# Case Study Crocs: Revolutionizing an Industry's Supply Chain Model for Competitive Advantage

> If the products sell extremely well, we will build more in season, and will be back on the shelves in a few weeks. And we'll build even more, and even more, and even more, in that same season. We're not going to wait with a hot new product until next year, when hopefully the same trend is alive.
>
> —Ronald Snyder, CEO of Crocs, Inc.[1]

On May 3, 2007, Crocs, Inc. released its results for the first quarter of the year. The footwear company, which had sold its first shoes in 2003, reported revenues of $142 million for the quarter, more than three times its sales for the first quarter of 2006. Net income, at $0.61 per share was more than 17 percent of sales, nearly four times higher than the previous year.[2] These results far exceeded market expectations, which had been for earnings of $0.49 per share on $114 million of revenue.[3] As part of the earnings release, the company announced a two-for-one stock split. Immediately after the announcement, the stock price jumped 15 percent.

The growth and profitability of Crocs, which made funky, brightly colored shoes using an extremely comfortable plastic material, had been astounding. Much of this growth had been made possible by a highly flexible supply chain which enabled the company to build additional product to fulfill new orders quickly within the selling season, allowing it to respond to unexpectedly high demand—a capability that was previously unheard of in the footwear industry. This ability to fulfill the needs of retailers also made the company a very popular supplier to shoe sellers.

This success also raised questions about how the company should grow in the future. Should it vertically integrate or grow through product line extension? Should it grow organically or through acquisition? Would potential growth paths exploit Crocs' core competencies or defocus them?

## CROCS, INC.

In 2002, three friends from Boulder, Colorado went sailing in the Caribbean. One brought a pair of foam clog shoes that he had bought from a company in Canada. The clogs were made from a special material that did not slip on wet boat decks, was easy to wash, prevented odor, and was extremely comfortable. The three, Lyndon "Duke" Hanson, Scott Seamans, and George Boedecker, decided to start a business selling these Canadian shoes to sailing enthusiasts out of a leased warehouse in Florida, as Hanson said, "so we could work when we went on sailing trips there."[4] The founders wanted to name the shoes something that captured the amphibious nature of the product. Since "Alligator" had already been taken, they chose to name the shoes "Crocs."

The shoes were an immediate success, and word of mouth expanded the customer base to a wide range of people who spent much of their days standing, such as doctors and gardeners. In October 2003, as the business began to grow, they contacted Ronald Snyder, a college friend, to become a consultant for the company. Snyder had been an executive with Flextronics, a leading electronics contract manufacturer, heading up the company's design division. He had extensive experience in manufacturing operations, mergers and acquisitions, and sales and marketing. When he first started consulting with Crocs, Snyder said, "I thought I would work a few hours a day. I thought it would be restful."[5] But seeing the rapid growth of the company based on word-of-mouth marketing, Snyder joined Crocs in June 2004 as its president, becoming CEO in January 2005.

When Snyder joined the company it was headquartered in Colorado, but essentially distributing shoes made by the Canadian manufacturer Finproject NA. One of Snyder's first moves was to purchase

[1] Quotations are from interviews with the authors, unless otherwise specified.

[2] Press Release, "Crocs, Inc. Reports Fiscal 2007 First Quarter Financial Results," May 3, 2007. Online at http://www.crocs.com/consumer/press_details/688244 (accessed May 4, 2007).

[3] Rick Munarriz, "Ugly Shoes, Pretty Profits," The Motley Fool, May 4, 2007. Online at http://www.fool.com/investing/high-growth/2007/05/04/ugly-shoes-pretty-profits.aspx (accessed May 7, 2007).

[4] Diane Anderson, "When Crocs Attack," *Business 2.0,* November 1, 2006.

[5] Ibid.

David Hoyt and Amanda Silverman prepared this case under the supervision of Michael Marks, Professors Chuck Holloway and Hau Lee as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

Finproject, which was renamed "Foam Designs." Crocs now owned the formula for the proprietary resin "croslite™" that gave the shoes their unique properties of extreme comfort and odor resistance. The company now also controlled manufacturing.

Snyder encouraged the company to think big. He brought in a number of key executives from Flextronics, and built infrastructure in preparation for growth. (See Exhibit 1 for Crocs executives and directors.) He also launched the product worldwide.

**EXHIBIT 1 Crocs executives and directors.**

| **Executive** | **Background** |
|---|---|
| Ronald Snyder, President, CEO, Director | With Cross since June 2004 (consultant since October 2003). Senior executive with Flextronics. Founder of The Dii Group, which was acquired by Flextronics. |
| Peter Case, SVP, Finance, CFO, Treasure | With Crocs since April 2006. Previously EVP, CFO, and treasurer of publicity held sports apparel and accessories company. |
| John McCarvel, SVP, Global Operations | With Crocs since January 2005 (consultant beginning in 2004). Previously an executive with Flextronics and The Dii Group. |
| Michael Margolis, VP, Sales and Marketing | With Crocs since January 2005. Led Crocs sales group as a consultant beginning in October 2003. Previously, founder and executive with an apparel and merchandising company. |
| **Director** | **Background** |
| Raymond Croghan | Board member since August 2004. Prior to retirement in 1999, ran a healthcare information technology consulting firm. Also on the board of several privately-held companies. |
| Ronald Frasch | Board member since 2006. Vice Chairman of Saks Fifth Avenue. Background in global retailing. |
| Michael Marks | Board member since August 2004. Member of Kohlberg Kravis Roberts & Co., a private equity firm, as a member of the firm since January 1, 2006. Chairman of Flectronics. Previously, he was with Flextronics from 1991–2005, serving as CEO and chairman. Also a director of SanDisk Corporation and Schlumberger Limited. |
| Marie Holman-Rao | Board member since 2006. Background in the apparel business, including Limited Brands, Inc., Gap, Inc., Banana Republic, and Ann Taylor. |
| Richard Sharp, Chairman | Board chairman since April 2005. With Circuit City from 1982 to 2002, serving as president, CEO, and chairman. Also a board member of Flextronics (formerly chair). And of Carmax, Inc., the nation's largest specialty retailer of used cars and light trucks. |
| Thomas Smach | Board member since April 2005. With Flextronics since 2000, as CFO, and SVP of finance. Previously SVP, CFO and treasure of The Dii Group, Inc., which was acquired by Flextronics. Also serves on the board of ADVA AG Optical Networking. |
| Ronald Snyder | President of Crocs. See background above under Executives. |

Sources: Crocs website, "Board and Management Profiles," http://www.crocs.com/company/Investor_Relations/Board_Management.jsp (April 23, 2007), Crocs Proxy, October 2006.

Snyder explained the rationale behind launching worldwide at an early point in the company's life:

> The plan was, we're going to launch the world in order to get a brand out that would be a sustainable brand with this funky looking, strange product. Other, larger shoe companies, or even larger apparel companies, could have knocked us off, and could have gone into Europe before we got there if they had infrastructure in Europe.
>
> So, being Flextronics guys, and understanding that the world is flat, and you can get everywhere fairly quickly, we said, "we need to launch the world pretty much at once." We delayed a bit in South America, but now we're there fairly strong, too. But we needed to launch everywhere in order to have us be the brand that had sustainability. That's what we've been able to pull off at this point. We were in every country you can think of before anybody else had any real capability to ship product in other countries besides the U.S. Certainly, there are knock-offs in all those other places, but they are just known as knock-offs. They are not known as originals, which is what we were hoping to achieve.

Crocs started its sales efforts on a grass-roots basis in the U.S. The company participated in many trade shows in every industry that could benefit from the product, such as garden shows, boat shows, and pool supply shows. As stores began carrying the shoes, Crocs personnel worked closely with the stores. Snyder observed, "If you just put up a rack of funny-looking shoes, I don't think they would have done anything. But we got in there with some of our own people, or our reps, and stood around and got people excited." Crocs also went to a wide range of events, such as concerts, festivals, and sports tournaments, to talk to customers about the shoes. The company took a similar approach in other countries, but the momentum generated in the U.S. helped foreign adoption.

The company initially used representatives and distributors in the U.S., but brought this function inhouse in order to control costs. In other countries, Crocs had its own sales staff wherever possible, but as of mid-2007 had some 3rd party distributors in some locations.

In addition to a popular product and a global strategy, Crocs developed a supply chain that provided a competitive advantage. Traditional industry practice was for retail distributors to place bulk orders for each season's inventory many months in advance, with little ability to adjust to changes during the selling season. The Crocs model did not impose these limitations on retailers—the company could fill new orders within the season, quickly manufacturing and shipping new product to retail stores. The traditional practice, and the Crocs supply chain will be described in detail below.

From 2003 through 2006 the company had phenomenal growth. Revenue in 2003 had been $1.2 million. By 2006, it was $355 million, with a net income of $64 million (18 percent of revemk). Crocs went public in February 2006, with an initial market capitalization of over $1 billion. After the Q1 2007 earnings release, the market cap passed $2.7 billion. Sales outside of North America grew from 5 percent of total revenue in 2005 to 25 percent in 2006. In its Q1 2007 earnings release, the company said that it expected 2007 revenue to be between $670 and $680 million. (The company had historically reported results that comfortably exceeded expectations.[6]) (See **Exhibits 2 and 3** for company financial information.) Crocs' financial performance was far superior in many respects to others in the footwear industry **(Exhibit 4).**

**The Crocs Shoe**

The original Crocs shoe was a clog design. Visually, its two most distinctive features were large ventilation holes and bold colors. The key to the shoe, however, was the croslite material. This proprietary closed-cell foam material molded to the shape of the wearer's foot, providing an exceptionally comfortable shoe. It was extremely light, did not skid, was odor resistant, and did not mark surfaces. It could also be washed with water. Croslite could be produced in any color, and the company chose bold colors (described by some as "crayon" colors) which further enhanced the distinctive, funky look. Crocs shoes generally sold for about $30—which was not marked down, as retailers found they did not need to unload excess inventory through clearance sales at the end of a selling season.

As Crocs grew, it added additional shoe designs. The two original models, Beach and Cayman, accounted for about 62 percent of footwear sales in 2006.[7] These two models also formed the basis of some of the other Crocs models. By April 2007, the company had a wide range of shoes and other products. Its website showed 31 basic footwear models, ranging from sandals to children's rain boots to shoes designed for professionals, such as nurses, who had to stand all day. Some of its shoes were made under a license agreement with Disney, and incorporated Disney characters. In addition, Crocs offered four models of shoes (CrocsRX) that were

[6] Munarriz, loc. cit.

[7] Crocs Form 10K for 2006, pp. 15–16.

**EXHIBIT 2 Crocs' financial performance through 2006.**

All amounts in $ millions, except as noted.

| | 2006 | 2005 | 2004 | 2003 | 2002 |
|---|---|---|---|---|---|
| Revenue | 354.7 | 108.6 | 13.5 | 1.2 | 0.0 |
| Cost of goods sold | 154.2 | 47.8 | 7.2 | 0.9 | 0.0 |
| Gross profit | 200.6 | 60.8 | 6.4 | 0.3 | 0.0 |
| Gross profit margin | 56.5% | 56.0% | 47.0% | 23.3% | 33.3% |
| SG&A expense | 97.2 | 30.6 | 7.2 | 1.4 | 0.5 |
| Depreciation & amortization | 8.1 | 3.3 | 0.7 | 0.1 | 0.0 |
| Operating income | 95.3 | 26.9 | (1.6) | (1.2) | (0.4) |
| Operating margin | 26.9% | 24.8% | — | — | — |
| Net income after taxes | 64.4 | 17.0 | (1.5) | (1.2) | (0.4) |
| Net profit margin | 18.2% | 15.6% | | | |
| Geographic distribution of revenue (% of total) | | | | | |
| North America | 265.5 (75%) | 102.8 (95%) | 13.5 (100%) | | |
| Asia | 54.4 (15%) | 4.7 (4%) | — | | |
| Europe | 30.3 (9%) | 1.0 (1%) | — | | |
| All Other | 4.6 (1%) | 0.1 | — | | |
| Shoes as percent of total revenue | 96% | 94% | 81% | | |

Selected Balance Sheet Items
(Calendar year end, all values in $ millions)

| | 2006 | 2005 | 2004 | 2003 |
|---|---|---|---|---|
| Cash | 71.2 | 37.8 | 6.9 | 0.5 |
| Net receivables | 69.3 | 20.0 | 3.3 | 0.2 |
| Inventories | 86.2 | 28.5 | 2.4 | 0.4 |
| Net fixed assets | 34.8 | 14.8 | 3.7 | 0.3 |
| Accounts payable | 71.2 | 37.8 | 6.9 | 0.5 |
| Short-term debt | 0.5 | 8.5 | 1.0 | — |
| Long-term debt | 0.1 | 3.2 | 1.4 | — |

Sources: Hoovers. Product and geographic distribution of revenue from Crocs Form 10K for 2006, pp. F-27, 28.

**EXHIBIT 3 Financial results, Q1 2007.**

The following results were released May 3, 2007, for the quarter ended March 31, 2007 (dollar values in millions, except as otherwise stated):

| | Q1 2007 | Q1 2006 | % Change |
|---|---|---|---|
| Revenues | 142.0 | 44.8 | 317% |
| Gross profit | 84.4 | 23.7 | 356% |
| Gross profit (% of sales) | 59.4% | 52.9% | |
| SG&A expenses | 47.3 | 13.7 | 345% |
| Net income, after tax | 24.9 | 6.4 | 389% |
| Net income (% of sales) | 17.5% | 14.3% | |
| Net income per share, diluted | $0.61 | $0.17 | 359% |

Source: Crocs Press Release, May 3, 2007, loc. cit.

**EXHIBIT 4 Industry comparisons.**

Comparisons of Crocs with companies selected as "best of group" and industry median.

| | Crocs | Deckers Outdoor | Nike | Timberland | Industry Median |
|---|---|---|---|---|---|
| Annual sales ($ million) | 355 | 304 | 14,955 | 1,568 | |
| Market capitalization ($ million) | 2,102 | 897 | 10,065 | 1,306 | |
| Profitability | | | | | |
| Gross profit margin | 56.5% | 46.4% | 43.7% | 47.3% | 24.5% |
| Pre-tax profit margin | 27.2% | 17.8% | 13.1% | 10.4% | 3.2% |
| Net profit margin | 18.2% | 10.4% | 8.7% | 6.8% | 2.7% |
| Return on equity | 56.7% | 16.1% | 21.6% | 19.5% | 15.5% |
| Return on assets | 34.1% | 13.7% | 14.4% | 13.0% | 3.4% |
| Return on invested capital | 51.1% | 15.9% | 18.4% | 19.0% | 4.7% |
| Operations | | | | | |
| Inventory turnover | 3.5 | 5.0 | 4.3 | 4.7 | 5.6 |
| Receivables turnover | 8.0 | 6.0 | 6.5 | 7.4 | 6.6 |
| Valuation | | | | | |
| Price/Sales ratio | 5.9 | 3.0 | 1.3 | 0.8 | 0.8 |
| Price/Earnings ratio | 30.4 | 28.3 | 20.0 | 15.3 | 20.1 |
| Price/Cash flow ratio | 170.3 | 18.5 | 14.1 | 11.7 | 10.6 |
| Growth | | | | | |
| 12 month revenue growth | 227% | 15% | 8.8% | 0.1% | 7.5% |
| 12 month net income growth | 280% | (1.0%) | 0.4% | (35.3%) | 53.2% |
| 12 month EPS growth | 239% | (2.3%) | 2.9% | (31.5%) | 50.0% |

Source: Hoovers Online Competitive Landscape (April 27, 2007). Crocs growth numbers are for calendar years 2005 and 2006. Crocs inventory turns from Crocs.

designed to meet the special needs of those with medical problems that affected the feet, such as diabetes. The company offered 17 models of collegiate models that were made in school colors, with the school logos. Universities such as USC, UCLA, Notre Dame, Cal, and Ohio State participated in the program. (By the start of the 2007/8 academic year, Crocs expected to include many other institutions in its catalog of university logo shoes.) Crocs sponsored the AVO beach volleyball tour, and offered two models with the AVP logo.[8] (See Exhibit 5 for photos of selected Crocs products.)

While shoes comprised 96 percent of company revenues in 2006.[9] Crocs also branched out into other accessory products, such as caps, shirts, shorts, hats, socks, and backpacks. It had products such as kneepads and kneelers that utilized croslite to provide functionality. It also sold decorative inserts that could be put into the shoe ventilation holes, originally made by a family-owned company (Jibbitz) that Crocs purchased in December 2006.

[8] Product links from Crocs homepage: http://www.crocs.com/home.jsp (Accessed April 24, 2007).

[9] Crocs Form 10K for 2006, p. F-27.

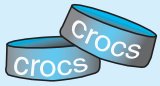
Crocs made other acquisitions in 2006 and early 2007 in the sports protection equipment and apparel market, and in action footwear. These acquisitions further broadened the company's product line, and introduced products that incorporated conventional materials such as leather. (See Exhibit 6 for a list of Crocs acquisitions.)

**Producing a Crocs Shoe**

The raw materials for the croslite in Crocs shoes are relatively inexpensive chemicals purchased in pellet form from suppliers such as Dow Chemical. These chemicals are then combined in a process called "compounding," in which they are converted into a slurry, mixed, and then reformed into new pellets. As part of the compounding process, color dyes are added. The compounded pellets are then ready to be molded into croslite products.

Croslite components for Crocs products are made by injection molding. This requires an injection molding machine, and molds for each style and size. After the parts are molded, they must be assembled. This might involve gluing croslite parts together, or stitching, in the case of components made of leather, canvas, or other materials which had been added to

## EXHIBIT 5 Selected Crocs products.

| | | |
|---|---|---|
|  <br>**beach**<br>**Beach was the company's most popular model. Beach and Cayman accounted for 62 percent of 2006 shoe sales.** |  <br>**cayman**<br>**Beach and Cayman were the first two Crocs products, and formed the basis for some other shoe models.** |  <br>**disney beach**<br>**Disney beach was a version of the Beach model produced under license from Disney.** |
|  <br>**professional**<br>**Professional was intended for people such as nurses who spent all day working on their feet.** |  <br>**jibbitz**<br>**Jibbitz were used to customize Crocs shoes by filling the ventilation holes in the shoes.** |  <br>**kneepads**<br>**Crocs produced items such as kneepads that took advantage of the properties of croslite.** |
|  <br>**crocs 1" wristband**<br>**Crocs offered branded accessories such as wristbands, caps, and socks.** |  <br>**cloud**<br>**Cloud was designed to meet the special needs of diabetic patients.** |  <br>**block letter t-shirt**<br>**Crocs offered a range of shirts and shorts.** |

Source: Crocs website (www.crocs.com, accessed April 23, 2007). Images © Crocs, Inc., reprinted with permission.

## EXHIBIT 6 Crocs acquisitions, 2004–2006.

| Acquisition, Date Acquired, Purchase Price[2] | Description |
|---|---|
| Foam Designs (formerly Finproject NA)<br>June 2004 | Original manufacturer of Crocs products and owner of croslite intellectual property. |
| Fury (formerly 55 Hockey Products)<br>October 2006[1] | Manufacturer of hockey and lacrosse products. Crocs developing protection gear based on croslite, which offers low weight, energy absorption, and microbial resistance. |
| EXO Italia<br>October 2006[1] | Designer of ethylene vinyl acetate (EVA) products, primarily for the footwear industry. |
| Jibbitz<br>December 2006<br>$13.5 million | Family owned company specializing in colorful snap-on products designed as accessories for Crocs footwear. |
| Ocean Minded, LLC<br>January 2007<br>$1.75 million plus potential earn-out of up to $3.75 million. | Designer and manufacturer of high quality leather and EVA based sandals for the beach, adventure, and action sports markets. Uses recycled and recyclable materials whenever possible. Products target young men and women who want high quality fashion sandals with an emphasis on style and comfort. |

Notes
1. The aggregate purchase price for Fury and EXO Italia was $9.6 million.
2. Purchase prices include acquisition-related costs.

Source: Crocs Form 10K for the year ending December 31, 2006, pp. F-11, F-12, F-30.

the Crocs product line in late 2006 and early 2007. The finished products are then tagged and placed in boxes containing 24 pairs of shoes for distribution to retailers. Standard industry practice was for each pack of 24 to contain only one style and color. Crocs, however, would custom configure 24-packs to meet the needs of its smaller customers.

## CROCS REVOLUTIONIZES THE FOOTWEAR SUPPLY CHAIN

The footwear industry was oriented around two seasons—spring and fall. The standard practice was for footwear companies preparing for the upcoming fall season to take their products to shows around the world in January. Buyers would book orders for fall delivery following these shows ("pre-books").

The fall orders that were received at the beginning of the year would be planned for delivery in August, September, October, and November. These scheduled shipments would drive the production plan. The manufacturers would add some excess to the build, typically about 20 percent of the pre-booked orders, to take advantage of potential additional orders. A very aggressive company might add 50 percent to the build, but all the product would be manufactured before the season began. Most shoes were produced in Asia (primarily China and Vietnam), with some manufactured in South America.

This production and supply model had obvious limitations. Retailers had to estimate what their customers would want well in advance of the selling season. If they underestimated, they would have empty shelves and forego potential sales. If they overestimated, they would be stuck with unsold stock at the end of the season and be forced to have clearance sales in order to get rid of this excess stock at discounted prices. Making this even more difficult was the consideration that fashion was subject to trends that were difficult to predict—history was of only limited value, particularly with new products that incorporated novel design elements that might either become wildly popular or fall flat.

### The Crocs Supply Chain

Crocs looked at the supply chain from a very different perspective than traditional shoe companies. Coming from their electronics contract manufacturing backgrounds, Snyder and other key Crocs executives were accustomed to producing what the customer needed, when it was needed, and responding rapidly to changes in demand. They decided to develop a model focused on customer needs—when a customer needed more product, they would get it. Snyder described the new model as follows, "If the products sell extremely well, we will build more in season, and will be back on the shelves in a few weeks. And we'll build even more, and even more, and even more, in that same season. We're not going to wait with a hot new product until next year, when hopefully the same trend is alive."

Under the Crocs model, retailers would not need to take a big risk in January by placing large orders for their fall season—they could place smaller pre-booked orders, and order more when they saw how well the products sold. Traditionally, customers had to guess which products would be hot, and could not get more of a product that was in higher demand than they had guessed (and take the risk of end-of-season sales to unload excess inventory at reduced prices). Crocs wanted customers to be able to get more of a product during the season in order to take advantage of unexpectedly high demand. To do that, Crocs would have to be able to make the products during the season, and ship them to customers quickly. One analyst remarked, "They've surprised everybody. Their replenishment system is unheard-of in the retail footwear space."[10]

The positive relationship that Crocs developed with its retailers resulted in additional benefits. As Crocs became important to big retailers, they approached Crocs to suggest increasing the Crocs presence. Snyder described one large retailer who said: "Bring us new products, bring us apparel, accessories, T shirts, socks, hats, Jibbitz, and we'll give you a whole area that will be dedicated to the current Crocs offerings and any new stuff you come out with." Snyder observed, "Once you have retail space, it's pretty valuable."

### Developing the Crocs Supply Chain

*Phase One: Taking over Production* As mentioned earlier, one of Snyder's first moves was buying the manufacturer of Crocs shoes (Foam Designs) in June 2004 so that it could own the proprietary croslite resin and control manufacturing. At that point, Crocs purchased the raw material pellets from a variety of companies in Europe and the United States, and shipped them to a third-party compounding company in Italy. The Italian company had been the parent of Foam Designs, and had previously done the compounding, so continuing to use them for this function avoided supply chain interruptions.

[10] Jim Duffy of Thomas Weisel Partners, quoted in Anderson, loc. cit.

The compounded, colorized pellets were then shipped back to Foam Designs in Canada, where shoes were molded and assembled. The finished products were then shipped to a third-party distribution company in Denver that warehoused the shoes, and packaged and shipped them to customers.

*Phase Two: Global Production Using Contract Manufacturers* Crocs started production in China in early 2005, using a large contract manufacturer. The raw materials were still being sent to Italy for compounding, but the compounded pellets were now sent to both Canada and China. The shoes that were made in China were shipped to the Denver warehouse for packaging orders and distribution.

Crocs began to enter the Asian and European markets in the spring of 2005. As described earlier, the company's strategy was to launch worldwide, so it brought on manufacturing capacity to support this approach. It added capacity through contract manufacturers in Florida, Mexico, and Italy (due to the local presence of the compounding company).

Coming from the contract manufacturing business, Snyder and his team expected that the benefits of contract manufacturing they had experienced in the electronics industry would also be present in this new business. Electronics contract manufacturers in all parts of the world were highly responsive to customer demands, and quick to increase or stop production as required. They soon found that this was not the case with footwear manufacturing. Snyder explained:

> We realized very quickly that third party [manufacturers] with our new model weren't going to work [outside of Asia]. Third parties in Asia are absolutely great. They are very flexible. They can be both flexible and high volume. They move very quickly. They [contract manufacturers] take risks with us, where they buy equipment. They invest in helping us grow the business. No [third party manufacturers in] other countries were willing to even entertain that. We'd have to give them long term forecasts, long term contracts, we'd have to sign away the next few kids. Nothing was good about using contractors in any other part of the world, to be honest. . . .
>
> [Third party manufacturers outside of Asia] would want to know what we're shipping four months from now, not next week. We were telling them, "no, we actually need you to change tomorrow, and start shipping different stuff next week, if that's what's required, since that's our model." [And they said,] "Oh no, no, we can't do that!"

*Phase Three: Bringing the Global Supply Chain In-House* When Snyder realized that contractor manufacturers outside of Asia would not be able to adopt the company's supply chain model, he developed company-owned manufacturing operations in Mexico, and Italy. Crocs set up a manufacturing operation in Brazil that was scheduled to open by the end of June 2007. It was also exploring potential manufacturing sites in India, and expected to start production there by the end of the year.

Crocs had used a contract manufacturer in Romania to serve European customers, and considered several options to replace the contractor, including: buying the contractor, setting up a new facility in Romania, or looking elsewhere. They were approached by a company in Bosnia that made shoes for Nike, and seemed to understand the Crocs model. The two companies agreed to an arrangement whereby Crocs owned the molding equipment and molds, using the contract company's personnel for labor. If this approach did not meet Crocs' requirements for flexibility and rapid response to demand, it would move to an entirely company-owned manufacturing facility.

The Chinese contract manufacturer, who could meet Crocs' needs for flexibility and responsiveness, was maintained. (In 2006, 55 percent of Crocs' unit volume was produced in China[11]) Crocs also kept the Florida contract manufacturer, who was only making one high volume product, and could ship with a Made in USA label, and continued to manufacture in Canada.

While manufacturing in each geographic region added both capacity and the ability to respond to local customers, having the compounding done in Italy led to supply chain inefficiencies. Compounded material had to be sent from Italy to each production site, in the correct amounts and colors. This resulted not only in inefficient shipping of materials around the world, but also reduced manufacturing flexibility in each location, since they could only process the colors that they had in stock. The raw materials were inexpensive, so centralizing compounding did not result in significant savings through inventory consolidation.

In 2006, Crocs took control of the compounding activity, creating state-of-the-art compounding facilities in Canada, China, and Mexico. Crocs could now ship raw materials to each of these plants. The plants could compound material as need for production, delaying the colorizing decision until a

[11] Crocs Form 10K for 2006, p. 8.

specific color product was needed. Snyder described the results:

> We can get an order now, and we don't even have to make the compound and colorize it yet, and we can ship it in two weeks. So now the model is starting to really take shape, where we don't have to take risks on even color compound at this point. Now we have that in place, which makes a huge difference.

Moving compounding in-house also provided IP protection for the croslite compound.

Crocs also changed its warehousing model. The company had used a contract warehousing and distribution firm in Colorado to handle all its shipments. All production came to the contractor's Colorado warehouse in bulk, where every shoe was removed and labeled, then warehoused. Customer orders were then filled from this central warehouse. This arrangement was inefficient, since bulk orders from large customers could have been shipped directly from the factory to the customers if warehousing and distribution had been located near each factory.

To address these problems, the company added warehousing operations to each factory, including labeling and other value added activities such as installing hand tags and putting products into bags or boxes. For customers that ordered large quantities, such as Nordstrom, Dillard's, or Dick's Sporting Goods, the orders could be shipped directly from the Chinese warehouse. The Chinese warehouse was owned by one of the Crocs suppliers, but run by Crocs' personnel and Crocs' systems. Other warehouses were owned by Crocs, or being transitioned to Crocs ownership (as in the case of Japan). The intent was for Crocs to control order fulfillment activities in Asia.

Crocs had a similar experience with warehousing contractors as it had with contract manufacturers. The company had tried using a number of third party warehousers, in the U.S. and elsewhere. Crocs found that these companies did a good job for a short time, but soon lost interest. As Snyder noted, "We don't lose interest in our own stuff," leading to the decision to have the company take control of warehousing.

**Additional Considerations and Benefits of the Crocs Supply Chain Model**

*Small vs. Large Retail Customers* Crocs' early sales were to small retailers. These stores were willing to take more risk than the large chains, and work with a new, rapidly growing supplier—particularly one that provided a high level of support and rapid shipment of product. Small stores were willing to work with Crocs through problems such as stockouts and shipment delays—large retailers generally imposed financial penalties for such problems. Crocs saw the small retailers as important to building the brand, and providing a brand presence, even after the majority of sales went to large retailers.

After Crocs' initial success in small stores, large retailers approached the company. Since the large retailers had seen the market acceptance of the Crocs shoes, Crocs was in a much stronger negotiating position than it would have been earlier in its development—it could negotiate favorable terms, which did not include the financial penalties that would previously have been required. By mid-2007, about 75 percent of revenue came from large retailers, split approximately evenly between shoe stores, department stores, and sporting goods stores. The rest of the revenue came from a large number of small shops representing many different segments such as gift shops, bicycle retailers, specialty food retailers, health and beauty stores, surf shops, and kiosks. These small shops accounted for a much larger percentage of orders (although at much lower dollar levels) than the large retailers, requiring a different approach to distribution.

To meet the needs of small customers, product would be shipped to the company-owned warehouse in Colorado, where the orders were configured and shipped. Snyder explained the company's approach to fulfilling orders for these customers as follows:

> We had to be able to service that customer base [small retailers], because it was a pretty big chunk of our business. Those guys could never take stuff direct from the factory. So, we felt we still needed to have a warehouse for quick shipments for the big guys and refills for the small independents that don't have the warehousing capabilities that the larger guys would have. And almost none of them have distribution centers, of course—we ship direct to their shops. So, we still need the Denver operation which ships about half of our product now.

While these stores might send orders to Crocs by fax for small quantities to be delivered directly to their stores, the large retailers had an entirely different fulfillment model. These companies had their own distribution centers, and sent orders electronically. Their orders were packed and shipped from the Crocs factories to the customers' distribution

center. The customer would then ship it to the appropriate retail store.

*Dealing with Explosive Growth* The Crocs supply chain was able to support the company's explosive growth, enabling the company to ride the wave of customer enthusiasm for its products. For instance, Snyder described a new flip-flop sandal that was introduced in 2006. This was Crocs' first product in this segment, and the company did not know how many would be purchased. Since it was unique and extremely comfortable, they decided to make 250,000 pairs—far more than they had pre-booked orders for, and perhaps as many as any model selling in that category in the world.

Early in the selling season, there were indications that the new flip-flop was going to be even more popular than they expected, so Crocs made sure that it had excess injection molding machine capacity and molds available. It continued to get orders, and build more product to meet the new orders. By the end of the season in September, they had shipped nearly 2.5 million pairs—more than 10 times what they would have shipped if they had operated under the traditional model of making all of a season's production prior to the season based on pre-booked orders.

The primary requirements for adding capacity were having enough injection molding machines, and having enough molds for the desired product. Crocs purchased molding machines from two primary suppliers, who could initially deliver new machines in about three months. However, as the suppliers observed Crocs' rapid growth, they managed to have new machines available sooner—by April 2007, the company could generally get them within six weeks. Molds generally started to arrive in about six weeks, but it would be about three months before Crocs would have a full set of all sizes.

Crocs would move equipment from one location to another to better meet its production needs. Molding machines were not transferred often, but when they were, the company tried to have machines from just one vendor at each site. Molds, however, were frequently transferred between production locations. If they needed fast response to meet a growing demand in the U.S., they might move production to Mexico, which was closer to the customers.[12] For products with lots of pre-booked orders, a relatively dependable forecast, and high volume, production might be shifted to China.

As part of a licensing agreement with Disney, Crocs introduced a shoe with a Mickey Mouse head replacing a Crocs hole. The product was very popular, and the company decided it needed production flexibility, so it moved molds to Mexico to meet U.S. demand. However, product destined for Asian customers was made in China, and product going to European customers was made in Europe.

In order to be able to respond immediately to increases in demand, Crocs kept total manufacturing capacity at about 1 million pairs per month beyond the actual production plan. This capacity could be turned on at a moment's notice. The company also planned its infrastructure (both systems and people) slightly ahead of demand, so that it could respond quickly. In marketing, it spent according to what it could afford—when sales went up, it increased marketing spending. Consequently, it had ad campaigns ready to go within a week if the business took off enough to support added spending.

*Shifting Production to Reduce Duty Payments* The footwear industry was subject to considerable duties. For instance, the U.S. imposed duties on all of Crocs shoes coming from China, with tariffs ranging from 3 to 37.5 percent depending on the materials in the shoe. Shoes that were entirely molded had a low tariff, while those which used leather or other materials would have a high tariff.[13] On the other hand, under the North American Free Trade Agreement, Crocs paid no duty for products made in Mexico and shipped to the U.S. There were trade agreements between many countries that allowed duty-free shipments—for instance, there was no duty on Mexican shoes sold in Europe.

The duty situation was considered from the early stages of new product development. The operations people would tell the designers what duty costs would be incurred based on the materials in the new product. They would also look at the processes needed to make the new product. This would be included in the product strategy. If a Chinese-produced product had a high tariff, they would consider

[12] If a style failed in the marketplace (which had not yet happened as of April 2007), molds could be reworked to make different styles.

[13] The tariff classification was extremely difficult to determine. Crocs submitted models to the customs, authorities for a ruling. If they believed that a product was put into a category with too high a tariff, they would appeal. To get a sense of the complicated nature of the tariff classifications, see: United States International Trade Commission, "Harmonized Tariff Schedule of the United States (2007)(Rev. 1) Section XII, Chapter 64," http://hotdocs.usitc.gov/docs/tata/hts/bychapter/0701c64.pdf (May 7, 2007).

production in a low-tariff location. However, if the product required production processes that were not yet available in the low-tariff country, those processes might be developed as part of the new product plan. Crocs might also make a high-tariff shoe in China at the start, with a plan to reduce costs later by moving the production.

The Canadian manufacturing operation was retained in part because of duty considerations. For instance, Canada and Israel had a duty-free relationship. Crocs shoes were extremely popular in Israel, having sold 1.2 million pairs in the country in 2006. (The Canadian operation was also very helpful in selling within Canada, as the Made in Canada label provided an important marketing advantage.)

*New, More Complicated Products In* 2007, Crocs was expanding its product lines beyond croslite molded shoes. In part due to its February 2007 acquisition of Ocean Minded, it was starting to make shoes with uppers made of leather and other conventional footwear materials, with croslite used for the shoe soles. This introduced additional complication into the production process. Leather and other materials were also more expensive than croslite.

Even with a more complicated production process, Crocs intended to apply the same fast-response model it had brought from Flextronics and had optimized for molded shoes. Snyder commented:

> Now, it does become more complex—people could throw darts at this thing by saying "but they only make injection molded shoes, so they have an advantage over other shoe manufacturers out there." Yes, we certainly did. But now we've got the same model going for more standard shoes, where it might have a croslite bottom, and it would have more standard uppers—it might have canvas, leather, suede, whatever. But we still are using the same model, where if something is popular, hot in the season, we are going to be able to make more. It may not be as much in the first year, as the extra 2 million we did of the sandal, but even the sandal was a difficult process. It wasn't just molding. It had gluing and everything involved.
>
> But the model is still there. We are not going to say "no" to a demand of a very popular new product. That's going to be our model going forward, and we still have a lot of room to get better in our flexible manufacturing sites. We are continuing to do things in Mexico and Canada and in Europe to make those even more flexible to be able to get stuff to the market faster than the 2, 4, 6 weeks, whatever it would take now depending on the capacity or the demand at a given factory.

*Introducing New Products* In its first few years of sales, Crocs observed that all products sold equally well in each market around the world. This provided an attractive opportunity. A new shoe model could be tested in the spring/summer season in the southern hemisphere, and the results could be used to indicate how it might be accepted in the U.S. and Europe. If the product was a huge hit, production could be planned accordingly for the northern hemisphere launch. On the other hand, if the product sold slowly, those not bought in the southern hemisphere could be sold in the northern hemisphere for its spring/summer season.

Snyder elaborated:

> Now we're in a situation where we can bring out new products that might have more complexity in the supply chain—more leather and more other types of materials, grommets, sewing machines, whatever is required. We can now launch those into half of the countries, still be aggressive with our build, still build much more than the pre-books, thinking that a given product is going to be hot. Suppose we launch a product in North America first. We've got other seasons coming along in other parts of the world, and we've got another 10–15,000 stores we can launch this particular new product into very quickly. So, we don't take a huge risk by doing that. We don't take a huge risk by ordering extra raw materials, and even building up extra shoe stock as we launch a new product. If it sells out in the U.S., we build more, and if all that sells out in the US, that's OK—we'll launch in Europe or Asia the next year.

*Supply Chain Planning* As of mid-2007, Crocs was using a home-grown database system for planning that had evolved over time. However, it was in the process of bringing up a commercial enterprise resource planning system. They had launched the inventory module, which allowed them a global view of inventory, and provided information for the planning system. The new planning system was being brought online.

Crocs had planning people in the U.S., Asia, and Europe. Each country had to generate its own requirements plan, but there was also a global planning activity for each model type. The global planning personnel worked with the local staff on the requirements for each market.

Product planning was based on pre-books for each model, as well as information on what retailers were picking up the model. Crocs analyzed the expected sales of each model, but built the actual

product after it could see the demand hit to avoid ending up with unsold inventory.

While Crocs did not build inventory in excess of expected orders, the company did acquire excess capacity (sometimes as much as 2 to 3 times the expected capacity) in the form of molds and molding machines so that it could quickly ramp capacity in case a product took off.

## MOVING INTO THE FUTURE

Crocs had been enormously successful from its first sales in 2003 through the first quarter of 2007. It had developed a supply chain that was revolutionary in the industry, and had been a critical factor in this success. It had products that were very popular in the marketplace. It had positive relationships with its retail customers. How could it best build on its success?

## Discussion Questions

1. What are Croc's core competencies?
2. How do they exploit these competencies in the future? Consider the following alternatives:
   a. Further vertical integration into materials
   b. Growth by acquisition
   c. Growth by product extension
3. To what degree do the alternatives in question 2 fit the company's core competencies, and to what degree do they defocus the company away from its core competencies?
4. How should Crocs plan its production and inventory? How do the company's gross margins affect this decision?