CIP) sanitation system. "We monitor [the water] all the time - before the filters, after the filters, in the silos, on the lines..." says Quality Manager Judie Chapman. "QA has a pretty important job because they not only check all the water to make sure it's within specification, but they also make sure there is plenty of water to go to all the other faculties."" (Beverage Industry, 2004).

"One of the realities of operating in southern California is that energy - or a lack of it - can often be an issue. To ensure the plant keeps running, Nestlé installed a 5-megawatt combined heat and power (CHP) generator to cover most of its energy needs." (Beverage Industry, 2004).

Customers choose bottled water over tap water for the perceived health benefits of the former over the latter. Quality control is of utmost importance to water bottlers, because if consumers find that bottled water quality is inferior or even equivalent to their expectations, it is likely that growth in bottled water consumption will reverse.

3.7.4 Summary

Nestlé's supply chain is broken into broad SBUs, relatively centrally controlled, and employs cutting edge technologies to enhance operational performance. Less profitable functions are offloaded to partner firms so Nestlé's financial statements display superior profitability. The complexion of each SBU's supply network is tailored to accommodate regional differences, which include political, regulatory and cultural variations. Relatively few global synergies are achieved at Nestlé, with each SBU essentially autonomous in operational latitude.

Nestlé's core competencies include marketing, supply chain partner management, and consumer market understanding and responsiveness. A large

multinational conglomerate, Nestlé acquires firms which produce products that complement their existing product lines, and with their significant capital, can create a deep psychological impression on consumers through persuasive marketing.

Nestlé's beverages are easily reproducible and non-differentiated from competitors, but marketing efforts have created an image for their products which commands and receives higher prices in retail markets. Regardless of its operational efficiency, supply chain policies, or competitive evolution, Nestlé has been successful in the industry by creating a value proposition for consumers which focuses on psychographic appeal, not tangible value.

3.8 Anheuser-Busch

3.8.1 Overview

Anheuser-Busch, or "A-B" as it is commonly known, is a vertically integrated company that specializes in beer brewing. With 23,316 employees, in 2003 A-B managed gross revenue of \$16.32B USD. (A-B, 2004a) The net income of this St. Louis, Missouri firm was \$2B, or 13% of revenue (A-B, 2004a), with total returns to shareholders (TRS) for the past 3 years of 27% (Diageo, 2004a). Anheuser-Busch offers 130 brands worldwide (A-B, 2004a), including the world's most popular brand (Budweiser) and the U.S.'s most popular brand (Bud Light). Using a strategy of partial ownership, equity stakes, export agreements and license contracts, A-B manages to get their product into 80 disparate markets. (A-B, 2004a)

Highly focused on the U.S. market, A-B holds nearly 50% market share of beer, and has retained this ratio for several decades (A-B, 2004a). With a market capitalization of \$38B USD (as at Feb 6, 2005)(Yahoo.com, 2005), investors are confident that A-B's business model will continue to return outstanding TRS in the years to come: "Anheuser-Busch is an acknowledged leader in the alcoholic beverage space, a mature, stable industry that is relatively insensitive to macroeconomic conditions and enjoys strong secular growth." (Caggiano, 2002)

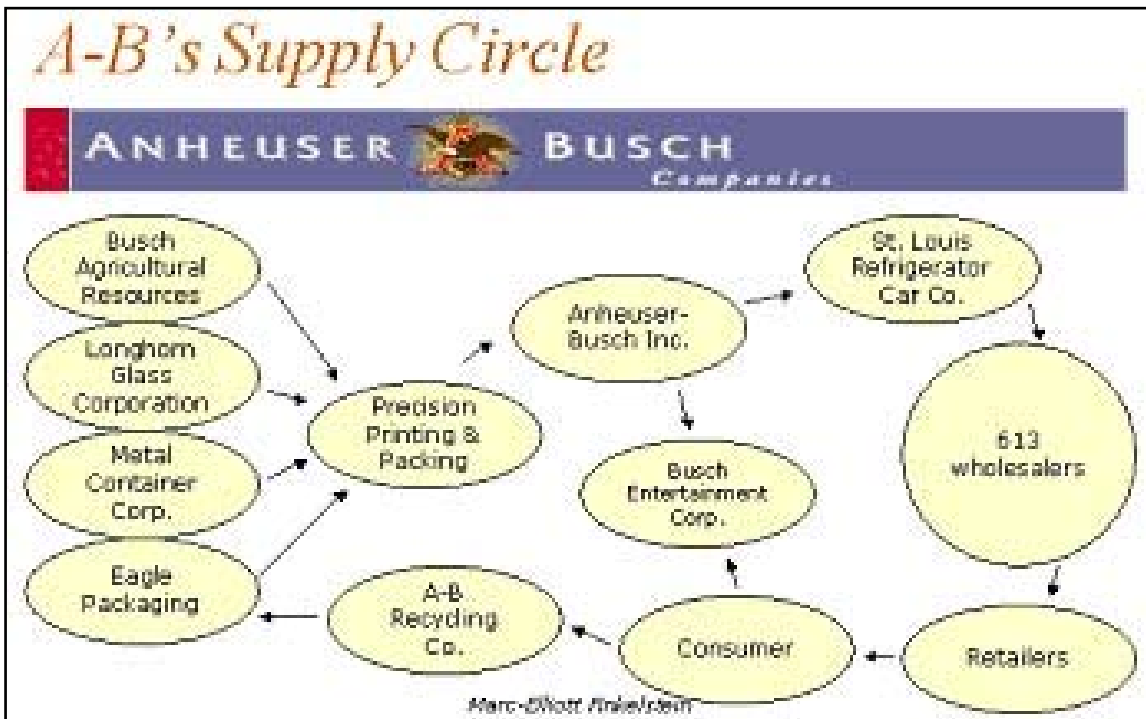
3.8.2 History

"In 1860 Eberhard Anheuser purchased a failing Bavarian brewery, to be joined by his son-in-law Adolphus Busch a few years later. Using state-of-the-art technology, Busch led the company through turbulent times, eventually creating a very high quality beer. This led to the development of Budweiser in 1867, which was marketed with "the highest quality ingredients

and time-consuming traditional brewing methods"; Michelob followed. World War I, the Great Depression, Prohibition and World War II forced A-B to examine other avenues for solvency, which inspired the diverse number of businesses they own today. Success came quickly thereafter, and a resilient and experienced company emerged to claim a large portion of U.S. market share in beer sales. Since 1957 they have not relinquished the industry lead in U.S. beer production, leading to their commanding 50% share in 2003." (A-B, 2004b)

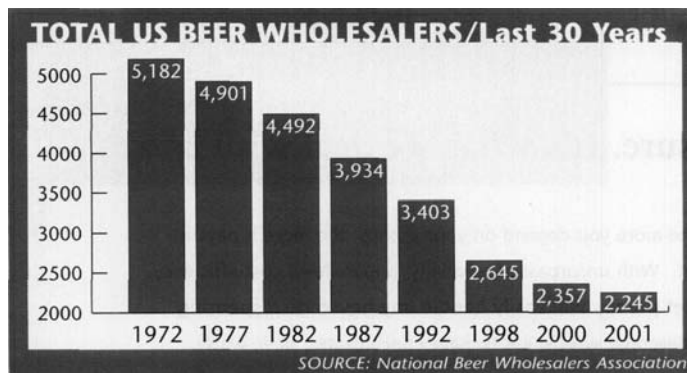
3.8.3 Logistics

Anheuser-Busch has robust vertical integration in the United States, as seen



in the adjacent diagram. From commodity growth, harvest, storage, transport, milling, brewing, bottling, shipping, and even wholesaling, A-B has an ownership interest.

Anheuser-Busch imposes exclusivity on most (67%) of its domestic distributors in the



United States, which has helped to spur rampant consolidation on this level of the manufacturer/ wholesaler/ retailer supply chain. When coupled with A-B's involvement in all facets of their vertical businesses, this places A-B in a position of power, which it has wielded effectively for several decades in the United States. "A-B's plan of "Seamless Selling" closely aligns the focus of the company, its wholesalers and retailers in multiple areas, such as technology, communications, supply chain efficiency, and legislative and social issues. By removing these barriers between brewer, wholesalers and retailers, the company will continue to improve sales and service performance while generating volume and revenue growth. A high level of wholesaler exclusivity helps makes this seamless approach possible." (A-B, 2004a)

A-B's plants in the United States are considered "Breweries of the Future" (A-B 2004a), running at 96% capacity (A-B, 2004b), and using significantly less raw materials, man-hours, and capital expenditures than comparable plants (A-B, 2004a). Thoroughly automated, the 12 U.S. plants utilize technology to control all aspects of the production process, and beyond. Despite the high efficiency, A-B's plants are relatively flexible and capable of rapidly switching to a new product line. Anheuser-Busch's Michelob ULTRA low-carbohydrate beer's success was due in large part to the ability of the plants to produce and deliver a product that far exceeded A-B's most ambitious forecasts.

A-B produces and distributes competitor's products, including the best-selling Bacardi FABs. In addition it licenses out the manufacture and distribution of its global brands through its competitors. The A-B business model involves taking only equity stakes in companies outside the United States, and it does so to capture emerging markets, fend off competition, and to penetrate foreign markets with its

global brands. The only markets considered for global expansion are ones which can support sales of premium brands and have favorable demographics.

A-B is an ardent user of SAP's ERP software.

"Past investments in information systems are contributing to substantial improvements in productivity and system-wide logistics. For example, Anheuser-Busch brewery warehouse operations now load more than 50% of Anheuser-Bush volume directly from packaging lines into trucks or railcars [crossdocking], avoiding double-handling. In 2002, Anheuser-Busch reduced truck turnaround times at the breweries by 20%, eliminating 65,000 hours of driver and equipment waiting time." (A-B, 2004b)

3.8.4 Marketing

Anheuser-Busch has utilized marketing effectively, and continues to do so today. Known for yearly Super Bowl commercials, race car sponsorships, and product placements on high-profile TV shows and movies, A-B gets high value for their advertising dollars. Focusing on the 21-27 age segment, A-B has linked itself with the Olympics, Major League Baseball, National Football League, FIFA World Cup Soccer, NASCAR, and several others sporting events.

Also leveraging their amusement parks, A-B has ample opportunity to remind the American public, and some international audiences, the merits of their beer over their competitors.

3.8.5 Challenges & Opportunities

The A-B Recycling Company recycled over 25B cans in 2003; A-B's production operations produced less than 25B cans in the same period (A-B 2004a). As a net recycler A-B does not face harsh criticism for their bottle and can production.

Anheuser-Busch's subsidiary firms include amusement parks throughout the United States, farming, label printing, et cetera, consequently A-B faces challenges beyond those of the typical beverage manufacturer. Amusement park attendance is highly sensitive to the threat of terrorist attacks, whereas labeling profitability is highly correlated with pulp and paper prices. A-B's diversity both at home and abroad have led to significant, yet mitigated, risk.

A-B's decision to purchase equity shares in foreign brewers exposes A-B to political, climatic, macroeconomic, and other risks, yet the effects are mitigated through A-B's geographically dispersed investments. Relative to other international brewers their exposure to overall risk is lower. Conversely, with complete vertical integration A-B's risk in their domestic market is much higher than competitors. They have sacrificed stability for control, yet have successfully navigated domestic risk for 150 years.

Like Coke, A-B is another globally-recognized brand which is symbolic of America. Anti-American sentiment can impact global sales through an abrupt termination of a licensing contract, or due to a product boycott. A-B's global sales continue to grow in all regions, therefore the effects so far have been muted.

Opportunities unique to Anheuser-Busch include the introduction and reinforcement of their products to the 20M people who attend their parks each year. This has given A-B the image of more than just a producer of a regulated substance, rather A-B is regarded as entertainer, innovator and American icon.

3.8.6 Summary

A-B is somewhat unique in its supply chain when compared to competitors. Highly vertically integrated and nationally focused, Anheuser owns and operates their entire beer brewing process, as well as what they find to be adjacent businesses. When making international expansion decisions, A-B has not acquired any firm outside of the United States, rather they opt for a minority ownership stake in firms in their targeted region. From these firms, and from global licensees, Anheuser has a platform from which to deliver its global Budweiser brand.

Marketing, like all other beverage firms, is key to the success of A-B. Based on the quality sacrifices inherent in outsourced brewing, Budweiser relies more on brand marketing than taste consistency to ensure customer loyalty.

3.9 Diageo PLC

Diageo is a beverage manufacturer, bottler and distributor headquartered in London, England. With 2003 revenue of \$15.624B USD in 2003 (Diageo, 2004a), Diageo is the fourth largest beverage company in the world. Net income in 2003 was \$3.541B or 23% of revenue, which at 24,561 employees, works out to \$144,155 profit per employee (Diageo, 2004a). Serving 180 markets (Appendix 1), Diageo offers 130 beverage brands, 650 SKUs (Diageo, 2004c). With a market capitalization of \$40B USD (Diageo, 2004c), this premium drinks company trades at 11 times earnings, boasting a TRS of 39% over the last 3 years. (Diageo, 2004a)

“The Premium Drinks division is the principal focus of Diageo’s business. The company has identified eight, what it terms, global priority brands (GPBs): Smirnoff, Guinness, Johnnie Walker, J&B, Baileys, Captain Morgan, Cuervo and Tanqueray, all of which rank first or second in their respective markets.”
“In addition to these global brands, the company has also identified a further group of local priority brands (LPBs) that enjoy prominence in their national or regional markets. Chief among these are Crown Royal, Seagram’s 7, BV and Sterling wines in North America, Bell’s, Gordon’s and Archers in the UK, Bundaberg in Australia, Red Stripe in Jamaica and Buchanan’s in Latin America.” “All brands that are not GPBs and LPBs are defined as category management brands (CMBs) and in fiscal 2002 represented around one quarter of total volume.” (Euromonitor, 2004)

3.9.1 Strategy (Diageo 2004c)



Diageo claims it is a marketing firm, operating within the beverage space of the consumer goods industry. Core competencies are enumerated as: “consumer opportunity and trend mapping; concept and packaging development; and, liquid development.” (Malcolm, 2003a) It recognizes these core competencies in several ways, including the merger of the functions of marketing, sales and innovation.

Diageo’s formula for sustainable brand building success is:

1. “Ambitious, but credible growth aspirations
2. Clear, simple and winning strategies
3. Brilliant execution against codified growth drivers
4. Rapid search and reapplication of best practices across the world – utilizing our diversity, inventive capacity and global presence.” (Malcolm, 2003a)

Diageo prides itself on DWBB (Diageo Way of Brand Building) as their proprietary means to establish and maintain a Diageo brand (Appendix 2). DWBB is

taught internally to a large ratio of Diageo employees so that both the path to success and the goal are well defined to key staff.

3.9.2 History

Diageo's history begins in 1997, but the companies from which it is built date back to 1749, with Alexander Gordon and Arthur Guinness each independently launching their beverage companies, and Johnson & Justerini forming a beverage partnership. Johnnie Walker set up shop shortly thereafter in 1794. Around the world several later-to-be-acquired companies also began operations, notably Grand Metropolitan in 1934, and Burger King, also in 1934. In 1989 Grand Met acquired Pillsbury and Burger King, and merged in 1997 with Guinness to form Diageo. Since this merger Diageo has divested itself of all business outside of premium beverages, including the sale of General Mills, Burger King and Pillsbury. (Diageo, 2004b)

3.9.3 Sales

By region, Diageo's revenue is represented in the adjacent table. Nearly 75% of

revenue comes from Europe and North America combined, yet profitability in all

(M GBP)	Turnover by market		Operating Profit by market	
	2004		2004	
Europe	3922	44%	640	33%
North America	2701	30%	713	37%
Asia Pacific	996	11%	229	12%
Latin America	460	5%	143	7%
Rest of World	812	9%	186	10%
Total	8891	100%	1911	100%

other regions is significantly higher as a percentage of sales (Diageo, 2004a).

3.9.4 Logistics

"Today Diageo is able launch a new brand to market within four weeks, and to complete distribution across the United States within 30 days." (Diageo, 2004a) This has been made possible through their recent "NGG initiative", which permits only one distributor for all Diageo products in each U.S. state. Thus far 35 states participate in the NGG initiative, who together represent 85% of Diageo's volume. (Walsh, 2004a)

While concerned about operational efficiency, Diageo seeks sustainable top-line growth:

"The supply chain guys in your organisations are killing themselves to find 1% or 2% of cost savings and cover the cost of inflation. They near-constantly radically restructure organisations to get 2% to 3% out of overheads. When you think of the amount of money that is spent in building our brands, the 5% improvement [in marketing spend] may be the best return your money can get." (Malcolm, 2003b)

Diageo begun an aggressive restructuring effort in Ireland, which is expected not to exceed a 2-year payback period on expenditures. Other restructuring efforts are currently taking place in Somerset and Schieffelin. (Walsh, 2004b)

Diageo uses state-of-the-art technology and efficiency measures to achieve cost savings and operational efficiencies. "In 2003 Diageo announced the global outsourcing of IT to Accenture. "This agreement marks an important step toward our goal of implementing our new operating model and our intent of more clearly leveraging our global scale to support each of our in-market businesses" said Robin Dargue, CIO." (Business Wire, 2003a) ""Diageo has long been an industry leader in using innovation to enhance shareholder value, and this is yet another strong example," said John Zealley, a partner in Accenture's Consumer Goods & Services

practice. "With new ERP systems, Diageo will be able to focus on its premium brand portfolio and compete in a market that demands speed and efficiency." (Business Wire, 2003a)

In the same month Diageo introduced Siebel systems to their Guinness operations in Malaysia, to manage "100 dealers and 170 sales representatives used to distribute its beer brands to approximately 26,000 retail outlets." (Business Wire, 2003b) This move will "streamline its customer-focused business processes to improve productivity as well as improve the visibility of customers, products, and sales information." (Business Wire, 2003b)

"On the standardization of technology at Diageo, Barbara Carlini, CIO North America writes "Everyone now uses a Compaq Evo laptop or desktop running Windows 2000, Outlook 2000 and Office 2000 software. We also standardized desktop images to cut down on unsupported software installations. With Managesoft 6.9, we can upgrade systems and software all at once and remotely, whereas previously this was a manual process. Our employees have greater mobility and are able to work seamlessly from any of Diageo's 150 locations worldwide.

We implemented SAP in 2002 and embarked on a multi-phased effort to standardize our infrastructure from four ERP environments to one and build a common operating language across our business. When I came onboard, there were 128 active projects underway. We had to prioritize to ensure we made wise technology investments. We have 34 active projects in North America, all reviewed and approved by a cross-functional executive steering committee. Every initiative is evaluated based on its business value, including revenue enhancement, cost reduction and business-focus alignment. This helps us ensure the IT team is truly focused on driving growth across the enterprise." (Carlini, 2004)

In 2003 Diageo moved to consolidate its 5 sales regions to 3 central hubs. (Beverage Industry, 2003) It also "reduced the size and influence of its global procurement function after concluding that multi-country aggregated deals are not the big prize it expected. Procurement managers at a country level will now take

more of the decisions about how to spend over 2B GBP a year on goods and services." (Geraint, 2003)

"Diageo has completed two successful pilot project in CPFR (collaborative planning, forecasting and replenishment), and plans to roll-out and implement CPFR with 120 distributors by the end of 2004." (Inventory Management Report, 2003)

"Commenting on the benefits, "The potential savings are substantial. Conservatively, our CPFR program will drive significant benefit to Diageo and its partners," declared Stephen Costallos, director, supply chain capabilities, Diageo North America."

(Inventory Management Report, 2003)

"Diageo is rolling out SAP AG back-office software across North America-a \$110 million project-and supply chain management software from Manugistics Group Inc." (Frontline Solutions, 2004) ""Manugistics manages both shipment- and

depletion-based forecasting," says Costallos. "We now have a holistic view to make decisions for more effective inventory and transportation management."" (Frontline Solutions, 2004) "The Manugistics system has provided exception management and

alert capabilities. Diageo and its partners now have the flexibility to plan at different product hierarchies (i.e., by brand or brand/pack), and they can plan on different time horizons." (Frontline Solutions, 2004)

"Diageo expects an inventory reduction on its side alone of between \$0.7 million to \$1.1 million. Freeing the sales team from inventory and order management duties (accounting for about 20% of their time) should result in an annual sales uplift of \$2.9 million to \$3.3 million, and annual logistics costs could be cut by \$600,000, based on reduction of internal transfers and reduced obsolescence. Results of the first pilots support these projections. Currently, Diageo has an average of 58 days of inventory (\$13.7 million) in the supply chain with the six partners in the CPFR program. The goal is to reduce that to 22 days (\$5.4 million). But getting there will require developing trust with the distributors." (Frontline Solutions, 2004)

“It's hard to get that trust, but we're making progress," says Costallos. "The tool lets distributors see the effects of the collaboration.” (Frontline Solutions, 2004)

“Process and culture change have been the biggest challenge, but there were technological challenges as well. The system was initially slow, with a response time of three minutes. Diageo had to adjust the application and the load balancing for its hardware to improve performance.” (Frontline Solutions, 2004)

“Diageo has organized its partners into tiers and plans to base its level of collaboration on the customer's capabilities. About 25 strategic customers will have a highly automated CPFR relationship, with another 100 key accounts using what Costallos calls manual/basic CPFR methods. Another 125 mid-tier accounts will collaborate through exception management. Customers in emerging markets with low technological capabilities will interface with Diageo through telesales or a Web portal.” (Frontline Solutions, 2004)

“Distributors in the spirits industry are traditionally averse to change, so Diageo conducted a distributor "lab" to introduce the concept to its customer base. It received valuable feedback from its partners, indicating that they wanted more automated data collection, a simplified process and real-time processing. "At the lab, we showed them how easy it is," says Costallos. "It looks complicated, which is one reason CPFR is not progressing like it could be. But if a beer distributor can do this, anybody can. You don't have to be that tech savvy to collaborate." Costallos says he also doesn't think it's necessary to follow all nine steps of the formal CPFR process-just the critical ones.” (Frontline Solutions, 2004)

“Reducing inventory means Diageo is selling less product, but Costallos says you make the argument that distributors will invest that cost savings in Diageo products. CPFR stabilizes the supply chain, making manufacturing more efficient and eliminating the cost of destroying leftover product at the end of the year. "We added tremendous cost in our supply chain," Costallos says, "but the value is in production planning.” (Frontline Solutions, 2004)

“Costallos says Diageo could also alter sales and pricing terms with its distributors to reflect the new business processes. In the meantime, Costallos says Diageo is in the process of developing a program to get point-of-sale data from retail stores. The company eventually wants to distribute its products right off the line and extend collaboration to its raw material suppliers.” (Frontline Solutions, 2004)

"Last June, Diageo's European manufacturing division joined the GlobalNetXchange (GNX) retail B2B marketplace and implemented the GNX Supply Chain Collaboration Suite (based on Manugistics software) to support collaborative replenishment with its dry goods suppliers." (Frontline Solutions, 2004)

"GlobalNetXchange (GNX), is the leading business-to-business marketplace for the global retail industry." (PR Newswire, 2003) "The new, automated process supported by GNX is now integrated with Diageo and supplier systems and being used to more efficiently manage day-to-day manufacturing operations." (PR Newswire, 2003)

"Incorporating elements of a Co-Managed Inventory (CMI) approach, the new process transitions responsibility for raw materials ordering to suppliers, with support from an online planning system. This system calculates ideal delivery quantities for raw materials based on the forward manufacturing plans. Using a system of alerts, it ensures that stock levels are minimized, availability is maintained at high levels -- and significantly reduces the administration needed to operate the call-offs. By expanding the program, Diageo expects to measure further improvements in areas of administrative and logistics costs, lower raw goods inventory levels, and better materials availability in a larger portion of its business." (PR Newswire, 2003)

"Following the success of the collaboration programme at the initial plants in Scotland, which achieved significant savings and very positive feedback from all users, we have extended the system to our other major European plant in Santa Vittoria," said Colin Wilkie, Diageo's Scotland Amsterdam Supply IS Director. "Based on the global template for supplier collaboration, we have delivered a common process for raw material supply which supports our strategic direction and is expected to bring significant benefit to our business as we scale up. GNX's support and collaboration expertise has greatly simplified the process, and made such a rapid rollout possible." (PR Newswire, 2003)

"I'm proud of the fact that Diageo trusted GNX with supporting the design of the global template for Diageo's supply-side collaboration program, and that we were able to get the entire process, from design, build, pilot to production go-live, up in running in 6 months -- further validation of GNX's process design expertise, hosted software solution and quality implementation services," said Joe Laughlin, chief executive officer of GNX. "This is a great example of how GNX's pay-for-usage collaboration services model offers an excellent alternative for manufacturers who do not want to tie up precious capital and resources to buy and operate their own software platforms." (PR Newswire, 2003)

"Strategic technology investments such as these are helping Diageo create a more efficient sales and distribution process. We also recently established a Distributor IT Council of CIOs from our strategic distributors in North America. The CIOs meet directly with our IT leadership teams to collaborate on defining technology strategies and addressing the technological challenges that face our collective businesses." (Carlini, 2004)

3.9.5 Challenges and Opportunities

Diageo has identified several impediments to growth in Europe, which include weak economics, aging population and challenging regulatory environment. (Walsh, 2004a) Brazil, while having a large population, brings uncertainty in political and monetary stability, and has low per-capita income. Russia poses a challenging regulatory climate, strong spirits focus, improving economic outlook, and small premium market segment. India has a stable political outlook and growing middle-class, but is still a poor country with an aversion for premium brands and a challenging regulatory environment. China is a culture rich in drinking and celebration, and has the highest global volume consumption; the challenge is to encourage the Chinese to develop a taste for and consume Western beverages. (Walsh, 2004a)

Opportunities are enumerated as: strength of North American business, growth in Africa, recovery in South America, potential of emerging markets and operational efficiencies. (Walsh, 2004b) Diageo approaches these opportunities through three levers: "growing the premium brands in the industry; utilizing scale and inventive capability for both efficiency and growth; and industry leadership in route to market, marketing and innovation and social responsibility." (Malcolm, 2003a)

Diageo's 27% share of the United States liquor market has given the company the marketing strength and political clout to start changing the laws and competitive dynamics that have stymied liquor since the end of Prohibition (Ball, Lawton, 2004).

"Over the decades, beer companies have flooded the airwaves with commercials and plied Congress and statehouses with lobbyists. Producers of hard liquor have played a less-aggressive game. They feared that pushing their product too hard would spur a backlash in a country where liquor has had a bad image.

Diageo now is launching an unapologetic battle to bring liquor back, and has won a number of big victories along the way. It has helped persuade nine states -- including Massachusetts, New York and Oregon -- to allow some form of liquor sales on Sundays, raising the total number of such states to 30. It now has a presence in every state capital, where beer lobbyists have long outnumbered their liquor rivals." (Ball, Lawton, 2004)

Diageo also has been a force behind an beefing up the industry's lobby group, the Distilled Spirits Council of the United States, or "Discus". Several years ago, Diageo hired Guy Smith, a senior lobbyist for Philip Morris and a key public-relations adviser to President Clinton during his impeachment hearings, to help the group's efforts." (Ball, Lawton, 2004)

"For decades, liquor had an image redolent of smoky bars and seedy nightlife, and booze was often demonized in popular culture. Because of beer's lower alcohol content, many states set lower age limits for buying brew than liquor. Based upon alcohol content, federal excise taxes on liquor are more than double those on beer and nearly three times those on wine. A hodgepodge of state laws governed when and where liquor could be sold.

Beer, by contrast, is stacked high in convenience stores and splashed over television airwaves, where it is now one of the biggest consumer-goods advertisers. The beer industry has cultivated an image of sports, fun and patriotism since Prohibition was repealed in 1933. In the 1940s, an industry group began an ad campaign that depicted beer at barbecues, fairs and ball games. The slogan: "America's Beverage of Moderation."

Diageo began lobbying the broadcast networks to take liquor ads, and finally won over NBC in late 2001. Diageo's deal called for spending about \$500 million over five years. Diageo sought MADD's advice in devising the new ads, agreeing to run nothing but anti-drunk-driving spots for the first four months, limiting itself to programming where at least 80% of viewers were

over the drinking age, and avoiding programs, such as concerts, that would be associated with young people.” (Ball, Lawton, 2004)

“In March 2002, NBC dumped Diageo, citing pressure from unspecified advocacy groups and some members of Congress. Executives at Diageo and others within the broadcast industry say privately they believe NBC was afraid of angering Anheuser-Busch, which spent about \$53 million on the network that year, according to TNS Media Intelligence/CMR, a market-research group.” (Ball, Lawton, 2004)

“Around the same time, Diageo took another blow when the beer industry successfully lobbied the Treasury Department's Alcohol and Tobacco Tax and Trade Bureau (TTB) for a radical change in the rules on the recipe for beverages like Smirnoff Ice, dubbed "malternatives." Under the proposed new rules, if Diageo wants its malternatives to continue to be considered part of the beer category and not hard liquor, it will have to completely reformulate Smirnoff Ice and its other malternatives, change its production systems and restock the products.

The new rule dictates that a flavored malt beverage can obtain only 0.5% of its alcohol by volume from spirits flavoring. Currently, the majority of alcohol in Smirnoff Ice comes from spirits flavorings. The final decision likely will come this year, and Diageo is preparing for the heavy expense of this changeover.” (Ball, Lawton, 2004)

3.9.6 Summary

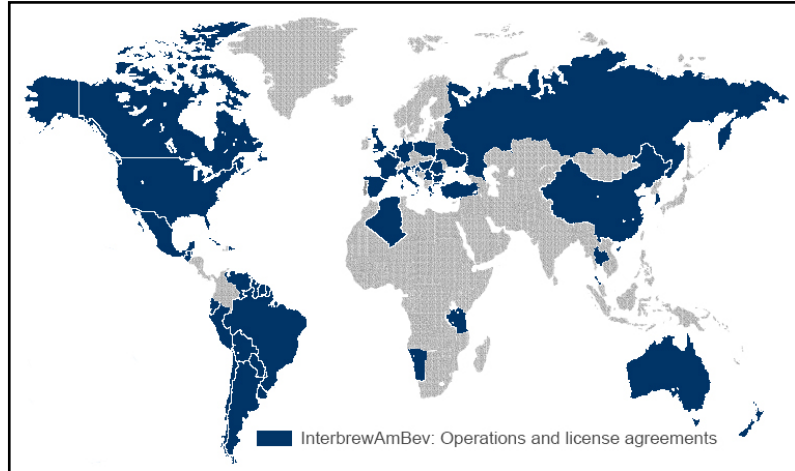
Diageo’s supply chain is broken into broad SBUs, relatively centrally controlled, and employs cutting edge technologies to enhance operational performance. Less profitable functions are offloaded to partner firms so Diageo’s financial statements display superior profitability. The complexion of each SBU’s supply network is tailored to accommodate regional differences, which include political, regulatory and cultural variations. Relatively few global synergies are achieved at Diageo, with each SBU essentially autonomous in operational latitude, despite the available economies of scale and scope available to such a large and geographically diverse company.

Diageo's core competencies include marketing, supply chain partner management, and consumer market understanding and responsiveness. As a relatively young firm, Diageo wields significant industry power, due only to acquiring several prominent beverage firms. Having tremendous capital resources has permitted Diageo to gain strength and reputation, which they have inherited only through M&A.

Diageo's beverages are easily reproducible and non-differentiated from competitors, but marketing efforts have created an image for their products which commands and receives higher prices in retail markets. Regardless of its operational efficiency, supply chain policies, or competitive evolution, Diageo has led the industry by creating a value proposition for consumers which focuses on psychographic appeal, not tangible value.

Chapter 4: InBev's Position in the Industry

With a 2003 pro forma revenue of \$11.9B USD, and EBITDA of \$3B, InBev completes the top-five list of beverage companies.



(InterbrewAmBev,

2004) Number one in global beer volume (190M hL pro forma in 2004), InBev has 77,000 employees from a spate of mergers and acquisitions. (Interbrew, 2004)

InBev has delivered "EPS growth of 24.6% over the last ten years."

(InterbrewAmBev, 2004) With over 200 brands, serving 140 countries, InBev has significant geographical reach, and now a 14% share of the global beer market.

(InterbrewAmBev, 2004)

4.1 History

InBev has existed since 1366, beginning with the Den Horen brewery in Leuven, Belgium. Sebastian Artois purchased the brewery in 1745, renaming the company Artois. In 1952 Artois bought the Leffe brand, followed by breweries in the

Netherlands and France. Interbrew formed in 1987 when Brasseries Artois, then the number-two brewer in Belgium, merged with Brasseries Piedboeuf, then the number-one. Acquisitions continued at a brisk pace thereafter, picking up such notable names as Hoegaarden, Bass, Labatt, Sun Interbrew of Russia, Staropramen, Beck's, Spaten, and most recently, global number-five brewer AmBev of Brazil. InBev has a long history of sizeable M&As, which has led to sophistication in the process of acquisition and operational integration (InBev, 2004).

InBev is comprised of five strategic business units (SBUs), which are: North America, Latin America, Western Europe, Central and Eastern Europe, and Asia Pacific. These regions have autonomy in almost all tactical and operational planning and execution.

4.2 Brands

"Our most important assets are our portfolio of brands and their enduring bonds with consumers, our partnerships with customers, and our people. We invest in our brands to create a long-term, sustainable, competitive advantage by meeting the beverage needs of consumers around the world, and by developing leading brand positions in every market where we are present." (InBev, 2005).

Global Flagship Brands:
Stella Artois, Brahma, Beck's

Global Soft Drink Brands:
Guaraná Antarctica

Global Specialty and Multi-Country Brands:
Hoegaarden, Leffe, Staropramen, Bass

Other brands:

- Belle-Vue, Bergenbräu, Boomerang, C.T.S. Scotch, Ginder Ale, Horse Ale, Hougaardse Das, Julius, Jupiler, Krüger, Loburg, Palten, Piedboeuf, Safir, Verboden Vrucht, Vieux Temps, Belgian Beer Café
- Skol, Brahma Chopp, Antarctica, Fratelli Vita, Bohemia, Sukita, Kronenbier, Caracu, Polar, Serramalte, Soda Limonada Antarctica, Original, Liber, Bohemia Weiss, Bohemia Escura, Skol Beats, Antarctica Cristal
- Astika, Burgasko, Kamenitza, Pleven, Slavena
- Alexander Keiths, Black Label, Blue Star, Boomerang, Club, Crystal, Jockey Club, Kokanee, Kootenay, John Labatt, Labatt, Labatt Wildcat, Lucky, Oland's, Old Mick's, Schooner, Sterling, Winchester
- Jinling, Yali, KK, K, Yizhou, Mingzhou, Putuoshan, Zi Zhu Lin, Ningbo, Double Deer, Jing Long Quan, Santai, Baisha, Red Shiliang, Lulansha, Xin Xian Dai, Yan Dang Shan, Kinlong
- Bozicno Pivo, Izzy, Ozujsko, Tomislav Pivo
- Branik, Cesky Pivovar, D Pivo, Kelt, Mestan, Moravar, Ostravar, Osto 6, Rallye, Velvet, Vratislav
- Beowulf, La Becasse, Lutèce, Moco, Preskil, Platzen, Sernia, Vega, Brussel's Café, Irish Corner, Au Bureau, Cave à Bières, Bars & Co, Giovanni Baresto
- Cluss, Diebels, Dimix, Dinkelacker, D-Pils, Franziskaner, Gilde, Haake-Beck, Haigerlocher, Hasseröder, Hemelinger, Issumer, Kloster, Lindener Spezial, Löwen Weisse, Löwenbräu, Lüttje Lagen, Mauritius, Sachsengold, Sanwald, Schwaben, Schwarzer Herzog, Sigel Kloster, Spaten, St Pauli Girl, Vitamalz, Wolters, Beck's Beerloft
- Borsodi, Borostyan, Wundertal, Königsberg, Welsenburg, Riesenbrau, Szent Imre, Reinberger
- Cafri, Cass, OB, Red Rock
- Diekirch, Mousel, Henri Funck
- Nik, Niksicko
- Atlas, Anchor Beer, Breda Royal, Classe Royale, Dommelsch, Dutch Gold, Het Elfde Gebod, Flying Dutchman, Hertog Jan, Jaeger, Magic Malt, Molenbier, Oranjeboom, Phoenix, Pirate, Royal Dutch Post Horn, Three Horses, Trio Stout, Weidmann
- Bergenbier, Hopfen König, Noroc
- Bagbier, Bavaria, Klinskoye, Nashe, Permskoye Gubernskoye, Pikur, Piperskoye, Piyotr Velikiy, Rifej, Sibirskaya Korona, Tolstjak, Viking, Volzhanin, Zolotoi Kovsh, Premier
- Jelen Pivo, Apa Cola, Apatinsko Pivo, Pils Light
- Chernigivske, Hetman, Rogan, Taller, Yantar,
- Barbican, Boddington's, Brewmaster, Campbell's, Castle Eden Ale, English Ale, Flowers, Fowlers Wee Heavy, Gold Label, Mackeson, Tennent's, Trophy, Whitbread
- Rock Green Light, Rolling Rock, Rock Bock

THE FOLLOWING BRAND IS A CO-OWNED, REGISTERED TRADEMARK:

PerfectDraft is a registered trademark co-owned by InBev NV/SA and Koninklijke Philips Electronics NV

THE FOLLOWING BRANDS ARE REGISTERED TRADEMARKS OF PARTNERS:

Cerveceria Bucanero SA:

Bucanero, Cristal, Mayabe

Pivovarna Union:

Crni Baron, Premium Beer, Smile, Uni, Union, Culto, Multisola, Sola, Za, Zala

Damm SA:

Bock Damm, Damm Bier, Damm Lemon, Estrella Damm, RK Damm, Voll Damm, Xibeca Damm Classic
Zhujiang Beer Group Company:
Zhujiang, Zhujiang Fresh, Xuebao, Huaxin, Supra Beer

*THE FOLLOWING BRANDS ARE REGISTERED TRADEMARKS
UNDER LICENSE:*

- Absolut Cut is a registered trademark of V&S Vin & Sprit Aktiebolag (publ) Corporation Sweden
- Budweiser is a registered trademark of Anheuser-Busch, Incorporated
- Gatorade is a registered trademark of Stokely-Van Camp Inc.
- Lipton Ice Tea is a registered trademark of Unilever NV. It originates from a partnership between Thomas J. Lipton Co. and Pepsi-Cola
- Pepsi and 7UP are registered trademarks of Pepsico Inc.
- Miller is a registered trademark of Miller Brewing Co.
- Carlsberg is a registered trademark of Carlsberg A/S." (InBev, 2005)

4.3 Strategy

"Acquisition targets must possess strong national brands, a strong product portfolio across all beer segments, high potential for profitability through synergies and best practices, attractiveness in the market in question and complementary assets and distribution to InBev's existing network." (Interbrew, 2003) InBev's primary focus is to establish itself in top position in beer volume, which it recently achieved in 2003 with the AmBev merger.

Through economies of scope InBev aims to exploit existing distribution infrastructures for cheaper distribution of their global brands. It also uses these same facilities for the distribution of local brands, which service all consumer segments. By blanketing a region with premium, mid-range and value brands InBev achieves market saturation, which has several additional benefits beyond the tactical.

Through economies of scale InBev achieves synergies in procurement, IT, and several operational and transactional functions. "Interbrew and AmBev have estimated that the combined group can generate \$350M USD of annual synergies through a combination of technical, procurement, and other general and administrative cost savings, and commercial synergies including cross-licensing of existing brands." (InterbrewAmBev, 2004) Once there is sufficient plant ownership in a region InBev can "optimize" the network (Goossens, 2005a).

4.4 Operations

InBev is skilled in completing the rapid integration of an acquiree into existing operations, and does so with cutting-edge technology, regional reorganization, and best-of-breed automated solutions in manufacturing and quality control, where appropriate. InBev has aggressively standardized IT hardware and software across all regions, using SAP software for ERP, (Pastore, 1996) and Manugistics software for demand planning (Manugistics, 2003). They leverage all sorts of relevant best-of-breed technology, like Tibco's EAI solutions, for example. Tibco's Executive Dashboard software changed InBev's KPI review time from 9 months to 30 minutes. (Gebhard, 2001) Another example of IT utilization is the Belgian adoption of Intermec's remote access terminals for service technicians. (Intermec, 2002)

InBev uses cost-appropriate solutions for each autonomous region. All German IT operations have been outsourced to Logica, a logistics and IT outsource specialist, which will quickly consolidate the numerous, misaligned IT architectures and platforms across all InBev-owned companies in that country (LogicaCMG, 2004). In the UK, InBev outsourced logistics functions to Tradeteam, a division of Exel Logistics, and specialist in beverage logistics outsourcing (GEAC, 2003).

In the plants InBev implements cost-effective automation technology, which not only permits higher worker efficiency, but also helps maintain InBev's required quality control. Technical expertise and training in this standardized equipment is easily transferred from neighbouring operations. Furthermore, these technologically-deficient plants are fitted with equipment suitable to accommodate the needs of the region, not just the country, so that redundancy and currency exchange protection is built into the system.

4.5 Supply Chain

Possessing over 100 plants and 110 distribution centres (DCs), InBev has an extensive network from which to supply their products around the world (Goossens, 2005a). While their operations are divided geographically by region (North America,



Latin America, Western Europe, Asia-Pacific and C&E Europe), corporate headquarters in Leuven, Belgium aggregate and monitor data across all divisions.

InBev specializes in acquiring and integrating breweries into their operations, and injecting new

facilities with InBev's best practices. Taking the integration of Central European companies as a recent example, between 1995 and 2003 InBev achieved a "400% increase in productivity, 110% reduction in water consumption, 80% reduction in steam consumption, 25% reduction in product loss and 26% reduction in electricity consumption." (Lemire, 2004) This was achieved by sharing expertise in "operating productivity, quality and food safety, environment health and safety, best practices and permanent benchmarking, in addition to leveraging capital expenditures, aggregating procurement and distributing production and warehousing across all newly acquiring facilities in the region." (Lemire, 2004)

InBev, unlike most beverage companies, opts to brew their global brands mostly in their respective "home country". Beck's is brewed only in Germany (Goossens, 2005a), Stella Artois mostly in Belgium, and Brahma primarily in South America. Global brands are exported via ship, in refrigerated containers, to destinations, and distributed through InBev's global distribution network. (Goossens, 2005a) While this practice has negative financial implications for supply chain budgets, InBev finds it important to retain the brand identity of the global brands rather than produce more efficaciously, citing competitor-induced negative publicity as the cause (Timmermans, 2005a). Where local demand makes it financially advantageous to locally brew an InBev global brand, it is done through a license contract, and under strict quality controls (Stella Tour, 2005).

Local brands are brewed locally, and are controlled almost entirely by the regional head. Few local brands make it across national borders, but those too are brewed in the country of origin. InBev has several license agreements to brew competitors' products, such as Budweiser in Canada, Castlemaine in the UK and Absolut Cut, a Swedish spirit tonic FAB. (InBev, 2004) Many of their past license

agreements have been altered or terminated due to anti-trust concerns and agreements.

InBev is a distributor of numerous beverages including wine, spirits, sports drinks, and soft drinks. Their mature distribution network spans most of the populated world and is particularly robust in Western Europe, where permitted by law.

AmBev gives InBev several complementary assets, including a potentially strong global brand, beer monopolies in several South American countries, a strong rival to Corona in the U.S. market, and an established and robust production and distribution network in South America. AmBev also produces soft drinks, sports/isotonic drinks, RTD tea, and bottled water. It is licensed to produce and distribute several of Pepsi's best-selling products in South America and the Dominican Republic as well.

4.6 Challenges and Opportunities

InBev has faced an enormous amount of anti-trust scrutiny in the Americas, Asia, and Europe, and has been forced to divest brands, companies, and licensing agreements to satisfy regulators (AmBev, 2004). Further, due to InBev's leading production position it is now a target of many groups concerned about the environment, globalization, ill health effects from drinking, social problems related to drinking, et cetera. In global expansion InBev has adopted new stakeholders who are certain to hold practices to high standards.

InBev also faces the typical challenges of other multinational enterprises (MNEs), which include currency translation risk, political and economic instability, natural disasters, unfavorable demographic changes, et cetera. They have been successful in navigating these risks thus far with geographic and product diversity.

CHAPTER 5: InBev's Specific Supply Chain

Taking a "deep dive" into InBev's operation, this chapter will focus on InBev's Belgian operations, which include production of global, national and regional brands. Belgian operations fall under the scope of the Western Europe SBU, yet also contains "Corporate", which oversees all SBUs.

"Even more so than other nationalities, Belgians pride themselves on their rich beer culture. Naturally, Belgians claim that theirs are the best beers in the world. This view is supported by beer experts such as Michael Jackson (not to be confused with the pop star of the same name). Although beer production in Belgium is now dominated by Interbrew (the world's largest brewer by volume), there remain 115 breweries in the country, producing about 500 standard beers. When special beers are included, the total number of types of Belgian beer exceeds 1000. Each brand of Belgian beer is served in a specific glass. Although mainly a marketing ploy, the different shape and size of each glass is designed to enhance the flavor of the particular beer." (Eparanoids.com, 2005)

Belgium has provided InBev with a strong competitive environment from which it has refined its world-renowned brewing techniques and recipes over several centuries. Belgium's population of 10 million includes a relatively high number of demanding, sophisticated beer drinkers, which has allowed to Belgium to gain an international reputation for beer brewing excellence.

Belgium beer on-trade is unique in that beer brands are coupled with specific glasses. In fact, if a Belgian "café" lacks the proper glass in which to serve a beer, even if it has the beer in stock it will refuse to dispense it without its proper glass. Beer drinking in Belgium is a unique experience in this regard, and also because

Belgians take more time to savour their beers. The average annual per capita consumption of beer by a Belgian is more than 100 litres. (Coles Notes, 2000) With over 60,000 taverns, there is one beer outlet for every 170 people. (Coles Notes, 2000)

Belgium's on-trade experience is so unique that InBev is exporting it in the form of Belgian Beer Cafés, which are popping up in many countries. Offering the unique Belgian experience (of only InBev's beers), InBev is educating consumers as well as developing tastes and preferences globally for the next generation of beer drinkers, which ensures that regardless of the direction taken in the present "Trading-Up phenomenon", InBev will command a premium price into the future.

InBev's corporate headquarters are situated in Leuven, a small town East of Brussels. InBev's Belgian production operations fall under the control of Interbrew Belgium, which combined produced 6.4MhL of beverages (InBev, 2005) from their four beverage plants in 2004. While Belgian operations are classified as a segment of Western Europe operations, most national operations retain a significant amount of autonomy over their brands and operations.

Interbrew Belgium's supply chain is one of InBev's "country-based supply chains" (Timmermans, 2005a), and is intended to remain as such. This national operation designs its own network, which includes warehouses, plants and distribution centres. They control their own inventory levels, and manage relations with wholesalers.

5.1 Brands

In Belgium, as in all countries, brands are broken down by segment as follows:

1. Global Flagship Brands – Stella Artois, the world’s fifth largest international brand, is marketed in over 80 countries. Stella is brewed by InBev in Belgium, and by license in Australia, New Zealand, Tanzania, Algeria, Namibia (Warm Africa, 2003) and Argentina (Timmermans, 2005a) from a recipe that has existed since 1926. Widely known by its marketing slogan, “reassuringly expensive”, Stella’s sales trajectory has been positively steep.

The lead time for Stella to arrive in some locations can be up to four weeks, depending on the destination. Due to this relatively lengthy travel time, safety stock of Stella is kept at wholesalers.



2. Global Specialty Brands – Hoegaarden, is an authentic Belgian wheat or white beer, and Leffe, which is available in the four varieties of Blond, Brown, Triple, and Radieuse/Vieille Cuvée.
3. Multi-Country Brands – None brewed in Belgium. Interbrew Belgium distributes Beck’s, Bass, Brahma and Staropramen in Belgium.

4. Local Brands – Belle Vue, a complex lambic beer available in four varieties, and Jupiler, an all-occasion lager which is Belgium’s most famous and most popular brand.
5. Brands Under Licence – InBev brews only its own products in Belgium.

Brands can be further stratified into more exact categories when a greater variety is produced, or when the market requires it due to competitive diversity, as is the case in Germany, for example. Belgium produces merely four brands of beer and thus uses the high-level classification system.

InBev further classifies its brands as A, B or C. Its (premium) global brands are A brands, while all non-premium brands are B brands. Mass market brands are C brands, although they are not meant to compete with the low-end of the market (Goossens, 2005a) and are internally considered as B brands.

5.2 Plants

Plants produce beverages, and are also where returned containers are housed and cleaned. InBev has huge banks of well-managed “empties”, which include bottles and kegs. The cleaning process is quite rigorous, which in the Stella Artois plant is conducted by automated lines, overseen by several mini cameras.

InBev has beverage plants in the following Belgian locations:

1. Leuven – The Stella Artois plant is situated in Leuven where it has existed since 1366, although in a much different form. Water supplied to the Stella

plant comes from wells directly below the plant. Barley is procured from Belgium, France, the Netherlands, Germany, England and Denmark, and hops are sourced from Belgium, Germany, the Czech Republic and Slovakia (Stella Artois, 2005). The Leuven plant produces 350 stock-keeping units (SKUs), with a production capacity of 6M hL (Timmermans, 2005a).

The Stella Artois plant has three bottling lines, each producing 55,000 bottles per hour. Its two can lines each produce 80,000 cans per hour; its 2 keg lines each produce 750 kegs per hour (Stella Tour, 2005).

2. Brussels – The Belle Vue plant is the world’s leading producer of lambic beers, a type of beer particular to Belgium. Lambic beers reside in the wheat beer family, a segment of ale (Appendix 6), and require a different brewing process and brewing adjuncts than other beers (Appendix 5). This plant produces 50 SKUs with a brewing capacity of 200,000hL (Timmermans, 2005a).

3. Hoegaarden – This plant in the province of Flemish Brabant, produces Hoegaarden beer. Despite having a population of merely 6,014 in 2000, the Hoegaarden plant has been in operation for many years, and is capable of producing 1M hL (Timmermans, 2005a).



4. Jupille-Sur-Meuse – A city on Belgium’s North-eastern border “Jupille” produces the brands Jupiler and Piedboeuf. Jupiler, a common lager (Appendix 7), is Belgium’s most popular brand, strongly helping InBev maintain its 56% Belgian market share of beer. The Jupille plant has a production capacity of 4M hL, which is divided among 50 SKUs (Timmermans, 2005a).

The current factory of Jupille dates back to 1992. Its three bottle lines can produce 230,000 bottles per hour, and one keg line can produce 1,000 kegs per hour (Sud Presse, 2005). It operates 7 days per week, employing 650 people.

5.3 Channels

In Belgium, manufacturers are permitted to own and operate as beverage distributors too. Given the opportunity InBev prefers to act as distributor of their own products, and will purchase distributors game theoretically (Goossens, 2005b). They currently own 40% of all Belgian distribution, where the top three firms hold 50% of beverage distribution capacity (Goossens, 2005b). Contrasted with Italy, which does not permit this vertical integration, or France, where 70% of distribution capacity is owned by brewers, Belgium is relatively fragmented in this regard.

In accordance with Belgian law, when a brewer holds over 30% market share (which only InBev does) they are forbidden from creating new exclusive distribution contracts (Timmermans, 2005a). Further they must distribute their competitors’

products. The larger competitors in Belgium opt not to use InBev's distribution network (Timmermans, 2005a).

In Western Europe, brewing is more consumer-driven pull, as opposed to North America, which is more store-driven push (Van Schaik et al, 2005). Being that the brewing industry produces in batches, efforts must take into account a lack of storage capability and perishability of beer. It is marketing that helps to regulate the push/pull balance, where marketing and promotional efforts significantly change demand (Van Schaik et al, 2005).

In Western Europe almost all members in the supply chain have the needed technology to participate in collaborative online efforts. SAP software is utilized by the top ten firms in the beverage industry, and 400 beverage firms (Van Schaik et al, 2005). They have converged upon this standard, which has not only enabled information exchange, but also permits easier post-M&A integration.

Big box retailers, such as Wal-Mart or Ahold, have changed the complexion of beverage sales dramatically. While having a relatively smaller impact on Belgian beverage consumption, there is a distinct trend towards decreasing on-trade sales, and increasing off-trade sales, with downward pricing pressure across all beverage segments, which is spanning all Western European countries. InBev is quick to point out that M&A within the beverage industry poses a far more formidable challenge than the increasing market strength of the large retailer, despite having 50% of sales through these retailers (Goossens, 2005a).

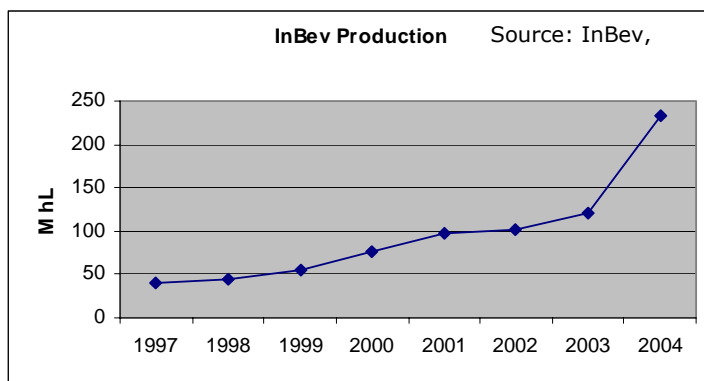
There has been some consolidation among pubs, which has resulted in some market power shifting in that direction. While not a significant development for manufacturers, it has contributed to the expectation of lower beverage prices.

5.4 Customer Segments

InBev evaluates customers as on-trade or off-trade. On-trade sales are viewed regionally, often with a national focus. Off-trade sales are examined internationally, nationally, or otherwise depending on the analysis (Goossens, 2005a).

Other forms of segmentation focus around distribution, where InBev uses the categories of: food, horeca (pubs, restaurants), grey market (petrol stations), drinks/beer merchants, vending, events (sporting events), and, national clients (fast-food chains, amusement parks).

5.5 Competitive Positioning



InBev has experienced significant growth in volume, largely due to acquisitions. In its 2004 fiscal year InBev produced 233.5M hL of beverages, which made

them the number one beverage producer globally by volume, surpassing long-time rival Anheuser-Busch. The growth has been so explosive that InBev's biggest

struggle now is the integration and management of its businesses, which it intends to standardize in the near future as part of its long-term strategy.

Competitors in Belgium include approximately 150 brewers, none of which can produce any significant fraction of InBev's capacity. Many Belgian competitors produce niche beers, which are brands that are not intended for mainstream consumption. It is commonplace in Belgium for a local monastery to brew beer, a practice which also comprises InBev's history. Where InBev holds more than 50% of the market place, it distributes the products of competitors (Goossens, 2005b).

Number two in beer market share in Belgium is Scottish and Newcastle, with 16%. Third and fourth positions hold 2% market share or less, and thus do not pose a significant threat. Interbrew Belgium's market share position in Belgium has remained around current levels for several years. InBev ignores producers with a yearly capacity of less than 1M hL (Timmermans, 2005a).

5.6 Products

Interbrew Belgium produces only beer in its Belgium plants. With about 500 total SKUs in Belgium, totalling 6.4M hL, it is the biggest producer in the country by a wide margin.

5.7 Sourcing

Presently Interbrew does almost no global sourcing, although some ingredients are ordered for entire regions. This is due to several constraints, including a lack of suppliers large enough to handle large orders, varying commodity

quality across countries, non-standard packaging materials and higher transportation costs.

Interbrew Belgium procures different inputs for its different beer brands, most of which are commodities. Primary requirements include water, hops, yeast and malt, although most beers also include “adjuncts”, which can be grains, sugars, flavourings and chemical additives.

Water is obtained through underground wells and nearby sources. As water has a low value-to-weight ratio it will always be a local requirement. Most experts claim that with modern treatment facilities, water is the least important ingredient in beer, yet most sophisticated beer drinkers claim to taste the difference in Guinness beer brewed in Ireland versus Guinness brewed in elsewhere (Coles Notes, 2000).

Hops are chosen based on the bitterness, flavour and aroma desired in the beer. There are over 50 varieties of hops, each with its own distinctive flavour and aroma. Hand-picked, hops can be relatively expensive, and it is commonly understood in the industry that hops of particular regions are superior for particular qualities. Hops are ordered in large batches; InBev owns several hops warehouses, as do some of their suppliers (Timmermans, 2005a).

Hops are purchased in Western Europe for all global need, which is processed via German operations. All Western Europe procurement is done through Germany, not for purchasing aggregation, but simply for clerical ease.

Hops must be protected from light, which changes their “green gold” appearance to a dull brown. While hop contracts secure large quantities, shipments

are received by plants JIT (just-in-time) to ensure the highest quality (Stella Tour, 2005). The window for harvesting hops is brief, thus expansive storage facilities are needed for long-term storage at 2°C (Stella Tour, 2005). With InBev's limited storage capacity at plants, producers are forced to keep large hop silos (Stella Tour, 2005). The Stella Artois plant keeps one-week's worth of hops on their rooftop silo.

Malt is treated grain or corn which has its starches broken down into usable sugars, which can then be converted to alcohol. Depending on the kind of beer, malt can be one of many different inputs, although it is typically barley. Malt is stored at the manufacturer in a mill until it is to be used in milling. The process of malting begins with a process called "steeping", where the barley is soaked in water for about 40 hours. This is followed by "germination" where the barley is spread on the floor where it produces seedlings. Lastly the malt is "kilned", where it is roasted.

InBev owns some malteries, and sources remaining need from two large suppliers situated in Western Europe. These particular contract agreements are very old, and are based almost exclusively on flexibility and volume (Timmermans, 2005a). Delivery of the malt comes JIT, typically from Northern France (Stella Tour, 2005). The Stella plant retain one-week's worth of malt on their rooftop silo.

The entire brewing process can last several weeks to several months, depending on brewing and aging techniques. Once aged the beer is pasteurized, then packaged. This entire process is shown in Appendix 5.

Finished product storage is limited to about 1-2 weeks worth of local consumption (Timmermans, 2005a). The maximum storage is for 3-4 months of product, after which freshness is compromised (Stella Tour, 2005). This

accommodates a current absence of an inventory policy. And aforementioned, due



to relatively long lead times, significant safety stocks are retained with wholesalers.

Interbrew Belgium produces its own yeast, which is used four to five times in the brewing process before it is discarded. Other adjuncts are sourced depending on local markets, often in one-year contracts (Timmermans, 2005a).

All of InBev's tangible waste products are sold as cattle feed, or used in cosmetics. An independent firm purchases and transports this waste product (Stella Tour, 2005).

Packaging materials are sourced locally, from a variety of suppliers. Most bottles come from the Netherlands (Stella Tour, 2005). "A global supplier of cans does not exist" (Timmermans, 2005a). Beer bottles can be reused over a dozen times, so managing returns is of critical importance to InBev. Furthermore, returnable bottles restricts ability to traverse borders (Timmermans, 2005a). 90% of bottles are returned to InBev (Stella Tour, 2005). Labels, carbon dioxide, bottle caps and other necessities are procured locally (Stella Tour, 2005).

The primary containers used for beer are: keg (50L), half-keg (30L), one-way glass bottle (25 cl), deposit bottles (25, 33, 75cl), can (33, 50cl) and PET bottle (50, 75cl). While several varieties of each container are used, InBev is restricted to using deposit bottles that meet recycling standards, and cans that work in vending machines.

Accurate forecasting is critical to brewing success as there are several stages in the brewing process which require time, yet must take into account finite storage space at each stage in production. Beer companies have often opted to produce at the upper bound of their forecasts since failure to accurately predict demand may result in a shortage spanning several months. This practice directly conflicts with another trend in beer: the “brewed on” or “freshness date”, which when printed on the bottle reveals to consumers exactly the age of their beer. InBev forbids the sale of their products after the expiry date is reached.

Interbrew Belgium uses Manugistics software for forecasting purposes, amongst others. Aggregating data for both Belgium and France, Interbrew relies on Manugistics software for optimizing their production, which is configured to achieve a high fill rate.

5.8 Performance

Most key performance indicators (KPIs) are local, yet some are global (Timmermans, 2005a). Interbrew Belgium closely monitors capacity utilization, fill rate, stockouts, profit, market share, organic growth, EBIT (earnings before interest and tax), and volume. Their primary metric of global success is volume, in which they are number one. Now that they are the largest brewer, they seek to become number one on the top line, then on the bottom line. Historically InBev has been slow to integrate operations to achieve scale, but now that they have achieved brewing dominance, they are undergoing a determined effort to focus on finding synergies/cost savings through operational efficiencies.

In retaining Belgian market share, InBev has coupled its top brand Jupiler with Belgium's national image. Jupiler is a major sponsor of the Belgian soccer team, and is positioned as everybody's everyday beer. Much like Budweiser in the United States, InBev has successfully held the association between its beer and the pride of the nation. This position has proven unbeatable with Budweiser, and thus far has held competitors at bay in Belgium. Furthermore, being devotees to the art of beer drinking, Belgians would feel shame to drink beers from anywhere else.

On February 23, 2005 InBev announced its intention to outsource its global information technology infrastructure, with the aim of achieving better information coordination and utilization. This initiative will integrate the "patchwork of local brewers" (Timmermans, 2005a), into a more efficient solitary entity. Once technological coordination is achieved, InBev can implement their best practices at all facilities, ensuring peak performance at each, with a collaborative measure of feedback and control for oversight purposes. This is in stark contrast to existing operations in Belgium, for example, where data is held for Belgium and France only.

InBev is aware of the benefits inherent in collaboration, thus far being pulled into VMI, CPFR and the like by large retailers. With up-to-date, collaborative technology InBev can facilitate phase two of their growth plan, and help achieve operational excellence, leading to higher profit margins.

5.9 Transportation

InBev's dominance in Belgium has as much to do with its historical advantages as it does with their robust retail network. InBev products are easily

accessible all across Belgium in stores, restaurants and hotels of all kinds, as well as being in thousands of vending machines.

InBev owns one-third of trucks that ship their product from the plants, one-third are rentals by customers, and the last third belong to the customers (Stella Tour, 2005). InBev minimizes their fleet where possible, trying to remove transportation as an InBev responsibility. In fact, as a cost saving measure InBev focuses on reducing costs in transportation and taxes foremost (Stella Tour, 2005).

5.10 Quality Control

InBev prides itself on having the best brewing operations in the world, which maintains is its competitive advantage (Goossens, 2005a). While their actual production requires almost no humans, their quality control methods yield 650 product analyses between receipt of raw materials and the final product shipment (Stella Tour, 2005). Their fully automated process has inclusive computerized feedback mechanisms, which are necessary since the product is not exposed to air at any point in the process. The brewing operation is monitored 24 hours per day, 7 days per week. InBev has a testing laboratory which comprises an entire floor of the plant (Stella Tour, 2005).

InBev's quality control and production excellence have led to their success in winning production contracts from other beverage firms. With a completely autonomous brewing line available within the Stella Artois plant, InBev can demonstrate to potential clients how their product would taste under InBev's tight quality control methods (Stella Tour, 2005). They claim that their quality control standards far exceed all competition, and this results in InBev's beer superiority.

Chapter 6: Supply Chain

Analysis

In this chapter this paper endeavours to examine the Belgian operations of InBev under the microscope of Michael Porter's Activity System Map for "fit" in operations, which would underpin InBev's competitive advantage. Sought are any factors which are mutually supportive, reinforcing and consistent, particularly factors which are hard to reproduce from the standpoint of competitors.

InBev's business strategy can best be summarized by the following, taken from their website (2003):

"InBev's strategy is based on four pillars:

First, winning with consumers via our winning brand portfolio. This strategy began yielding results in 2003, with organic volume growth ahead of the industry. This is the result of the growth of our global flagship and specialty brands, as well as of our multi-country and domestic leading brands.

Second, winning at the "point of connection" - the moment when consumers ultimately choose to purchase or consume our brands - with superior capabilities in sales, merchandising and distribution. This entails building sales and merchandising capabilities, achieving preferred supplier partnerships with customers, and using "occasion-based marketing" - that is, targeting particular occasions for consumers, such as celebrations.

Third, developing world-class efficiency and operating productivity, which entails optimizing our network of breweries. We seek to take advantage of potential production and distribution efficiencies, leading to a more integrated business.

Fourth, we will ensure, through targeted external growth, that we can strengthen our positions in developed markets, and continue to gain access to high-growth markets. Our recent acquisitions are very much in line with this strategy, as is the combination of Interbrew and AmBev, to establish the

world's premier brewer, with a global market share of 13% and an unparalleled global platform. InBev now has the number one or number two position in 20 key beer markets - more than any other brewer - and boasts three global flagship brands: Stella Artois®, Brahma® and Beck's®.

Finally, supporting these four pillars is the way we differentiate through innovation. Innovation will continue to play a significant role in our future, just as it has in our past. A good example is our recent launch of PerfectDraft® in Belgium and Luxembourg: an exciting new system which combines a high-quality appliance and consumer-preferred beer brands in light metal kegs, delivering the great taste of draught beer in the comfort of one's own home. You can read more about it in our press release or visit the website.

Going forward, when we speak of innovation, we will not simply be speaking about product or packaging innovation, but about innovation in all we do, across all regions, departments and disciplines of InBev.”

6.1 Analysis

InBev, like almost all prominent players in the beverage industry, possesses no long-term, differentiated, sustainable, competitive advantage. Based on homogenizing utilizations of technology, logistics, transportation, capital, brewing automation, and relatively homogeneous approaches to stakeholder management, employee relations, government relations, etc., InBev’s advantages stem from first mover advantage, access to low-cost capital, and merger and acquisition expertise, all of which are not sustainable in the long term.

InBev’s operational effectiveness is world-class, employing cutting-edge technologies in all facets of their operations from data collection to DSD.

“Operational effectiveness and strategy are both essential to superior performance, which, after all, is the primary goal of any enterprise. But they work in very different ways...A company can outperform rivals only if it can establish a difference that it can preserve. It must deliver greater value to customers or create comparable value at a lower cost, or do both. The arithmetic of superior profitability then follows: delivering greater value allows a company to charge higher average unit prices; greater efficiency results in lower average unit costs.” (Porter, 1996)

A firm should not outsource their core competencies, yet most beverage firms have outsourced their IT and logistics in several configurations. Coke has outsourced everything except concentrate production; InBev is focused on M&A, openly outsourcing technology and transportation; Diageo claims to be a marketing firm first and foremost; A-B retains full control of the entire supply chain, yet licenses out the production of its global brands; and Nestle produces bottled water and coffee in a manner indistinguishable from its competitors.

Through reciprocal agreements, distribution sharing, licensing agreements, sharing marketing firms, technology platforms, etc., the only difference between products is the marketing. The most successful beverage firms are pursuing the same lucrative premium market – a recent development in consumer trends identifies in the “Trading Up” phenomenon (Fiske, Silverstein, 2003). According to a 1996 Consumer Reports study most beverage brands are indistinguishable to consumers in blind taste tests, yet in beverage categories as homogenous as bottled water, many brands still demand a premium over no-name bottled water brands.

Competitive strategy boils down to what trade-offs are made (Porter, 1996). “Competitive strategy is about being different. It means deliberately choosing a different set of activities to deliver a unique mix of value.” (Porter, 1996) InBev makes no trade-offs in its footprint strategy where it blankets a region with 4-8 different categories of beer, trying to provide every beer to every consumer segment. Although they claim that they do not compete in the no-name segment (Goossens, 2005) they offer value brands to consumers with lesser disposable income, knowing that brewers try to capture consumers in both good and bad financial times. Coke’s and Pepsi’s diverse product lines also suggest a unwillingness to forego any market space in non-alcoholic beverages.

Competitors are trying to gain a brief technological competitive edge over each other by quickly adopting cutting-edge technology and machinery, but through these attempts they only find competitive parity, and end up driving profits out of the industry. No significant measure has been taken by any beverage firm which provides any substantial degree of uniqueness in service, operations or otherwise. As Porter says, "operational effectiveness is not strategy." (1996) Operational effectiveness is necessary but not sufficient in carving a competitive strategy. (Porter, 1996)

What is occurring in the industry is exactly what Porter explains as the wrong strategy:

"The second reason that improved operational effectiveness is insufficient-competitive convergence - is more subtle and insidious. The more benchmarking companies do, the more they look alike. The more that rivals outsource activities to efficient third parties, often the same ones, the more generic those activities become. As rivals imitate one another's improvements in quality, cycle times, or supplier partnerships, strategies converge and competition becomes a series of races down identical paths that no one can win. Competition based on operational effectiveness alone is mutually destructive, leading to wars of attrition that can be arrested only by limiting competition.

The recent wave of industry consolidation through mergers makes sense in the context of OE competition. Driven by performance pressures but lacking strategic vision, company after company has had no better idea than to buy up its rivals. The competitors left standing are often those that outlasted others, not companies with real advantage." (1996)

"A company can outperform rivals only if it can establish a difference that it can preserve." (Porter, 1996) Outsourcing any function implies that it can easily be duplicated by another party, it is performed better by an outside party, and that it is unimportant if it is copied by a competitor. A firm's core competencies are kept in-house, and it is this proprietary operational know-how that comprises a competitive advantage. Interesting to note is how Diageo recently decided to end outsourcing of

their marketing function after outsourcing it for years. Once a function leaves the confines of company walls, that expertise and know-how goes with it, foregoing innovation and learning can could have been gained through performing the function internally. That know-how remains with the service provider, and becomes available to any other competitor in the industry to utilize for identical service delivery.

The elite pack of top beverage companies differs from competitors in few ways, including new product development responsiveness. Beverage options have not changed monumentally in the past 7,000 years, yet when consumers have expressed certain desires, they have been fulfilled quickly. Low calorie desires were quenched with Tab cola, low carbohydrate demands were fulfilled with Michelob Ultra or low-carbohydrate orange juice. But this is more a characteristic of the broader food and beverage industry, who face stiff competition and thus must be at least as fast as the others in responsiveness. Several new beverage firms have been created solely to fulfill a new beverage opportunity, but they are quickly imitated, duplicated or purchased.

As aforementioned, most consumers cannot distinguish between beverage brands in blind taste tests, yet they are quite familiar with the marketing positioning of each brand and thus define their purchasing behaviour with the respective psychographic qualities associated with each. Beer, for example, retails at several price levels despite nearly identical production costs, and it does so successfully as a result of effective marketing. Operational efficiency provides manufacturers with higher profit margins and greater pricing latitude, but does not directly contribute to increased supply chain success.

"The pursuit of operational effectiveness is seductive because it is concrete and actionable. Over the past decade, managers have been under increasing pressure to deliver tangible, measurable performance improvements. Programs in operational effectiveness produce reassuring progress, although superior profitability may remain elusive. Business publications and consultants flood the market with information about what other companies are doing, reinforcing the best-practice mentality. Caught up in the race for operational effectiveness, many managers simply do not understand the need to have a strategy.

Companies avoid or blur strategic choices for other reasons as well. Conventional wisdom within an industry is often strong, homogenizing competition. Some managers mistake "customer focus" to mean they must serve all customer needs or respond to every request from distribution channels. Others cite the desire to preserve flexibility.

Organizational realities also work against strategy. Trade-offs are frightening, and making no choice is sometimes preferred to risking blame for a bad choice. Companies imitate one another in a type of herd behavior, each assuming rivals know something, they do not. Newly empowered employees, who are urged to seek every possible source of improvement, often lack a vision of the whole and the perspective to recognize trade-offs. The failure to choose sometimes comes down to the reluctance to disappoint valued managers or employees." (Porter, 1996)

InBev, and the beverage industry, are traversing the operational efficiency trap that Porter expounds upon with great gusto and at great speed. With all beverage firms pursuing similar strategies, and benchmarking against each other in similar metrics, homogeneity in a war of attrition is the only possible outcome, which is reflected in lower consumer prices. Only the "trading up" phenomenon can prevent the gradual waning of prices across all categories.

Chapter 7: AmBev Specific Supply Chain

7.1 History

Companhia de Bebidas das Américas (AmBev) was created from a merger between Companhia Cervejaria Brahma and Companhia Antarctica Paulista in March 2000, both firms with origins dating back to the late 19th century. The merger was permitted after months of dispute, mostly with rival brewer Companhia Cervejarias Kaiser and its majority stockholders, Coca-Cola Company and local Coca-Cola bottlers. Besides the oft made complaint that the merger would give AmBev unfair monopolistic powers in pricing and distribution, the opponents also feared the deal would result in further difficulties for Coke in Latin America, including the loss of overall market share (Hoover's, 2005). Officially merged with Interbrew on March 3, 2004, the newly formed company is now known simply as InBev, headquartered in Leuven, Belgium.

Despite being a merger of near equals, and near complete segregation of operations, analysts claim that the deal resembles more of an acquisition than a merger. Both firms have retained separate listings on their respective stock market exchanges, and control of Labatt in Canada was ceded to AmBev, yet InBev is using South America not only to lock-up market share in the region, but also to act as a platform from which it can invade the United States with a Corona substitute.

7.2 Performance

AmBev is the most profitable beverage company when compared against large competitors, with a 35.4% EBITDA in 2003 (AmBev, 2004b). With powerful monopolies in several South American countries, AmBev has a relatively uncontested position in several beverage categories and markets, including the massive Brazilian market. Relative to competitors, AmBev has held strong profitability.

EBITDA margin – latest reported	
	%
Ambev	30.0
Anheuser Busch	27.9
Fosters Brewing	26.6
SAB	25.9
Interbrew	20.4
Heineken	17.1
Carlsberg	16.0
S&N exc pubs	14.2
AVERAGE	22.2%

Source: MacKay, 2002.

7.3 Risk Factors

AmBev's most significant market is Brazil, which has oft experienced severe degrees of inflation, including hyperinflation. Government measures to combat inflation, and public speculation about possible future government interventions, has had significant negative effects on the Brazilian economy.

The Brazilian currency has devalued periodically during the last four decades. Throughout this period, the Brazilian government has implemented various economic plans and utilized a number of exchange rate policies, including sudden devaluations and periodic mini-devaluations, during which the frequency of adjustments has ranged from daily to monthly, floating exchange rate systems, exchange controls and dual exchange rate markets" (AmBev 2004), resulting in significant fluctuations in the exchange rates between Brazilian currency, the U.S. dollar and other currencies.

Increases in Brazil's already high levels of taxation adversely affect AmBev's profitability. Tax increases on beverage products result in higher beverage prices for consumers, which translate to lower net sales. Lower net sales yield lower margins due to fixed costs, and thus do not vary significantly based on the level of production (AmBev, 2004).

The Brazilian beverage industry is prone to high levels of tax evasion, which is due to the high level of taxation on beverage products in Brazil. An increase in taxes correlates to an increase in tax evasion, which results in unfair pricing practices in the industry for law-abiding participants. AmBev has proposed regulation to the Brazilian federal government requiring the mandatory installation of flow meters in all Brazilian beer and soft drinks plants in order to help the federal and state governments combat tax evasion in the industry. The federal government adopted this regulation in 2004 with respect to the beer industry only, and is expected to enact similar regulations for the carbonated soft-drinks industry by the end of 2004 (AmBev, 2004).

AmBev's financial results may be adversely affected by the following factors (and the Brazilian government's response to the factors): devaluations in currency and other exchange rate movements; (hyper)inflation; exchange control policies; social unrest; price volatility; energy shortages; interest rates changes; liquidity of capital; tax policies; and other political, societal, social and economic developments affecting Brazil." (AmBev, 2004).

The Brazilian government is presently reviewing proposed legislation which restricts or forbids alcohol advertising on television. If enacted, these measures should adversely affect sales (AmBev, 2004).

Due to AmBev's dominant market share in beer in Brazil, they are subject to regulation under Brazilian antitrust rules. Additionally, as a result of the combination of Brahma and Antarctica, AmBev entered into a performance agreement with Brazilian antitrust authorities, under which they are required to abide by certain ongoing restrictions regarding their distribution network. In addition, the Interbrew-AmBev merger has undergone review by the Brazilian antitrust authorities, and as a result, AmBev is party to several antitrust legal proceedings. As another outcome of antitrust scrutiny, AmBev has been forced to divest itself of certain licensing agreements and brands (AmBev, 2004).

7.4 Market Conditions

With a population of approximately 179 million people, spread across 3.3 million square miles of territory, Brazil presents a lucrative yet complex business environment. The Brazilian beer market is the fourth biggest in the world and the largest in Latin America, with annual consumption of 85 million hectolitres in 2003, according to Euromonitor. The Brazilian soft drinks market is the third largest globally, consuming 130 million hectolitres in 2002, according to PepsiCo. With a relatively large and youthful consumer base, Brazil has 38.1% of the population under the age of 18 (AmBev, 2004). At 49 litres per capita annually for beer and 66 litres per capita annually for soft drinks, together with an unequal regional income distribution, present significant opportunities for growth in the Brazilian beverage market (AmBev, 2004).

7.5 The Brazilian Beer Market

The following table shows the ranking of beer consumption per country in selected markets in 2003, by volume:

Country	2003 ANNUAL BEER CONSUMPTION (millions of hectoliters [M hL])
China	260
United States	239
Germany	97
Brazil	85
Mexico	52
Canada	22
Venezuela	14
Argentina	14

Source: Euromonitor International, Inc. "World Market for Beer Report, 2003"

7.5.1 Low Per Capita Beer Consumption

Beer is the second most popular drink segment in Brazil behind soft drinks. Per capita beer consumption in Brazil is relatively low compared to many other large markets however, mainly due to the unequal income distribution among the population. Per capita consumption of beer has been somewhat stable since 1995 despite declines in real wages, and brewers' attempts to access the lower income segments of the population. Per capita consumption of beer in Brazil was approximately 48.8 liters per year in 2003, and ranks 29th in the world, according to Euromonitor (2003). The following table sets forth the world ranking in terms of per capita beer consumption in selected countries in 2003:

Country	Liters Per Person / Year (2003)
Germany	119
United States	85
Canada	71
Venezuela	54
Mexico	50

Brazil	49
Argentina	37

Source: Euromonitor International, Inc. "World Market for Beer Report, 2003"

7.5.2 Channels

Brazilian beer sales are distributed through numerous points of sales. "We serve approximately one million points of sale. On-premise sales, particularly through bars and restaurants, dominate the market and have the highest margins. Off-premise sales, mainly through supermarkets, are highly price-sensitive, with cans as the predominant packaging through this channel." (AmBev, 2004).

AmBev's channel mix has been stable the past few years, with supermarkets representing approximately 30.1% of the market in 2003, according to ACNielsen (AmBev, 2004).

7.5.3 Prevalence of Returnable Packaging

The main packaging offered in bars and restaurants are 600ml returnable, glass bottles. According to ACNielsen, these bottles represented approximately 67.7% of beer sales in 2003, with the other 32.3% consisting of sales of one-way packaging, which includes non-returnable bottles and cans sold mainly in supermarkets (AmBev, 2004). "Because on-premise beer sales are typically delivered in returnable bottles, the capital expenditures and the commitments necessary to develop an efficient bottling operation remain a significant barrier to entry in the Brazilian beverage industry." (AmBev, 2004).

7.5.4 Pricing

“Wholesale and retail prices of beer have not been regulated in Brazil since July 1990, when formal governmental price controls were lifted.” (AmBev, 2004). Beer sales volume is strongly correlated with pricing. Factors used in determining the retail price for beer include brand preferences of consumers, national and/or local price promotions available from producers, whether consumption occurs on- or off-premise, product category of beer, whether the packaging is returnable or not, the desired profit margin of the producer, and the geographical location of the retailer.

The following table demonstrates the breakdown of the average retail price of beer paid by Brazilian consumers for AmBev products in 2003:

Year Ended December 31, 2003	Industry Margin Pool (%)
Producers	31%
Distributors	10%
Retailers	32%
Taxes	27%
Total	100%

Source: AmBev, 2004

7.5.5 Seasonality in Sales

Sales of beer in Brazil and other principal markets are seasonal, with sales stronger in the early summer. Demonstrated by the following table are AmBev’s sales in Brazil, by quarter, for the years indicated:

(M hL)	2003	2002	2001	2000
First Quarter	14.1	13.3	16.2	14.3
Second Quarter	13.1	12.9	13.1	13.0
Third Quarter	12.0	13.6	13.3	13.7
Fourth Quarter	16.1	18.2	17.4	18.2
Total	55.3	58.0	59.0	59.2

Source: AmBev, 2004.

7.6 Brazilian Soft Drink Market

Brazil's soft drink market is the second largest in Latin America and the third largest in the world, in volume, with 130 million hectolitres sold in 2002, according to PepsiCo (AmBev, 2004).

The following table demonstrates the soft drink consumption in selected countries in 2002:

Country	Annual Consumption (M hL)	Annual Consumption (M 8oz cases)
United States	549	9672
Mexico	147	2594
Brazil	130	2298
Germany	73	1287
Great Britain	57	998
China	54	954

Source: AmBev, 2004

7.6.1 Soft Drink Consumption

Consumption of soft drinks in Brazil grew considerably in the 1990s, but has remained relatively flat in recent years. For the same demographic reasons as for beer consumption, consumption of soft drinks remains low at 74.8 liters per capita in 2002 (AmBev, 2004). The following table, which demonstrates per capita consumption in selected countries in 2002, shows that Brazil's per capita consumption remains low relative to comparable markets:

Country	Litres Per Person Per Year
United States	189.9
Mexico	145
Great Britain	95.2
Germany	89.4
Brazil	74.8
China	4.2

Source: AmBev, 2004

7.6.2 Flavours

The Brazilian soft drinks market is composed primarily of flavoured soft drinks and colas. The principal competition of the colas is Guarana, a South American soft drink based on a tropical fruit that grows indigenously to the Amazon rainforest. The flavours category has grown substantially in market share in recent years, due to low price producers, called B-Brands. Beginning in 1999, the market has successfully fended off growth of B-Brands, by means of pricing policies and advertising, despite new flavours being introduced by low price producers too (AmBev, 2004).

The following table delineates the percentage of total CSD sales volume by flavour, in Brazil, during the periods indicated:

Flavour Market Share (%)	2003	2002	2001	2000	1999
Guarana	26.4	27.7	28.3	28.1	29.2
Cola	46.6	44.3	43.9	42.9	42.3
Others	27.0	28.0	27.8	29.0	28.5

Source: AmBev, 2004

7.6.3 Packaging

Cans and plastic bottles (PET) are the primary non-returnable containers used in the Brazilian soft drink market, representing approximately 89.8% of the packaging used for soft drinks in 2003 (AmBev, 2004). The introduction of plastic bottles, particularly the 2-litre PET, has been the main innovating factor in the last 10 years, decreasing the cost per litre, which has facilitated the entry of new low-price competitors (one third of the total market in 2003) (AmBev, 2004). "While the introduction of non-returnable packaging required relatively low investments for the development of an efficient bottling operation and distribution network, resulting in

consumption increase, it is also a less profitable type of packaging, resulting in lower industry margins.” (AmBev, 2004).

7.6.4 Channels

On account of the price-sensitivity of the soft drink market, and the changes in packaging toward low-cost, non-returnable plastic bottles, the channels in which soft drinks are sold in Brazil have trended toward off-premise (mainly supermarkets) channels (AmBev, 2004). According to ACNielsen, in 2003 approximately 24.3% of Brazilian soft drink sales were completed on-premise, with the remaining 75.7% off-premise, predominantly in supermarkets (AmBev, 2004).

7.6.5 Pricing

“There have been no government-imposed price controls on the wholesale or retail prices of soft drinks since 1990. AmBev's pricing strategy has been and will continue to be to narrow the price gap between our brands and the market leader brands, through initiatives to improve our revenue management.” (AmBev, 2004).

The following table demonstrates the breakdown of the average retail price of soft drinks, as paid by Brazilian consumers for AmBev products in 2002:

Year Ended December 31, 2003	Industry Margin Pool (%)
Producers	34.6%
Distributors	9.4%
Retailers	34.8%
Taxes	21.2%
Total	100%

Source: AmBev, 2004.

7.6.6 Seasonality

Similar to beer, soft drink sales in Brazil in neighbouring markets tend to be seasonal, although seasonal variations in soft drinks are not as strong as seasonal variations in beer. The below table breaks down AmBev's soft drink sales for the years indicated in Brazil, by quarter:

(M hL)	2003	2002	2001	2000 (*)
First Quarter	4.2	4.4	4.7	4.1
Second Quarter	4.1	4.1	4.0	3.7
Third Quarter	4.0	4.0	4.4	3.9
Fourth Quarter	5.4	5.7	5.4	5.3
Total	17.7	18.2	18.5	17.1

Source: AmBev, 2004

(*) Includes Brahma and Antarctica sales

7.7 Brazilian Non-Alcoholic and Non-Carbonated Beverages (NANC) Market

7.7.1 NANC Consumption

The Brazilian NANC market consists of "powdered juice, bottled water, concentrated juice, ready-to-drink (RTD) juice, RTD tea, isotonic sport drinks, energy drinks and coconut water, both natural and industrialized. The Brazilian NANC market (excluding coconut water) has grown at an annual compounded rate of 9.7% per year from 1999 to 2003, according to ACNielsen. This, however, still represents less than half of the Brazilian soft drink market." (AmBev, 2004).

The following table demonstrates the Brazilian consumption, by category:

Years Ended Dec. 31 (M hL)	2003	2002	2001	2000	1999
Bottled Water	15.5	12.5	11.1	10.0	9.6
RTD Teas	0.5	0.5	0.4	0.4	0.3
Isotonic Sports Drinks	0.3	0.3	0.3	0.3	0.4
Powdered Juice	24.3	21.5	18.8	17.0	16.5
Concentrated Juice	5.4	6.2	5.8	5.7	5.5
RTD Juice	1.8	1.6	1.2	0.8	0.7

Energy Drinks	0.04	0.05	0.04	0.01(1)	
Total	47.8	42.6	37.6	34.2	33.0

Source: AmBev, 2004.

(1) Energy drinks' volume in 2000 represents only the period from May to December; from 2001 on the volumes represent the full year.

7.7.2 Seasonality

Similar to beer and soft drink sales, NANC sales are seasonal, where the seasonality of NANC is similar to beer. The below table demonstrates sales volumes in Brazil for the years, broken into quarter:

('000s hL)	2003	2002	2001	2000
First Quarter	382	433	225	140
Second Quarter	273	319	159	111
Third Quarter	236	277	187	114
Fourth Quarter	211	404	271	194
Total	1101	1434	842	560

Source: AmBev, 2004.

AmBev had net sales of R\$8,683.8M in 2003, contrasted to R\$7,325.3M in 2002. Net beer sales in Brazil were R\$6,114.6 million (70.4%) of net sales in 2003 on 55M hL (AmBev, 2004). With 66.0% of the Brazilian beer market, AmBev's proprietary beer brands Skol, Brahma Chopp and Antarctica Pilsen are among the most popular in the world, occupying the first, second and the third position in the Brazilian beer marketing 2004 (AmBev, 2004).

AmBev has an extensive distribution network which includes approximately 332 exclusive third party distributors and 32 owned direct distribution centers. In 2003, third party distributors accounted for 63.1% of sales volume in Brazil, while AmBev's direct distribution system accounted for the remaining 36.9% for the same period (AmBev, 2004).

Operations in Brazil consist of 29 beverage plants, 11 are breweries, four are CSD & NANC bottling plants, and 14 are mixed plants (where both brewing and CSD & NANC bottling operations are conducted) (AmBev, 2004). "The aggregate production capacity of AmBev's beverage plants is approximately 88.3 million hectoliters of beer and 45.7 million hectoliters of soft drinks." (AmBev, 2004) AmBev owns six other facilities: four malting plants (one in Brazil, two in Uruguay and one in Argentina), one concentrate house, and one producer of crown caps (the latter two plants located in Brazil) (AmBev, 2004).

7.8 Business Strategy

"Our growth strategy is driven by the following objectives: managing revenue and creating per capita consumption opportunities; capturing market opportunities; improving distribution efficiency; improving point of sale execution; leveraging existing profitable opportunities in soft drinks; maintaining low costs; and recruiting, training and maintaining the best employees.

To grow the top line through revenue management and the creation of per capita consumption opportunities: We will continue to invest in our brands to strengthen consumer preference and are progressively increasing sales volumes from our higher margin brands. With consumer preference for our brands already at approximately 77% in June 2003, according to our estimates, we have a strong base from which to expand consumption by introducing new drinking occasions. We have launched new products, such as Skol Beats, re-energized heritage brands like Bohemia and Original to meet the preferences identified at premium prices, and we also launched Brahma Light. Based on market and consumer consumption data, we have targeted a range of opportunities for increasing per capita consumption by region, neighborhood, income class and consumption pattern. We also believe that we can still identify more opportunities to better manage the industry margin pool and to retain more of the value of our brands without increasing prices to the consumer above inflation.

To capture market opportunities in Brazil: In addition to our strategy to increase sales of higher margin products and develop new consumption opportunities, our knowledge, brands, distribution network and sales technology also allow us to capitalize on the significant opportunities for growth offered in our primary mainstream market. The size of Brazil's beverage market, its low per capita beverage consumption, and its young and growing population combine to create a favorable backdrop for increased domestic beverage consumption. Moreover, we believe that improvements in the Brazilian economy could result in a growing demand for our products as

consumers both increase the volume of their consumption and as they shift toward our premium-priced beverages instead of lower-priced beverage products made by other producers.

To improve the efficiency of our distribution network: Delivering three national beer brands (Antarctica, Brahma and Skol) to one million points of sale is the most complex feature of our business. In recent years we have been gradually, but steadily, moving towards using direct distribution in major cities where economies of scale makes this a logical strategy. At the same time, we have been strengthening our system of third-party distribution. Instead of operating three inherited, parallel, single-brand systems, we are shifting towards a multi-brand network of distributors committed to handling all of our brands. Though far from completion, we have already begun to realize the revenue benefits of having three brands managed under the same sales and distribution process.

To improve our point of sale execution through new and creative measures: We are constantly seeking to improve our point of sales execution through new and creative measures. A key marketing initiative has been the introduction into the Brazilian market of our custom-made beer refrigerators for use at our points of sale. Our beer refrigerators focus on on-premise consumption, and are specially designed and built to chill beer at the optimal temperature for consumption in Brazil. Before these refrigerators were introduced, most beer in Brazil was served to consumers from refrigerators designed to chill soft drinks, which traditionally is preferred at warmer temperatures than beer. Our special refrigerators, decorated to maximize the visual impact of our Brahma, Skol, Antarctica and Bohemia brands, chill our beer products to sub-zero (centigrade) temperatures, which market research has shown to be the consumers' preferred temperature for beer.

To leverage the profitability of the soft drink business by taking full advantage of the current infrastructure and sales technology of our beer business: We have a strong product portfolio that includes the three leading beer brands in Brazil (Antarctica Pilsen, Brahma Chopp and Skol). Also, our portfolio includes two of the top three soft drink brands in Brazil (Guarana, Antarctica and Pepsi Cola), according to ACNielsen, and brand leaders in several niche segments. The stronger our soft drink brands, the better supplier we are to the point of sale and the greater the distribution cost synergies available to the business as a whole. We have also added more high-margin products to our portfolio, such as Gatorade and Pepsi Twist, to further enhance our profitability. The development of the soft drink segment has been and will continue to be of great strategic importance for us.

To maintain our commitment to reduce costs: One of our key strengths is our ability to maintain and reduce costs. We are already one of the lowest cost beer producers in the world, but we still see opportunities to improve our productivity. For example, we created a Shared Services Center ("SSC") to centralize activities such as logistics, human resources and finance, which has allowed the sales and production units to sharpen their focus by eliminating these functions. The SSC leverages technology to achieve excellence in our processes, and can quickly incorporate new areas of operation.

To recruit, train and maintain the best employees: The essence of AmBev has been, and will continue to be our culture, management strength and depth, and the unparalleled productivity of our employees. Our employees are carefully recruited and highly trained, as well as confident and demanding. We are exceptionally motivated by an aggressive variable pay system that rewards performance, ownership and entrepreneurship, while consistently adding sustainable shareholder value. AmBev, as a whole, is focused on achieving long-term, sustainable results - resilience and financial discipline are integral parts of our culture." (AmBev, 2004).

7.9 Products and Brands

The following table demonstrates AmBev's sales volumes by business segment:

(M hL)	2003	2002	2001
Beer Brazil	55.3	58.0	59.0
CSD & NANC	18.8	19.6	19.2
Int. Operations	10.3(1)	3.9	3.3

Source: AmBev, 2004.

(1) Includes Quinsa's volumes in proportion to AmBev's economic stake in Quinsa.

The following table demonstrates AmBev's revenue breakdown, as a percentage of sales, by segment:

(% of revenues)	2003	2002	2001
Beer Brazil	70.4	75.7	73.9
CSD & NANC	15.3	16.8	15.8
Int. Operations	12.0	5.4	6.4
Other Products	2.2	2.1	3.9

Source: AmBev, 2004.

7.10 Beer Sales in Brazil

The following table demonstrates the breakdown of beer sales by package:

Presentation (% volume)	2003	2002	2001
Returnable Glass Bottles	69%	68%	67%
Cans	25%	26%	27%
Non-returnable Glass Bottles	3%	3%	3%
Barrels (Draft Beer)	2%	2%	2%
Others	1%	1%	1%

Source: AmBev, 2004.

7.11 Carbonated Soft Drinks Sales in Brazil

AmBev's CSD strategy has been to focus on a small number of highly profitable products, which are treated as their core CSD portfolio. This portfolio includes Guarana Antarctica, as well as Pepsi Cola and Pepsi Twist, which AmBev sells under license from PepsiCo.

The following table demonstrates market share of AmBev's soft drink brands in Brazil:

(% of market share)	2003	2002	2001
Guarana Antarctica	8.2%	7.9%	8.0%
Pepsi-Cola	4.1%	3.9%	4.3%
Pepsi Twist	1.6%	1.2%	0.0%
Others	2.7%	3.0%	4.6%

Source: AmBev, 2004.

In addition to its core CSD portfolio, AmBev also sells the following brands:

- Proprietary brands: Soda Limonada Antarctica (regular and diet), Tonica Antarctica (regular and diet), Club Soda Antarctica, Sukita, Guarana Brahma (regular and diet), Limao Brahma, Tonica Brahma.
- PepsiCo Franchises: Pepsi X, Teem (regular and diet), Seven UP (regular and diet).

AmBev's soft drinks are sold and distributed through their beer distribution network, which serves both on-premise points of sale, and off-premise resellers.

The following table demonstrates packaging of our CSD sales, by volume:

Presentation (% of volume)	2003	2002	2001
One-way Plastic Bottles	70%	66%	65%
Cans	23%	25%	24%
Returnable Glass Bottles	6%	7%	9%
Post Mix	1%	2%	2%

Source: AmBev, 2004.

7.12 International Operations

Net sales from International Operations in 2003 were R\$1,046.1 million, or 12.0% of the company's net sales, compared to 5.4% in 2002 (AmBev, 2004).

“AmBev's International Operations are comprised of:

- 1) AmBev Peru, our Peruvian subsidiary which owns the Pepsi franchise for the metropolitan region of Lima and the north of Peru. The franchise was obtained in October 2003 in connection with our acquisition of production and distribution assets from Embotelladora Rivera. AmBev plans to leverage Pepsi's distribution system to launch a beer brand in Peru in the near future. Currently, we are building beer production facilities in Lima's metropolitan area. Our decision to pursue a beer greenfield project in Peru is based on the growth potential of that market, our expansion strategy in Latin America, our developed know-how in the launching of greenfield projects, and the relatively low entry cost. We expect to start our operations at the beginning of 2005.
- 2) CA Cerveceria Nacional, our Venezuelan subsidiary, which was acquired in 1994. We sell the Brahma brand in Venezuela, and in 2003, Brahma had a market share of approximately 7.0%, according to our estimates. We have a strong presence in Caracas, the country's principal market, holding a market share in the Caracas region of approximately 23.9%, according to our estimates.
- 3) Cerveceria Rio, AmBev's subsidiary in Guatemala, which was created through a joint venture with the Central America Bottling Corporation ("CabCorp"), the main Pepsi bottler in Central America and the sole Pepsi bottler in Guatemala. Cerveceria Rio launched its operations in September 2003 with the introduction of the Brahma brand, an adaptation of our Brahma brand. Benefiting from CabCorp's efficient and extensive distribution system, we have been able to capture approximately 30% of the market according to our estimates. Furthermore, in May 2004, we began exports from Guatemala to Nicaragua where CabCorp also has the Pepsi franchise.
- 4) Cerveceria Suramericana ("Cervesur"), our Ecuadorian subsidiary, which was acquired in November 2003. Cervesur sells the Biela brand and occupies the second leading position in Ecuador, with a market share of approximately 6% according to our estimates.
- 5) Embotelladora Dominicana CXA ("Embodom"), our subsidiary in the Dominican Republic, which has the Pepsi franchise for the Dominican Republic. In February 2004, AmBev reached an agreement with Embodom's controlling shareholders to acquire a 51% stake in Embodom and jointly explore both the Dominican soft drinks and beer markets. AmBev is currently building a beer plant in the region of Santo Domingo,

which will be contributed to Embodom in exchange for additional shares that will increase AmBev's ownership interest in Embodom to 66%.

- 6) Our economic stake in Quinsa, which was 49.66% as of December 31, 2003. Through a shareholders agreement we jointly control Quinsa together with Beverage Associates Corporation ("BAC"), a holding company representing Quinsa's other controlling shareholders. Quinsa is the leader in the beer markets of Argentina, Bolivia, Paraguay and Uruguay, and occupies the second leading position in Chile.

Quinsa is a Luxembourg-based holding company which controls 87.63% of the outstanding shares of QIB. The remaining 12.37% interest in Quinsa is held by BAC and AmBev, which hold 5.32% and 7.05%, respectively.

Quinsa, through QIB, controls beverage and malting businesses in five Latin American countries. Its beer brands are strong market leaders in Argentina, Bolivia, Paraguay and Uruguay and have a presence in Chile. Further, pursuant to a license agreement entered into with AmBev on January 31, 2003, Quinsa received the exclusive rights to produce and sell AmBev brands in Argentina, Bolivia, Chile, Paraguay and Uruguay. Similarly, under a distribution agreement entered into between Quinsa and AmBev also on January 31, 2003, AmBev has the exclusive right to distribute Quinsa's brands in Brazil.

In the soft drinks market, Quinsa has bottling and franchise agreements with PepsiCo, which account for 100% of PepsiCo beverage sales in Uruguay and more than 80% of PepsiCo beverage sales in Argentina. Soft drink sales in Argentina were nearly 5.9 million hectoliters in 2003." (AmBev, 2004).

7.13 Distribution and Sales

7.13.1 Distribution

"We maintain an extensive third party and direct distribution system which has enhanced the penetration of our brands throughout Brazil. Control of a strong distribution network is a competitive advantage in the Brazilian marketplace due to the large number of small points of sale as well as the prevalence of returnable packaging, especially in beer, which must be transported both to and from the points of sale. The Brazilian beer market is characterized by a high proportion of on-premise consumption. According to ACNielsen, approximately 70% of the beer sold in 2003 was consumed on-premise in bars, restaurants and small retail establishments, with the remaining 30% of sales from supermarkets. Because on-premise beer sales are typically delivered in returnable bottles, the capital expenditures and the commitments necessary to develop an efficient bottling operation constitute a significant barrier to entry in the Brazilian beverage industry. However, as is

the case in more developed beverage markets, non-returnable packaging in the Brazilian market has been growing over the past years and may continue to grow." (AmBev, 2004).

AmBev possesses three disparate distribution networks, composed of exclusive third-party distributors and direct distribution. In total, these distribution networks service over one million individual points of sale in Brazil. AmBev seeks to continuously improve the process of multi-brand distribution (wherein one distributor distributes two or more of our beer portfolios). The consolidation of the three networks into a single, multi-brand system, both in direct and third-party sales, should not only result in cost savings, but significantly improved distribution, and faster execution at the point of sale.

"We utilize the "pre-sell" system as our principal method of sales in Brazil. Under the pre-sell system, a separate sales representative obtains orders from customers prior to the time of delivery by trucks. The pre-sell system enables us to utilize our trucks more efficiently, since our route trucks can be loaded with precisely the amount needed to meet our customers' orders, and it can also provide us real-time information about the product and presentation needs of our customers, as the majority of our sales staff relays order information to our distribution centers using hand-held computers.

One of our major initiatives has been to continuously improve our distribution network in order to increase the volume of sales and deliveries per distributor, thus achieving economies of scale. In connection with our on-going goal of increasing the efficiency of our distribution networks, we developed an "Excellence Program" to evaluate, train and motivate our distributor partners. The Excellence Program allows us to benchmark all third-party and direct distribution operations, and is a tool for standardizing the specific operating procedures needed to run an efficient distribution operation and to maintain brand integrity. This program was implemented in 1992 in the Brahma and Skol distribution network and later in the Antarctica distribution network. As part of our Excellence Program, we have significantly reduced the number of distributors since 1994 and focused on increasing the volume and the quality of service provided by these distributors. We also intend to expand our direct distribution system in large urban areas, thereby incurring additional selling expenses as a result of, among other things, expansion of our sales force and increased transportation costs. However, we expect that this investment will be more than offset by additional revenues." (AmBev, 2004).

"Despite the growth of direct distribution, we believe that the continued development of both our exclusive third-party and direct distribution networks are fundamental to our success. We will continue to invest in both the third-party and direct systems, including the exchange of best practices, to improve overall point-of-sale execution." (AmBev, 2004).

7.13.1.1 Third-Party Distribution Network

Distributing approximately 63.1% of volume is AmBev's third-party distribution network. About 47.7% of volume of the three core brands was sold by distributors. AmBev has exclusive agreements with almost 332 independent distributors who cumulatively cover all 26 states in Brazil and the Federal District. Seeking to improve efficiencies in their distribution network, and seeking economies of scale, AmBev will continue to optimize throughout the consolidation of their three distribution networks (AmBev, 2004).

"Our distribution agreements require the distributor to carry exclusively our Brahma, Skol and/or Antarctica beer portfolios, as well as our core soft drink portfolio, and grant the distributor exclusive rights to sell such products within specific channels in a defined territory. In the case of soft drinks, where we have a core portfolio sold through all three distribution networks, the distributors serving the same territory compete with one another; nevertheless, only those designated distributors are entitled to sell our soft drinks in that specific territory. Generally, these agreements have an initial term of between one and five years, and are renewable for an additional term after which the contract will not have a pre-determined termination date. In addition, pursuant to our agreement with CADE, we are required to share our distribution network with the Dado Bier brand, which belongs to a regional producer in the South of Brazil (for further information on this matter see "Background on the Company—Brazilian Antitrust Approval")." (AmBev, 2004).

The ideal number of distributors within an area is determined by considering "market needs, number of points of sale, and geographic features. Our sales volume is not concentrated in any one distributor within any particular region." (AmBev, 2004).

"Our third-party distributors pay for our products either in cash at time of delivery or through a credit arrangement. Credit terms are typically based on the distance between the distributor and the plant, with one extra credit day for each 300 kilometers between the plant and the geographical region covered by the distributor. Our current average credit term with our distributors is approximately two days. We have an administrative team dedicated to providing support to our third-party distributors, analyzing ways to improve efficiency and reduce costs. Under our Excellence Program we continually seek to optimize practices for cost reduction, sales effectiveness and customer service. We have also developed several other innovative

programs aimed at improving our distribution network, such as educational programs at our in-house training academy for our in-house and third-party personnel and weekly sales force training through satellite broadcasts containing market updates and information on our current strategic initiatives." (AmBev, 2004).

7.13.1.2 Direct Distribution System

"In addition to our third-party distribution networks, we operate a direct distribution system that distributes our products directly to points of sale, including both on-premise and off-premise consumption. Our direct distribution system includes 32 direct distribution centers that together delivered approximately 36.9% of our beverage products by volume for the year ended December 31, 2003. We intend to continue expanding the number of brands handled by our direct distribution system in larger urban areas and expect direct sales to account for up to 50% of our sales by volume in the next years." (AmBev, 2004).

7.13.2 Sales

7.13.2.1 Points of Sale

"We restructured our Brazilian sales operations, and as of April 1, 2003, our operations in Brazil are divided into nine geographic regions. Until April 1, 2003 we divided our operations into five regions. We expect this change to further improve execution as we intend to become closer to the market. During 2003, our products were sold in approximately one million points of sale throughout Brazil. We sell our beverage products throughout Brazil to:

- retail establishments such as restaurants, bars and small- and medium-sized retail outlets, primarily for on-premise consumption;
- small self-service stores for both on and off premise consumption; and
- supermarket chains for off-premise consumption." (AmBev, 2004).

7.13.2.2 Terms of Sale

On direct distribution sales, the credit terms and other conditions are established for each point of sale based on a "credit score model", with average

terms of about five days. Some particular clients, such as major supermarkets and other large chains, enjoy longer credit terms (average of 20 days) (AmBev, 2004).

7.13.2.3 Sales Force

Sales teams are formed around specific groups of products, segmented by geographical region. Each team is involved in selling products as well as receiving feedback monitoring performance in several metrics, including evaluation by brand, package type and distribution channel (AmBev, 2004).

7.13.2.4 Pricing

“Since the Brazilian government deregulated beer prices in 1990, our pricing has generally been based upon a suggested retail price issued periodically by our headquarters. The final selling price in each of our nine market regions is based on the suggested price, and takes into account local taxes and competitive pressures.” (AmBev, 2004) “Actual prices are reported daily through our information network, so that the corporate staff is able to monitor discount levels and detect market trends. When determining the suggested price, we consider many factors, each of which varies importance from time to time. These factors include general economic conditions, regional taxes, the success and profitability of our various product presentations, the prices of its competitors, the effects of inflation and the level of its costs. We work continuously with the owners of our points of sale to achieve competitive consumer prices. Most of our sales force work with handheld computers, equipped with a sales algorithm, which enables them to set optimal retail prices. There is currently no regulation of wholesale or retail beer or soft drink prices in Brazil.” (AmBev, 2004).

7.13.2.5 Marketing

AmBev employs several advertising mediums on which to promote its products. Often using billboards, event sponsorship, television, POS promotions, end-of-aisle displays, and special contests, AmBev has elevated their promotional aggression by means of branded furniture, sponsorship of the Brazilian National soccer team and the utilization of proprietary beer fridges, which are placed in pubs in urban centres:

"A key marketing initiative has been the introduction into the Brazilian market of our custom-made beer refrigerators for use in points of sale focusing on on-premise consumption, especially designed and built to chill beer at the optimal temperature for consumption in Brazil. Before these refrigerators were introduced to the points of sale, most beer in Brazil was presented to consumers in refrigerators designed to chill soft drinks. Our special refrigerators, decorated to maximize the visual impact of our Brahma, Skol, Antarctica and Bohemia brands, chill our beer products to sub-zero (centigrade) temperatures, which market research has shown to be consumers' preferred temperature, and have shown a positive impact on sales volumes at their locations. As of December 31, 2003, we had installed 186,500 refrigerators in key locations throughout the country. We plan to install significantly more sub-zero coolers at our point of sales." (AmBev, 2004).

7.13.2.6 Packaging

The majority of beer sales are made in 600 ml glass, returnable bottles. In order to maximize sales and consumption of products, sales data is scrutinized on a regular basis to develop a mix of products to best satisfy our customers. The following table sets forth the historical presentations for our beer products by volume in Brazil (AmBev, 2004):

Presentation (% of volume)	2003	2002	2001
Returnable Glass Bottles	69%	68%	67%
Cans	25%	26%	27%
Non-returnable Glass Bottles	3%	3%	3%

Barrels (Draft Beer)	2%	2%	2%
Others	1%	1%	1%

Source: AmBev, 2004

“Packaging in the Brazilian beer market has been characterized by the predominance of returnable glass bottles. However, the cans segment grew after 1994 due to favorable foreign exchange rates, which made it cheaper to import aluminum used for can production, as well as the decision by some supermarkets to discontinue the sale of beer in returnable bottles. Aluminum can prices increased in local currency as a result of the devaluations of the real in 1999 and 2002. Beverage sales in cans are generally less profitable for us because of the lower margins attributable to non-returnable packages. Cans are particularly popular with supermarket vendors, primarily because they prefer not to allocate the additional space necessary to store returnable bottles.” (AmBev, 2004).

The industry in Brazil migrated rapidly to one-way PET bottles and aluminium cans instead of returnable glass bottles in the early 1990's. The below table enumerates the packaging of soft drink products by volume in Brazil (AmBev, 2004):

Presentation (% of volume)	2003	2002	2001
One-way Plastic Bottles	70%	66%	65%
Cans	23%	25%	24%
Returnable Glass Bottles	6%	7%	9%
Post Mix	1%	2%	2%

Source: AmBev, 2004

7.14 Competition in Beer

“Beer producers compete for market share through brand preference, distribution, product availability, pricing, product packaging, consumer promotions and service provided to retail outlets, including merchandising equipment, maintenance of bottle inventories and frequency of visits.” (AmBev, 2004).

With dominant, sometimes monopolistic, market share in almost all their South American markets, AmBev has few serious competitors. Now controlling Brahma, Antarctica, Quinsa and Skol brands, AmBev’s remaining competitors are

ving for smaller secondary and tertiary markets, and more recently, are the acquisition targets of other brewers who desire at least a toe-hold in South America.

AmBev's dominance over competitors has helped them win brewing contracts over other firms. As previously mentioned, AmBev produces all Pepsi products in South America, as well as holding brewing rights for Miller in Brazil, and Heineken for several other South American countries.

7.15 Competition in Soft Drinks

"As with beer, soft drink producers compete for market share through brand preference, distribution, product availability, pricing, product packaging, consumer promotions, cooling equipment and service provided to retail outlets, including merchandising equipment, maintenance of bottle inventories and frequency of visits. In recent years, price discounting has been frequently used as a means of increasing market share." (AmBev, 2004).

"The Brazilian soft drink market is characterized by three pricing tiers, with Coca-Cola and Pepsi Twist occupying the highest-priced tier due to significant brand preference. The second pricing tier consists principally of our Guarana Antarctica, Pepsi Cola, Sukita and Soda Limonada products, as well as Coca-Cola's Sprite and Fanta. The remaining soft drink brands and products, the B-brands, occupy the third tier.

The following table sets forth average market prices for the 2-liter PET packages for selected brands, as of December 2003" (AmBev, 2004):

Brand	Price (R\$/ 2L)
Coca-Cola	2.34
Pepsi Twist	2.26
Guarana Antarctica	2.06
Soda Limonada Antarctica	2.06
Fanta Laranja	2.04
Sprite	2.04
Sukita	2.02
7 Up	2.00
Pepsi	1.92
Average for B-Brands	1.28

Source: AmBev, 2004

7.16 Procurement

“AmBev's Procurement department has a centralized structure divided in six groups: Beer Raw Materials, Soft-drinks Raw Materials, Metals, Plastics, Paper Labels and Glass Bottles, and Intermediate Raw Materials (created in the beginning of 2003 to focus on the secondary raw materials).

The managers of these groups heavily depend on strategic sourcing to successfully negotiate their portfolios, and they also have developed extensive knowledge regarding the commodities purchased by AmBev. Financial and supply chain analysis, general industry knowledge, benchmarking studies and cost breakdown models, are some of the tools used by the department to optimize the negotiations. Inventory levels and payment options are also well-monitored in order to efficiently manage our working capital.

AmBev has also a National Procurement Center to centralize the purchase of indirect materials and services and the sales of industrial by-products. This center was created to gain leverage and aggregate value, delivering better results. In order to achieve the benefits of centralization, we rely on modern technology used to exchange information between AmBev and its suppliers, as well as an efficient on-line ordering service via AmBev's intranet, maximizing the efficiency of order processing.” (AmBev, 2004).

Using standard commercial terms, AmBev's supply agreements for raw materials are not dependent on any one dominant supplier for a significant percentage of raw materials, thus the loss of any one or small group of suppliers would not have a significantly adverse effect on available sources of supply. Recently AmBev has not experienced any difficulties procuring raw materials at satisfactory prices (AmBev, 2004).

"We established a department to focus on the procurement of marketing and advertisement products and services, searching for new and alternative suppliers as part of our outsourcing strategy for these areas. Furthermore, in 2003, AmBev centralized the Material Requirement Planning ("MRP") of the Material Requirement Order departments of all its plants, which has helped to lower inventory costs." (AmBev, 2004).

7.16.1 Beer Ingredients

The raw materials typically used in AmBev's production of beer are: malting barley, malt, grits, corn syrup, rice, hops and water.

- Barley and malt: "Malt requirements are met by domestic and international suppliers as well as our own malting facilities. In 2003, we purchased up to 13% of our malt outside South America, at prevailing market rates, which depend partially on the quality of the barley harvests, and the remaining 87% within South America. We have the capacity to produce 75% of our malt needs from our own malting facilities in Brazil, Argentina and Uruguay. We can either sell part of our malt production to third parties or use it in our own production. We generally contract our annual malt needs in the last quarter of the year for the following year's requirements. Due to the different geographical areas of our producers, we minimize exposure to weather-related harvesting problems. Market prices of barley and malt have been relatively volatile. We believe that having our agreement with the producers and corporate production facilities helps to mitigate the impact of price volatility in our operations." (AmBev, 2004).
- Hops: AmBev uses two kinds of hops in the brewing process: hops used for the bitter taste are generally imported from the United States; hops used for their distinctive aroma are usually imported from Europe. Standard import contracts have a length of three years (AmBev, 2004).
- Adjuncts: Corn syrup, rice and grits are purchased in Brazil on a regular basis. If decline in production seems inevitable, AmBev uses forward contracts to lock into their forecasted quantities.
- Water: "Water represents a small portion of raw material costs. Water needs to be treated both before its use in the production process and before disposal. We obtain our water requirements from several sources, such as: lakes and reservoirs, deep wells located near our breweries, rivers adjoining our facilities and public utilities companies. We monitor the quality, taste and composition of the water we use, and treat it to remove impurities and to comply with our own quality standards and applicable regulations. Advances in technology have reduced our water consumption per hectoliter produced. We do not foresee any shortage in our current water supply. All our plants already have water treatment facilities and a conservation/productivity program has been successfully

implemented. Substantially all of the water collections in AmBev's production facilities have the proper legal authorizations, being in compliance with the prevailing local laws for the management of water resources. Administrative penalties, such as warnings and fines may be imposed for the utilization of water resources without the proper authorization. Some states in Brazil, in which management of water resources through governmental agencies is more developed, are considering the introduction of a tax on the use of water resources." (AmBev, 2004).

7.16.2 Soft drink Ingredients

The typical inputs used in the production of AmBev's soft drink products are: concentrate (including guarana extract), sweetener, sugar, water and carbon dioxide (gas). Most of these inputs are sourced from Brazilian suppliers. AmBev has a 505-hectare facility that yields 50 to 60 tons of guarana berries each year, or about 18% of soft drink requirements, with the remaining quantity sourced directly from independent growers in the Amazon region. AmBev produces their own concentrate for soft drink production. The concentrate is combined with sugar or sweeteners and carbonated water at various AmBev facilities. The concentrate needed for Pepsi soft drink products is purchased directly from PepsiCo. Brazil is the largest producer and exporter of sugar in the world and thus sugar is sourced domestically (AmBev, 2004).

7.16.3 Packaging

"Packaging costs are comprised of the cost of non-returnable glass and PET bottles, aluminum and steel cans, plastic film (shrink and stretch), paper labels, plastic closures, metal crowns and paperboard. We use financial instruments to hedge the aluminum and sugar costs...." (AmBev, 2004). For other materials, AmBev usually sets a fixed price for the period depending on the prevailing macroeconomic conditions.

"Main can suppliers are Rexam, Latapack Ball, Metalic and Crown-Cork. Glass bottles used in packaging of our products is sourced from St. Gobain Emballage, Owens-Illinois Glass Containers and Companhia Industrial de Vidros. We obtain the labels for our beer and soft drink primarily from local suppliers, mostly from Grafica, a subsidiary of the FAHZ. Plastic closures are principally purchased from Alcoa Alumínio and Crown-Cork. We also have a plant in Manaus that produces crown caps.

Most of our plants have their own polyethylene terephthalate, or PET, blowing facilities. PET is the material used to make one-way plastic bottles for soft drinks. On-site PET blowing allows for substantial savings in transportation and storage costs." (AmBev, 2004).

7.17 Property, Plant and Equipment

AmBev's properties consist mostly of brewing, malting, bottling, distribution and office facilities, situated in Argentina, the Dominican Republic, Ecuador, Brazil, Guatemala, Uruguay, Peru and Venezuela.

"As of December 31, 2003, we own 42 facilities, of which 36 are beverage plants, including 14 breweries (11 in Brazil, and one each in Venezuela, Guatemala, and Ecuador); eight soft drink plants, four in Brazil, which produce Brahma, Pepsi and Antarctica brand soft drinks, three in Peru and one in the Dominican Republic, which produce both Pepsi and Embodom's proprietary brand Red Rock); and 14 mixed plants which produce both beer and soft drinks (all 14 in Brazil). Our facilities in Nova Rio and Jacarei accounted for 17.2% and 11.8% of our beer production in 2003, respectively. Our facilities in Jundiai, Nova Rio and Sapucaia accounted for 33.4%, 13.5% and 13.1% of our soft drinks production in 2003, respectively. On October 31, 2003, we acquired certain assets of Embotelladora Rivera in Peru, including two soft drinks plants, which combined have an estimated production capacity of 6.3 million hectoliters per year. Our mineral water plant in Bahia, Brazil, was closed during 2003." (AmBev, 2004).

"In 2003, our aggregate beer and soft drink production capacity was 133.9 million hectoliters per year. In 2003, due to the seasonality of our business, we utilized 65.6% of our beer and 47.0% of our soft drink capacity in Brazil. Our total annual beer production capacity was 88.3 million hectoliters, of which 84.5 million hectoliters is in Brazil, two million hectoliters in Venezuela, one million hectoliters in Ecuador, and one million hectoliters in Guatemala. Our assets in Argentina, Uruguay and Paraguay, with a total capacity of approximately three million hectoliters, were transferred to Quinsa during 2003. Our total soft drink production capacity was 37 million hectoliters in Brazil, which includes the production of both proprietary and Pepsi soft drinks, six million hectoliters in Peru, and two million hectoliters in the Dominican Republic." (AmBev, 2004).

AmBev owns all their facilities in Brazil. The facilities and/or equipment in Agudos, Jacarei, Nordeste, Aguas da Serra, Minas Gerais, Aguas Claras (Sergipe), Aguas Claras do Sul, Nova Rio, Brasilia, Teresina, Goiania, Manaus, Aquiraz, Santa Catarina, Cebrasa, Montenegro, Curitiba, Natal, Jundiai, Jacarepagua and Sapucaia branches are mortgaged, to be able to obtain loans from BNDES, as well as from other lenders. The mortgages were taken out in accordance with financing provided to Brahma and Antarctica to update their plants (AmBev, 2004).

“We also own and operate four malt plants, one of which is in Brazil (Maltaria Navegantes), one in Argentina (Malteria Pampa S.A.) and two in Uruguay (Malteria Uruguay S.A. and Cympay S.A.); one concentrate plant; one crown cap production facility; 490 hectares of agricultural land, which we use for Guarana production and research (see more details under “--Research & Development and Knowledge Management”) and; three barley-growing facilities.” (AmBev, 2004).

In addition, AmBev rents offices in Sao Paulo. The following is a list of their principal production facilities (AmBev, 2004):

Brazil	
Plant	Type of Plant
Agudos, Sao Paulo	Beer
Brasilia, Federal District	Beer
Curitiba, Parana	Beer
Equatorial, Maranhao	Beer
Estrela, Rio Grande do Sul	Beer
Goiania, Goias	Beer
Jacarei, Sao Paulo	Beer
Lages, Santa Catarina	Beer
Montenegro, Rio Grande do Sul	Beer
Natal, Rio Grande do Norte	Beer
Aguas da Serra, Sao Paulo	Beer
Aguas Claras, Sergipe	Mixed
Aquiraz, Rio Grande do Norte	Mixed
Camacari, Bahia	Mixed
Cebrasa, Goias	Mixed
Cuiaba, Mato Grosso	Mixed
Jaguariuna, Sao Paulo	Mixed
Jacarepagua, Rio de Janeiro	Mixed
Joao Pessoa, Paraiba	Mixed
Nordeste, Pernambuco	Mixed
Nova Rio, Rio de Janeiro	Mixed
Manaus, Amazonas	Mixed

Minas, Minas Gerais	Mixed
Teresina, Piaui	Mixed
Aguas Claras do Sul, Rio Grande do Sul	Mixed
Curitiba, Parana	Soft Drink
Contagem, Minas Gerais	Soft Drink
Jundiai, Sao Paulo	Soft Drink
Sapucaia, Rio Grande do Sul	Soft Drink
Manaus, Amazonas	Crown Cap
Manaus, Amazonas	Concentrate
Maltaria Navegantes-Porto Alegre	Malt

International Plant	Type of Plant
CACN, Venezuela	Beer
Cerveceria Rio, Guatemala	Beer
Cerveceria Suramericana, Ecuador	Beer
Lima, Peru	Soft Drink
Sullana, Peru	Soft Drink
Barranca, Peru	Soft Drink
Embodom, Dominican Republic	Soft Drink
Cympay, Uruguay	Malt
MUSA, Uruguay	Malt
Malteria Pampa, Argentina	Malt

Source: AmBev, 2004

[See Appendix 4 for map of South American operations]

“Two greenfield breweries are currently under construction, one in Peru and one in the Dominican Republic, as part of our Latin American expansion plan. More than 90% of the equipment for these plants has been or will be transferred from other facilities in Brazil, thereby optimizing the over-capacity that resulted from the Brahma-Antarctica integration and increasing productivity in our plants. This strategy allows AmBev to reduce its investment needs in new plants. In both cases, the expected investment should amount to U.S.\$38.0 million in Peru and U.S.\$38.0 million in the Dominican Republic, respectively, including production facilities, working capital and pre-operating expenses.” (AmBev, 2004).

“We also use under-capacity assets to reduce logistics costs in Brazil. For example, one of our can packaging lines was transferred to our plant in the state of Piaui during 2003, and another two are being transferred during 2004, one to the state of Goias (Central region) and one to the state of Maranhao (North region), reducing our total can freight costs to those regions. Minor de-bottlenecking investments at our plants in Anapolis and Goiania, which are expected to yield significant beer capacity increases of 11% and 15% respectively, are expected to be finished by the fourth quarter of 2004. Paysandu's malt plant (Cympay) is being expanded during 2004, increasing its capacity from 95,000 to 130,000 tons of malt per year.” (AmBev, 2004).

7.18 Logistics

AmBev segments logistics management into short-, medium- and long-term planning and execution. On a yearly basis, they compile a 5-year demand forecast known as the "Director Plan", which takes into account macroeconomic trends and predictions. Included in this plan are high-level strategic considerations such as plants open/close, asset transfer, and production capacity increase/decrease (AmBev, 2004).

Taking into account the constraints posed by the Director Plan the yearly plan is established for the purposes of budgeting and production SKU volumes for each plant. This plan is updated monthly based on actual sales data, and subsequently sets the production schedules for manufacturing and sourcing functions (AmBev, 2004).

Updated daily data is assimilated into daily production schedules, and helps to determine decisions related to purchase quantities of raw materials, inventory levels, and hedging instruments required. This data also helps forecast transportation costs and needs.

7.19 Innovation and Knowledge Management

AmBev is keenly involved in innovation, with laboratories specifically dedicated to engineering in packaging, raw material yield and quality, new beverages and knowledge management. AmBev is not complacent with their current successes, and continuously seek to improve both their operating efficiency and products. It is this excellence-seeking that permits rapid diffusion of know-how throughout both anchor operations at AmBev, and all new acquirees.

7.20 Environmental Matters

AmBev actively manages their environmentally-related duties with their partners. "Currently, we maintain modern effluent treatment systems in each of our plants, which reduce organic effluents by 95%. In addition, much of our industrial waste, which is predominantly non-hazardous in nature, is either recycled or sold to third parties.

"Several years ago, we initiated an internal environmental program to help ensure compliance with environmental regulations and, beginning in 1995, established an integrated environmental management system by hiring and training environmental supervisors. After the combination, this policy was extended to Antarctica's plants. Our environmental department includes professionals who are exclusively dedicated to the environmental management of our plants, regularly reviewing and, if necessary, revising our environmental policies, conducting environmental evaluations of our plants and training our employees in environmental matters. In addition, we support environmentally friendly projects, including recycling and urban community education projects." (AmBev, 2004).

AmBev makes large capital expenditures to maintain and upgrade their facilities to comply with relevant environmental requirements. Recent expenditures are as follows:

(R\$ in millions)	2003	2002	2001
PP&E	9.3	2.8	5.1
Waste Treatment	38.3	38.8	51.1
Total	47.6	41.6	56.2

AmBev expects to spend similar amounts in 2004 to those spent in the year 2003 on maintaining and upgrading their facilities in the coming years. Current operations are in relative compliance with applicable environmental laws. However, AmBev is currently engaged in litigation in accordance with Brazilian environmental laws relating to some of their facilities (AmBev, 2004).

7.21 Employees

At 2003 fiscal year end, AmBev employed 18,890 employees. By category, staff was 52% production, 41% sales and distribution, 7% administration (AmBev, 2004).

The following demonstrates the number of employees of AmBev and its subsidiaries:

2003	2002	2001
18,890	18,570	18,136

Source: AmBev, 2004.

The following shows the geographical distribution of employees at December 31, 2003:

Location	Number of Employees
Brazil	16,384
Venezuela	1,168
Peru	826
Guatemala	199
Uruguay	188
Argentina	125
Total	18,890

7.22 Training

“In 1995, Brahma created the "Brahma University" (now "AmBev University") to train and enhance our employees' performance, and the performance of our distributors' employees. In 2003, the AmBev University provided specific training for 1,579 employees and its distributors, totalling 6,788 hours of training. At the management level, AmBev's senior management and executive officers participate in several business and technical training programs at leading United States and European universities.” (AmBev, 2004). This effort also contributes to AmBev’s rapid diffusion of knowledge and sharing of best practices among all regions, ensuring that all staff share a common goal, and are armed with equal base-level information.

7.23 Industrial Relations

“All of AmBev's employees are represented by labor unions, but only 7.5% of our employees in Brazil are actually members of labor unions. The number of administrative and distribution employees who are members of labor unions is not significant. Salary negotiations are conducted annually between the workers' unions and AmBev. Collective bargaining agreements are negotiated separately for each facility or distribution center... AmBev believes that its relation with its employees is satisfactory, and there have been no strikes or significant labor disputes in the past nine years.” (AmBev, 2004).

7.24 Profit-Sharing Plan

AmBev distributes up to 10% of net income to employees under a profit-sharing plan. This plan is activated upon achievement of management’s efficiency objectives, and is awarded to individuals, production units, plants and the firm, based on performance of the firm, the business unit, and the individual. Overseen by the Board of Directors, the profit-sharing plan cannot be exploited arbitrarily by executives.

7.25 Commodity Risk

"We purchase a significant portion of our malt and all of our hops outside of Brazil. We purchase the remainder of our malt and our sugar, guarana and other fruits and sweeteners locally. AmBev also purchases substantial quantities of aluminum cans." (AmBev, 2004).

"We produce approximately 70% of our malt. The remainder and all other commodities are purchased from third parties. We believe that adequate supplies of the commodities we use are available at the present time, but we cannot predict the future availability of these commodities or the prices we will have to pay for such commodities. The commodity markets have experienced and will continue to experience price fluctuations. We believe that the future price and supply of agricultural materials will be determined by, among other factors, the level of crop production, weather conditions, export demand, and government regulations and legislation affecting agriculture, and that the price of aluminum and sugar will be largely influenced by international market prices." (AmBev, 2004).

"All of the hops we purchase in the international markets outside of South America are paid for in U.S. dollars. In addition, although we purchase aluminum cans and sugar in Brazil, the price is directly influenced by the fluctuation of international commodity prices." (AmBev, 2004)

7.25.1 Foreign Exchange Risk

"We are exposed to fluctuations in foreign exchange rate movements because substantially all of our revenues are in Reals, while a significant portion of our debt is denominated in or indexed to foreign currencies, particularly the U.S. dollar and the Japanese Yen. In addition, a significant portion of our operating expenses, in particular those related to hops, malt and aluminum, are also denominated in or linked to the U.S. dollar. We enter into derivative financial instruments to manage and reduce the impact of changes in foreign currency exchange rates in respect of our U.S. dollar-denominated and Yen-denominated or indexed debt. From January 1, 1999 until December 31, 2003, the Brazilian real depreciated by 58.2% against the U.S. dollar, and, as of December 31, 2003, the commercial market rate for purchasing U.S. dollars was R\$2.89 per U.S.\$1.00. The U.S. dollar depreciated against the Brazilian real by 18.2% during 2003." (AmBev, 2004)

7.26 Financial Performance 2001 – 2003 (Source: AmBev, 2004).

These figures reflect AmBev's performance in the given years. AmBev led the industry in EBITDA for many years, demonstrated with their high profitability.

(IN MILLIONS OF REALS, UNLESS OTHERWISE STATED)	2003	2002	2001
Net Sales			
Beer	6114.6	5546.4	4824.5
CSD & NANC	1332.1	1228.9	1030.8
Others	191.0	153.7	255.9
AmBev Brazil	7637.7	6929.0	6111.2
International Operations	1046.1	396.3	414.4
Total Consolidated	8683.8	7325.3	6525.6
Cost of Sales			
Beer	(2503.6)	(2237.1)	(2274.7)
CSD & NANC	(887.3)	(809.0)	(718.4)
Others	(118.6)	(81.6)	(172.2)
AmBev Brazil	(3509.5)	(3127.7)	(3165.3)
International Operations	(534.7)	(214.0)	(200.9)
Total Consolidated	(4044.2)	(3341.7)	(3266.2)
Selling and Marketing Expenses			
Beer	(534.0)	(467.8)	(448.3)
CSD & NANC	(93.9)	(145.1)	(161.5)
Others	(15.6)	(13.1)	
AmBev Brazil	(627.9)	(628.5)	(622.9)
International Operations	(219.2)	(58.7)	(84.9)
Total Consolidated	(847.1)	(687.2)	(707.8)
Direct Distribution Expense			
Beer	(480.4)	(363.0)	(320.9)
CSD & NANC	(124.8)	(109.1)	(100.5)
Others	(1.6)	0.3	
AmBev Brazil	(605.2)	(473.7)	(421.1)
International Operations	(43.4)	(63.7)	(46.7)
Total Consolidated	(648.6)	(537.4)	(467.8)

Chapter 8: AmBev Supply Chain Analysis

Analyzing AmBev's South American supply chain, we seek to determine whether the activities performed are consistent, reinforcing, and fit, all by Porter's definitions given in Appendix 8.

AmBev's beverage operations yield extraordinarily high profits, due to AmBev's successful execution of a synergistic activity system (below).

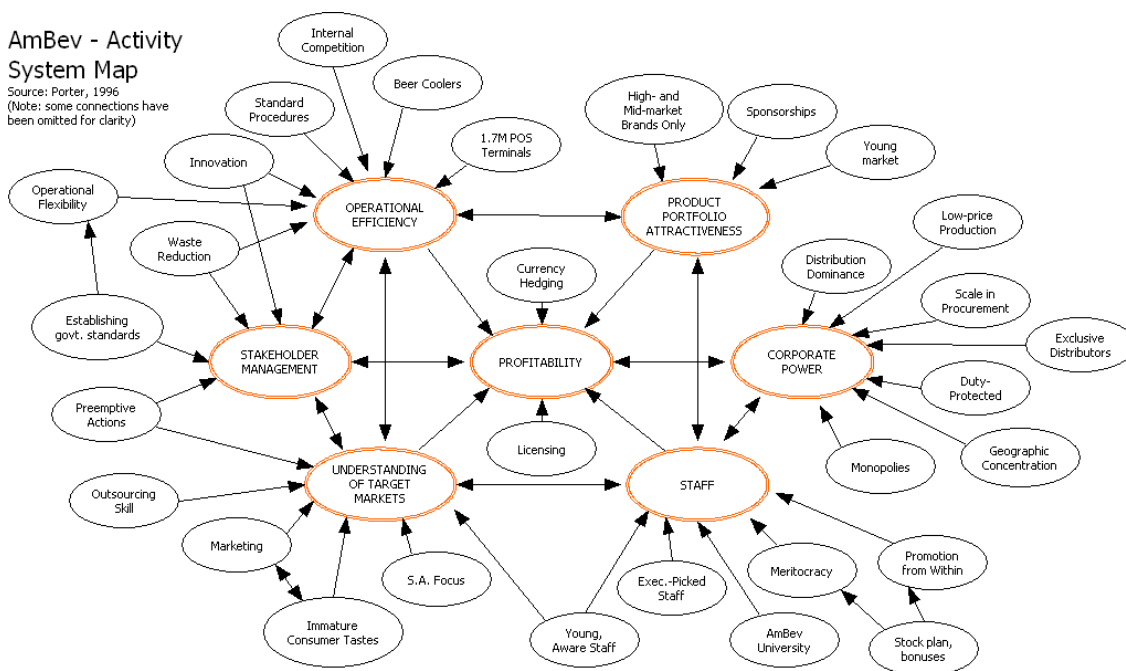


Figure Included as Appendix 9

8.1 Analysis

AmBev's stated primary objectives are: top-line growth, volume sales increases and relative market share growth. These objectives are supported by "first-order fits" (Porter, 1996), which at AmBev include: corporate power; staff;

understanding of target markets; stakeholder management; operational efficiency, and; product portfolio attractiveness.

- 1) Corporate Power: AmBev's corporate power is largely a result of its first-mover advantage, and its ability to accumulate and utilize capital. AmBev's robust distribution network throughout South America is a result of years of carefully executed mergers and acquisitions, made possible through significant capital wealth, favourable regulatory environment, operational aggressiveness and foresight, and weak oppositional competitive forces. As a result of its distribution network, AmBev is left with a strong core competency which is utilized not only for the efficient transportation of beverages, nor for the piggybacking of others' beverages to South America, but also to lock competition out of a market which contains over 350M young, increasingly wealthy people. Competitors would find it difficult to distribute any beverage products without contracting AmBev for at least one leg of the trip.

AmBev is very successful in working with the South American governments to manage the impact national political and economic forces have on their operations. AmBev enjoys protection from the Mercosur's heavy tariffs imposed on products entering South America, which proves a strong barrier to entry into the South American market. Further, with South American instability in currency values, taxation and macroeconomic variables, AmBev works with the government to their benefit. The aforementioned example of AmBev helping the Brazilian government implement flow meters in beverage factories helps both parties. AmBev appears benevolent and progressive in the eyes of governments and other stakeholders.

Due to the favour gained from government cooperation, AmBev also enjoys monopolies in beer sales in several South American countries. Anti-trust regulations have adversely affected AmBev, yet they have managed to go from a dominant position to a consolidated holder of numerous monopoly positions with relatively little resistance.

- 2) Operational Efficiency: AmBev's market power, in tandem with its fragmented client base, allows it to capture numerous operational efficiencies in functions ranging from procurement to distribution. AmBev supplies much of its own raw materials in the manufacturing process, negating much of the power wielded by suppliers. The remaining materials purchased are bought from several disparate suppliers, again removing power from the hands of the suppliers. From their purchasing volume, a result of their market power, they can demand top prices from suppliers, although purchases of commodities are made at market prices usually via long-term contracts.

AmBev's history of merging and integrating operations has helped them establish best practices, which they roll out in a standardized fashion in all facilities. This "Service Pack" implements the latest technology, reducing waste, man-hours and operational inefficiencies. It also establishes quality standards, and makes servicing and upgrading plants easier.

AmBev uses technology creatively to deliver their products to clients in a manner which satisfies their key demographics. This ability to innovate is fostered by a very aware and connected staff, who understand exactly what their market seeks. Innovations such as beer coolers and 1.7M point-of-sale

(POS) terminals not only increase sales while shaving transaction costs, but also deliver products in a unique way which encourage future sales.

Operational efficiencies are challenged by an internal competitive process rather than the typical external measurement systems. This benefits AmBev in several ways, most important being that by seeking to benchmark against others within the same industry encourages homogeneity among firms, whereas internal benchmarking creates a competitive environment, which when coupled with a young, educated staff can yield excellent efficiencies and innovations which can lead to competitive advantage.

These internal challenges have served AmBev well in helping it become competitive on a global stage. Michael Porter emphasises that the strongest companies emerge from the most competitive environments, yet in the face of South America's relatively weak competition, AmBev has raised its bar itself, a formidable task within the walls of any firm which consistently produces better-than-average profitability.

With their robust distribution network AmBev is able to optimize their operations with relatively few constraints. In seeking to adopt a direct store delivery (DSD) model, AmBev has quickly shuffled their existing distribution network to serve their needs, now enjoying nearly one-third of sales DSD. With market power and broad geographic coverage, AmBev has great operational flexibility, which permits shorter time-to-market of new products and lower cost production of existing product lines.

Under the Mercosur umbrella, AmBev gains significant latitude in operational flexibility. Manufacturing lines can be transported from one country to another, production lines can be rapidly switched from one product to another, and tariffs can be avoided transferring production needs across borders.

- 3) Stakeholder Management: As a result of this perpetual improvement process AmBev has managed not only to create broad operational efficiencies, but ones which also please stakeholders. In reducing waste AmBev has gained praise from environmental watchdogs, industry peers and governments.

AmBev spends a large amount of time interacting with stakeholders to understand their concerns, and typically respond with initiatives satisfactory to all parties. AmBev is active in preventing underage drinking, helping indigenous groups manage the sustainability of their resources, recycling efforts, and numerous other ongoing roles. AmBev manages stakeholders as part of their public relations efforts, recognizing the power and persuasion these parties can exercise. Often the stakeholder is also a potential client, and AmBev tries to maintain a cooperative and caring image to combat the negative connotations surrounding alcohol manufacturing. And while it continues to remain off the scope of NGOs, AmBev can effectively lobby the government for concessions without negative repercussions.

- 4) Staff: AmBev's staff are critical to support their business model, and are a strong competitive advantage to the organization. Hand selected from a huge pool of applicants, short-listed AmBev candidates are interviewed eventually by senior management to determine their suitability. Due to the size and

reputation of the firm, AmBev attracts top talent all across South America. They offer a fun, dynamic work environment where employees are generously rewarded for exceptional performance. Stock options are granted to top individual performers, with various incentive systems in place for team efforts too. Hiring mostly younger individuals, AmBev ensures all its staff can connect to target consumers in all functions.

AmBev's reputation in South America is quite strong among younger consumers due in large part to successful marketing and promotions. AmBev aligns its psychographic brand properties to South American markets, and reinforces this image through parties, concerts, soccer sponsorships and several other "branded" events. With enormous success AmBev staff continue to connect to their consumers in meaningful, lasting ways, resulting in strong brand loyalty.

AmBev University trains thousands of AmBev employees in all disciplines, sharing their collective acquired knowledge internally in a rapid, standardized manner. This unique facility encourages rapid transfer of know-how, and builds management skills among those staff who are being groomed for management positions. AmBev's promotion-from-within policy keeps employee turnover low, and encourages strong long-term performance from ambitious and loyal staff members.

- 5) Product Portfolio Performance: AmBev focuses on the mid-market and premium market segments, avoiding price wars with B-brands. Its brands focus specifically on the young population of South America, yet also are intended to appeal to some older drinkers as well. AmBev has separated its

beverage groupings for marketing purposes, carefully managing their campaigns and brand images for their various alcoholic and non-alcoholic products. Being positioned as a young, responsive and fun company, AmBev ensures that their brands, and the underlying activities, support this image.

AmBev hopes to leverage the fun-loving image of South America to international markets, by means of its global South American brand Brahma. Through its acquisition of this brand InBev has gained a strong competitor to Corona, a similar beer with a similar reputation, which currently dominates the United States market.

- 6) Understanding of Target Markets: AmBev has first mover advantage in Brazil and most other South and Central American countries. By being first, and by hiring talent familiar with local tastes and preferences, AmBev has retained their clientele, growing market share strongly while effectively blocking entry of competitors. Further, AmBev has worked closely with governments, NGOs and other stakeholders, which has further contributed to their success, likely minimizing the ill effects that holding monopoly status would have.

AmBev has a pulse on Brazil's rapidly evolving culture, even as it grows in international trade and imports more foreign media. AmBev helps to shape the desires of the populace, and has skilfully managed to position itself against the flood of incoming advertising by associating itself with Brazilian nationality and helping to expound on the South American love-of-life.

8.1.1 Complementarity

AmBev makes several trade-offs, and in doing so creates a strong activity network which would be impossible to duplicate. Beginning with their strong distribution network, they have the ability to move their products from anywhere in South America to any other South American location. Further, they have production facilities in several diverse locations, and the ability to relocate production capacity rapidly to other plants. Protection of this agile system has come primarily from prohibitive trade barriers, but has been supported by AmBev's strength and robustness of their infrastructure.

AmBev is operationally efficient, and has been aggressive in improving its standards despite its strong profitability and lack of serious competition. Like many other successful firms, such as Dell or Intel, AmBev's benchmark is its own paranoia of being caught or made irrelevant by competition. It gauges itself against itself primarily, which helps to stave off homogeneity from its competitors.

Through operations standards imposition on all facilities, AmBev ensures that all facilities are using optimal procedures and processes. And when new acquirees are added to AmBev's portfolio, the network is re-optimized after best practices are reanalyzed. Tight efficiency in M&A has been critical to AmBev's success, it has resulted in cohesion and synchronicity in all operations in the region.

Through AmBev's familiarity with the market they have designed and managed 186,500 beer coolers, which are strategically placed in pubs in Brazilian urban centres. Despite the enormous fixed cost associated with these fridges, AmBev has found great success in this strategy since it increases product visibility,

and delivers the product in its ideal state (proper temperature, clean, promoted). This allows AmBev to compensate for the often unpredictable and geographically challenging transportation infrastructure which can lead to quality degradation.

In region on the trailing edge of technological utilization, AmBev implemented their own proprietary information system consisting of 1.7M point-of-sale (POS) terminals. These terminals create exclusivity among retailers, and also provide AmBev with detailed information from which to base their forecasts. It is this same system that AmBev uses for online ordering and order tracking, among other functions. AmBev's technological relationship raises barriers to entry and creates switching costs for involved parties. It is unlikely that a retailer would abandon an easy POS terminal just to carry a new competitor's products, especially while AmBev retains a dominating percentage of the market share. Through this strategy AmBev squeezes out the competition's products from pubs, facilitates retail ordering, and gives itself an accurate forecasting system.

AmBev's evolving distribution model also creates fit among its activities. Its market dominance can force distributors into exclusive agreements and negates the impact of any distributor consolidation. AmBev's aim of increasing their DSD to 50% of volume allows them to capture a greater percentage of the available profit, while dramatically decreasing safety stock and cycle stock.

AmBev's market power, like InBev, creates economies of scale and scope in several activities. Although most inputs are commodities and thus no discount is offered for those items, they have found several cost-saving measures by consolidating purchasing and other nationally-based functions. Scope is obtained from purchasing other items in quantity, such as "media, consultants, business

travel, couriers, sea freight, workers uniforms, refrigerators, print, drinking glasses and information technology.” (InBev, 2005)

Chapter 9: Comparison and Contrast - AmBev Versus Interbrew Belgium

While both supply chains are comprised of numerous mergers and acquisitions, produce global and local brands, adhere to restrictive legislation, and deliver a variety of perishable end products to geographically vast areas, only the South American operations have developed a competitive advantage which is sustainable, differentiated and virtually irreproducible. Both divisions realized first-mover advantage, are well capitalized, serve relatively similar products, and share a variety of common traits, yet only one has emerged to possess an edge which should guarantee its continued success in its core markets.

Interbrew Belgium has been serving Belgium since 1366, and presently must cope with relatively flat consumption growth. They have failed to innovate in a manner which stimulates growth significantly, falling victim to industry trends and developments. Rather than fighting the growing trend towards off-trade consumption, a margin-eroding activity for beverage firms, Interbrew chose to innovate to bring the on-trade experience to homes rather than to elevate the appeal for consumers to participate in the actual on-trade experience.

Interbrew Belgium uses a mishmash of techniques for their operational performance, integrating tradition and relationships with modern technology. While numerous issues are present in the current system, Interbrew balances their public image by sacrificing operational efficiencies and the resulting profit improvement. There are abundant opportunities for centralized procurement, production, and other

operational optimizations, but with most of their supply chains being nationally-based, InBev cannot achieve synergies of this nature without significant changes to their strategic, tactical and operational models.

Operations acquired by Interbrew Belgium have not yielded great synergies or presented valuable assets, rather M&A in Belgium has served to lock out competition and give InBev dominance in the Belgian beer market only by buying market share. They have not refined their operations with continuous efficiency-seeking, nor have they fostered an environment which encourages and supports the sharing of know-how and best practices.

While they have acquired popular and complementary brands in this process, they have also acquired the need to maintain existing plants in their existing topology. Certainly the association with Belgium is critical to beer drinkers and marketing efforts, but economies of scale and scope await through the merger of relatively overlapping supply chain infrastructures in adjacent and nearby countries.

AmBev, by contrast, operates in a market characterized by huge growth potential, immature tastes and preferences, and relative isolation from competitors. Despite its long history, AmBev ignores any anchors which may hinder its operational latitude, which has permitted its innovative, responsive nature. In tandem with its strong leadership, AmBev has defined the market rather than allow it to define them. AmBev has never settled for its market position or its financial performance, pushing themselves to standards unheard of in the industry, while somewhat avoiding operational parity.

AmBev boldly pursues any strategy which is expected to yield “better” results, even when it involves difficult undertakings, like the reworking of their channel distribution strategy; when one imposes POS terminals on retailers, in a country with relatively little technological infrastructure, that requires discipline, foresight and patience. AmBev in a word is a leader, leading not simply in financial metrics, but in all aspects of their business. This leadership, and the necessary sacrifices made throughout the firm’s evolution, have carved out a strong, reinforcing set of activities, which support a powerful competitive advantage.

In Brazil, AmBev has continued to use their market knowledge to capitalize from trends and preferences of the market. Under the protective umbrella of MERCOSUR, they have fended off local and international rivals not only with superior operations, but with products that appeal specifically to their target markets. AmBev, has their “finger on the pulse” of South America, and protect this knowledge as though their existence depends on it. Their staff is incentivized to remain with the firm, and AmBev University stores and disseminates data and skills for all staff to leverage.

Chapter 10: Predictions for the Beverage Industry for 2020

10.1 Trends

The present relevant macroeconomic trends may extend into 2020, which notably include declining birth rates in Western countries, growing disposable income in several populous countries (India, China, Brazil), diminishing trade barriers, declining commodity prices, among others. These macroeconomic trends have been accommodated by beverage firms as evidenced by their aggressive M&A in China, Eastern Europe and South America. Watching the United States slowly get eclipsed by the Chinese in demand for beer was a major turning point to manufacturers of alcoholic beverages; globalization manifested itself in tangible ways and signalled that change was on the horizon. Now beverage firms are seeking diversified portfolios of assets for broad geographic coverage, which provides risk mitigation in currency translation, natural phenomena (SARS had a major impact), and game theoretic considerations.

Some other trends significant to the beverage industry include a global increase in anti-smoking legislation (smoking has a significant correlation to alcoholic beverage consumption [Zaloudek, 2001]), increasing alcohol taxation, anti-globalization efforts, retailer consolidation, and outsourcing to low-cost regions (China, India, Africa). Beverage firms will need better cohesion to counter misperceptions of the industry, special interest groups and unfavourable legislation. Stakeholder voices are getting louder, especially with media sources becoming

global, the risks of developing a bad reputation are elevating to dangerous levels for beverage firms.

Existing beverage firms have retained top positions in large part due to the acquisition of competitors. Due to their high profitability and market capitalization they have the ability to purchase threats rather than contend with them. This is detrimental to the industry as it prevents beverage firms from developing know-how in innovation and operational efficiency which would typically result from retaliatory strategies. The industry has few better opportunities for retained earnings than to acquire other firms, as this strategy eliminates a competitor, consequently requiring less marketing expenditure. In a mature market reinvestments in a firm's own business often yield less profit than the internal hurdle rate, necessitating M&A as the primary growth engine.

Consumers are increasingly trading up, paying more for basically the same, brand-name items (Fiske, Silverstein, 2003). This is a direct result of improved market efforts, which aim to carve out psychographic qualities of products. This trend has survived for several years now, with no foreseeable end since consumers will always be susceptible to powerful psychological messages which help to identify the buyer to the world (Fiske, Silverstein, 2003). Trading up is less popular in countries where consumers lack the means to pay extra for a "luxury" product, but increasing disposable incomes in highly populated countries should be a boon to beverage firms, particularly in their high-end product lines. It is therefore not surprising that beverage firms all have products which they market as "premium products". This trend should polarize products to a low-end and a high-end, and straddling companies will try to capture market share on both ends, forgoing the low margin items in the middle space.

The beverage industry is relatively homogeneous, and based on the aforementioned parity in technology, beverage production, reciprocal and license agreements, transportation outsourcing, et cetera, this trend will only continue. As large beverage firms continue to “straddle” (Porter, 1996) as their competitive strategy, persist in their wars of attrition in operational efficiency, and outsource their supposed core competencies, they are guaranteeing that the only victor will be the consumer, who will enjoy brand name beverages at lower and lower prices.

10.2 Innovations

Innovations in the beverage industry, while not being revolutionary, are introduced every year. “60-70% of new beverage products fail.” (Van Schaik et al, 2005), the ones that succeed can have varying degrees of success. Vodka coolers, for example, were a tremendous success whereas certain light beers exist only to fill the gap in a manufacturer’s product portfolio. The most novel innovations often come from start-ups, who are subsequently acquired once their product achieves significant market success. Consumers can expect regular innovations in beverages, but these will be primarily driven by consumer demand, as witnessed in the recent “low-carb” trend.

10.3 Summary Predictions

Industry fragmentation leaves room for further consolidation, but as the relationship between Coke and Pepsi has taught, sometimes the best strategy is to engage the competitors rather than swallow them. It was Winston Churchill who said, “Play the game for more than you can afford to lose... only then will you learn

the game.” Top competitors recognize that despite their competitive parity, they still require a competitive environment.

The 2020 outlook for the beverages industry does not reveal drastic differences from the industry in 2005. Monolithic multinational firms will continue their war of attrition, with operational efficiency as the battlefield. A clear victor will never emerge as all firms retain the same comfortable but progressive holding pattern – the market signal which says, “I’m going to play ball, but let’s not go to war.” Firms will continue to diversify operations until they achieve sufficient geographic coverage, whereupon they will seek core improvements which complement and reinforce their “cash cow” products.

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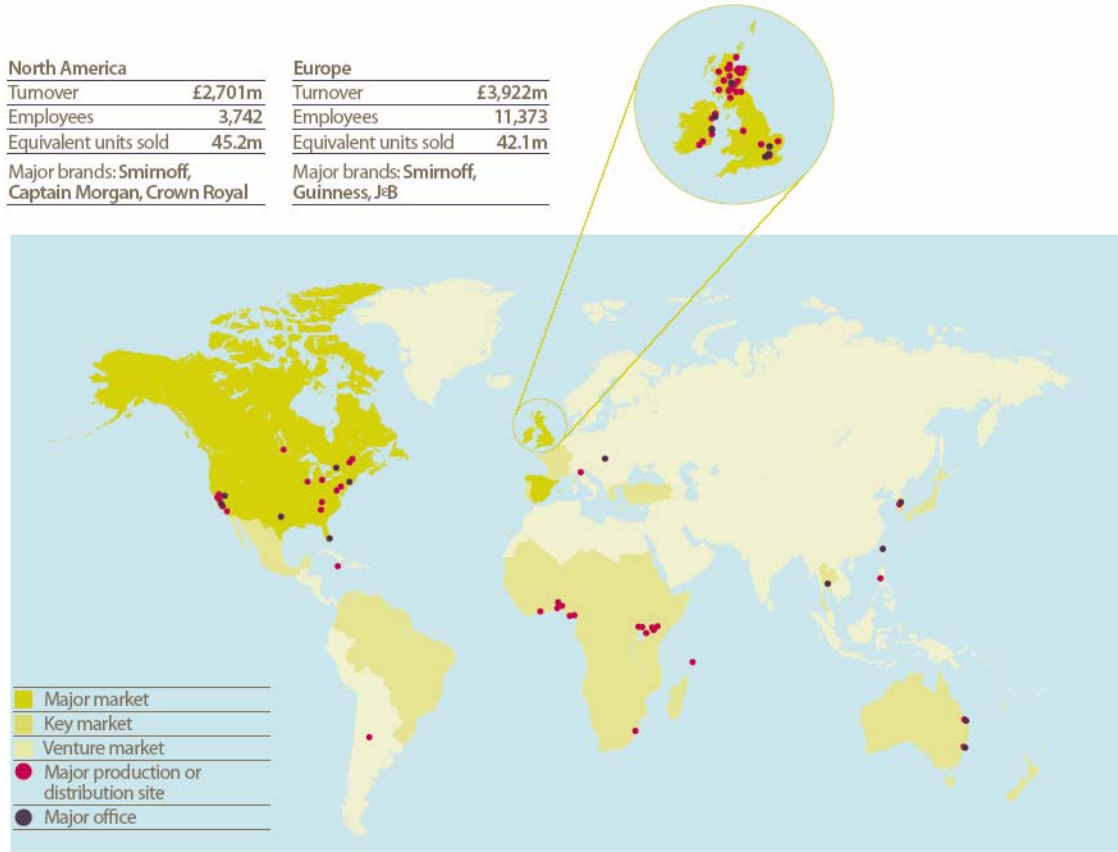
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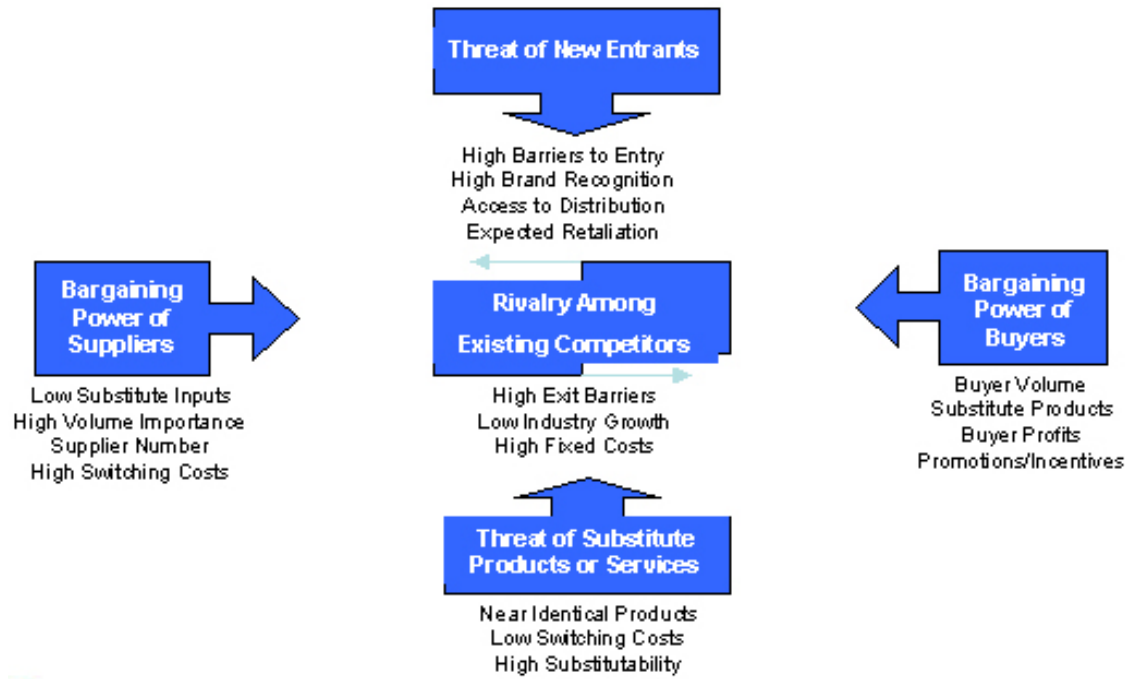
Appendix 1 – Diageo’s Geographic Presence. Source: Diageo 2004 Corporate Citizen Report.



Appendix 2 – The Diageo Way of Brand Building (DWBB). Source: Diageo, Morgan Stanley Presentation, 2003.



Appendix 3 – Porter’s Five Forces Industry Analysis: Beverages Industry. (Model interpreted from Porter, 1980).

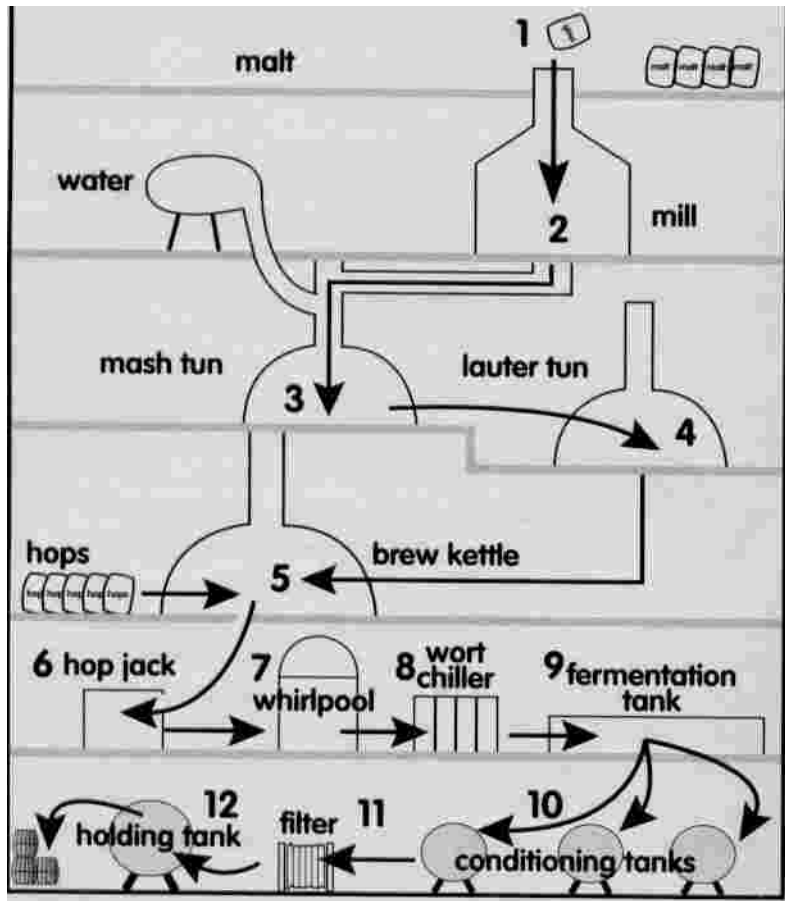


Appendix 4 – Map of AmBev’s South American Operations (interpreted from AmBev 2004 Annual Report).

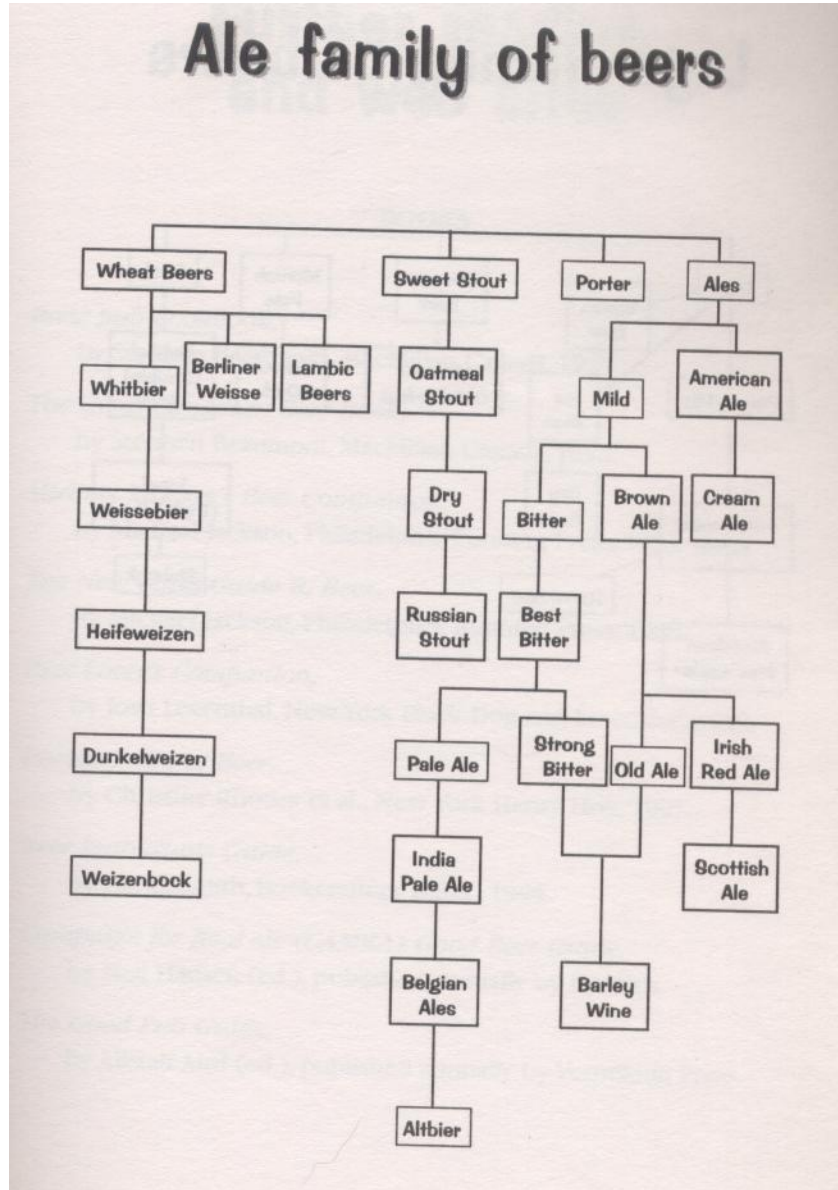


- Blue = Mixed Plant
- Green = Soft Drink Plant
- Yellow = Brewery
- Red = Other (Malting, Bottling, Crown Caps)

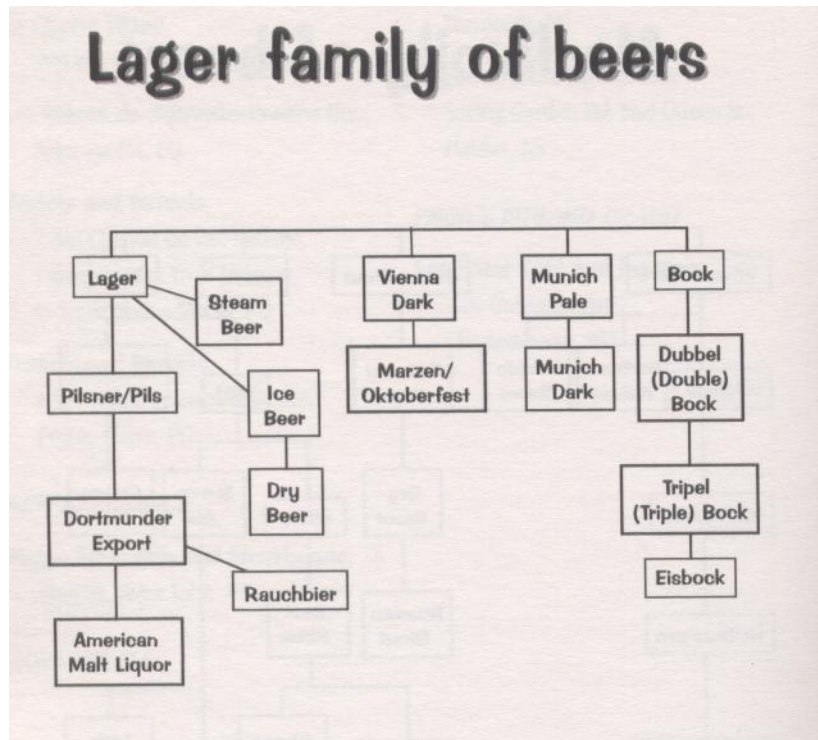
Appendix 5 – Beer Brewing Process (Coles Notes, 2000).



Appendix 6 – Ale Family of Beers (Coles Notes, 2000)



Appendix 7 – Lager Family of Beers (Coles Notes, 2000)



Appendix 8 –Definitions of “Fit”, “Consistency” and “Complementarity”. Source: Porter, 1996.

“There are three types of fit, although they are not mutually exclusive. First-order fit is simple consistency between each activity (function) and the overall strategy. Vanguard, for example, aligns all activities with its low-cost strategy. It minimizes portfolio turnover and does not need highly compensated money managers. The company distributes its funds directly, avoiding commissions to brokers. It also limits advertising, relying instead on public relations and word-of-mouth recommendations. Vanguard ties its employees' bonuses to cost savings.

Second-order fit occurs when activities are reinforcing. Neutrogena, for example, markets to upscale hotels eager to offer their guests a soap recommended by dermatologists. Hotels grant Neutrogena the privilege of using its customary packaging while requiring other soaps to feature the hotel's name. Once guests have tried Neutrogena in a luxury hotel, they are more likely to purchase it at the drugstore or ask their doctor about it. Thus Neutrogena's medical and hotel marketing activities reinforce one another, lowering total marketing costs.

Third-order fit goes beyond activity reinforcement to what I call optimization of effort...

In all three types of fit, the whole matters more than any individual part. Competitive advantage grows out of the entire system of activities. The fit among activities substantially reduces cost or increases differentiation. Beyond that, the competitive value of individual activities-or the associated skills, competencies, or resources- cannot be decoupled from the system or the strategy. Thus in competitive companies it can be misleading to explain success by specifying individual strengths, core competencies, or critical resources. The list of strengths cuts across many functions, and one strength blends into others. It is more useful to think in terms of themes that pervade many activities, such as low cost, a particular notion of customer service, or a particular conception of the value delivered. These themes are embodied in nests of tightly linked activities.” (Porter, 1996).

“But a strategic position is not sustainable unless there are trade-offs with other positions. Trade-offs occur when activities are incompatible. Simply put, a trade-off means that more of one thing necessitates less of another.” (Porter, 1996)

“Positioning trade-offs are pervasive in competition and essential to strategy. They create the need for choice and purposefully limit what a company offers. They deter straddling or repositioning, because competitors that engage in those approaches undermine their strategies and degrade the value of their existing activities.” (Porter, 1996)

“Positioning choices determine not only which activities a company will perform and how it will configure individual activities but also how activities relate to one another. While operational effectiveness is about achieving excellence in individual activities, or functions, strategy is about combining activities.” (Porter, 1996)

"Its competitive advantage comes from the way its activities fit and reinforce one another...*Fit* locks out imitators by creating a chain that is as strong as its strongest link." (Porter, 1996)

"*Consistency* ensures that the competitive advantages of activities cumulate and do not erode or cancel themselves out. It makes the strategy easier to communicate to customers, employees, and shareholders, and improves implementation through single-mindedness in the corporation." (Porter, 1996)

"Coordination and information exchange across activities to eliminate redundancy and minimize wasted effort are the most basic types of effort optimization. But there are higher levels as well. Product design choices, for example, can eliminate the need for after-sale service or make it possible for customers to perform service activities themselves. Similarly, coordination with suppliers or distribution channels can eliminate the need for some in-house activities, such as end-user training.

"Strategic fit among many activities is fundamental not only to competitive advantage but also to the sustainability of that advantage. It is harder for a rival to match an array of interlocked activities than it is merely to imitate a particular sales-force approach, match a process technology, or replicate a set of product features. Positions built on systems of activities are far more sustainable than those built on individual activities." (Porter, 1996)

"The more a company's positioning rests on activity systems with second- and third-order fit, the more sustainable its advantage will be. Such systems, by their very nature, are usually difficult to untangle from outside the company and therefore hard to imitate. And even if rivals can identify the relevant interconnections, they will have difficulty replicating them. Achieving fit is difficult because it requires the integration of decisions, and actions across many independent subunits.

A competitor seeking to match an activity system gains little by imitating only some activities and not matching the whole. Performance does not improve; it can decline..." (Porter, 1996)

"Finally, fit among a company's activities creates pressures and incentives to improve operational effectiveness, which makes imitation even harder. Fit means that poor performance in one activity will degrade the performance in others, so that weaknesses are exposed and more prone to get attention. Conversely, improvements in one activity will pay dividends in others. Companies with strong fit among their activities are rarely inviting targets. Their superiority in strategy and in execution only compounds their advantages and raises the hurdle for imitators.

When activities complement one another, rivals will get little benefit from imitation unless they successfully match the whole system. Such situations tend to promote winner-take-all competition. The company that builds the best activity system - Toys R Us, for instance - wins, while rivals with similar strategies - Child World and Lionel Leisure - fall behind. Thus finding a new

strategic position is often preferable to being the second or third imitator of an occupied position.

The most viable positions are those whose activity systems are incompatible because of tradeoffs. Strategic positioning sets the trade-off rules that define how individual activities will be configured and integrated. Seeing strategy in terms of activity systems only makes it clearer why organizational structure, systems, and processes need to be strategy-specific. Tailoring organization to strategy, in turn, makes complementarities more achievable and contributes to sustainability. One implication is that strategic positions should have a horizon of a decade or more, not of a single planning cycle. Continuity fosters improvements in individual activities and the fit across activities, allowing an organization to build unique capabilities and skills tailored to its strategy. Continuity also reinforces a company's identity.

Conversely, frequent shifts in positioning are costly. Not only must a company reconfigure individual activities, but it must also realign entire systems. Some activities may never catch up to the vacillating strategy. The inevitable result of frequent shifts in strategy, or of failure to choose a distinct position in the first place, is "me-too" or hedged activity configurations, inconsistencies across functions, and organizational dissonance.

What is strategy? We can now complete the answer to this question. Strategy is creating fit among a company's activities. The success of a strategy depends on doing many things well - not just a few - and integrating among them. If there is no fit among activities, there is no distinctive strategy and little sustainability. Management reverts to the simpler task of overseeing independent functions, and operational effectiveness determines an organization's relative performance." (Porter, 1996)

Appendix 9 – AmBev’s Activity System Map

