

**Eastman Kodak Company - Rochester, New York**



**1.0 Introduction:**

This paper will present an examination of the strategy Eastman Kodak undertook during the period 1999-2004 in efforts to gain a satisfactory rate of return on its investments in digital imaging. Included will be a summary of the marketing environment and business situation from the perspective of the company's strengths and weaknesses, its customers, suppliers and competition; a statement of the key strategy issues facing Kodak; identification of the root causes of the issues; recommended actions to deal with the issues; and the expected impacts the recommended actions will have on the business.

**2.0 Situation Summary:**

**2.1** For decades, Kodak's imaging business revenues were dependent on its iconic disposable cameras, but during the late-90's and early-2000's traditional film sales declined due to the increasing popularity of digital imaging technologies, resulting in a 20% decrease in Kodak's sales during the period (Hoovers Online - 2008). In response, Kodak undertook a \$3 billion restructuring initiative to focus company efforts from traditional film to digital imaging for consumers and professionals. The firm also developed long-term plans to sell ink jet printers and flat-panel displays. Kodak's shift to become a digital technology business included purging some 30,000 employees.

**2.2** Central to Kodak's strategy was an incremental, hybrid approach, whereby it would use digital technologies to enhance its current photographic products in both the consumer and commercial sectors, while simultaneously developing new digital products, attempting to penetrate new markets, and developing new alliances. Included in the strategy were the following undertakings (Grant, R. M. - 2008):

- 2.2.1** Providing facilities in retail outlets for digitizing and editing images (CopyPrint Station and Digital Enhancement Station).
- 2.2.2** Enhancing the services offered by photofinishers (Kodak iLab system).
- 2.2.3** Digital enhancement of conventional film (Advantix).
- 2.2.4** Production of digital cameras (Professional, Quicktake)
- 2.2.5** Use of the Internet to transmit and store photographs (PhotoNet).
- 2.2.6** Medical diagnostic imaging (Ektascan)
- 2.2.7** Public sectors (space and public services)
- 2.2.8** Commercial printing/publishing (NexPress)
- 2.2.9** Motion pictures.

**2.3** It was projected that digital revenues would grow at a rate of 26% annually, while the percent of the company's total sales from traditional film products would fall from 70% to 40% by 2006 (ibid).

**3.0 Key Strategy Issues Facing Kodak:** The key strategy issue for Kodak during 2004 was whether its \$3 billion dollar entry-level investment in digital imaging could overcome the severe competition the company would face from existing digital

camera makers, and whether the low profit margins for digital products could offset the declining sales of its traditional film cameras.

#### 4.0 Causes of the Issue:

**4.1** As seen in the table below (Hoovers Online - 2008), by 2004, the company's operating expenses had risen beyond revenues, due primarily to deterioration of the core photography business and because the hybrid initiatives described in the previous paragraph had not generated the anticipated level of sales, indicating that Kodak did not adequately overcome the competitive challenges and that Kodak's executives did not anticipate how quickly digital cameras would become commodities, with low profit.

<b>Annual income data, <i>in millions</i></b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
<b>Net Revenue</b>	\$12,549	\$12,909	\$13,517
<b>Operating Expenses</b>	\$11,381	\$12,607	\$13,623
<b>Operating Income</b>	\$1,168	\$302	(\$106)
<b>Net Income</b>	\$770	\$253	\$544

**5.0 Analysis of the External Environment:** Many of the causes for the disappointing financial figures are apparent when analyzing the external forces inherent in the digital imaging market, as detailed in the following paragraphs. This segment presents an analysis of Kodak's competitive environment, using Michael Porter's (1979) theory of "Five Forces". Contained below are details of each of the "Forces" plus complementary sources of supply, and a diagram that provides a quick visual summary of the analysis.

**5.1 Competition from Substitutes/Complementary Products and Devices:**

**5.1.1** Kodak's vision is to "provide the full system" (Grant - 2008), meaning to facilitate taking a digital photo with a camera, converting a snapshot into a digital format, printing the image, storing the image, sending the image via Internet, and editing digitized images. The substitutes to digital imaging are:

1. Plain "chemical" film (substitute for digital memory)
2. Plain film cameras (substitute for digital camera)
3. Developing the film (substitute for a printer)
4. Photo Albums and micro film (storing the image)
5. Mail (substitute for sending via "snail mail")
6. Photo refinishing lab (substitute for editing digitized photos)

**5.1.2** Image capture, storage, manipulation, transmission, printing and management have significant implications because, relative to price, the performance is equal or better than Kodak's products, the switching cost is low and buyers are willing to consider the product. Substitutes are becoming so antiquated that their use is more expensive than digital imaging, so they do not pose a threat to pricing. The biggest threats from the substitutes are better quality picture, familiarity with older generation, and ease of use.

**5.1.2.1** Image Capture: This is a commoditized market – the substitute for digital cameras is cameras using plain film.

- 5.1.2.2** Image Storage: Kodak manufactures floppy disks, and CD's and combines digital images on plain film negatives. There are many substitutes in this category, including: portable hard disks, USB flash drives, the IPOD, the FOCI photo safe, the Epson p-3000, portable DVRs, video eyewear, etc..
- 5.1.2.3** Image manipulation: Digital image manipulation is done using software applications and hardware (PCs). There really is no substitute for manipulating digital images. This requires software. Many software packages are available from many different sources such as Adobe, Microsoft etc. However, these companies are not substitutes but direct competitors.
- 5.1.2.4** Image Transmission: Kodak has developed several algorithms for compressing image files. These are used mainly with Kodak proprietary systems but have not become industry standards. The main substitute in this area is e-mail, which is significant because it meets all three requirements to be a threat.
- 5.1.2.5** Image Printing: This is the big money maker for Kodak – it produces quality paper, inks, printers, software and chemicals using proprietary rights, and economies of scale. Nevertheless, substitutes do exist. Some major

substitutes are one-hour photo marts, and traditional developing companies. Most developing companies now have the ability to produce quality prints from digital files using any type of memory device. These professional services do not offer the convenience of printing from home, but offer a more quality product at relatively inexpensive costs. Therefore, this substitute meets the three requirements to be a threat (price performance, switching costs and buyer propensity.)

**5.1.2.6** Document and image management: Kodak has an online digital imaging management system called Ofoto that provides online processing, online albums, storing and sharing. Many competitors exist in this arena. Flickr, SmugMug, Shutterfly, Hostway, Google, Qoop, and WalMart are just a few. Again, they all offer the same services and therefore are not a substitute. However, today many people are able to build their own Web pages with considerable memory that allows them to build and share albums with family and friends. The cost is nothing, but to do this a person must be knowledgeable in Internet protocol. Therefore, this substitute may not be too much of a threat to online digital imaging management.

**5.1.3** Complements to the digital imaging industry include:

**5.1.3.1** Internet (easy access to Internet for sharing photos increases value)

**5.1.3.2** Personal Computers (commoditization increases value)

**5.1.3.3** Longer-lasting batteries. Battery technology is getting better and better. This adds value to the digital imaging industry because it adds simplicity and convenience to digital photography.

**5.1.3.4** Phones with built-in cameras. Cell phones with cameras add value through convenience because a person only needs one device. Of course, cell phones can also be considered a substitute for a digital camera.

**5.1.4** In summary, the threat of customers using substitute and/or complementary products or devices is high.

**5.2** Threat of Entry - There are several barriers to consider, including:

**5.2.1** Product differentiation. Digital imaging and printing devices are already full-featured and span a broad price spectrum; thus, differentiation would be difficult for a new entrant. As well, there exist several other well-entrenched, large competitors, including Hewlett-Packard and Canon.

**5.2.2** Brand recognition and quality. Kodak upholds an established brand recognition and reputation for quality. As said in the case by Chief Marketing Officer Carl Gustin, "I have always said our brand is

almost bulletproof when it comes to images, to memories, to trust, reliability, family values, and more.” Additionally A new entrant would have to spend a considerable amount on marketing to gain matched brand awareness that would be at a level to affect customer loyalties to existing brands.

**5.2.3** Capital requirements, absolute cost advantages. Established companies in the industry have the advantage in these areas to the point where the barriers posed to new entrants are quite substantial. The most likely threat would be those who gain entry in only one aspect of Kodak’s diverse offerings. No name brands of 35mm film, printer paper, or free online image sharing programs may have more successes than digital cameras or other more high priced items. Many of the technologies Kodak maintains will be difficult to reproduce without an established starting point within the industry. Another barrier related to capital requirements is the amount of research that a new company would have to undertake to catch up with the industry.

**5.2.4** Patents. Kodak has hundreds of patents that create significant hurdles to entry.

**5.2.5** Retailer Agreements for Distribution. Although the Internet provides easy access, Kodak has agreements with many distribution centers such as Wall Mart, and they have many kiosks



placed all over the country. So access to distribution channels may also be considered a barrier.

**5.2.6** In summary, because of extremely high costs and existing solid brand recognition, the threat of entry by additional competitors is low.

**5.3 Industry Competition - Rivalry:** The intensity of rivalry is influenced by the following industry characteristics:

**5.3.1 Industry Concentration:**

**5.3.1.1** The Bureau of Census, US Department of Commerce, periodically publishes a Concentration Report (Bureau of Census - 2002) for major industries. The CR indicates the percent of market share held by the largest firms in a given industry. The industries listed in the CR are categorized in accordance with the North American Industry Classification System (NAICS).

**5.3.1.2** A high concentration ratio indicates that a high percentage of market share is held by the largest firms - in other words, the industry is concentrated. With only a few firms holding a large market share, the competitive landscape is less competitive (closer to a monopoly).

**5.3.1.3** A low concentration ratio indicates that the industry is characterized by many rivals, none of which has a

significant market share. These fragmented markets are said to be competitive.

**5.3.1.4** The major NAICS categories and respective CR ratios for the industries in which Eastman Kodak competes are:

325992 - Photographic Film, Paper, Plate, and

Chemical Manufacturing

Number of Companies: 382

Concentration of 4 largest companies: 78.9

8 largest 83.9

20 largest 90.6

50 largest 95.7

333315: Photographic and Photocopying Equipment Manufacturing.

Number of Companies: 412

Concentration of 4 largest companies: 80.9

8 largest: 85.0

20 largest: 90.6

50 largest: 94.5

**5.3.1.5** As the statistics above demonstrate, approximately 80% of all revenues are garnered by the top 4 companies in each of the NAICS categories in which Eastman Kodak

competes. Regardless of Kodak's ranking, any prospective rival in either of those industry categories faces daunting challenges to its ability to penetrate the market.

**5.3.1.6** Although non-North American data would not be included in the NAICS data, it would include sales of products by foreign entities anywhere in the 3 NAICS countries, thereby providing a good basis by which to compare worldwide concentration ratios. In order to make comparisons between the Census Bureau's NAICS data and that of other worldwide reporting agencies, NAICS has been correlated to the International Standard Industrial Classification (ISIC) from the United Nations and to the General Industrial Classification of Economic Activities with the European Communities (NACE) (Source: Bureau of Census - 2006).

**5.3.2** Diversity of rivals. Diversity is defined as competitors having different cultures, histories, and philosophies. Photo processing, for example, may be done by such diverse entities as those specializing in mall kiosks, online processors, or wholly digital (CD-based) outlets. Such diversity can make an industry unstable

since there is greater possibility for mavericks and for misjudging rival's moves.

**5.3.3** Product Differentiation. A low level of product differentiation is associated with higher levels of rivalry. This is true of digital cameras, where features and quality are comparable within similar price ranges. Strong brand identification, such as that of Kodak, on the other hand, tends to constrain rivalry.

**5.3.4** Excess Capacity. Excess capacity leads to industry shakeout. A growing market and the potential for high profits induce new firms to enter a market and incumbent firms to increase production. A point is reached where the industry becomes crowded with competitors, and demand cannot support the new entrants and the resulting increased supply. This situation has occurred in both the consumer digital camera market, as well as in the processing of photographs, where virtually there are numerous opportunities for consumers to have their images processed. A shakeout ensues, with intense competition, price wars, and company failures.

**5.3.5** High Exit Barriers. Exit barriers place a high cost on abandoning the product, causing a firm to remain in an industry even when the venture is not profitable. This occurred during the early 2000's with Kodak's initial entry into the consumer digital camera market.

**5.3.6** Organizational (Internal) Economies of Scale. The greater the difference between the point at which an industry's average unit

costs for production are at minimum and entry unit costs, the greater the barrier to entry. So industries with high cost efficiencies deter entry of small, start-up businesses. To operate at less than the average industry cost there must be a consideration that permits the firm to sell at a premium price - such as product differentiation or local monopoly. Within the photographic imaging and processing industries, unit costs relative to operating efficiencies are extremely low, presenting a considerable barrier to prospective rivals.

**5.3.7** Many Competing Companies. A large number of firms increases rivalry because more firms must compete for the same customers and resources. The rivalry intensifies if the firms have similar market share, leading to a struggle for market leadership. This has been particularly true in the consumer digital photographic market, where a large number of hardware and photo processing companies have saturated the market.

**5.3.7.1** With regard to Kodak's primary rivals, FUJIFILM Holdings (formerly Fuji Photo Film) and Canon top the list in the areas of photographic film, paper, plate, and chemical manufacturing, and photographic and photocopying equipment manufacturing. (Bulkeley, W. (2008)

	Kodak	Canon	FUJIFILM
--	-------	-------	----------

Annual Sales (\$ mil.)	10,301.0	34,916.8	23,595.8
------------------------	----------	----------	----------

**5.3.7.2** Kodak's main competitor in the traditional film segment is FUJIFILM Holdings. Although Kodak is straying away from traditional film towards digital imaging, it still has a strong hold on the traditional film segment.

**5.3.7.3** Kodak' toughest competition in the digital industry includes such giants as Sony and Canon. Although Kodak invented the digital camera, it has fallen behind in efficiency, profit margins, and sheer sales, as shown in the table below (ibid).

Company Revenue Earnings (2007)

Kodak \$13.3 B -\$601 MM

Canon \$35.25 B \$3.95 B

Sony \$68.42 B \$1.04 B

**5.3.7.4** Kodak is a new player in the printer industry, which is dominated by Hewlett-Packard Company and Lexmark International. Its introduction of three all-in-one (AIO) printer models, aimed at competing with HP and Lexmark, shows Kodak's determination to establish itself in this market (ibid). Kodak has also taken a different approach to pricing, hoping to shake up the competitive landscape. The printers themselves are

relatively expensive, but their ink cartridges cost around half the price that Kodak's competitors charge. Kodak's strategy relies on customers' readiness to pay a premium upfront in order to save money on future ink cartridge purchases. The pricing strategy will most likely attract consumers who print large quantities of documents and images. If successful, this pricing strategy could substantially alter pricing practices throughout the industry. It remains to be seen whether Kodak's limited product line, with its unusual pricing strategy, will be successful at stealing market share from these well-established industry leaders.

**5.3.8** Slow Market Growth. Slow market growth causes firms to fight for market share. In a growing market, firms are able to improve revenues simply because of the expanding market. Within the photographic imaging and processing industries, particularly in consumer segments, market growth is highly cyclic, relative to worldwide economic trends.

**5.3.9** High Fixed Costs. High fixed costs result in an economy of scale effect that increases rivalry. When total costs are mostly fixed costs, the firm must produce near capacity to attain the lowest unit costs. Since the firm must sell this large quantity of product, high

levels of production lead to a fight for market share and results in increased rivalry.

**5.3.10 High Storage Costs.** High storage costs or highly perishable products cause a producer to sell goods as soon as possible. If other producers are attempting to unload at the same time, competition for customers intensifies. Photographic chemicals and papers are very perishable.

**5.3.11 Low Switching Costs.** When a customer can freely switch from one product to another, there is a greater struggle to capture customers. The industries within which Kodak competes allow customers to be highly selective and fickle, since many competing products have similar features and attractive price points.

**5.3.12 Poor Market Position.** Strategic stakes are high when a firm is losing market position or has potential for great gains. This intensifies rivalry.

**5.3.13 Fluctuating Market Demand.** Market stability and changes in supply and demand affect rivalry. Cyclical demand tends to create cutthroat competition. This is true in the photographic industry in which demand fluctuates with both consumer and commercial imaging hardware and processing applications.

**5.3.14** In summary, rivalry among the current suppliers of digital imaging and processing devices is high.

#### **5.4 Bargaining Power of Suppliers**



**5.4.1** Digital Imaging business suppliers. Kodak will compete with other digital companies for several key areas of supply. These include raw materials such as plastics, paper, and other types of digital film (Brienzi, M. and Kekre, S. - 2005). The industry also receives inputs from microprocessor and other computer component manufacturers. Kodak will compete with the entire information technology industry for software engineering talent as well.

**5.4.1.1** In breaking down the raw material suppliers, it appears that they will not have significant price sensitivity because they will be supplying paper and plastics in bulk to very large companies (Kodak, Fuji, etc.). There will be a going rate for these types of suppliers. These products are not differentiated and digital imaging companies should be able to readily change suppliers. The buyers in this case will have good information about the going rates for these products, the rates should be stable and buyers should be able to expect bulk discounts. Raw material suppliers will not be integrated into the industry.

**5.4.1.2** Computer hardware component suppliers will probably have much better bargaining power than material suppliers will. Micro-processors and other related component suppliers are much lower density

operations. They should be able to establish an at-will relationship with the digital imaging companies and charge steeper prices. Products will be highly differentiated resulting in higher costs for the buyers. Vertical integration will be the most likely recourse for buyers because of this leverage.

**5.4.1.3** Software engineering labor is the other category of supplier bargaining power. Software engineering is a high demand occupation now. The going rate will be well known and companies will be forced to pay the market value to obtain high quality developers. The price of labor will most likely remain high as imaging companies compete with other IT firms for this labor pool.

**5.4.2** In summary, Kodak has considerable leverage with its suppliers, as it purchases vast quantities of paper, ink, electronic components and chemicals.

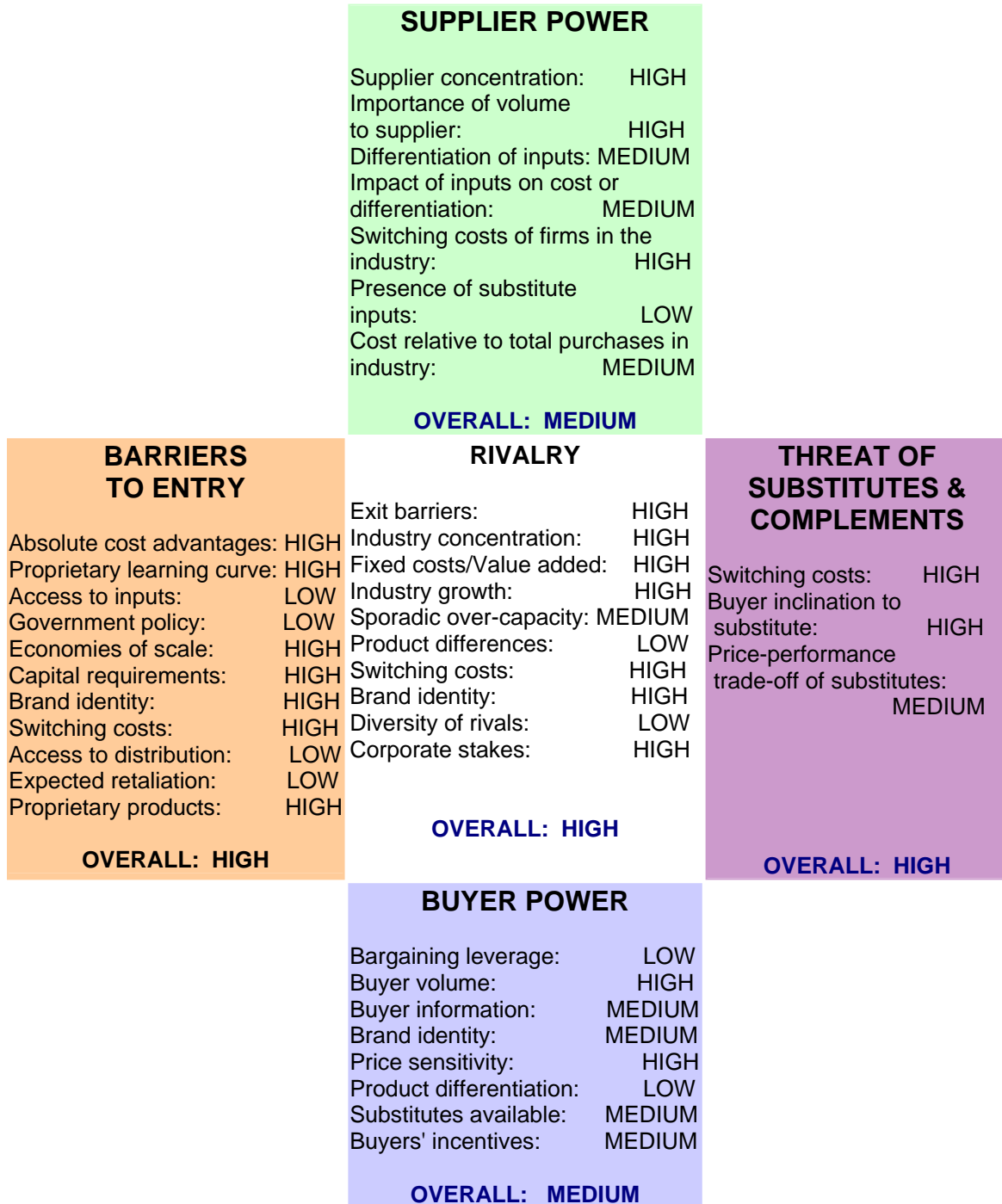
**5.5** Bargaining Power of Buyers - The strength of the bargaining power of buyers rests with Price Sensitivity and Relative Bargaining Power.

**5.5.1** Buyers' price sensitivity depends on four main factors (Grant - 2008):

**5.5.1.1** Proportion of the items cost to the total cost (the greater the importance the more people are willing to pay).

- 5.5.1.2** Differentiation - buyers are more willing to switch products based on price if there is less differentiation between the products.
- 5.5.1.3** Competition - the more intense the competition, the greater the chance for price reductions.
- 5.5.1.4** Quality - the more important buyers think quality is the less sensitive they are to prices.
- 5.5.2** Relative Bargaining Power is dependent on 3 factors (ibid):
  - 5.5.2.1** Size and concentration - the smaller the number of buyers and the bigger their purchase, the greater the cost to the company of losing one.
  - 5.5.2.2** Buyer's information - a better informed buyer has better bargaining power. However, quality plays a role in the information needed to be able to bargain.
  - 5.5.2.3** Vertical integration - if you refuse to deal with others, you need to be able to find an alternative such as producing it yourself.
- 5.5.3** In summary, buyers of digital imaging products have considerable leverage with Kodak and its competitors, as both consumer and commercial customers have a wide range of high-quality products across a broad price spectrum.

**5.6 Summary Diagram of Kodak's Competitive Position in the Digital Imaging Market:**



## **6.0 Recommended Solutions and Action Plans:**

**6.1** In order for Kodak to gain a satisfactory rate of return on its investments in digital imaging, it must cut costs and increase its market share for several of its products. The following actions are recommended:

- 6.1.1** Outsource the manufacture of digital cameras.
- 6.1.2** Implement a new, disruptive pricing strategy for its inkjet printers, selling printers at a relatively high cost with low cost replacement ink cartridges.
- 6.1.3** Reduce supplier costs through partnering, not through vertical integration. Partnering with suppliers, instead of acquiring them, would be a good way for Kodak to reduce the bargaining power of our suppliers. The costs to integrate acquired companies, both in capital and human capital, can be excessive. A supply partnership would require a more open company than previously, but could significantly reduce the Costs of Goods Sold for the imaging business.
- 6.1.4** Reduce the inventory backlog by enhancing the enterprise resource planning system to more accurately predict customer demand, and by sharing the data real time with key suppliers.
- 6.1.5** Improve supply chain efficiency, such as by using the warehousing and distributing resources of third parties (e.g., UPS or Fedex), who would act as integrator, putting the shipment together during their sort. Similarly, Kodak should use the third party shippers to

reduce inventory at the main warehouse, while making parts more readily available for service in the field.

- 6.1.6** Use on-line direct sales to the customer for retail products to project a lower competitive cost and customize products.
- 6.1.7** Investigate using offshore resources for research and development, and manufacturing.
- 6.1.8** Reduce total facility square footage by about one-third, building on current initiatives to consolidate operations and dispose of surplus assets resulting from the consolidation.
- 6.1.9** To reduce operating costs to the break-even point, Kodak would have to reduce worldwide employment by about 20 percent; improve manufacturing productivity and techniques; improve receivables performance; and reduce capital expenditures.
- 6.1.10** Divest itself of those lines of business that are severely draining talent and resources from the company's core competencies, to include imaging devices for pharmaceutical, dental and health industries.
- 6.1.11** Develop business in emerging markets like China, India, Brazil, Mexico and Russia.

## **7.0 Business Impact:**

- 7.1** In the event that the solutions recommended in the preceding paragraph are successfully implemented, it is estimated by company planners that Kodak sales of digital products will surge to upwards of \$5.7 billion (Desai, J -

2004), even as its film-based businesses continues to fall. The key: product innovation. The company has designed one award-winning breakthrough after another to make digital photography nearly as simple as pointing and clicking.

**7.2** While growth of camera sales will help offset the effects of Kodak's fast-fading film revenues, it probably will not replace the rich profits of the film business. Even the best mass-market cameras yield slim profit margins. So, although Kodak's digital camera business may be highly successful, it will probably turn out to be a profit disappointment. Product innovation alone will not be enough to bolster Kodak's shareholder value, as the company's core businesses are being disrupted by globalization, technology shifts, and new competitors. Kodak faces many of the problems and is making many of the mistakes that any company can make when so threatened. "Business model innovation is harder than product innovation. It is harder to visualize, and the scope is larger and much more complex. It includes everything the company does. Everything has to be changed," says Jay Desai (2004), chief executive of management consultancy Institute of Global Competitiveness.

**7.3** For the new service-oriented business model to work, Kodak will have to recognize that product innovation would not be entirely sufficient for it to be successful. And no longer would it try to do everything itself, through vertical integration, from manufacturing to selling finished products.

**7.4** A differentiated, disruptive model, such as selling printers at high cost with low cost replacement ink cartridges is both a threat to market-leading

incumbents and has the potential to grow the printing market and thus Kodak's revenues. However, disruptions typically take a few years to realize their full potential, and Kodak faces the risk of overreaching too quickly. Kodak has to patiently hone its new, low-cost business model, at the same time as it is innovating beyond its first generation of new products. If it can manage to do so, Kodak might actually return to printing something other than photos: Money.



References:

- Brienzi, M. and Kekre, S. (2005). How Kodak Transformed its Service Parts Supply Chain. *Supply Chain Management Review*, October 2005, 9(7) 25-32. ABI/Inform.
- Bulkeley, W. (2008). *The Wall Street Journal Online*, 22 Feb 2008 edition. Retrieved 10 March 2008 from <http://online.wsj.com/public/us>
- Bureau of Census (2002). Concentration Ratios - 2002. Tbl 2, pg 44. Retrieved 10 March 2008 from <http://www.census.gov/prod/ec02/ec0231sr1.pdf>
- Bureau of Census (2006). Economic Census Concentration Ratios - Manufacturing. Publication EC02-31SR-1 , Issued May 2006, ppg 7-11
- Desai, Jay (2004). Mistakes Made On The Road To Innovation. Business Week Online, 27 November 2004. Retrieved 13 March 2008 from [http://www.businessweek.com/magazine/content/06\\_48/b4011421.htm](http://www.businessweek.com/magazine/content/06_48/b4011421.htm)
- Grant, R. M. (2008), *Contemporary Strategy Analysis*. Malden, MA: Blackwell Publishing, ppg 163-165.
- Hoovers Online (2008). Retrieved 10 March 2008 from <http://premium.hoovers.com/library/norwich.edu/subscribe/co/industry.xhtml?ID=ffffrfhffffttfjrxy>
- International Concordances of the US Census Bureau. Retrieved 12 March 2008 from <http://www.census.gov/epcd/naics/concordances/index.html>
- Porter, Michael E. (1979). How Competitive Forces Shape Strategy: 5 Forces, a Model for Industry Analysis. *Harvard Business Review*, 1 March 1979. Retrieved 10 March 2008 from: [http://research3.bus.wisc.edu/file.php/139/Toolkit/Content/Porter\\_forces\\_3.pdf](http://research3.bus.wisc.edu/file.php/139/Toolkit/Content/Porter_forces_3.pdf)