CEMEX: An In-Depth Situational Analysis and Strategic Plan

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Abstract

Cemex is a global building materials company founded in Mexico in the early 1900’s. The firm has many characteristics that make for an interesting in-depth analysis, such as serving a low-income population, focusing on flexibility, creativity, sustainability, innovation, and efficiency. This report applies key concepts in strategy and strategy analysis to evaluate and suggest strategic options for Cemex moving forward. Beginning with a brief history of Cemex and some important characteristics of the industry, analysis will be conducted on the environment and situation in which Cemex competes. The report concludes with strategic options for Cemex: (1) company expansion, (2) Expansion of the unique program Patrimonio Hoy, and (3) Divesting assets. Research used in this report was collected from company sources and secondary sources that are publicly available. The strategic options and analysis of Cemex have implications for better understanding companies who pursue profit and social responsiveness.
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Overview of the Company

History of CEMEX

Cemex is a global building materials company founded in Mexico in 1920 (MacAyeal). This company is located in over 50 countries, and maintains trade relations with approximately 100 nations, while providing high quality products and reliable service to customers and communities ("Cemex Brochure"). With annual sales of approximately 14.98 billion USD, and 44,000 employees located worldwide, this company is considered a global industry leader, particularly in cement manufacturing and global supplying of ready-mix concrete (“Company Profile”). As part of the corporate statement, Cemex places high value on flexibility, creativity, sustainability, innovation, and efficiency (“Our Approach”). Cemex went public in 1976, and after exporting for many years began the process of becoming an international industry player in 1992 (MacAyeal). Much of this growth was achieved through acquisitions of other companies within the industry. The results of the internationalization process of this Mexican company can be seen in the figure below that shows the geographic distribution of sales in 2013, with the largest percentage coming from Northern Europe at 27%. Cemex offers a variety of products, however almost half of all sales are from cement, and they are the world’s third largest cement producer by production (See figure to the left) (Thomson, 2011). Most of the company’s cement is bagged, branded, and distributed at a point near the site of its use, in

* As of December 31st, 2013.

[Circular diagram showing sales distribution by product and geographic distribution in 2013]
part due to the fact that the product is both cheap and heavy (MacAyeal; Gara, 2014).

**Industry Characteristics of the Building Materials**

The building materials industry, which Cemex is a part of, works with end consumers who participate in construction, including housing construction, public infrastructure development, commercial construction, institutional construction, and industrial construction (Sirois). Most of these subsectors are sensitive to business cycles and thus are positively correlated to the overall performance of the industry. When the US housing market collapsed, the chain reactions were felt across the financial systems across the world (The Economist, 2013). Many players in this cyclical industry were sharply impacted by the US financial crisis and global recession, particularly Cemex (Thomson, 2011; Schexnayder, 2009). During the crisis Cemex was the biggest cement maker in the Americas, and was heavily leveraging debt in its operations and expansion plans (Black, 2010). In 2009, the company took out a $15 billion loan to avoid bankruptcy, with conditions that total funded debt be significantly reduced (Thomson, 2011). Despite the bleak economic situation, Cemex’s chief executive officer Lorenzo Zambrano remained upbeat “insisting that construction is likely to be one of the first industries to recover if economic conditions improve” and that they would “be well positioned when the market recovers going forward” (Schexnayder, 2009). As a long established company, Cemex has weathered many economic booms and recessions and has survived by altering their strategy and adapting to the ever-changing business environment.

In addition to the highly cyclical nature of the building materials industry, a key component of the industry, cement, is considered by many to be critical to the future of the developing world. According to a United Nations report on world urbanization, it is expected that over the next several decades the urban population will increase from 3.6 billion to 6.3
billion (“World urbanization prospects,” 2012). Many new cities will need to be built or expanded to handle this influx of migrants, and concrete, which is primarily composed of cement, will be needed in unimaginable quantities (Gara, 2014). Currently, across the globe concrete is the second most consumed commodity by volume after water (“Segment Overview,” 2014). Keeping in mind the amount of city building that will occur over the next decades, the amount of growth and opportunity in this industry will be vast.

**CEMEX’s Product Offering**

Cemex aims to help their customers solve their building challenges, through a diverse product offering (“Products & Services”). Their major products are cement, aggregates, and ready-made concrete, and they serve as the foundation for all types of construction projects (“Products & Services”). As mentioned previously, cement is Cemex’s highest selling product (See figure on page 5), and is a fine powdery mix of limestone, clay, and iron ore (“Cemex Brochure”). Cement is the most widely used construction material worldwide, has compressive strength, for example it is the material with the highest strength per unit cost, and is very durable (“Cement”).

Moving on to the next product, aggregates are composed of geological materials, are used in virtually all forms of construction, and accounted for 15% of Cemex’s sales in 2013 (CEMEX, Aggregates). Aggregates have a variety of applications, such as being an ingredient in concrete asphalt and mortar, and can be used in the construction of bridges, sand traps, drainage systems, railways, etc. (“Aggregates”). Cemex offers aggregates composed of crushed stone and manufactured sand, gravel, sand, and recycled concrete (“Aggregates”).

The third and last main product of Cemex is concrete, which is a high selling product, accounting for 39% of worldwide sales in 2013. Concrete is a composite consisting mainly of
cement, aggregates, water, and admixtures (“Ready-Mix Concrete”). Concrete is very durable and strong, and Cemex specially engineers this product to be more sustainable, providing features such as resistance to aggressive environments, light reflection, and capacity to store energy, among others (“Ready-Mix Concrete”).

In addition to their three main product groups, Cemex also offers a variety of services that are tailored to their clients’ specific needs around the world. One type of service they offer is ‘building solutions’. Drawing from the company’s almost century worth of experience, Cemex designs and delivers tailor made solutions to build sustainable structures focusing on the categories of housing, paving, and green building solutions (“Building Solutions”). For example, Cemex is using its technical expertise working in conjunction with other companies to build Latin America’s largest wind farm (Perez, 2014). Other services offered include service centers; financing services; mobile solutions; trading services, which allow for easy movement of products; and inventory management services such as Construrama (“Services”).

**Operations**

One key component of Cemex’s strategy and approach to business is to achieve operational efficiency (“Our Approach”). Cemex operates 67 cement plants, 1,784 ready-mix facilities, 362 aggregate quarries, 222 land distribution centers, and 63 marine terminals worldwide to total 93.7 million metric tons of cement production capacity (Cemex 2013 Annual Report). Cemex operates these plants and distribution sites in over 50 countries, throughout 6 distinct regions: Mexico; the United States; Northern Europe; the Mediterranean; South, Central American and the Caribbean; and Asia (Cemex 2013 Annual Report). The geographical diversification of the company’s operations reduces dependency on any one region or country (Marketline, 2014). As of 2012, Cemex’s cement production facilities were predominantly
located in Mexico, the United States, Spain, Egypt, Germany, Colombia, the Philippines, Poland, the Dominican Republic, the UK, Croatia, Panama, Latvia, Puerto Rico, Thailand, Costa Rica and Nicaragua (Marketline, 2014). See Appendix A for more information about the number of plants in each region.

In 2013, Cemex made several changes in order to continue maximizing operational efficiency. These changes include completing a strategic outsourcing agreement with IBM that is anticipated to result in savings of approximately $1 billion USD over the course of 10 years (Cemex 2013 Annual Report). In addition, Cemex made an agreement with competitor Holcim to optimize assets and improve operational efficiency, improve margins, and help reduce the drag on profits (Business Monitor International, 2013). The agreement entails the swapping of key assets and a joint venture: “Cemex will acquire Holcim’s assets in the Czech Republic, whilst Cemex will divest its western German assets to Holcim”, additionally the two companies will work together in Spain with Cemex holding the controlling interest at 75% (Business Monitor International, 2013). The asset optimization agreement and IBM outsourcing project are both expected to have a significant impact on the financial bottom line and increase operational efficiency at this global giant.

Another core platform of Cemex’s operation is a commitment to operating in a responsible manner. Their espoused goal is “to provide building solutions that meet the needs of a resource-constrained world, [and] to minimize the ecological footprint of our operations” (Cemex 2013 Annual Report). The building materials industry is carbon intensive, and as part of their operation, Cemex has designed an aggressive strategy to reduce their carbon footprint (“Empowering Communities,” 2013). This strategy includes use of alternative fuels to replace fossil fuels, the reduction of clinker content which has serious ramifications for the environment,
and greater use of renewable sources of electricity (“Empowering Communities,” 2013). In addition to these steps, Cemex additionally optimizes air quality, waste management, and recycling; diminishes disturbances from noise and dust; and implements biodiversity action plans at quarries (Cemex 2013 Annual Report). Overall, Cemex runs operations in several regions across the world in an industry that negatively impacts the environment, but operates in a responsible manner to limit the environmental ramifications and impact on stakeholders.

**Financial Condition of the Company**

As mentioned previously, the building materials industry is very sensitive to the business cycles of the economy. Cemex was hit particularly hard by the U.S. financial crisis and the global recession, in part due to its exposure in the United States, Mexico, and Europe. However, in addition, Cemex acquired the Australian company Rinker shortly before the beginning of the financial crisis (Lopez & Stargardter, 2014). This poorly timed purchase costing $16 billion left Cemex “neck-deep in debt and poorly positioned when the U.S. housing market collapsed” (Lopez & Stargardter, 2014). Analysts have found that “much of the company’s strength has come from its US operations, which had been a cause of much stress during the US homebuilding crisis” (Business Monitor International, 2013). For the past three years, the company has been working its way out of a deep debt hole (Lopez & Stargardter, 2014).

A visual representation of revenue by region over years 2012 and 2013 can help illustrate the financial and strategic situation of Cemex (see figure on page 10). The U.S. housing market and construction sector are currently undergoing a recovery, and have seen an increase in sales (Business Monitor International, 2013). Meanwhile, Northern Europe, Mexico, and the Mediterranean are still dragging on Cemex’s overall performance (Business Monitor International, 2013). Regions that have experienced a growth in sales include Asia and Latin
America & Caribbean; however, Cemex has a minimal presence in these regions.

Cemex has been focusing on strengthening their capital structure and regaining financial flexibility by reducing debt, improving cash flow generation, and extending maturities (Cemex 2013 Annual Report). At the end of 2013, Cemex had approximately $16 billion in net debt, and limited cash flow (Lopez & Stargardter, 2014). The loan covenants of Cemex’s refinancing deal obligate the company to shrink debt and improve finances before undertaking any major expansion plans (Black, 2010). The large amount of debt contributes to the company’s high debt leverage, and low credit ratings, which lay four levels below investment grade (Lopez & Stargardter, 2014).

In March 2014, Fitch rating agency reported that "Cemex’s net debt is not projected to change materially in the next two years despite the projected upturn in EBITDA due to rising working capital needs associated with growth, increasing capex, and higher taxes" (Lopez & Stargardter, 2014). It would appear that Cemex is in the recovery process after taking a financial hit during the financial crisis and global recession; however, it may take longer than the company’s goal date of 2016.

**Cemex Sales by Region, in millions USD**

![Graph showing Cemex sales by region, 2012 and 2013.](source)

*Source: Business Monitor International, 2013*
Inclusive Business

CEMEX has two distinct categories of customers: companies in the formal construction sector; and individuals/communities in the informal, self-construction sector (Ajit, Mohan, and Singh, 2003). Transactions with the self-construction group are primarily conducted through the high impact social program titled “Patrimonio Hoy”. Cemex founded this program in 1998 in response to the Mexican economic crisis of 1994-1995 (Ajit, Mohan, and Singh, 2003). During the crisis the company’s sales in the formal construction segment fell by 50%, whereas the informal segment dropped by only 10-20% (Esper & London, 2013; Ajit, Mohan, and Singh, 2003). Cemex realized that “the high level of dependency on the formal segment left it very vulnerable to the business cycle swings in Mexico” and sought new ways new to generate revenue (Ajit, Mohan, and Singh, 2003; Esper & London, 2013). As a means of hedging against business cycle fluctuations and diversifying its customer base, Cemex looked to the heretofore-untapped informal sector, which consisted of a $500 million market that was projected to continue growing, to launch Patrimonio Hoy (“Treasure at the,” 2011).

Several barriers that Cemex identified in low-income individuals within the self-construction sector include insufficient access to materials; limited personal savings; inadequate storage for tools and materials; minimal access to financing; and poor planning skills (Esper & London, 2013). Additionally, low-income individuals “who build their own homes often waste up to 30% of their materials due to poor construction practices, theft, and spoilage from exposure to wind and rain (Esper & London, 2013). A further barrier that applies to the company is the seeming risk associated with conducting business with the low-income population with no regular stream of paychecks (Ajit, Mohan, and Singh, 2003). In order to overcome these challenges, Cemex leveraged its distribution networks, provides financing, technical advice, architect visits, storage space for raw materials, and logistical support to assist participants in
building their own homes ("High Impact Social Programs"; Ajit, Mohan, and Singh, 2003). Patrimonio Hoy has 100 operations in Mexico, Colombia, Costa Rica, Nicaragua, and the Dominican Republic that provides low-income individuals with access to building materials, and has served over 380,000 families and improved the living conditions of more than 2.3 million people ("High Impact Social Programs"; Cemex 2013 Annual Report). The program generated $10 million in profit from 2008 to 2011 (Esper & London, 2013). Patrimonio Hoy combines the company’s pursuit of profit with social responsiveness, with products being offered at average market prices (Ajit, Mohan, and Singh, 2003). The fairly young Patrimonio Hoy is facing several strategic dilemmas about moving into the future, such as replicating the model in other developing countries, and integrating social and environmental features ("High Impact Social Programs").

**Situational Analysis**

**Strategy Description and Competitive Advantage**

Without inside information into Cemex, a broad formulation of the business strategy would include focusing on the core business of cement; increasing value proposition through flexibility; fostering sustainable development; and strengthening capital structure to regain financial flexibility (Cemex 2013 Annual Report). In more detail, this specifically entails the following:

- Over the past several years, the company has divested over $700 million of non-operating assets, and will continue focusing on their products as a vertically integrated business (Cemex 2013 Annual Report).
• Cemex improves value proposition by shifting from selling ‘products’ to selling ‘complete solutions’, which offers flexibility and convenience to the customer (Ajit, Mohan, and Singh, 2003).

• Cemex looks to lead sustainable construction through the development of products, services, and building solutions for a low-carbon economy (Cemex 2013 Annual Report).

• The financial struggles of the company have been examined and present a major challenge to Cemex’s operation to date. The company’s overall strategy will allow for expansion and growth after achieving financial flexibility.

By maintaining a unique strategy Cemex has established a very strong brand and transformed undifferentiated commodities into value-added, premium-priced products (Ajit, Mohan, and Singh, 2003; Esper & London, 2003).

**External Analysis**

**Bargaining power of buyers**

Cemex works with several different categories of customers that have very diverse characteristics: the formal sector and the informal sector. In the formal sector, Cemex’s buyers are large construction companies and government agencies working on infrastructure projects and housing development in industrialized housing; disaster relief housing; energy efficient housing; and vertical housing (Cemex 2013 Annual Report). Infrastructure projects include tunnels, national railways, and a large ongoing project for the company is the supply of materials for the Panama Canal expansion (Cemex 2013 Annual Report). Additionally, Cemex’s inclusive program Patrimonio Hoy, works in the informal sector with individual low-income buyers. This buyer segment is drastically different from the formal sector, and requires financing, technical
assistance, and brings in lower revenue per customer than the formal sector. On the other hand, the formal sector is characterized by high revenue per customer, and significant buyer power. See Appendix B for more details and graphics of the characteristics of these two buyer groups.

The negotiating leverage of the formal sector customers emanates from two key areas. The first area of note is that there are few buyers in the industry, and they make large purchases (See appendix B). Additionally, cement and other building materials are capital intensive and have very high fixed costs (Low & Bee, 1994). These two attributes together lead to an environment that gives buyers negotiating leverage. The second component to factor is the end product is standardized and theoretically undifferentiated. Since a buyer could find an equivalent product elsewhere, they tend to pit vendors against one another, leading to discounting and buyer negotiating power (Porter, 2008). The informal market does not have the same characteristics and therefore have less buyer power than their formal counterparts.

**Bargaining power of suppliers**

Cemex has the ability to dominate suppliers, due to its heavy vertical integration. The cement supply chain can be seen in Appendix C but roughly consists of aggregate quarries, ready-mix plants, cement plants, and distribution channels. As mentioned in the operations section of this report, Cemex not only owns and operates aggregate quarries, ready-mix plants, and cement plants, additionally they operate land and marine channels of distribution (See appendix A). Although the vertical integration of the company does not eliminate Cemex’s need for suppliers, it does decrease the strength of these supplemental suppliers. The annual report gives information about the company’s relationship with suppliers, particularly in distribution:

Freight rates, which have been extremely volatile in recent years, account for a large share of our total import supply cost. However, we have obtained significant
savings by timely contracting maritime transportation and by using our own and chartered fleets—which transported approximately 13% of our cement and clinker import volume in 2013.” (Cemex 2013 Annual Report)

Overall, suppliers do not have significant power, and is not one of the key five forces that shape the competition in this industry.

**Competitors**

Cemex’s major competitors are Lafarge and Holcim, the number one and number two producers of cement worldwide respectively.

**Lafarge**

Lafarge S.A. is widely considered the global leader in the building materials industry, and was founded in France in 1833 (“Lafarge at a glance”). This rival sells cement, concrete, and aggregates in various regions across the world. Their highest grossing region is the Middle East and Africa accounting for 26.9% of total revenue in 2013, followed by Western Europe at 21.4% (Annual Report Lafarge 2013). See appendix D for more detailed information into the numerical breakdown of revenue by region and product category. Total revenues for the company in 2013 were approximately 15 billion euros, and net income was 782 million euros (Annual Report Lafarge 2013). The company has stated that its major goals are to decrease net debt, decrease costs, and continue growing in North America and emerging markets, specifically Sub-Saharan Africa (Annual Report Lafarge 2013).

**Holcim**

Holcim Ltd. is also one of the world’s leaders in the building materials industry, providing cement, aggregates, ready-mix concrete, and asphalt (“Holcim: About Us”). Founded
in 1912, this Swiss company operates in five distinct regions across the world: Asia Pacific, Latin America, Europe, North American, and Africa/Middle East (Annual Report 2013 Holcim). Of these regions, Asia Pacific earns the highest revenue, bringing in 35.9% of all sales, followed by Europe at 27.6%. See appendix E for more information into Holcim’s revenues. The volume of cement, aggregates, and ready-mix concrete sold decreased from 2012 to 2013, however the company still reported an increase in net income and operating earnings before interest, taxes, depreciation, and amortization margin (Annual Report 2013 Holcim).

The Future of Lafarge and Holcim

In early April 2014, Holcim and Lafarge publicly announced that they were in advanced merger talks (Landauro & Revill, 2014). These two companies would create “LafargeHolcim” a company with a market value of approximately $60 billion (Harrass, 2014). The merger is hoping to take advantage of their complementary portfolio; more than half the combined company’s revenue would be generated from outside of the Europe and North America, in emerging economies (Landauro & Revill, 2014). Both of the two involved companies made ill-timed investments, stacking up sizable debt shortly before the US housing crash and the European debt crisis, and have made big wagers that did not pan out (Landauro & Revill, 2014). Additionally, the companies have battled overcapacity and sluggish growth in Europe, and slower building activity in some developing countries (Landauro, Cimilluca & Fairless, 2014).
In order to combat anti-trust government probing, Lafarge and Holcim may have to sell up to $5.5 billion of assets (Landauro, Cimilluca & Fairless, 2014). This merger could have a significant impact on the industry overall, creating a ‘clear leader’ in the industry, squashing other contenders. However this also could create an opportunity for other players in the industry to expand or grow into new markets by buying the merged companies divested assets. At any rate, other companies in the industry are going to need to react, adjust, and plan accordingly.

**Analysis of the Competition**

Overall, after identifying and reviewing Cemex’s major competitors, it is clear that there is an intense rivalry within the industry. According to Michael Porter’s five forces of strategy framework, intensity stems from situations where “competitors are numerous or are roughly equal in size and power” (Porter, 2008). In the situation of Cemex, there are several large global players, so rivals are capable of poaching business from one another. Additionally, the intense rivalry of the companies comes from slow industry growth. Michael Porter’s framework suggests that slow growth precipitates an intense fight for market share (Porter, 2008). See appendix F for details about the current and historical yearly growth rate of the industry. Although a direct price
comparison is not feasible given the publicly available information, it can be surmised that the three companies mentioned in this paper compete on price. A key indicator that price competition is likely to occur is when “products or services of rivals are nearly identical” which is the case for the building materials industry (Porter, 2008). Another indicator of price competition is when

Fixed costs are high and marginal costs are low. This creates intense pressure for competitors to cut prices below their average costs, even close to their marginal costs, to steal incremental customers while still making some contribution to covering fixed costs (Porter, 2008).

As mentioned previously in the buyer power section and discussion of the characteristics of the industry, cement, concrete, and aggregates are very capital intensive and have high fixed costs. After the analysis of competitors and the attributes of the product offering, it is clear to see that intense rivalry and price competition exists among the leaders in the industry, notably Lafarge, Holcim, and Cemex.

**Threat of substitute products or services**

Cement, aggregates, and concrete are critical for modern development and urbanization across the globe. The main use of the above products is in infrastructure development, housing/building construction, and commercial, institutional, and industrial construction. The closest substitute to concrete and its ingredients (aggregates and cement) is asphalt. However, this product can only be substituted in transportation, recreation, industrial, and flooring projects (“What is Asphalt”).
**Threat of new entrants**

There are several major barriers to entrance into the building materials industry. These include high “initial investments, ranging from $50 million for aggregates and $175 million for cement, long payback periods, and little product differentiation (Lessard & Reavis, 2009). See Appendix G for more information about the characteristics of the industry relating to industry entrance. Additionally, cement’s low weight to value ratio has kept the industry fairly localized since few economies of scale are gained by centralizing production (Hoovers, 2014). Due to the high entrance barriers, new entrants could include capital rich firms or construction companies looking to becoming vertically integrated.

**Internal Analysis**

Moving from the external market conditions and competitive forces to internal capabilities and resources, the strategy of Cemex can be further explored and evaluated.

**Target customer segment**

- Cemex’s target customer segment consists of the formal sector and the informal sector. The formal sector is composed of large construction companies, government agencies, institutions, etc. Unique to Cemex, the company also targets low-income individuals through its program Patrimonio Hoy. The target family earns between $5 to $15 US dollars per day (Ajit, Mohan, and Singh, 2003).

**Logistics**

- As mentioned previously in this study, Cemex is a vertically integrated company, and encompasses quarrying/sourcing of materials, manufacture into the product,
and the eventual distribution via land or sea. In the Patrimonio Hoy business model, group savings centers are created, and Cemex directly provides ancillary services and sends materials through affiliated distributors (Ajit, Mohan, and Singh, 2003).

**Operations**

- Operations are located in six different regions across the world with a cement production capacity of 93.7 million metric tons putting it as the third largest producer of cement in the world (excluding Chinese companies). See Appendix A for more information on global operations.

**Marketing & Sales**

- Cemex was one of the first companies within the industry to implement state of the art logistics and technology platforms, giving it the informal title of ‘digital leader’ (Lessard & Reavis, 2009). The company leverages their technical know-how and in-depth market knowledge to provide world-class products and services to their clients (Kotler, Pfoertsch & Michi, 2006). This fits the emphasis their marketing strategy places on branding. Differing from others competitors in the industry, Cemex’s cement is sold as a branded product and consumers associate it with “strength, durability, and tradition” (Kotler, Pfoertsch & Michi, 2006). Many consider this strength one of Cemex’s sustainable competitive advantages; in this way they are overcoming the perceptions that cement, aggregates, and concrete are standard or undifferentiated (Kotler, Pfoertsch & Michi, 2006).

- Shortly after Patrimonio Hoy was founded, the company figured out that traditional marketing communication methods would not be effective. The
company decided that the best way to reach out to the poor was through personal interaction (Ajit, Mohan, and Singh, 2003). Patrimonio Hoy selects ‘promoters’ who work part-time to attract new program participants (Esper & London, 2013).

**Customer Service**

- Cemex places importance on quality customer service, and operates a ‘Customer Care Center’ where representatives are available 24 hours a day, 7 days a week, 365 days a year (“Services”). Their stated service message is to “offer captivating experiences and to drive long-term loyalty” (“Services”). In an industry that faces intense rivalry and high buyer power, building loyalty is key to gaining an edge.

**IT and HR/Infrastructure**

- Historically, the company performed the IT, Human Resources and internal infrastructure functions, however Cemex recently finalized an agreement with IBM to outsource the activities of finance and accounting, human resource back-office services, as well as IT infrastructure, application development and maintenance services (“Cemex signs strategic,” 2012). This deal will save Cemex approximately $100 billion over the course of 10 years.

**Expansion**

- Cement and other building materials have a low value to weight ratio, and as such the location of plants is usually within several hundred miles of the end consumer. In order to expand both domestically and internationally, Cemex has acquired existing plants and quarries.
Business Models

Examining the strategy of Cemex from a different point of view, this discussion will continue by applying the disruptive vs. sustaining model and the blue ocean strategy.

Disruptive/Sustaining Model

This strategic model represents a search for over-served or non-customer groups, flies under the radar of the normal customer segment, and over time could become mainstream enough to serve core customers. In the case of Cemex, the sustaining technology is selling building materials in bulk to the formal sector. This conforms to the needs and expectations of the current major market segment, and utilizes mainstream distribution methods; current suppliers; and current operations/plants. The disruptive innovation for Cemex is serving the low-income market. The revenues from this market currently do not compete with the existing buyer segment, and is a smaller and slower scaled down version of the sustaining products. For example, Patrimonio Hoy disperses smaller bags of cement to individuals intermittently over the course of 70 weeks, and it is the most basic product, foregoing the research and product development that occurs for the mainstream market (Ajit, Mohan, and Singh, 2003). Additionally, Patrimonio Hoy targets different customers, uses different marketing methods and distributors, and has separate ‘cells’ or operating centers than the rest of the company (Esper & London, 2013).

Blue Ocean

Comparing Cemex to one of its major competitors, Lafarge, the following industry competitive factors have been identified: formal sector customers; geographic diversification; revenue per customer; price; technical assistance/ancillary services; brand loyalty; and low income sector customers. See the Blue Ocean Canvas for the building materials industry that was
developed during research of the companies involved in Appendix H for a visual representation. The major attributes of Cemex’s strategy is the increase in technical assistance offered to customers, the increase in brand loyalty developed through technical assistance and customer trust in Patrimonio Hoy, and the creation of a viable business model to serve the self-construction/low-income customer segment. Cemex has created a blue ocean market through their innovative and unique program that combines the objectives of profit, market expansion, and community development successfully.

**International Strategy**

Cemex during its founding was simply a small company operating in Mexico. Today it operates in over 50 countries, moving beyond exporting to become an international player in 1992. The following attributes are important in proceeding with an analysis of Cemex’s international strategy development: aggregation, arbitrage, adaptation/responsiveness, and the spread of learning across divisions and borders.

**Aggregation**

The attribute of aggregation takes advantage of standardizing products across national operations. This attribute has been critical to the success of Cemex’s internationalization process. In addition to taking advantage of a standardized product sold and produced worldwide, Cemex developed an integration process known internally as the “Cemex way”. A constant thread over the course of this analysis is that acquisition has been the key means of expansion in this industry, due to a need to be located close to the end consumer. Bearing that in mind, Cemex has made many acquisitions over the course of its history, and has been praised for the Cemex way, which is the post merger process that introduces best practices and brings new plants in line with the standardization of the rest of Cemex’s assets (Lessard & Reavis, 2009). Cemex has
successfully utilized the attribute of aggregation in their standardization of products and operating procedures worldwide.

**Arbitrage**

Arbitrage advantages, or location advantages from sourcing in countries with cost advantages, has not been a viable method of expansion for Cemex. The low weight to value ratio of Cemex’s products has not enabled the company to take advantage of the arbitrage effects usually possible in international corporations.

**Adaptation/Responsiveness**

For the most part, cement, concrete, and aggregates are a ‘standardized’ product, and in that sense the pressures for globalization are fairly high. However, there are still local preferences and tastes that Cemex needs to incorporate into their product offering if they are to be successful. For example, “consumers in Egypt preferred darker cement believing it was of higher quality whereas Mexicans preferred light colored cement” (Lessard & Reavis, 2009). Cement companies, including Cemex, have had to be prepared to meet local preferences, even though they compete in a fairly globalized and standardized category.

**Spreading Learning**

Cemex has been effective in transferring best practices and maintaining standardization of procedures and operations as can be seen in the aggregation section of this report. In addition to spreading learning through the Cemex Way, the 2013 Annual report states, “each of our business units continually works to perfect and present new, innovative building materials for their specific markets (Cemex 2013 Annual Report). The successful results of these trials are then incorporated throughout the organization and enable customers to achieve better quality
results and to generate savings (Cemex 2013 Annual Report). In an organization the size of Cemex, spreading learning from headquarters to subsidiaries and vice versa could become very complex or non-existent. Cemex has developed a manner to allow regions to not only receive best practices, but also take a part in developing them.

**Strategic Options**

Having concluded a thorough analysis of the environment in which Cemex operates and its internal capacity, there are three general paths that the company can take moving forward: (1) global expansion, (2) regional expansion of Patrimonio Hoy, and (3) divestiture of assets in weak regions.

**Company Expansion**

Cemex is very international and fairly geographically diversified, however, during the crisis their core markets of Mexico, the United States, and Northern Europe were hit hard, and as such the company took a financial blow that it is still struggling to recover from. This option suggests that the company should expand into some of the regions in which it is currently underrepresented. Some regions that Cemex should consider are the Middle East and North Africa, Sub-Saharan Africa, South Asia, and India, which all have yearly projected growth rates of between 2-7.1% (See Appendix F). Currently less than 30% of the company’s yearly sales come from the aforementioned regions. Additionally, all of these emerging economies are very dynamic and present an opportunity for industry players prepared to act. One major consideration before choosing this strategic option is the portfolio and operations of key competitors Lafarge and Holcim who have operations in the regions of note. However, if their
merger is approved they may be looking to divest assets in these regions. More research would need to be conducted by insiders in Cemex before this option is chosen.

**Expansion of Patrimonio Hoy**

Another strategic option for Cemex is to increase the scale and reach of their inclusive business Patrimonio Hoy. This program assists in efforts to hedge sensitivity to the business cycle, and the low-income customers segment is untapped. Patrimonio Hoy addresses the housing needs of many poor families while earning Cemex loyalty, profits and an expanding clientele base. As mentioned in the company overview section of this report, Patrimonio Hoy currently operates in Mexico, Colombia, Costa Rica, Nicaragua, and the Dominican Republic. This program has the ability to be scaled and adapted to other emerging markets. Intensive research would need to be conducted into market information; however, one necessity of the program in order to be successful is an extensive distribution network, therefore any country/region that is selected must have significant company networks.

**Divestiture of Assets**

The third and last strategic option of Cemex is to divest weak or unnecessary operating assets. With the financial toll that the company has taken in Europe and North America, divesting some assets in these regions could help prevent similar events from occurring again in the near future. Divesting assets could also help reduce overall net debt, which is one of the priorities of the company at this time.

**Limitations**

Due to the fact that the strategic options presented in this study are brief and broadly sketched out, it is important to note the limitations of the above three options. Cemex has a fairly
precarious financial position, and currently cannot spend much money on expansion and acquisitions due to restrictive debt refinancing covenants. However, planning and market research is a time consuming process; by the time that the company would be prepared for an international acquisition or expansion of Patrimonio Hoy, Cemex could have regained financial flexibility, in which case the first two strategic options would be viable. The third option, a divestiture of assets, could increase cash flow, decrease net debt, and hedge against future economic recessions, however there is the possibility that the divested assets could be valuable after economic recovery.
Appendices:

A: Numerical Information about Global Operations

<table>
<thead>
<tr>
<th>Global operations</th>
<th>MEXICO</th>
<th>UNITED STATES</th>
<th>NORTHERN EUROPE</th>
<th>MEDITERRANEAN</th>
<th>SOUTH, CENTRAL AMERICA AND THE CARIBBEAN</th>
<th>ASIA</th>
<th>OTHER AND INTERCOMPANY ELIMINATIONS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>3,187</td>
<td>3,314</td>
<td>4,077</td>
<td>1,516</td>
<td>2,234</td>
<td>577</td>
<td>322</td>
<td>15,227</td>
</tr>
<tr>
<td>Operating earnings before other expenses, net</td>
<td>816</td>
<td>(203)</td>
<td>103</td>
<td>222</td>
<td>702</td>
<td>99</td>
<td>(222)</td>
<td>1,518</td>
</tr>
<tr>
<td>Operating EBITDA</td>
<td>1,009</td>
<td>255</td>
<td>331</td>
<td>325</td>
<td>793</td>
<td>130</td>
<td>(200)</td>
<td>2,643</td>
</tr>
<tr>
<td>Assets</td>
<td>5,883</td>
<td>15,817</td>
<td>5,742</td>
<td>3,182</td>
<td>2,605</td>
<td>754</td>
<td>4,035</td>
<td>38,018</td>
</tr>
</tbody>
</table>

Millions of US dollars as of December 31, 2013

<table>
<thead>
<tr>
<th>Global capacity</th>
<th>Cement production capacity (million metric tons/year)</th>
<th>MEXICO</th>
<th>UNITED STATES</th>
<th>NORTHERN EUROPE</th>
<th>MEDITERRANEAN</th>
<th>SOUTH, CENTRAL AMERICA AND THE CARIBBEAN</th>
<th>ASIA</th>
<th>OTHER AND INTERCOMPANY ELIMINATIONS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement plants (controlled)</td>
<td>29.3</td>
<td>17.1</td>
<td>12.4</td>
<td>17.2</td>
<td>12.0</td>
<td>5.7</td>
<td>93.7</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Cement plants (minority part)</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ready-mix plants</td>
<td>286</td>
<td>381</td>
<td>810</td>
<td>155</td>
<td>132</td>
<td>20</td>
<td>1,784</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aggregates quarries</td>
<td>16</td>
<td>77</td>
<td>217</td>
<td>30</td>
<td>18</td>
<td>4</td>
<td>362</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land distribution centers</td>
<td>78</td>
<td>42</td>
<td>43</td>
<td>24</td>
<td>22</td>
<td>13</td>
<td>222</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine terminals</td>
<td>7</td>
<td>4</td>
<td>23</td>
<td>14</td>
<td>11</td>
<td>4</td>
<td>63</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As of December 31, 2013

Source: Cemex 2013 Annual Report
B: Characteristics of Customer Segments

![Diagram showing formal and informal customers with revenue per customer]

**Figure 1**

<table>
<thead>
<tr>
<th>ATTRIBUTES</th>
<th>FORMAL SEGMENT</th>
<th>INFORMAL SEGMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>Higher revenue per customer</td>
<td>Low revenue per customer</td>
</tr>
<tr>
<td>Payments</td>
<td>Financing generally not required</td>
<td>Financing is important</td>
</tr>
<tr>
<td>Demand</td>
<td>Depends on economy</td>
<td>More or less steady demand</td>
</tr>
<tr>
<td>Price sensitivity</td>
<td>Driven by bargaining power</td>
<td>Convenience-driven (such as credit, delivery, etc.)</td>
</tr>
<tr>
<td>Brand equity</td>
<td>Recognized &amp; trusted</td>
<td>Should build trust to deliver as promised</td>
</tr>
<tr>
<td>Growth</td>
<td>Slow growth</td>
<td>Very high potential for growth</td>
</tr>
<tr>
<td>Customer location</td>
<td>Usually located in places of easy access</td>
<td>Mostly located in remote areas</td>
</tr>
<tr>
<td>Relationships</td>
<td>Stops at the distributor-level</td>
<td>Requires close ties with end customers</td>
</tr>
</tbody>
</table>

*Source: Ajit, Mohan, and Singh, 2003*
C: Cement Supply Chain

Source: http://www1.eere.energy.gov/manufacturing/tech_assistance/images/2010_winter_supply_Chain.jpg
D: Lafarge Revenue Information

Source: Annual Report Lafarge 2013
### E: Holcim Revenue Information

#### Net Sales per Region

<table>
<thead>
<tr>
<th>Region</th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Million CHF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>7,282</td>
<td>8,343</td>
</tr>
<tr>
<td></td>
<td>35.9%</td>
<td>38.2%</td>
</tr>
<tr>
<td>Latin America</td>
<td>3,349</td>
<td>3,490</td>
</tr>
<tr>
<td></td>
<td>16.5%</td>
<td>16.0%</td>
</tr>
<tr>
<td>Europe</td>
<td>5,611</td>
<td>5,809</td>
</tr>
<tr>
<td></td>
<td>27.6%</td>
<td>26.6%</td>
</tr>
<tr>
<td>North America</td>
<td>3,171</td>
<td>3,276</td>
</tr>
<tr>
<td></td>
<td>15.6%</td>
<td>15.0%</td>
</tr>
<tr>
<td>Africa Middle East</td>
<td>884</td>
<td>947</td>
</tr>
<tr>
<td></td>
<td>4.4%</td>
<td>4.3%</td>
</tr>
</tbody>
</table>

#### Net sales mature versus emerging markets

<table>
<thead>
<tr>
<th>Percentage</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0%</td>
<td>47.6%</td>
<td>49.2%</td>
<td>48.8%</td>
<td>48.2%</td>
<td>47.5%</td>
</tr>
</tbody>
</table>

*Source: Annual Report 2013 Holcim*
### F: Cement Consumption Growth by Region YoY%

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Europe</td>
<td>5.0</td>
<td>0.0</td>
<td>-9.8</td>
<td>-19.5</td>
<td>-6.3</td>
<td>-0.5</td>
<td>-14.2</td>
<td>-6.8</td>
<td>-1.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>15.7</td>
<td>7.6</td>
<td>0.2</td>
<td>-12.6</td>
<td>3.0</td>
<td>8.6</td>
<td>-4.4</td>
<td>2.9</td>
<td>1.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Former Soviet Union</td>
<td>13.8</td>
<td>16.8</td>
<td>0.2</td>
<td>23.4</td>
<td>9.5</td>
<td>13.9</td>
<td>9.2</td>
<td>4.3</td>
<td>3.8</td>
<td>4.1</td>
</tr>
<tr>
<td>North America</td>
<td>-0.3</td>
<td>-7.9</td>
<td>-15.8</td>
<td>-26.3</td>
<td>0.9</td>
<td>2.5</td>
<td>8.8</td>
<td>3.8</td>
<td>6.4</td>
<td>6.2</td>
</tr>
<tr>
<td>Latin America</td>
<td>11.8</td>
<td>8.5</td>
<td>6.4</td>
<td>-2.0</td>
<td>5.9</td>
<td>7.0</td>
<td>3.9</td>
<td>2.1</td>
<td>3.7</td>
<td>3.5</td>
</tr>
<tr>
<td>MENA</td>
<td>7.6</td>
<td>11.8</td>
<td>10.2</td>
<td>7.8</td>
<td>6.6</td>
<td>1.6</td>
<td>4.1</td>
<td>1.4</td>
<td>3.9</td>
<td>5.1</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>11.8</td>
<td>15.7</td>
<td>1.9</td>
<td>5.3</td>
<td>3.3</td>
<td>11.4</td>
<td>9.6</td>
<td>7.0</td>
<td>6.8</td>
<td>7.1</td>
</tr>
<tr>
<td>China</td>
<td>14.9</td>
<td>13.1</td>
<td>3.3</td>
<td>18.3</td>
<td>14.4</td>
<td>10.8</td>
<td>6.6</td>
<td>7.1</td>
<td>3.5</td>
<td>2.1</td>
</tr>
<tr>
<td>India</td>
<td>12.2</td>
<td>8.9</td>
<td>5.0</td>
<td>10.6</td>
<td>7.2</td>
<td>6.2</td>
<td>6.7</td>
<td>3.6</td>
<td>5.2</td>
<td>6.8</td>
</tr>
<tr>
<td>North Asia</td>
<td>2.5</td>
<td>-0.8</td>
<td>-4.3</td>
<td>-8.9</td>
<td>2.5</td>
<td>2.0</td>
<td>1.8</td>
<td>3.3</td>
<td>0.0</td>
<td>0.6</td>
</tr>
<tr>
<td>South Asia</td>
<td>4.3</td>
<td>5.7</td>
<td>7.5</td>
<td>6.0</td>
<td>8.3</td>
<td>6.3</td>
<td>7.1</td>
<td>2.4</td>
<td>3.7</td>
<td>5.1</td>
</tr>
<tr>
<td>Australia/Pacific</td>
<td>-0.5</td>
<td>6.5</td>
<td>3.8</td>
<td>-8.5</td>
<td>1.0</td>
<td>4.9</td>
<td>-2.1</td>
<td>-0.8</td>
<td>3.0</td>
<td>-4.1</td>
</tr>
<tr>
<td></td>
<td>10.7</td>
<td>9.0</td>
<td>1.8</td>
<td>6.4</td>
<td>9.6</td>
<td>8.3</td>
<td>5.1</td>
<td>5.0</td>
<td>3.5</td>
<td>3.1</td>
</tr>
<tr>
<td>World (excl-China)</td>
<td>7.3</td>
<td>5.5</td>
<td>0.4</td>
<td>-4.7</td>
<td>4.0</td>
<td>5.1</td>
<td>3.1</td>
<td>2.1</td>
<td>3.5</td>
<td>4.6</td>
</tr>
<tr>
<td>EM (excl-China)</td>
<td>9.8</td>
<td>9.3</td>
<td>5.1</td>
<td>0.7</td>
<td>6.2</td>
<td>6.1</td>
<td>4.9</td>
<td>2.8</td>
<td>3.9</td>
<td>4.9</td>
</tr>
</tbody>
</table>

G: Characteristics of Heavy Building Materials Industry

| Source: Lessard & Reavis, 2009 |

**Exhibit 1** Heavy Building Materials Industry Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Aggregates</th>
<th>Cement</th>
<th>Ready-Mix Concrete</th>
<th>Asphalt</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial investment</strong></td>
<td>$50 million</td>
<td>$175 million</td>
<td>&lt;$10 million</td>
<td>&gt;$10 million</td>
</tr>
<tr>
<td><strong>Entry barriers</strong></td>
<td>High</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Payback period</strong></td>
<td>Long</td>
<td>Long</td>
<td>Short</td>
<td>Short</td>
</tr>
<tr>
<td><strong>Options for vertical integration</strong></td>
<td>Downstream into ready-mix, concrete products, decorative aggregates, asphalt</td>
<td>Mainly downstream into ready-mix</td>
<td>Either downstream into blocks, ties or pavements, or upstream into cement 6-8 60 8-10</td>
<td>Upstream into aggregates, or downstream into road contracting 10-15 40 8-10</td>
</tr>
<tr>
<td><strong>Return on sales (%)</strong></td>
<td>10-20</td>
<td>15-25</td>
<td>&lt;100</td>
<td>6-8</td>
</tr>
<tr>
<td><strong>Investment to sales (%)</strong></td>
<td>&lt;100</td>
<td>&gt;200</td>
<td>8-10</td>
<td>60</td>
</tr>
<tr>
<td><strong>Return on investment (%)</strong></td>
<td>Impossible</td>
<td>Nearly impossible</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Product differentiation</strong></td>
<td>Strong flexibility on existing quarries (operations can be stopped and restarted in a few months) but difficult to open new ones</td>
<td>Can take decades as even 20-year-old plants can still produce cash</td>
<td>Can differentiate from small players on some low-quality products and can innovate (e.g., high-performance concrete) Normally adjusts in two to four years</td>
<td>National players all have versions of low-noise, smooth surface asphalt One to three years</td>
</tr>
<tr>
<td><strong>Market flexibility in adjusting to over/under capacity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
H: Blue Ocean Canvas

The Strategy Canvas of the Building Materials Industry

Offering Level

High

Low

Formal Sector Customers
Geographic Diversification
Revenue per customer
Price
Technical Assistance
Brand Loyalty

Business model for low-income

Cemex
Lafarge
References


(2014). Company profile: Cemex s.a.b de c.v (818F0DFB-924E-4585-A623-FC56ED64A0D8)Marketline.


