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LEGO (A): The Crisis

In late 2004, Jørgen Vig Knudstorp faced the toughest challenge of his young career. A mere thirty-six years old, Knudstorp had recently been named CEO of the LEGO Group – a long successful toymaker with a world-renowned brand, but a company suddenly on the brink of financial collapse (**Exhibit 1**). If Knudstorp failed to make the right decisions, and fast, the LEGO Group would likely slip from the hands of its founding family and be swallowed up by one of the giant conglomerates that increasingly dominated the toy industry.

Hard decisions faced Knudstorp at every turn. Should the LEGO Group fall back to the plastic-brick product lines that defined its past, or should it continue into the new product lines that many considered its future? Within the plastic-brick arena, should the company continue to make most of its own products, or should it shift to a contract manufacturer? Why was the Group running out of some products and awash in inventory of others? Why had complexity and costs risen so dramatically and made so many products unprofitable? Indeed, why was Knudstorp struggling to figure out which products were truly unprofitable and which made money?

The Toy Industry

As Knudstorp reflected on the LEGO Group's crisis, he considered the evolution of the global toy market. The industry booked wholesale revenues of $61 billion in 2004. The retail market for toys grew at a steady pace of about 4% per year, but demand for specific fad toys could surge or collapse rapidly.

Industry observers noted a few important trends. First, fad toys seemed to be rising and product life cycles declining, perhaps not surprising for an industry, as one journalist put it, "subject to the whims of [kids] who can't decide which shoe to put on which foot."[1] Second, in many parts of the world, children had more after-school activities and less unscheduled time to play than in the past. Third, for kids over three years old, demand had shifted toward technology, either in a toy itself or in the form of toys coming with access codes to online worlds.[2] As children gave up traditional toys earlier for videogames and online activities, childhood became shorter and adolescence longer. Parents were often torn between buying the toys their kids wanted and those they considered good for their children.

Professors Jan W. Rivkin and Stefan H. Thomke and Europe Research Center Assistant Director Daniela Beyersdorfer prepared this case. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

Thousands of toymakers served the world market, but increasingly, a handful led the industry. Mattel, the world's leading toymaker by revenue ($5.1 billion in 2004), featured brands like Fisher-Price, Barbie, Hot Wheels, and American Girl dolls.[3] Hasbro, the second largest player ($3.0 billion), housed brands such as Transformers, Monopoly, GI Joe, Play-Doh, and Playskool. To win consumer attention, retail shelf space, and sales, toymakers introduced new products, cut their wholesale prices, sponsored cooperative ads and promotions with retailers, provided in-store support, and advertised to consumers. The impact of new product introductions was muted by rapid imitation and limited protection of intellectual property. To boost brand presence among consumers, toymakers often licensed characters from media companies. Mattel, for example, was the "favored creator of toys based on Disney and Pixar characters."[4]

Toymakers increasingly manufactured in Asia, where labor was inexpensive and subcontractors stood ready to produce goods on their behalf. The majority of toys sold in the U.S., for instance, were manufactured in China by outside contractors, while global players such as Hasbro specialized in new product development, sales, and marketing.

Toymakers went to market via diverse retail channels, including independent toy specialists, chain stores, discount stores, department stores, and online stores. In choosing among toys to stock their shelves, retailers focused on profit per square foot and consequently considered margin, turn, and product space requirements. In a highly seasonal business in which consumers bought a large fraction of their toys during the holiday season, retail purchasing occurred mainly in the second half of the year.[5] Retail competition had heated up in recent years. In the United States, for instance, pressure from the likes of Wal-Mart and Target had driven Toys R Us, the nation's largest toy chain, to hire investment bankers to review its "strategic alternatives" in 2004.

Building the LEGO Group (1916-1992)

To the toy market, the LEGO Group brought a heritage that reached back to 1916, when Ole Kirk Kristiansen, a humble carpenter, bought a wood workshop in the rural Danish village of Billund and began to build houses and furniture for farmers. In 1932, he added wooden toys to his production and chose the name LEGO, formed from the Danish words "LEg GOdt" ("play well"). Only later did he learn that in Latin "lego" meant "I assemble." Aiming for quality, he wrote on his wall, "Only the best is good enough."

Ole's son Godtfred started working in the business in 1932 at age 12. In 1947, the firm became the first in Denmark to buy a plastic injection-molding machine. By 1949, its portfolio had grown to 200 plastic and wooden toys, including the automatic binding brick, a forerunner of the modern LEGO brick. In 1954, during a ferry ride to England, a purchasing agent complained to Godtfred that toy departments were a mess: toys lacked a systematic organization. The comments moved Godtfred to consider a "LEGO system of play." Such a system began to form in 1958, when the company changed the design of its bricks to match its current form. When a fire destroyed the LEGO Group's wooden warehouse in 1960, Godtfred discontinued wooden toy production. Knudstorp reflected:

> Godtfred Kirk Christiansen bet the whole farm on one-third of his business, plastic toys, and not just any toy – the brick. Godtfred Kirk Christiansen felt he had stumbled onto something unique with this brick. You can build anything out of it. It doesn't fall apart when you throw it around. And you can add to this system forever as it allows you to create a new toy every day, make endless variations, thereby inspiring and challenging a child's imagination and creativity. Godtfred Kirk Christiansen realized that in this system, the value of play expands exponentially the more elements you have.

In 1963, Godtfred laid out ten principles of "good play" that defined LEGO product characteristics (**Exhibit 2**). By 1967, the company produced LEGO bricks in 218 distinct shapes. In 1977, Godtfred's son Kjeld Kirk Kristiansen joined the company's management. Born in the same year as the brick, Kjeld felt, in Knudstorp's words, that "the LEGO brick is more than a toy. He knows what the brick can be and what it can do for humanity."

From early on, a strong culture of creativity at the LEGO Group favored the steady introduction of new products and themes based on the brick system. The high quality of bricks and the standardized spacing between studs ensured that all elements made after 1958 were compatible with one another, resulting in enormous opportunities for creativity. The Group expanded its audience in 1968 with larger "DUPLO" bricks for children under five and, in 1977, with the LEGO Technic line for teens. By 1980, about 70% of Western European families with children under 14 owned LEGO bricks.

By that time, a three-phase production process lay at the heart of Group operations. First, in the molding phase, injection-molding machines produced plastic elements in massive numbers. Because it took a molding tolerance of 0.002 millimeters to make bricks clutch each other right, Godtfred focused on developing industrial excellence and cutting-edge capabilities in material science and production technology. Second, in the decoration phase, specialized parts were painted. Third, in the packaging phase, the many small elements that made up a product were placed in a box along with an instruction manual.

Godtfred controlled the company's operations closely, and no new product, brick, or color was introduced without his approval. Until the early 1980s, LEGO bricks came in five base colors: black, white, red, blue, and yellow. Kjeld felt that the company's sustained growth required new bricks, but it took him 10 to 15 years to convince his father to add the color green. Kjeld also added new themes, began to collaborate with the MIT Media Lab on robots in the mid-1980s, expanded into Eastern Europe and Asia, and maintained a strong position in America and a leading one in Western Europe.

The LEGO Group enjoyed steady organic growth and profitability. By 1992, it was a top 10 global toy manufacturer, and according to *Advertising Age,* accounted for about 80% of the construction toy market (which accounted for a few percent of the total toy market). With its products so popular among consumers, LEGO Group management came to see retailers as "a necessary evil." Christian Iversen, Executive VP of LEGO Corporate Center, recalled:

> We were used to stable growth and expansion, driven by our growing pipeline. This was further fueled when the Berlin Wall came down, with millions of young Eastern Europeans eager to get their hands on Western products. If anything, the LEGO Group worked hard to *control* sales growth. The head of production, a strong person on Kjeld's team, watched production costs and capacity closely. When I joined in 1993, the first meeting I attended was about how to shelve several product introductions so that projected growth would fall to the target range of 8-10%. We had such a grip on the market and unmet demand that we could gradually add new products and more or less decide five years out what and how much we wanted to sell.

The Growth Period That Wasn't (1993-1998)

In the early 1990s, several shifts in the toy market caught the LEGO Group's management by surprise. Knudstorp explained:

> Birth rates in our core markets—Western Europe and North America—declined, as did household spending on toys. Between 1993 and 2003, the total profit pool in the industry

decreased by 50%. Traditional mom & pop stores started to disappear. Retail channels consolidated, and mass discounters featured toys more aggressively. Mattel, Hasbro, and others pushed manufacturing to the Far East. Finally, market research suggested that children had less time for unstructured play, had shorter attention spans, and looked more for instant gratification as well as fashionable and electronic products. These changes did not play to our strengths.

In 1993, Kjeld Kirk Kristiansen suffered a severe illness and left the company for a year. Upon his return, he built a five-person management team to help him run the company. Increasingly, Kjeld pushed responsibility to frontline managers so they could be more responsive to market dynamics. The head of production was dismissed. Growth became the new focus. Fueling the drive to grow was a desire to leverage the LEGO Group's position among the world's top-10 brands for families with children. Iversen said:

> The other companies on that list, such as Disney and Nike, were much larger than us. We concluded that our brand must have huge untapped potential. This potential seemed to lie outside our core play systems, so we stretched our brand and explored opportunities in new areas. We experimented with new ways to push out more products, without necessarily having an eye on their margin. The businesses were encouraged to make their own decisions. Suddenly you couldn't speak to an important retail customer without offering an account-specific product. We also did studies on how to grow in untapped markets like Southern Europe and concluded that we needed products tailored to those markets.

The Group branched out beyond the brick. Inspired by the success of its family leisure park in small Billund, it opened LEGOLAND Windsor (U.K.) in 1996. The same year, the company launched www.lego.com and began to develop videogame software related to its products. LEGO Media was set up in London to develop media products linked to LEGO play themes (e.g. movies, television programs, or books). The company introduced children's wear in 1993, watches in 1996, and LEGO® MINDSTORMS robotic bricks in 1998. Knudstorp reflected on the company's strategy during these years: "All of these efforts to push our boundaries felt natural in our Disney-like brand stretch strategy. There seemed to be potential everywhere." Expansions tended to be done in-house, not through partners. Mike Moynihan, VP of marketing, explained: "The mentality was that only we sufficiently knew our brand, and the expression of it could therefore not be outsourced."

In its brick-based product lines, the Group launched a host of new themes and products. Designers created LEGO products with more complex and chunkier pieces for some sets, so that children could build objects faster and arrive sooner at the playing part of the experience. The number of distinct components rose. In cases where brick shapes were more pre-defined, such as the lower and upper side of a car, they were harder to combine with other pieces.

Despite management's efforts and significant investments to grow the top line, sales stagnated. In 1998, the LEGO Group faced the first financial loss in its history.

The Fix that Wasn't (1999-2004)

To restore profitability and growth, Kjeld brought in a new CFO, Poul Plougmann, who soon became COO and took over day-to-day management. Ploughman's experience with turnarounds at Danish companies led the press to announce the arrival of "Mr. Fix-it." A restructuring program was launched to cut costs by DKK 1 billion (about US$140 million) and lay off up to 1,000 employees (more than 10% of total staff). Of the 100 top executives, more than 60 were asked to leave.

Ploughman's "Fitness Program" included measures to streamline production, reduce organizational layers, and increase responsibility and customer focus, all to build a simpler, more responsive, global business system. When management announced these drastic measures, employees stood up and applauded.

Change To develop stronger leaders who could take the group into new areas, Ploughman moved managers around rapidly. People stayed in one position for 6-12 months before rotating or being replaced by someone who could do a better job. General leadership experience was valued more than direct experience with LEGO toys.

Design responsibilities were shifted from small, rural Billund to global product development concept centers in creative locales such as Milan, London, and San Francisco. Production was streamlined and geared to match forecasts. Several tool-making factories were sold, and certain manufacturing processes that were difficult to automate were transferred from the LEGO Group's main factory in Billund to a new plant in the Czech Republic. In sales, senior management consolidated 25 country-level sales companies into five regional entities. The incentives of salespeople were tied, in part, to whether their actual sales exceeded their forecasts. Back-office functions were globalized.

Management decided in 1999 to sell directly to consumers through two initiatives: an online shop and LEGO-owned retail stores in Europe and the United States. Iversen recalled that "this was both about meeting the consumer in the right places, online and in our own stores, and about building the brand. Another reason was that we found ourselves increasingly working with discounters that were squeezing us on their shelves. This made it impossible to display the wealth of our brand."

The Group's product line continued to evolve. Among the most prominent product launches in 1999 was the brick-based LEGO Star Wars™ theme. While the LEGO Group had developed many play themes over the years, LEGO Star Wars was the first in-licensed brand. The decision had not been an easy one. Long-time employees bristled at the idea of placing the word "War" on a LEGO box and putting laser guns in the hands of LEGO minifigures, who traditionally carried nothing more lethal than a pirate's sword. The financial potential of the partnership was also difficult to assess. Iversen recalled that "these debates about the danger of eroding our brand heated up when we launched LEGO Star Wars. But we saw it as an opportunity to be more 'in tune' and add storytelling to building." More licensed products followed, including "Winnie the Pooh and Friends" in 1999 and "Harry Potter" in 2001.

In 2002, the company repositioned the preschool line, LEGO DUPLO, under a new brand name. Mads Nipper, Executive VP of Markets & Products, explained: "We tried to tap into mothers' emphasis on child development and make the product more learning-focused." The expansion of theme parks continued with the opening of LEGOLAND California in 1999 and LEGOLAND Germany in 2002. Projects like videogames continued to flourish, but some lifestyle initiatives, such as wristwatches and publishing, were cut back after 2000.

Consequences Knudstorp recalled the ensuing difficulties in operations:

> When I was brought in as a consultant in 2001 to analyze the supply chain, I realized nobody had kept an eye on complexity. Product developers argued that the number of distinct shapes did not matter, as the marginal cost of an extra mold was so low. And management did not see the impact of this on design, manufacturing, servicing of retailers, forecasting, and managing inventory. You could be out of stock for a product just because you miss one of its 675 pieces, which you did not make when you got the forecast wrong. The total number of

components was not visible, but in 2004 we discovered that it had more than doubled since 1993. We had 3,560 different shapes, 157 colors, and 10,900 elements in our assortment. Each shape required a mold, and a mold cost €50,000 on average, or up to €300,000 for complicated ones.

Exhibit 3 shows the number of distinct LEGO components over time. Bali Padda, Executive VP of Global Supply Chain, also recalled the company's operations situation:

> When I joined in 2002, there was a lack of discipline, of accountability, and a costing system that I could not figure out. I couldn't understand how net production prices were determined or which products were profitable. It took me six months to get a sense of our fill rate to customers [the proportion of demand delivered without delay from stock on hand]. I found out it was anywhere between 5% and 70%, and my colleagues told me not to worry. My inventory costs were exploding, we had a lot of write-offs and obsolescence, and I couldn't explain anything! We started to control costs, for example by ordering fewer molds, but sometimes we could not meet demand anymore. Balancing supply and demand was further complicated by individuals directly calling their friends in manufacturing and asking them to produce more of this or that.

The LEGO Group's major customers were frustrated by stock-outs and slow-moving inventory. The typical retailer devoted nine linear feet to LEGO products in 2004, earned a 19% gross margin on LEGO sales, and saw LEGO inventory turn over two times a year. Chain-wide, Wal-Mart, Target, and Toys R Us reported gross margins of 22.9%, 33.6%, and 32.4%, respectively, in 2004. Their inventory turns across all products were 7.5x, 6.0x, and 2.1x, respectively. Padda recalled, "When I met the Wal-Mart buyer for the first time in 2004, he asked me: 'Can you please tell me why I shouldn't put dog food on the shelves [instead of LEGO products]?'"

Among the Group's new products, the LEGO Star Wars line thrived, rising to become 35% of total revenue. The repositioning of LEGO DUPLO proved less successful. Nipper recalled, "Many consumers found the new products did not live up to our promise and missed the LEGO DUPLO brand. A German retailer bluntly asked me, 'Have you absolutely lost your mind?' This was only one of several innovation and marketing approaches at the time that customers did not understand." Increasingly, senior leaders noticed that managers were attributing poor results to factors beyond their control; weak sales, for instance, might be blamed on nice weather, which discouraged consumers from buying indoor toys.

The company's results were characterized by large profit swings. The Group saw 28% top-line growth and a return to profitability in 1999, a sales downturn and a loss in 2000, and a decent profit in 2001. Revenue grew in 2002, stimulated by new product launches, a new Star Wars film, growth in core products, and a strong U.S. dollar, but profit fell.

By 2003, it became clear that the new growth strategy wasn't working. Sales plunged by 29% to DKK 6.8 billion, and the company lost DKK 935 million. Management acknowledged that the substantial investment in expanding the product portfolio and consequent cost increases had not produced the desired results. Worse yet, some new products had cannibalized core products and eroded earnings. In a year without Star Wars or Harry Potter movie launches, the unsatisfactory sales of products with movie tie-ins accounted for more than 50% of the overall sales decrease. Iversen summarized the situation: "We were pregnant with many initiatives and their costs, and the market environment turned against us." In December 2003, Kjeld Kristiansen asked Plougmann and four of his 14-person management team to leave the company. When 2004 brought another loss and pushed the LEGO Group to the brink of bankruptcy, Kristiansen invested in the company, retired as CEO, and handed the position to Knudstorp.

A Newcomer and a Company on the Brink

The appointment of then 35-year old Jørgen Knudstorp as the LEGO Group's first outside CEO surprised industry observers. Born a short distance from Billund, Knudstorp had earned a PhD in Business Economics at the University of Aarhus, Denmark and had started his career as a consultant at McKinsey & Company before joining the LEGO Group as Director of Strategic Development in 2001. Iversen recalled that "the reaction in the Danish corporate community was: 'How can they put a 'rookie' in charge when they are struggling to survive?' But Kjeld had gotten to know Jørgen, had come to trust his views, and liked his values."

Knudstorp and his management team knew that saving the company would be no easy task. Iverson described an early, sobering meeting with the Group's board:

> Jørgen bluntly told the board that if they wanted the business to survive in the long run, this could not be a quick fix. He said that if he was a financial investor, he would advise them to sell. But if they did not want to sell, they needed to believe that the LEGO family firm could do it right. They needed to allow us to deliver long term and not quarter by quarter, and they would have to sacrifice some of the 'sacred cows.'

Among the sacred cows that might be sacrificed was the Group's approach of making its own products. Knudstorp wondered whether he should outsource manufacturing to a third party:

> We had lost our edge in manufacturing and supply chain management in the 1990s when many competitors like Hasbro started outsourcing things, and our costs were out of control…. It should be easy to find professional manufacturers able to operate the factories better than we could.

Beyond manufacturing and supply chain management, all aspects of the company's strategy were on the table for discussion, including its product line, its approach to consumers and retailers, and its processes for innovation and planning, To get his bearings among the many decisions, Knudstorp began to look for LEGO's "core." Doing so was difficult, however, as financial pressure mounted:

> I had the banks breathing down my neck and asking for immediate repayment of all outstanding debt. We quickly needed to close or sell items to generate cash. My CFO listened to my theory about the 'core' and said, 'I don't get all you're saying, but what I take away is that a core is something which makes a superior return. But if you take this to the extreme, since our business is almost destroyed, there is no meaningful core in that sense.'

Exhibit 1 LEGO Group Selected Financials, 1995-2004

(in DKK million)	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Income Statement										
Revenues	6,844	7,534	7,616	7,680	9,808	9,467	9,000	9,601	6,792	6,315
Expenses	N/A	N/A	N/A	N/A	(8,615)	(10,145)	(8,142)	(8,795)	(7,902)	(6,252)
Operating profit before special items	N/A	N/A	N/A	N/A	N/A	N/A	858	806	(1,110)	63
Special items*	N/A	N/A	N/A	N/A	(555)	(191)	(122)	0	(455)	(1,225)
Financial income and expenses	N/A	N/A	N/A	N/A	(122)	(201)	(215)	(189)	67	(75)
Profit before income tax	676	699	171	(282)	516	(1,070)	521	617	(1,498)	(1,237)
Net profit for the year	431	470	62	(194)	274	(831)	366	326	(935)	(1,931)
Balance Sheet										
Total Assets	9,535	10,061	9,767	11,250	12,694	12,280	14,093	12,560	10,049	8,089
Equity	5,961	5,913	5,437	5,841	6,970	6,266	6,225	6,478	4,892	2,948
Liabilities and Provisioning	3,574	4,148	4,330	5,409	5,714	6,014	7,868	6,082	5,157	5,141
Cash Flow Statement										
Cash flows from operating activities	N/A	N/A	N/A	N/A	N/A	N/A	1,227	1,853	944	774
Investments in property, plant, and equipment	748	1,490	745	1,397	968	1,156	1,478	1,264	709	457
Cash flows from financing activities	N/A	N/A	N/A	N/A	N/A	N/A	870	(1,003)	(560)	(29)
Total cash flows	N/A	N/A	N/A	N/A	N/A	N/A	771	(290)	(215)	538
Employees										
Average number (full time)	8,535	8,178	8,668	8,670	7,821	7,669	7,658	8,316	8,298	7,345
Financial Ratios (in %)										
Gross margin	N/A	N/A	N/A	N/A	N/A	N/A	65.4	70.0	61.3	57.7
Operating margin (ROS)	N/A	N/A	N/A	N/A	N/A	N/A	8.2	8.4	(23.0)	(18.4)
Net profit margin	6.3	6.2	0.8	(2.5)	2.8	(8.8)	4.1	3.4	(13.8)	(30.6)
Return on equity (ROE)	7.2	7.9	1.1	(3.3)	3.9	(13.3)	5.9	5.0	(19.1)	(65.5)
Return on invested capital (ROIC)**	N/A	N/A	N/A	N/A	N/A	N/A	9.1	8.2	(12.8)	1.2
Equity ratio	62.5	58.8	55.7	51.9	54.9	51.0	44.2	51.6	48.7	36.4
Exchange rate										
Dollars per DKK (end of year)	0.180	0.168	0.146	0.156	0.135	0.126	0.119	0.141	0.169	0.183

Source: LEGO Group, Annual Reports 2005, 2000, 1999.

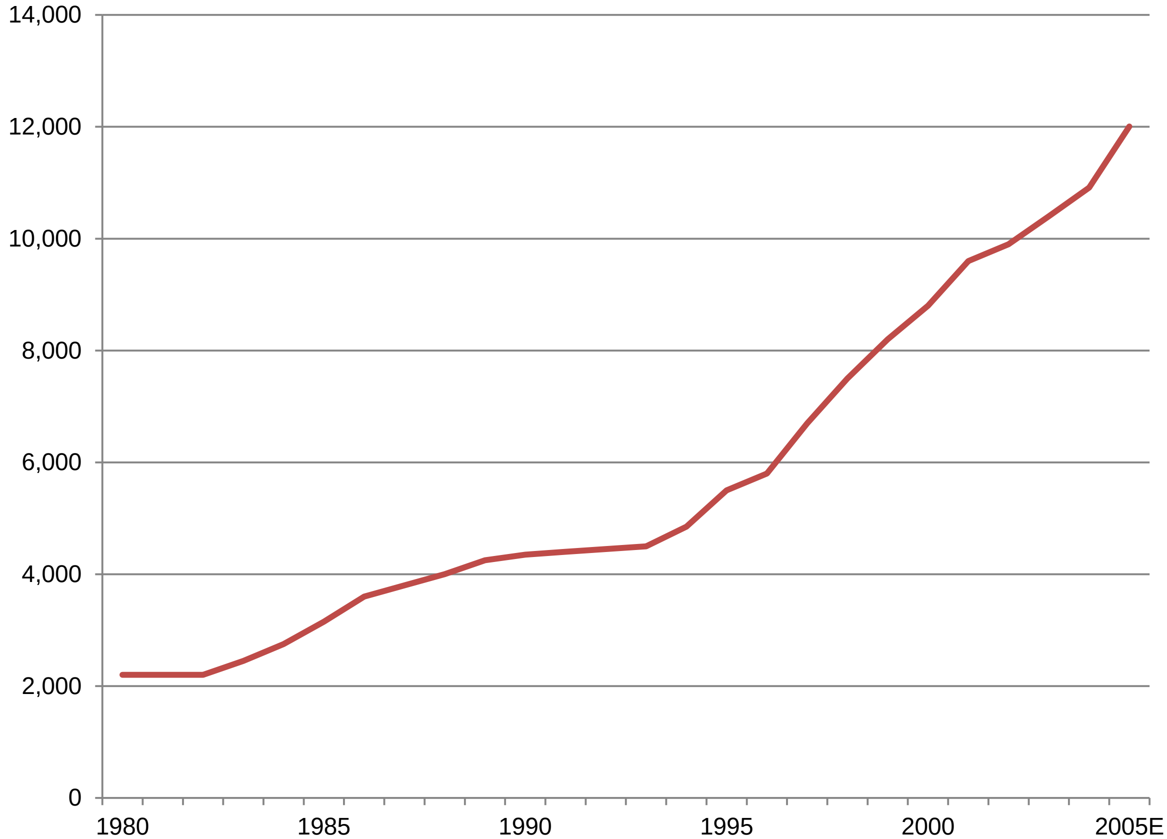
Notes: * The Special items category included different items in different years; it may therefore not be fully comparable.
** ROIC = EBITA before special items / average invested capital.

Exhibit 2 The Ten Product Characteristics Defined by Godtfred Kirk Christiansen in 1963

1. Unlimited play potential
2. For girls and for boys
3. Fun for every age
4. Year-round play
5. Healthy, quiet play
6. Long hours of play
7. Development, imagination, creativity
8. The more LEGO, the greater the value
9. Extra sets available
10. Quality in every detail

Source: LEGO Group website, http://aboutus.lego.com/en-us/group/future.aspx, accessed May 2011.

Exhibit 3 Number of Distinct LEGO Components (Shapes, Colors, Decorations), 1980-2005E



Source: LEGO Group.

Endnotes

[1] "Building profits child's play for Lego," *The Economist*, May 7, 2011. Accessed via Factiva, May 2011.

[2] Philp, Matt. "Toy Story," *Dominion Post*, April 2, 2011. Accessed via Factiva, May 2011.

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[5] Mattel Annual Report 2010.