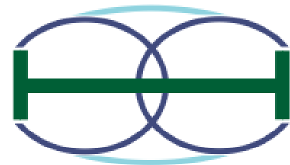
Strategic Report for Motorola, Inc.



Harkness Consulting
Innovation through Collaboration

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Executive Summary

Throughout its history, Motorola has been known for its leadership and innovation in technology. Since its original development of the two-way radio, Motorola has expanded its operations into the home and wireless networks business, and most notably in the wireless handset business. Motorola made a splash in the early 2000's with the introduction of one of the first cell phones that consumers viewed as fashion icons. The RAZR handset changed the landscape of cell phone designing and inspired the designs of several follow-up handsets created by competitors. The success of the RAZR and the other two businesses of Motorola led to vast improvements in shareholder value. However, Motorola has experienced declining sales in its *Mobile Devices* business over the last year as a result of falling demand for its products. Despite the fact that the overall market for handsets has been increasing, Motorola has been unable to capitalize on the increased demand from consumers in the emerging markets. While Motorola is struggling, other handset businesses such as Nokia, Samsung, Sony-Ericsson, and LG have increased their market shares. Motorola, which was once a strong number two player in the market, has recently slipped to number three and is in danger of falling even further without any compelling phones in the pipeline for 2008. Sales declined to such an extent that Motorola as a whole operated at a net loss for the 2007 fiscal year. Shareholder value was greatly diminished, the CEO was replaced, and several dollars were spent on attempting to restructure the company's operations.

Harkness Consulting focused on several strategic issues with respect to Motorola's operations. After segment analysis and market research, Harkness Consulting recommended a spin-off of the *Mobile Devices* division from the rest of the more profitable businesses. A spin-off would unlock shareholder value in the *Enterprise Mobility Solutions* and *Home and Network Solutions* businesses by removing the unprofitable business and also enabling management to focus on the core operations of the company. However, during the revision of Harkness Consulting's recommendation, Motorola itself announced its plans to split the company into two distinct companies: *Mobile Devices* would be one company, and the other two businesses would be their own separate company. Our analysis of this issue supports this decision.

The second strategic issue that Harkness Consulting focused on was what direction each of Motorola's two companies should take following the announcement and the eventual split of the company. With respect to the *Mobile Devices* company, Harkness Consulting recommends that existing management focus on attracting top talent from other handset companies as well as retaining the brand name. There has been discussion on a possible rebranding of the handset business following the split. Harkness Consulting believes keeping the Motorola name would help decrease consumer confusion regarding the split and would also give the company a strong brand name to launch off of in developing countries.

Harkness Consulting also recommends the slow removal of the RAZR phone line, which has lost its luster and has experienced low demand. This removal should be accompanied by the introduction of mid-priced phones with several features that can attract the average consumer in North American markets. A fresh marketing campaign would be required as well to rebuild consumer satisfaction and loyalty to the Motorola brand. Harkness Consulting also recommends a bolstering of Motorola's global sales force in non-Chinese markets. An increase in sales force similar to the recent actions of Nokia, coupled with compelling mass-market and mid-level handsets targeted to the growing middle-class in developing markets, would help Motorola compete with Nokia. Heavy advertising and marketing campaigns that incorporate local culture would be an effective means of increasing sales as well. With respect to the other company (*Enterprise Mobility Solutions* and *Home and Networks Solutions*), which has experienced significant growth and profits over the last quarters, Harkness Consulting also recommends heavy investment in global marketing and sales. Motorola should leverage its existing strength and innovation in the two industries to attract more key contract-based customers. By retaining key management, developing cost-effective measures, and expanding its operations to emerging markets, Harkness Consulting believes Motorola's non-handset business will continue to prosper in the future.

Company Background

Motorola, Inc. was founded under the name Galvin Manufacturing Corporation by Paul Galvin in 1928. Motorola is a global large cap company with a number of competitive products including wireless handsets, wireless communications systems, and broadband systems. Motorola had sales of $42.9 billion in 2006 and currently has more than 60,000 employees.

A History of Innovation

The company's first line of work was manufacturing battery eliminators, devices that allowed radios to be plugged into wall outlets. This followed Paul Galvin's two unsuccessful attempts in storage-battery production. When the market for battery eliminators soured, the company switched to the undeveloped car radio market, doing so under the name "Motorola." In subsequent years, Motorola began producing police radios and home radios as well. The company's two-way radio, the Walkie-Talkie, was an essential part of Army communication during World War II. In 1947, the company purchased Detrola, a rival car radio manufacturer. The acquisition ensured Motorola the rights to supply car radios for Ford. Soon thereafter, Motorola established itself as the primary supplier of radios for Detroit's Big Three automakers: Ford, Chrysler, and American Motors.

In the post-war period, Motorola changed its focus from consumer products to advanced technology. It sold many of its consumer products divisions, and instead began to produce transistors and semiconductors. To expand its technological empire, Motorola purchased Universal Data Systems, a data-communications company in 1978, and Four-Phase Systems, Inc., a computer and terminal manufacturer, in 1982. These acquisitions allowed the company to perform distributed data processing, the process of analyzing data using a national network of computers. Furthermore, the acquisitions were vital to the formation of Motorola's cellular telephone network, which was first operational in 1983. In the 1980s, with the aid of U.S. protectionist trade policies, Motorola leveraged its technological prowess and manufacturing experience to become a cell phone and pager titan.

Quality and Efficiency Improvements

Motorola's growth in the 1980s was partially due to its unique and highly successful efforts to improve the quality and efficiency of its production process. In the 1980s, Motorola's Bill Smith developed and implemented a "Six Sigma" quality system. The results were astounding, as most divisions achieved the system's stated goal of less than 3.4 mistakes per million. Motorola has clearly been a leader of corporate quality control, evidenced by the fact that others, most notably Generally Electric, have adopted the company's Six Sigma quality control system. GE and others have gone so far as to employ full-time "Black Belts" and "Green Belts" to ensure proper Six Sigma adherence.

Gains in efficiency during this time were no less notable, as sales per employee more than doubled over the second half of the decade. One reason was automation. This could be seen in the company's Boynton Beach, Florida pager factory, which utilized twenty-seven robots and needed only twelve full time human employees.

The improvements in Motorola's quality and efficiency, in tandem with its talented sales staff (much of which had been poached from powerhouses such as General Electric, Apple, and Mattel) drove the company's tremendous growth in the 1980s. In this period, sales and income tripled, and then proceeded to double in the first half of the 1990s.

Recent Years

The company has maintained a global presence. In addition to traditional markets such as North America and Western Europe, Motorola has strong manufacturing and sales presence in Asia, Eastern Europe, and Latin America. In 1995, Motorola took part in "Corporate America's biggest manufacturing venture in China,": the construction of two large factories, which have produced many of the company's cellular phones and integrated circuits.

In 2000, Motorola made its largest purchase ever, purchasing the General Instrument Corporation for $17 billion in stock. Acquiring the broadband box manufacturer allowed

Motorola to increase the scope of its production in the ever-converging communications industry. However, not all recent ventures have been so auspicious. Iridium, the company's effort to establish a satellite phone system, failed due to technological glitches and high costs, costing the company over $5 billion.

In the past few years, the company's handset division profitability has hinged on its RAZR phone. The RAZR, introduced in 2004, has been a clear success, proving highly popular among users and generating billions of dollars in revenues and profits for Motorola. However, the phone's popularity has begun to fade, forcing Motorola to scramble to innovate and improve its aging product line.

In early 2008, after pressure from Wall Street and activist investor Carl Icahn, Motorola announced plans for a 2009 spin-off of its mobile phone unit. Icahn holds significant influence over the company, possessing 6.4% of the company's stock and has with two allies on the company's board. Leveraging his influence within the company and Wall Street's pressure to make the change, Icahn successfully persuaded the Motorola's board and executive team to spin-off the handset division. The company hopes that the restructuring will help attract a top executive to the handset division to its handset division, including in CEO Greg Brown's terms, a "world class CEO.[1]" A better management team is but one of the issues for Motorola's handset business, which is far behind industry leader Nokia. CEO Brown feels the move will be beneficial for "competitive reasons," hoping that it may allow the company to narrow the market share gap between it (12% of handset sales) and leader Nokia (14%).

Additionally, it is hoped that the spin-off will improve the valuation of the rest of the company. Motorola's two other divisions, *Enterprise Mobility Solutions* and *Home and Network Mobility*, have consistently been highly profitable, and may receive a higher valuation now that they are separate from the ailing handset business. The spin-off is not without precedent for Motorola, which spun-off its chip-making unit as autonomous Freescale Semiconductor, Inc. in 2004. The move turned out to be highly profitable for shareholders. Freescale was sold to a private equity

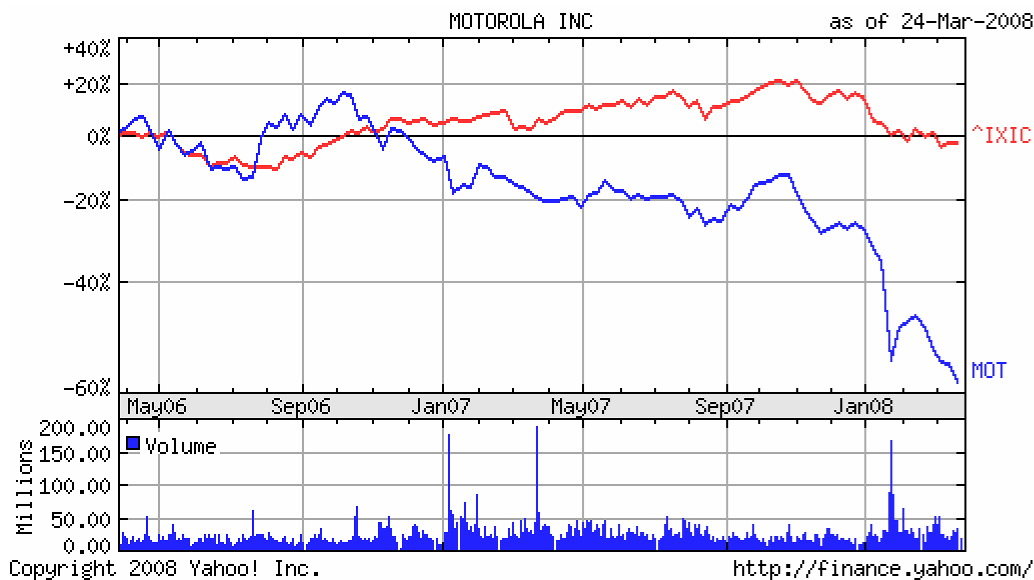
firm shortly after its IPO for $40 per share, a steep premium over the IPO price of $13 per share. Motorola investors hope that this spin-off can do as well.

Financial Analysis

Motorola Inc., with a market capitalization of just over $21.5 billion, posted revenues of $36.6 billion, $42.8 billion, and $35.3 billion in 2007, 2006, and 2005 respectively. Bottom line net income figures were -$49 million, $3.7 billion, and $4.6 billion for the respective years as well. Earnings per share were -$0.04 in 2007, which was a sharp decline from $1.30 in 2006 and $1.78 in 2005[2].

Motorola's financial state is headlined by its inability to increase sales over the recent quarters. Net sales for the consolidated company have declined from $42.8 million in 2006 to $36.6 million in 2007. Net income has decreased from $3.7 billion to -$49 million in 2007. The latest fourth quarter 2007 results have shown an 84% decline in profit from the same quarter a year ago. This drastic bottom line shift has sent the company's stock plummeting to record lows, and is now hovering between $9 and $10 after being over $20 a share just a year ago.

Stock Performance[3]

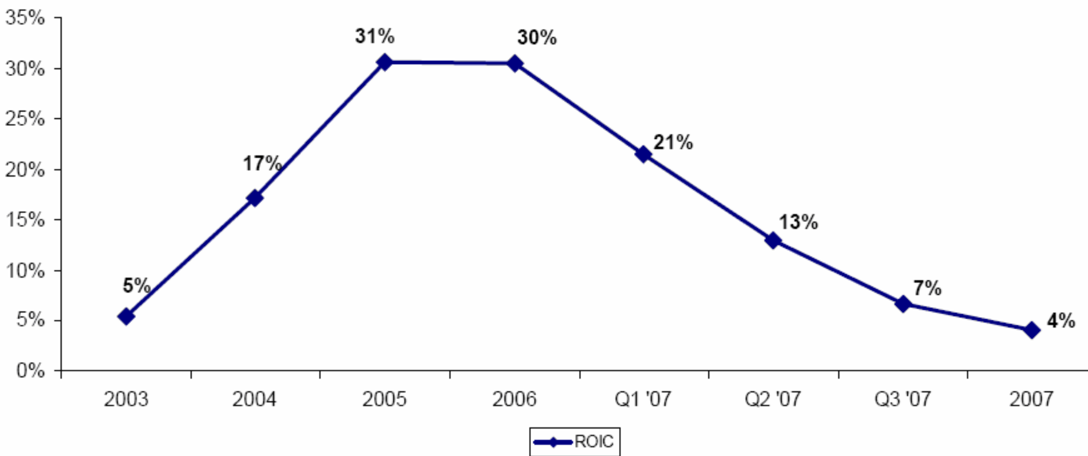


Delving further into the financial ratios, Motorola's recent troubles become apparent. Gross and operating margins for Motorola are well behind the industry and sector averages[4]. Furthermore, management has not been efficient in utilizing its assets: the company's ROA is -1.51, while the sector averages surpass an ROA of 19. An -0.64 return on equity is equally worrisome in comparison to a sector average of 23.05. Inefficiencies and a failure to match the growth of its biggest competitors has led to low returns on capital, as return on invested capital has drastically been reduced from 30% in 2006 to a mere 4% in 2007.

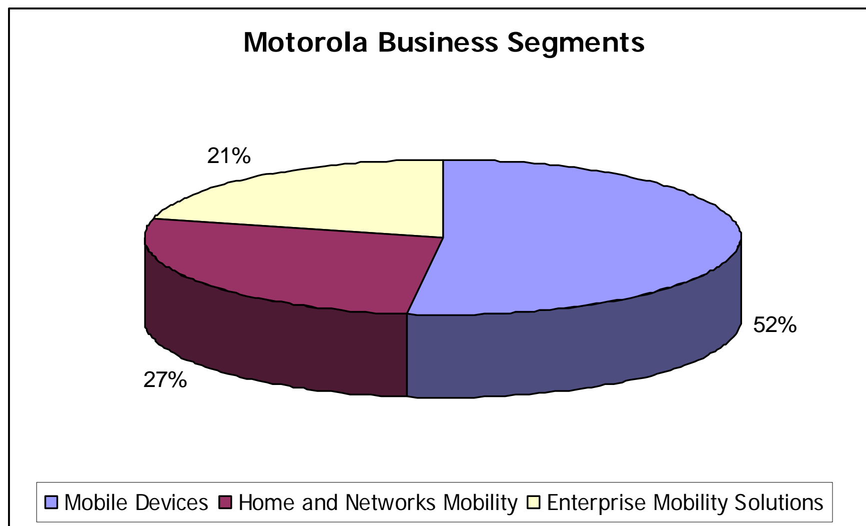
Comparable Analysis[5]

	Motorola	**Industry**	**Sector**	**S&P 500**
Gross Margin (TTM)	27.17	49.22	53.48	43.92
Gross Margin - 5 Yr. Avg.	30.77	47.81	52.63	44.19
Operating Margin (TTM)	-1.51	17.22	19.25	18.82
Operating Margin - 5 Yr. Avg.	7.21	13.38	16.63	19.37
	Motorola	**Industry**	**Sector**	**S&P 500**
Return On Assets (TTM)	-0.29	9.32	12.53	8.69
Return On Assets - 5 Yr. Avg.	6.28	5.96	9.62	7.88
Return On Equity (TTM)	-0.64	15.63	23.05	21.07
Return On Equity - 5 Yr. Avg.	14.62	10.3	16.8	19.45
* *Reuters*				

Return on Invested Capital[6]



Analyzing Motorola as a consolidated entity is insufficient in examining the true deficiencies of the company. Motorola is divided into three main business segments: *Mobile Devices*, *Home and Networks Mobility*, and *Enterprise Mobility Solutions*. The *Mobile Devices* segment represents 52% of the company's consolidated sales, while the *Home and Networks Mobility* and Enterprise Mobility Solutions represent 27% and 21% of the company's consolidated sales, respectively.



Motorola's flagship contract business, the *Enterprise Mobility Solutions* segment has achieved record success over the past year. This segment designs, sells, and manufactures digital two-way radios, end-to-end mobility solutions, and voice and data communication products to a

wide range of public safety, government, and utility customers. Full-year net sales in 2007 increased to $7.7 billion, up 43% from 2006, while operating margins have remained constant. Operating earnings were $1.2 billion, an increase of 27% compared to operating earnings of $958 million in 2006. All regions in which Motorola operates experienced increased net sales. Strong demand in the United States from the government and public safety markets also helped pushed sales up. The increased in operating earnings was a direct result of higher gross margins. This business also experienced higher SG&A and R&D expenses, which was primarily due to recent acquisitions. Motorola is the key player in this market and recently has been awarded contracts from the city of Atlanta and the Columbian government.

The *Home and Networks Mobility* segment has also experienced 9% sales growth from 2006 to 2007, a period in which net sales rose from $9.2 billion to $10.0 billion. Operating earnings were $709 million, which reflected a 9% decrease from 2006. The higher net sales were due to increased sales in the home business. However, the decline in operating earnings was a result of a decrease in gross margin driven by competitive pricing pressure in the infrastructure equipment market. This segment, which designs, sells, and manufactures digital video systems, set-top boxes, and wireless broadband systems, has introduced several key products over the past year; the WiMAX, for instance, has already been awarded 15 commercial contracts globally.

While Motorola's contract-driven businesses have increased momentum for the company, its struggling *Mobile Devices* unit has led to the current financial crisis. While overall market demand remained strong, demand for Motorola's *Mobile Devices* slowed significantly. Motorola's mobile phones were once a fashion icon with the introduction of the RAZR, the first slim and sleek phone in its class. Since then, however, Motorola has failed to attract consumers and has been overtaken by the likes of Nokia and Samsung. 2007 sales for the *Mobile Devices* unit have declined 33% from 2006 sales. The business is currently operating at a $1.2 billion loss in 2007, with $338 million of the loss attributable to the fourth quarter alone. Operating margins have also been reduced from levels of 4% to negative 8%. Part of the decline in sales can be

ascribed to a 9% decrease in average selling price per handset of their mobile phones. Other leading competitors also experienced a decline in ASP (average selling price) as well. Much of the decline in sales is a direct result of a drastic decline in units shipped. Unit shipments in 2007 were 159.1 million, a 27% decrease compared to unit shipments of 217.4 million in 2006. The fourth quarter of 2007 did not fare better for Motorola either. Only 40.9 million units were shipped in the fourth quarter of 2007, compared to 65.7 million units shipped in the same quarter a year ago. The decrease in unit shipments is primarily a result of gaps in the segment's product portfolio.

Another reason for the decline in sales for Motorola's *Mobile Devices* segment is that the business is experiencing declining income from intellectual property and technology leasing, which once showed significant gains. Also, Motorola undertook a $277 million charge for a legal settlement with Freescale Semiconductor.

While Motorola is experiencing a weakening of its *Mobile Devices* unit, other major mobile handset makers are increasing their sales and overtaking Motorola in market share. The overall market for mobile phones has been particularly strong, as total industry sales have jumped 17% in the last year, mostly in the emerging markets. Motorola's market share in fourth quarter of 2007 was a mere 12.4% compared with a 23.3% market share in the same quarter last year. Nokia, the leading phone maker with a 37% market share in the industry, has increased sales by 5% in 2007 and, even more staggering, has increased operating profit by 48% from fourth quarter 2006 to fourth quarter 2007. Cost of sales for Nokia's *Mobile Devices* business has decreased from 5.3% to 4.6% as a percentage of net sales due to a favorable mix of higher margin products and manufacturing efficiencies. While Motorola experienced a decline in mobile units shipped, Nokia increased its volume of units shipped by 27%. This increase in sales is directly attributable to the increase in sales to emerging markets in Middle East/Africa, Asia, and Latin America[7].

Samsung, the second leading player in the mobile handset business, also increased handset sales by 7% in 2007, while also increasing operating margins. Fourth quarter sales in 2007

showed a 41% year on year improvement, with much of this increase tied to strong sales increases in entry-level phones in emerging markets and premium phones in developed markets[8].

Sony-Ericsson, currently the #4 player in the mobile handset industry, has also experienced an 18% increase in units shipped from fourth quarter 2006 to fourth quarter 2007, while also managing to improve operating margins from 29% to 32%. With its surging sales in emerging markets, Sony-Ericsson can soon overtake Motorola in market share as well[9].

A major cause of Motorola's financial struggles in the *Mobile Devices* business has been its inability to strengthen its presence in emerging markets that other leading mobile phone makers have taken advantage of. While Motorola's R&D expenses remained relatively constant as a percentage of net sales since the introduction of the RAZR, Nokia increased R&D expenses by 45% in 2007. Even though Motorola executives appear to be focused on rebuilding this business, no new product portfolio is expected to be released until 2009 at the earliest. The introduction of entry-level phones in emerging markets requires the ability to maintain healthy profit margins, an ability that Nokia has mastered, but which Motorola is struggling to attain. Nokia earned operating margins of 16.8% on mass-market phones. This is attributable to Nokia's significant efficiencies in supply-chain and manufacturing systems.

Even in the developed North American market, in which Motorola has its most significant presence, its high-end phones and smartphones have paled in comparison to other new phones in the market. The introduction of the iPhone as well as the planned introduction of Google's *Mobile Devices* leaves a dark cloud over the prospects of improving the financial condition of Motorola's mobile device business[10]. There is no reason to believe that Motorola will be able to improve sales in 2008, and with attention focused on the introduction of several new products in 2009, the question remains whether operating the handset business at a loss while incurring billions of dollars of expenses in research and development for another year is feasible for the entire company.

Despite the fact that Motorola's stock has plummeted to new lows, there is hope that the company is greatly undervalued, as it its price is being pushed downward by the struggles of its handset business. Motorola is undeniably a giant in the Enterprise Mobility industry and a strong player in the Home and Networks industry. Taken alone, there is significant unlocked value held by these two businesses.

Competitive Analysis

Motorola operates in the Technology sector of the economy, and competes within the Communications Equipment Industry. Motorola divides its company along three business segments: *Mobile Devices*, *Home and Network Mobility*, and *Enterprise Mobility Solutions*. The *Mobile Devices* segment designs, manufacturers, sells, and services handset devices and accessories. *Home and Network Mobility* designs, manufactures, sells, installs and services digital video, digital entertainment devices (Internet Protocol networks), broadband access infrastructure systems, and associated data and voice customer premise equipment (broadband gateways) to cable television and telecom service providers, and wireless networks, including cellular infrastructure systems and wireless broadband systems, to wireless service providers. *Enterprise Mobility Solutions* designs, manufactures, sells, installs and services analog and digital two-way radio, voice and data communications products and systems for private networks, wireless broadband systems and end-to-end enterprise mobility systems to government and public safety agencies, and to commercial customers in retail, utility, transportation, manufacturing, and healthcare. On March 24, 2008, the Company announced that it would be spinning off its *Mobile Devices* segment, leaving their remaining two segments as a separate business. In light of this information, our competitive analysis of Motorola separates the *Mobile Devices* segment from the *Home and Network Mobility* and *Enterprise Mobility Solutions* segments in order to achieve a complete understanding of the forces contributing to the Company's competitive position in their industry[11].

Internal Rivalry: Mobile Devices

The *Mobile Devices* segment has faced considerable competition from other leading global mobile device companies including Nokia, Samsung, Sony-Ericsson, LG, Apple, and Research in Motion. Motorola believes that it held 14% of the overall *Mobile Devices* market share in 2007, making it the third largest supplier of wireless handsets. The dominant firms in this industry, along with peripheral mobile phone manufacturers, compete fiercely for business on both price and quality. The top five firms claimed 83% of the market share in 2007, although this industry may become less concentrated as China eases regulations to allow for more wireless handset manufacturers. The industry expects an annual growth rate of 10% in mobile users in coming years, which represents a decline from approximately a 20% annual growth rate from 2003 to 2007. This is still a sizable growth rate in the mobile communications industry, with opportunities to gain market share in emerging markets of Asia, Latin America, and Africa. The saturated markets of the US, Canada, and Western Europe are also prime areas of competition, as these companies attempt to maintain market share through reactivations of former accounts, and attract new customers away from the competition.

This industry caters to a broad range of consumers, with some companies specializing in lower price models with basic features, and others in higher-end, advanced technology phone designs. Motorola's products can fit into both of these categories, which may be a business strategy worth reconsidering (it may be beneficial for Motorola to specialize within the handset business). The Company divides its mobile products along four lines, categorized as Mass Market, Feature, Multimedia, and Productivity. The following chart illustrates a mapping of the mobile product line by breadth of features and value added.

Breadth of Product Features (Broad → Narrow)	High Value Added	Low Value Added
Broad	*Multimedia* MOTOROKR Z6, S9 – Video, camera, music, gaming, navigation	*Feature* RAZR Series – Video, camera, and music
Narrow	*Productivity* Motorola Q – multimedia features plus internet, email	*Mass Market* W Series – basic features, compete on price

Motorola gained a reputation for innovative, cutting-edge product design with its RAZR V3 in 2004, but failed to remain as industry leader. Today, the Apple iPhone and Research in Motion's BlackBerry Pearl fill the high-end consumer niche that the RAZR once commanded. Nokia, Samsung, Sony-Ericsson, and LG make similar phones with multi-media features, which compete for consumers in the market for a top-tier mobile phone. While Motorola continued to develop high-cost versions of the RAZR, Nokia, Samsung, Sony-Ericsson, LG, and other smaller mobile manufacturers grasped the expanding mass market with inexpensive phone models. Motorola's Mass Market line tries to enter this market niche, although they have not been as successful as their competitors in expanding into emerging markets. Motorola has also attempted to compete with Research in Motion for the corporate customer with their Motorola Q model, although this product has not been successful in competing against the wildly popular BlackBerry models, despite its lower price. In essence, Motorola has been unable to be the number one or two in the industry, in both markets geared toward low-price mobile phones as well as high-quality models.

In this highly competitive environment, it is essential for companies to keep prices in line with substitute products, and also to invest in non-price dimensions such as research and

development, sales and marketing forces, and advertising. It is essential for Motorola to continuously innovate in design and functionality if they want to remain positioned as an industry leader. Sales teams and effective advertising are also critical to appeal to consumer tastes and to establish prominent brand recognition. This presents a challenge to Motorola, as the company experiences rising production costs and declining sales. Companies like Nokia have streamlined manufacturing to cut costs, thereby allowing them to compete more aggressively on price. Motorola needs to either follow suit, or become a stronger player in the "designer phone" market.

Internal Rivalry: Home and Networks Mobility and Enterprise Mobility Solutions

The demand for Motorola products in this sector is increasing as cable and telecom network operators expand their range of video, data, and voice services. Motorola competes in the global market, with a higher concentration of business in North America. This industry is highly competitive because of the rapidly evolving nature of communication and network technologies. Similar to the mobile phone market, economies of scale contribute to an industry structure consisting primarily of a small number of large firms. This structure necessitates competition on price as well as quality, including product and system performance, innovative technology, delivery time, reputation, and availability.

Motorola claims status as market leader in digital cable and IPTV set-tops in North America, which are devices used for entertainment systems. They encounter significant competition from Cisco, AARIS, Ericsson, and Harmonic, Inc. Motorola is a smaller player outside of the US market in this division, and competes with many smaller-scale electronic equipment suppliers abroad. The company is also a leader in cable modems in global markets. Their wireless network business is among the top in the world, but is behind Ericsson, Nokia-Siemens, and Alcatel-Lucent in size. Nortel, Huawei, Samsung, NEC, and ZTE are also major competitors in the wireless network market.

Gaining new customers in these markets is less dependent on brand image than the *Mobile Devices* segment and more dependent upon competition on both price and quality features. Maintaining existing positive customer relationships is vital to being a dominant firm in the market, because cable and telecom companies have options to choose from among the top equipment suppliers. Although competition is fierce, Motorola can differentiate itself through superior products and services. However, differentiation may be difficult to achieve.

Enterprise Mobility Solutions sells wireless communication infrastructure within government and commercial markets. The company generates a significant amount of revenue through a single contract, particularly government contracts, and believes there are growth opportunities in both markets. Motorola forecasts annual growth of five to ten percent in demand from government entities, given an increasing emphasis on increasing public safety in times of emergency or natural disaster through effective communication systems. Expected growth rates in commercial sectors are thought to be slightly higher than in government, as global commercial firms become more reliant on mobile communications.

The largest Motorola customers in this division are the U.S. Government, Scansource, IBM, Ingram Micro, and Wal-mart, which collectively made up 19% of the Company's net sales in 2007. 62% of 2007 net sales in this segment were in North America. Contracts with customers may last for multiple financial periods, which guarantee a continuing revenue stream for the length of the contract. Establishing customer relationships through contractual obligations may encourage brand loyalty to Motorola as well. However, the U.S. Government can cancel contracts at any point in time. Additionally, if Motorola loses a key client to a competitor, their revenues may be adversely affected for multiple quarters. Motorola also frequently extends financing to key customers in order to gain business, which may harm their financial statements.

The *Enterprise Mobility Solutions* segment experiences a high level of competition as well, with threats from new and existing companies. Currently, M/A-Com, EADS Telecommunications,

Kenwood, EF Johnson, Cisco, and other large system integrators comprise Motorola's chief competitors in this business division. It is essential for Motorola to continue to lead in technological advancements, keep up with industry standards, improve their products, and remain competitive on price.

Highly competitive environments are endemic to the technology industry because of constantly advancing standards of technology. Motorola has risen to meet or exceed the competition in their *Home and Networks Mobility* and *Enterprise Solutions* segments; however, they have been less successful in *Mobile Devices*, where they failed to generate innovate designs to lure consumers to the Motorola brand.

Entry: Mobile Devices

Significant barriers to entry exist in the wireless communications industry, due to economies of scale, establishing a brand reputation, government regulations, access to key inputs such as technological knowledge, and relationships with large buyers and suppliers. However, there is a growing threat from small-scale Chinese manufacturers that are mass-producing phones to the low-end market. This will most significantly affect Motorola's Mass Market segment, as well as their reach in the emerging markets of China and other parts of Asia. These manufacturers contributed to a one-percentage point decline in market share among the top five producers from 2006 to 2007. However, most of Motorola's products lie outside of this demographic, and the mobile devices industry as a whole is highly concentrated with considerable barriers to entry.

Economies of scale within the wireless communications industry exist in manufacturing and distribution. Manufacturing mobile devices requires a significant amount of capital, and this sizable fixed cost may deter potential entrants in this industry. Concentration among wireless carriers may also create concentration in the production of wireless devices, because it is more efficient for buyers to limit their purchases to a select number of established producers. Costs involved with generating and protecting human capital – maintaining a team knowledgeable in

technological R&D, applying for patents, and patent litigation – can also serve as a barrier to entry. Government regulation limiting radio frequencies gives protection to incumbent firms in wireless communication technologies, particularly if high demand for frequency licensing leads to higher costs per license. On the other hand, the U.S. is leading the movement in spectrum deregulation, which may open opportunities for both incumbent firms and new entrants.

Establishing a leading brand name and maintaining relationships with buyers go hand and hand in this industry. The top wireless carriers only sell products from leading phone manufacturers, and these companies will promote mobile devices that appeal most to consumer demand. If a company cannot differentiate itself from competing products, consumers will be less likely to buy their products- thus risking the buyer relationship between wireless producer and carrier (i.e. Motorola and Verizon). Establishing a well-known brand image can be costly in terms of advertising and sales and marketing, which would be another barrier for potential entrants.

Entry: Home and Networks Mobility and Enterprise Mobility Solutions

Many of the same barriers to entry relevant to the *Mobile Devices* division apply to Motorola's other business segments as well. Economies of scale in manufacturing and distribution of electronic communication products, hefty capital requirements, technological knowledge, and established relationships between incumbent firms and major clients may all factor in as barriers to entry. However, these markets are expanding at a consistent, positive rate, and opportunities for profit exist for new entrants that can develop competitive technologies. Furthermore, companies providing wireless services are required to attain government licenses for radio frequencies, a cost that has been acting as entry barrier. However, the U.S. and other foreign nations have been in a process of deregulation, which would eliminate the licensing costs to Motorola as well as to competitors and potential entrants.

Incumbent firms have a first-mover advantage in establishing relationships with key cable and telecommunications companies, governments, or other commercial venues in which Motorola

operates. Contracts may only lock customers in for a limited period of time, after which they are free to switch suppliers. If the supplying company, like Motorola, fails to meet expectations, the buying company may seek a competitor instead. However, if Motorola can meet expectations, a customer will be unlikely to go through the costs of establishing a contract with a different company. Anchoring may also be a factor for major customers who grow accustomed to doing business with the same supplier. A new entrant must therefore compete more aggressively on price or quality of their products and services in order to win over business from incumbent firms. Reputation and brand recognition may not be as important to these segments of Motorola as in *Mobile Devices*, since their products are not being sold to consumers who may base purchasing decisions on brand image. A reputation for quality, though, is important in these markets, and building a reputation may be difficult for a potential entrant. Motorola reports strong relationships with their customers, and it does not seem that new entrants pose a critical threat to Motorola's business in these areas.

Substitutes and Complements: Mobile Devices

Motorola's products face an array of close substitutes, and this can be seen in each segment of their mobile phone division. In the Mass Market segment, low-cost phones from industry leaders Nokia, Samsung, Sony-Ericsson, and LG are all close substitutes in price, quality of service, and types of features. Low-cost Chinese manufacturers are producing substitutes in the Mass Market segment for Motorola and for the industry as a whole. These phones, however, may not be viewed as close substitutes in the U.S. and Western Europe, where buyers are more brand-conscious. The next two tiers of Motorola phones, Feature and Multimedia, also face a plethora of close substitutes. Phones from the other top four wireless producers are comparable to the Motorola RAZR or MOTOROKR in sleek, compact design and multimedia capabilities. Substitute products in the Productivity category have been outselling the Motorola Q. The BlackBerry holds the most prominent market position in this class of wireless devices for business use, with the iPhone and devices from Nokia, Samsung, and LG providing similar features and services for both the business and consumer markets.

The buying experience is nearly identical for Motorola phones and their close substitutes, because the consumer can buy any of these phones from the same wireless carrier store or website. Customers can do side-by-side comparisons online between a Motorola product and a competitor's substitute. The easy availability of close substitutes requires Motorola to compete on price and product image. This reduces profits, and makes it essential for Motorola to differentiate itself in the eyes of the consumer through mobile device design, quality of service, and features.

Complements to the Motorola product include device accessories and airtime packages from wireless carriers. While device sales will encourage sales in accessories, this is not necessarily a two-way causation. The availability of useful accessories may encourage customers to buy a Motorola device, although Motorola accessories face the same similar substitutes from competing companies as the devices themselves. Thus, accessory sales are still beneficial for company revenues, although they do not seem to be a selling point for prospective buyers of Motorola devices. Airtime packages from wireless carriers like Verizon, Sprint, and AT&T are direct complements for Motorola devices. If carriers can keep the price of wireless airtime relatively low, sales of mobile devices are likely to increase.

Substitutes and Complements: Home and Networks Mobility and Enterprise Mobility Solutions

These two segments operate in markets alongside competing firms that offer close substitute products and services. Motorola spends considerable resources to acquire patents, and to protect their intellectual property through patent litigation. Even so, close technological substitutes are constantly being developed at rival companies. This poses a threat to Motorola, because a competitor may be able to slightly differentiate their product or service in order to gain market share. Furthermore, future advancements in technology may enter the market as substitutes for existing Motorola products (such as digital replacing analog systems). If

Motorola fails to change production quickly enough to keep up with changing industry standards, they could be left with outdated technological products and processes.

Complements to Motorola's *Home and Networks Mobility* products consist of the wireless communication networks that purchase the Motorola technological infrastructure to sell as a final product to consumers. The promotion of these entertainment and communication systems and devices from the buyer companies directly affects Motorola's sales success.

Supplier Power and Buyer Power: Mobile Devices

Given the structure of the mobile devices industry, opportunities exist for buyers to extract profit from the producing firms. Wireless carriers that sell a package of *Mobile Devices* with airtime to consumers choose a select group of mobile device producers to represent in their stores. In 2007, Sprint Nextel, AT&T, Verizon, China Mobile, and America Movil made up 42% of Motorola's net sales. Motorola also sells its mobile devices to third-party distributors and retailers, which accounted for approximately 33% of the segment's net sales in 2007.

The bulk of Motorola mobile device products are sold to several key clients, although these carriers, distributors, and retailers have a wide selection of producers from which to buy wireless devices. Motorola can extract some of this buyer power by producing cutting-edge devices that meet, or preferably go beyond, consumer expectations. If the company has a top-selling product, they will have more bargaining power over their wireless carrier buyers. If Motorola is making mediocre products relative to its competitors, the power shifts to the hands of Motorola's buyers, who may choose a competitor's substitute product. This could result in a loss of shelf space in retail stores for Motorola products, which in turn causes a decrease in sales for Motorola.

Prices of inputs appear to be fairly stable and competitive in this industry, which would indicate low supplier power in the hands of companies supplying inputs for Motorola. The company reports, "availability of materials and components required is relatively dependable,

but fluctuations in supply and market demand could cause selective shortages and affect results". Motorola does source some input materials and components from single vendors, which gives these suppliers more control over prices of goods sold to Motorola. The company could be adversely affected by rising energy and oil prices, which directly affect manufacturing and shipping costs. However, these input costs are market-determined and affect the industry as a whole, and thus should be an equally concerning issue to competitors across the board.

Supplier and Buyer Power: Home and Networks Mobility and Enterprise Mobility Solutions

Motorola holds a fair degree of supplier power in these segments, derived from contracts locking in customers for specified lengths of time. However, competing companies that produce close substitute products, and the Government's ability to end contracts at will, are both forces that erode some of this supplier power. The availability of close substitutes detracts from Motorola's ability to mark up prices of their products in order to remain competitive. Many of Motorola's contracts in the *Home and Networks Mobility* segment are awarded through a bidding process with competitors. This intense competition drives down prices, and thus damages the company's profit margins. A buyer's switching costs involved with changing suppliers may be significant enough to encourage a buyer to remain with their supplier of choice for extended periods of time. This works in Motorola's benefit, as a leading company in these sectors that already occupies a top market position. Buyers rely on Motorola inputs to sell their final product to consumers, and this market structure contributes to Motorola's supplier power.

Motorola's power as a buyer of inputs is also significant as one of the major players in these markets. The factors that weaken their buyer power mirror the same concerns that apply to their *Mobile Devices* segment, namely dependence on single vendors for certain input materials, the possibility of rising oil and energy prices, and fluctuations in demand and supply of materials that result in a shortage (and thus higher prices). The input market as a whole appears to be relatively competitive, and most likely does not command the ability to price discriminate.

SWOT ANALYSIS

Strengths

- Large and diversified (mobile devices, set-top boxes, two-way radios)
- Established distribution channels through relationships with key customers (governments, telecom and cable companies, wireless carriers)
- Strong global brand recognition
- Exposure to developing markets in Middle East, Africa, and Asia where *Mobile Devices* per capita are increasing
- Dominance of Enterprise Mobility Solutions business in two-way radios market
- Strong design platform
- Stable cash flows for *Home and Networks Mobility* division to increase flexibility of division

Weaknesses

- No compelling product lineup in the near future for *Mobile Devices*, coupled with lack of differentiation from competitors with current product line
- Poor short-term financial performance
- Too focused on North America and not as much on Emerging Markets relative to competitors
- Consumer demand decreasing for Mobile Device products
- Recently has been late on new product introductions
- Inability to be market leader in high-end or low-tier mobile devices
- Subject to changing consumer preferences
- Low switching costs for consumers to change brands
- No executive for recently split Mobile Device segment
- Consumer confusion due to break up of company
- Declining return on invested capital

Opportunities

- Potential for international growth in developing markets, especially in the low-tier mobile device market in Taiwan and China
- Switch to silicon strategy could help lower long-term costs in Mobile Device division
- Growing demand for Enterprise Mobility Solutions products from foreign governments and agencies
- Capacity to adjust capital structures for each business after splitting of company
- Greater ability to focus on core businesses of each segment after split
- Increased flexibility of each segment following split
- Possible strategic partnerships and new campaign launches

Threats

- May face decrease in consumer spending for high-end handsets with potential economic recession
- Increasing market share for competitors (Nokia, Samsung, Sony-Ericsson)
- Intense competition across business segments
- Subject to currency fluctuations in foreign markets
- Local Chinese manufacturers gaining market share in Chinese mobile device market
- Inability to cope with loss of synergies with respect to infrastructure and back-office functions
- Potential inability to capitalize on switch to silicon-strategy
- Subject to unpredictable changes in consumer preferences
- Potential difficulty for *Mobile Devices* division to raise debt following spin-off

Strategic Issues and Recommendation

Originally, there were two main dilemmas facing Motorola amidst its declining stock price and plunging revenues for its *Mobile Devices* unit. Motorola, which is segmented into three business lines, has experienced considerable growth and profitability in its *Home and Networks Solution*s

and *Enterprise Mobility Solutions* groups. However, its mobile devices have been struggling to attract customers, and demand for its products has sharply declined. The first main dilemma Motorola faces is whether the company should remain intact with minor restructuring, or whether a major overhaul such as a spin-off or sale of its unprofitable segment would be the best solution. Shareholders such as Carl Icahn, and Wall Street analysts, believed that the value of the two profitable segments was being weighed down by the declining confidence in the *Mobile Devices* segment. The second main dilemma is what the next steps should be in the case that the company undergoes significant restructuring.

The original sentiment among Motorola's executives, including recently inducted chief executive officer Greg Brown, was that there was hope for the handset business in the near future[12]. The logic was that the company's strong brand, coupled with its ability to introduce fashionable and globally recognized phones, would give the company a foundation to launch a fresh campaign. Furthermore, the company hoped to take advantage of a developing silicon strategy for the manufacturing process of the handsets, which would significantly cut costs and increase profits in the future. Management's dedication to the revitalization of the *Mobile Devices* segment was evidenced by CEO Greg Brown's declaration that he would personally take full responsibility and control of the *Mobile Devices* segment.

Harkness Consulting's original task was to develop a strategy for Motorola through market and segment analysis that would enable management to better decide on the future of the *Mobile Devices* segment, in terms of whether the segment should be kept within the company or spun-off. In this analysis, Harkness Consulting concluded that spinning off the *Mobile Devices* segment would be the best solution for Motorola in order to maximize shareholder value.

Harkness Consulting saw no immediate potential for growth in Motorola's handset business. While Motorola management declared a dedication to the improvement to this business, both internal and external factors were thought to prevent this from occurring. Within the company itself, Motorola faced several key challenges. First of all, the popularity of the RAZR,

Motorola's flagship handset device, was over. Sales of the RAZR phones have been steeply declining over the last quarters. Prices have sharply declined, with wireless carriers such as Verizon and AT&T offering certain versions of the RAZR for free with a wireless agreement reflecting decreased demand[13]. Motorola would be well-suited to handle the decline of the RAZR if the company had a compelling lineup of phones in its product portfolio. However, this has not been the case. Several releases of Motorola phones have been postponed for 2008, and analysts believe that no new key products are set to be sold to consumers until 2009[14]. This would prove to be too late for Motorola, which needs a boost in sales and consumer confidence as soon as possible to match the rapid release of phones by its competitors. Motorola's market share has already declined from second in the market behind Nokia to third, behind Samsung. Without significant sales in the final three quarters of 2008, its place in the market could decline to fourth with the growing sales of Sony-Ericsson. Waiting until 2009 would erode not only Motorola's share of the market, but also consumer's willingness to switch cell phones. This is especially true in the North American market, where the popularity of smartphones increasing. Motorola currently does not have any phone in the pipeline for 2008 that could compete with the iPhone, Blackberry, or other smart-phones offered by competitors. The decline of the RAZR franchise has also kept Motorola from being a significant player in the middle price-range phone market.

Harkness Consulting, along with other analysts, believes that there is significant opportunity globally for cell phones. However, we believe that Motorola also will not be able to capture the rewards from this global growth in the near future. Nokia has been bolstering its sale force globally in markets such as China, Middle East, and Africa. Other competitors such as Samsung and Sony-Ericsson have also been developing strategies to appeal to mass-market consumers in developing markets. While there is hope for Motorola in the emerging markets in the future, this strategy would require several years.

Harkness Consulting believes that if the goal of Motorola's strategy was to maximize shareholder value, Motorola's best option was to spin the *Mobile Devices* segment off from the

other two profitable segments. These other segments, which are contract-based, have experienced sustained success not only domestically, but globally, through the acquisition of several key customers. The prospects of these businesses, including their profitability and long-term potential, are being hidden by the dismal nature of the *Mobile Devices* unit. Through the spin-off, investors would be able to assess the true value of Motorola's two successful businesses. While its handset business is a significant revenue source, Harkness Consulting believes management should seriously consider a spin-off. During the time of our assessment of whether the *Mobile Devices* segment should be spun-off, it was released to the press that Motorola's management team had decided split the Motorola company into two different companies; one would contain the *Home and Networks Solutions* and *Enterprise Mobility Solutions* segments, and the other would contain the *Mobile Devices* segment. Such a move was triggered by management's desire to unlock value held by the profitable businesses of Motorola.

Harkness Consulting's second analysis was aimed at creating a potential strategy for each of the new companies, following the split of Motorola. While the splitting of the company into two separate companies is scheduled to take place in 2009, our plan for the *Mobile Devices* business is to develop a strategy which would enhance the separate company's value both in the short-term, in the case of a potential selling of the business following the split and in the long-term to increase the future prospects of the company.

While the direction management is planning on taking with respect to the handset business is unclear, Harkness Consulting recommends the following strategy. As of now, Motorola has not announced a leader for the recently split *Mobile Devices* business. Without talented executives directing the operations of Motorola, the company will not be able to operate during this transitioning period effectively. There have been discussions to hire someone from within the firm to lead the handset business. However, Harkness Consulting believes outside talent is the better option for Motorola. Motorola's initial plan should include attracting top-level talent from other handset businesses such as Nokia by offering significant compensation in the form of stock options. With Motorola's handset business valuation expected to be low, the prospects

for growth and development of the business could entice many outside executives to bring their expertise to Motorola's handset business. While there has also been speculation of the possible rebranding of the *Mobile Devices* business, Harkness Consulting believes that this business should retain the Motorola brand and logo. The *Mobile Devices* business benefits the most from the Motorola brand because of widespread consumer recognition of the name. Consumers view Motorola as a pioneer in the handset business, and despite recent consumer dissatisfaction with Motorola products, the Motorola brand still holds strength both domestically and globally. The potential for consumer confusion due to the split is already evident, and further efforts to re-brand would erode the brand even further.

With respect to their product portfolio offerings, Harkness Consulting believes that Motorola should begin a slow withdrawal of the RAZR handset line. The RAZR phones have experienced a sharp decline in demand and sales. A simple upgrade of the line will not suffice to reinstate consumer confidence in the brand. There have been numerous reports of the non-durable and glitch-prone nature of the phone. In an industry in which switching costs are low, a thorough overhaul of the product offerings is necessary. Because of the relatively empty pipeline for 2008 phones, an immediate complete removal of the RAZR line is not an option. However, significant research and development expense should be undertaken to develop a new, fashionable line of phones for the high-end handset market, which does not include smartphones. We believe the market for smartphones is heavily dominated by existing popular handsets such as the BlackBerry and the newly introduced iPhone. We do not believe that Motorola would have a competitive advantage within the smartphone market. While Motorola has strength in designing next-generation phones such as the RAZR, we believe that consumers who are willing to spend hundreds of dollars on smartphones will gravitate towards brands that are reliable. Instead, Motorola and its designers should introduce a trendy, yet affordable new phone line in the North American market that would compete with the mid-priced handsets in the markets. Such an introduction would require a fresh advertising and marketing campaign that would restore customer confidence and loyalty to the Motorola brand.

While Harkness Consulting believes that a new product line for the North American market is appropriate, our strategy for emerging markets is slightly different. Motorola has enjoyed recent success in emerging markets, especially China. However, Nokia has been increasing its market share over the last few quarters through heavy investment in regions such as the Middle East, Asia, and Africa. Nokia has managed to dominate the globe through effective mass-market phone introductions and heavy increases in sales forces globally. Motorola has only managed to hire a fraction of the sales force that Nokia currently boasts. In order to effectively compete with Nokia and other competitors in the emerging markets, Motorola must invest heavily in increasing its sales force in emerging markets beyond China. Motorola has sufficient penetration into the Chinese handset market, and even though its share in the market has been declining, we see the return on invested capital in the region to decline over the years. Local Chinese manufactures that can offer low-price phones to compete with Motorola have been gaining market share in the country, and further erosion of barriers to entry could jeopardize Motorola's stronghold even more. Instead, Motorola should greatly bolster its sale force in other emerging markets, most notably the Middle East, Africa, and Latin-America. Such markets have seen significant gains over the past years, especially with the emerging middle class in the regions. The Motorola brand name has significant power in these regions, and Harkness Consulting believes the company should leverage its brand name to target both mass-market and mid-level consumers in these regions through effective marketing and advertising that incorporate local trends and preferences. For example, advertising in the emerging Indian markets could incorporate the use of sponsorships linked to Bollywood stars.

In the long-term, Harkness Consulting believes that Motorola's strength lies in its ability to design new-era handsets. Motorola should continue this trend and introduce a state-of-the-art iconic phone within a few years after the luster and excitement of the recently introduced smartphones dies down. Furthermore, Motorola's long-term strategy should continue to include its effort to switch to a silicon-based production strategy. The recent split of the company should not deter any efforts to develop this production method, as successful completion of the switch could cut costs significantly for Motorola going forward. Harkness

Consulting believes that the proposed strategy for Motorola's handset business not only increases growth prospects for the company, but also increases the perceived value of the firm to outside investors, should the company decide to sell the handset business following the split.

Harkness Consulting's strategy for Motorola's other divisions involves continual expansion of business both domestically and globally. Motorola's Enterprise Mobility Solutions business, which includes the manufacturing and distribution of two-way radios, has boomed over the last few years. Motorola has recently won contracts with the city of Atlanta as well as the Defense Ministry of Columbia. Harkness Consulting believes that Motorola should market their products to other foreign governments and agencies as well, by following the defense contracting model. Motorola can spur demand for its own products by creating competition among different entities. For example, Motorola can use its contract with Columbian Defense agencies to market its products to the agencies of surrounding countries that want upgraded products to match those of Columbia's government. This strategy can be implemented in the Middle East and Africa, where governments of emerging countries seek to bolster their defense agencies. Because of Motorola's innovative strength in the *Home Networks* and *Enterprise Mobility Solutions* businesses, the company should continue to seek patent protection and retain top management in order to maintain its lead over competitors in the markets in which they operate. The contract-based nature of these businesses also lends credibility to our strategy of investment in the maintenance of key relationships with customers. Through a more globalized focus and continual efforts for gaining market share, coupled with the recent announcement of a split, Harkness Consulting believes that the value of this part of Motorola will greatly be enhanced in the coming years.

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[1] Motorola Conference Call following announcement of company split
[2] Unless otherwise noted all financial data was obtained from Motorola 10-K for 2007 or 2007 Q4 Quarterly Report
[3] Yahoo! Finance, MOT
[4] Reuters Company Overview
[5] Reuters Company Overview
[6] Motorola Earnings Call Presentation Q4 2007
[7] Nokia 20-F 2007
[8] Samsung 4Q 2007 Earnings Release
[9] Sony-Ericsson 4Q 2007 Earnings Presentation
[10] Discussion with Alan Boyce of Countrywide Financial

[11] All industry data and analysis was obtained from Motorola's 2007 and 2006 10-K unless otherwise noted
[12] Morgan Stanley Fireside Chat with CEO Greg Brown in January 2008
[13] www.verizonwireless.com
[14] Bear Stearns Analyst Report on Motorola

Appendix

Motorola Income Statements (in millions)	**2007**	**2006**	**2005**	**2004**	**2003**
Sales revenues	$ 36,622	$ 42,897	$ 35,262	$ 29,663	$23,155
Cost of goods sold	26,670	30,152	23,833	19,698	15,562
Gross profit	9,952	12,727	11,429	9,965	7,503
Selling, general and administrative expenses	5,092	4,504	3,628	3,508	3,285
Research and development expense	4,429	4,106	3,600	3,316	2,979
Special charges	984	25	(404)	149	(34)
Total operating expenses	10,505	8,635	6,824	6,973	6,230
Operating income	(553)	4,092	4,605	2,992	1,273
Other gains and losses	163	518	1,807	120	103
Pretax income	(390)	4,610	6,412	3,112	1,376
Tax expense	(285)	1,349	1,893	1,013	448
Earnings from Continuing Operations	(105)	3,261	4,519	2,099	928
Earnings(Loss) from Discontinued Ops	56	400	59	(567)	(35)
Net income	**$ (49)**	**$ 3,661**	**$ 4,578**	**$ 1,532**	**$ 893**

Motorola Income Statements Vertical Common Size	2007	2006	2005	2004	2003
Sales revenues	-14.6%	21.7%	18.9%	28.1%	
Cost of goods sold	72.8%	70.3%	67.6%	66.4%	67.2%
Gross profit	27.2%	29.7%	32.4%	33.6%	32.4%
Selling, general and administrative expenses	13.9%	10.5%	10.3%	11.8%	14.2%
Research and development expense	12.1%	9.6%	10.2%	11.2%	12.9%
Special charges	2.7%	0.1%	-1.1%	0.5%	-0.1%
Total operating expenses	28.7%	20.1%	19.4%	23.5%	26.9%
Operating income	-1.5%	9.5%	13.1%	10.1%	5.5%
Other gains and losses	0.4%	1.2%	5.1%	0.4%	0.4%
Pretax income	-1.1%	10.7%	18.2%	10.5%	5.9%
Tax expense	-0.8%	3.1%	5.4%	3.4%	1.9%
Earnings from Continuing Ops	-0.3%	7.6%	12.8%	7.1%	4.0%
Earnings from Discontinued Ops	0.2%	0.9%	0.2%	-1.9%	-0.2%
Net income	-0.1%	8.5%	13.0%	5.2%	3.9%

Motorola Balance Sheets				
(in millions)	**2007**	**2006**	**2005**	**2004**
ASSETS				
Cash	$ 3,212	$ 3,212	$ 3,774	$ 2,846
Sigma Funds	12,204	12,204	10,867	7,710
Short-term Investments	224	224	144	152
Accounts receivable	7,509	7,509	5,652	4,525
Inventory	3,162	3,162	2,422	2,546
Deferred Income Taxes	1,731	1,731	2,355	1,541
Other Current Assets	2,933	2,933	2,496	1,795
Current Assets Held for Sale	-	-	312	-
Total Current Assets	30,975	30,975	28,022	21,115
Property, Plant and Equipment	2,267	2,267	2,020	2,332
Investments	895	895	1,644	3,241
Deferred Income Taxes	1,325	1,325	1,196	2,353
Goodwill				
Other Assets	3,131	3,131	2,597	1,881
Non-current Assets Held for Sale	-	-	323	-
Total Assets	**$ 38,593**	**$ 38,593**	**$ 35,802**	**$ 30,922**
LIABILITIES AND SHAREHOLDERS' EQUITY				
Notes Payable/Current Portion of LTD	$ 1,693	$ 1,693	$ 448	$ 717
Accounts Payable	5,056	5,056	4,295	3,330
Accrued Liabilities	8,676	8,676	7,529	6,556
Current Liabilities Held for Sale	-	-	320	-
Total Current Liabilities	15,425	15,425	12,592	10,603
Long-term Debt	2,704	2,704	3,806	4,581
Other Liabilities	3,322	3,322	2,727	2,407
Non-current Liabilities Held for Sale	-	-	4	-
Total Liabilities	21,451	21,451	19,129	17,591
Preferred Stock, $100 par value	-	-	-	-
Common Stock	7,197	7,197	7,508	7,343
Additional Paid-In Capital	2,509	2,509	4,691	4,321
Retained earnings	9,086	9,086	5,897	1,722
Non-owner changes to equity	(1,650)	(1,650)	(1,423)	(55)
Total Shareholders' Equity	17,142	17,142	16,673	13,331
Total Liabilities and Shareholders Equity	**$ 38,593**	**$ 38,593**	**$ 35,802**	**$ 30,922**

Motorola Balance Sheets				
Vertical Common Size	**2007**	**2006**	**2005**	**2004**
Cash	8.3%	8.3%	10.5%	9.2%
Short-term Investments	0.6%	0.6%	0.4%	0.5%
Accounts receivable	19.5%	19.5%	15.8%	14.6%
Inventory	8.2%	8.2%	6.8%	8.2%
Other current assets	7.6%	7.6%	7.0%	5.8%
Total current assets	80.3%	80.3%	78.3%	68.3%
Property, plant and equipment	5.9%	5.9%	5.6%	7.5%
Investments	2.3%	2.3%	4.6%	10.5%
Other assets	8.1%	8.1%	7.3%	6.1%
Total assets	100.0%	100.0%	100.0%	100.0%
Accounts Payable	13.1%	13.1%	12.0%	10.8%
Accrued Liabilities	22.5%	22.5%	21.0%	21.2%
Total current liabilities	40.0%	40.0%	35.2%	34.3%
Long-term debt	7.0%	7.0%	10.6%	14.8%
Other liabilities	8.6%	8.6%	7.6%	7.8%
Total liabilities	55.6%	55.6%	53.4%	56.9%
Preferred stock	0.0%	0.0%	0.0%	0.0%
Common stock	18.6%	18.6%	21.0%	23.7%
Treasury stock	6.5%	6.5%	13.1%	14.0%
Retained earnings	23.5%	23.5%	16.5%	5.6%
Other equity adjustments	-4.3%	-4.3%	-4.0%	-0.2%
Total shareholders' equity	44.4%	44.4%	46.6%	43.1%
Total liabilities and shareholders equity	100.0%	100.0%	100.0%	100.0%

Motorola Financial Ratios				
AR Turn	4.88	6.52	6.93	6.56
Days AR	74.84	55.99	52.67	55.68
AP Turn	5.27	6.45	6.25	11.83
Days AP	69.20	56.60	58.39	30.85
Inv, Turn	8.43	10.80	9.59	15.47
Day Inv.	43.27	33.80	38.04	23.59
Net Cash Conversion Cycle	48.92	33.19	32.33	48.42
ROE	-0.3%	21.7%	30.5%	23.0%
Growth in Book Value	0.0%	1.4%	11.8%	