IMD-3-1978
28.03.2008

# INNOVATION AT THE LEGO GROUP (A)

*Research Associate Rob Crawford and Professor David Robertson prepared this case as a basis for class discussion rather than to illustrate either effective or ineffective handling of a business situation.*

When Jørgen Vig Knudstorp was appointed president and CEO of the LEGO Group in October 2004, the company was in deep trouble. Competition was on the increase, the toy industry was evolving in ways that did not favor the LEGO Group, and the company was on the verge of bankruptcy (*refer to **Exhibit 1** for LEGO revenues and net income*). Further, Knudstorp felt the company had lost its way and had no clear idea of who it was nor what products it should offer. It was clear to everyone that changes were needed.

Knudstorp and several other colleagues had in early 2004 formulated a new business strategy for the company. Their plan had three phases. First, they had to improve the company's cash flow and eliminate its debt; much of this, they announced, would be accomplished by selling off non-core assets, reducing operational complexity and outsourcing some manufacturing. Second, to increase profit margins, they had to revitalize their product lines. This would be trickier, particularly in light of the cuts that would have to be made. Finally, the company had to grow organically, to invent new ways of creating value. By the end of 2005, they had accomplished the major goals of the first phase, and it was time to begin the second and third phases. A requirement for these phases was to re-invent innovation in the company – the challenge was, how?

## History

Established in 1932 by Ole Kirk Christiansen, the LEGO Group at first crafted wooden toys in the founder's carpenter shop in Billund, Denmark. LEGO was a shortened form of the Danish phrase, "leg godt" (play well).[1] Over the next 15 years, Christiansen built a business based on offering high quality products that encouraged creative play. He designed his toys to captivate the imagination of the local children; through building, they were supposed to develop a sense of pride in accomplishment and learn while playing. In 1947, convinced that he had found the ideal new material for his growing company, Christiansen bought his first plastic injection-molding machine. The eventual result was LEGO's iconic product, the plastic brick with eight studs, which the company patented in 1958. It became the focus of a tight-knit community of devoted enthusiasts, with their own newsletters, competitions and even conventions. It was this legacy – for quality, creative play, community and experimentation – that Christiansen passed on to his sons, who continued to own and run the company.

## Growth

For the next 20 years, the LEGO Group grew slowly and steadily, reaching approximately 1 billion Danish kroner (DKK) in sales in 1978.[2] During those years, the LEGO play experience was based on free-form play: Children constructed worlds of their own choosing; they did not follow elaborate instructions or systematic blueprints. Over the next 10 years the company operated on an increasingly global scale, growing sales to DKK 5 billion in 1988. Growth slowed in the mid-1990s, including a loss of DKK 300 million in 1998, despite expansion into several new categories that were more than "just toys" such as books, TV, watches, etc. But in 2000 the company began a period of explosive growth as it saw sales increase with licensed products, including LEGO based on popular intellectual properties (such as the Star Wars™ movies) and growth driven by a steep increase in the value of the US dollar (vs. Euro).

The sales growth begun in 2000 was the result of the aggressive expansion in the range of play experiences that the LEGO Group offered. No longer content with offering building sets, the company had expanded into computer games, clothing, amusement parks and movies. To accomplish this expansion, it hired many designers of a "new breed" from design schools, whose ideas went beyond modeling with the traditional bricks. With the support and encouragement of their management, these new designers challenged and pushed back the boundaries that had previously defined what a LEGO product was.

For example, in 1999 Lucasfilm Ltd. convinced Christiansen's grandson, Kjeld, to create a partnership based on the *Star Wars*™ films. The result was a series of elaborate kits, each representing machines and characters from the Star Wars™ universe (*refer to **Exhibit 2** for examples of LEGO Star Wars™ toys*). The LEGO

---

[1] It was only years later that Christiansen learned that, in Latin, LEGO means "I put together."

[2] The exchange rate in 2004 was about DKK 6 = $1, and DKK 7.5 = €1.

Star Wars™ kits were very controversial within the company: For the first time, the LEGO Group introduced "modern" weapons into its universe, which had never been part of any LEGO toy (hitherto the weapons in LEGO sets were pirate guns, swords, and the like). The LEGO Star Wars™ also offered a different play experience – they came with complicated sets of instructions and produced fragile models rather than active playthings, another first for the LEGO Group. This new type of play, which fostered a "right way of doing things" mentality regarding the play experience, made many of LEGO's longtime designers uneasy. The trend toward models based on licensed characters continued in 2001 with the introduction of the first series of LEGO Harry Potter™ building sets.

Another new direction in play experience was represented by the narrative-based product series called "Bionicle." Bionicle, whose name combined biological with chronicle, were embedded in an evolving multimedia story. This narrative, renewed regularly, was supported by books, cartoons, movies and later a website. Each new episode introduced new characters and contexts in which the characters interacted, similar in some ways to Pokémon (*refer to **Exhibit 3** for examples of Bionicle toys*). This move to toy sets driven by story telling was seen as a major growth driver.

The sudden infusions of cash from the Star Wars™ and Harry Potter™ kits, coupled with the ability to push back the boundaries of what a LEGO play experience was, allowed designers to experiment in increasingly diverse directions. The LEGO Group, some believed, should become a "family lifestyle" company with a greatly expanded portfolio of products, from entertainment experiences – such as the LEGOLAND amusement parks – to fashionable clothes and computer games. Between 1996 and 2002, three new LEGOLAND parks (in addition to the original park near the LEGO Group's headquarters) were opened in the US and Europe, at a cost of nearly DKK 1.5 billion each. LEGO Mindstorms, a sophisticated building set with motors, sensors and a programmable "brain," was introduced in 1998 and targeted an older audience. Some designers even argued that the LEGO brick was passé, and that it was only a matter of time before the LEGO Group would go virtual, providing play experiences predominantly through CDs and the internet.

This expansion in the range of offerings not only affected the identity of the LEGO Group but also altered its cost structure. The LEGO Star Wars™ building sets and other customized toys demanded the creation of new, specialized elements. Each new element had to have its own mold, production method and inventory, which added to the fixed cost of the company. As the range of elements expanded, the costs did as well.[3]

[3] In the LEGO Group, the word "element" is used to describe a unique geometric shape. An element may have many different colors or decorations on it; each unique color-shape combination is called a "component."

**The Crisis**

In 2003 the risks inherent in this growth strategy became frighteningly real. The LEGO Star Wars™ and LEGO Harry Potter™ kits, while successful in years with a new movie, proved cyclical and sold less in years without a successful film. In 2003 there was neither a Star Wars™ nor Harry Potter™ film. The US dollar began declining from its 2002 peak, LEGOLAND parks were draining earnings, and the fixed costs of supporting a staggering 12,500 different components remained high. In 2003 and 2004 the company saw its biggest losses ever (*refer to* ***Exhibit 1***).

As its troubles became apparent and the management team began searching for solutions, they realized that the toy industry was changing dramatically in at least four ways. First, electronic games– video-game consoles, hand-held games, websites and even mobile phones – were reducing the demand for traditional toys. No one knew how far the market would fall, though many forecast that electronics would essentially replace old-fashioned mechanical toys in the coming years. Moreover, with children preferring to enter multimedia fantasy worlds at about the age of eight, they were losing interest in traditional toys at an earlier age, which shaved as much as four years off the projected duration of traditional toy play. Second, the retail sector was consolidating into mega-stores – such as Wal-Mart and Carrefour – which had an increasingly large share of total toy sales. This represented a decisive power shift in favor of the retailers and away from the manufacturers, which in the 1960s had been able to impose their product lines on customers.[4] In this new retail environment, toy manufacturers had to compete with each other for shelf space, often accepting marketing dictates from retail outlets or producing toys for them under license. Third, because of the new retail environment and the outsourcing of manufacturing to Asia, the toy industry faced strong downward pressure on prices. And, as the US dollar gradually declined against the Danish krone, LEGO products became relatively more expensive in the company's most important market. Finally, the LEGO Group began to see cheaper, look-alike bricks that were virtually interchangeable with LEGO elements. These toys began to take market share away from LEGO building sets – the competitors were not only cheaper than the LEGO Group but also faster, bringing products to market before LEGO could. The LEGO Group took these competitors to court in many countries, arguing that the LEGO brick was an iconic form that should be covered by trademark protection (which does not expire), not patent protection (which had expired in all major markets). The courts disagreed, leaving markets open for lower-priced competition.

In 2003 the LEGO Group lost nearly DKK 1 billion kroner and its cash dwindled dangerously low. This was the largest loss in the history of the company, a sign that many observers believed indicated bankruptcy and perhaps even the breakup and sale of the company. The losses for 2004 were projected to nearly double (*refer to* ***Exhibit 1***). It was at this point that Knudstorp, who had developed a plan

[4] See Misha Petrovic and Gary G. Hamilton, "Making Global Markets," in *Wal-Mart: The Face of Twentieth Century Capitalism*, Nelson Lichtenstein (ed.). The New Press, p. 119.

to save the company, was appointed president and CEO. He was only 35 years old.

**The New Plan: Shared Vision**

With a PhD in economics, Knudstorp began his career at McKinsey & Co. He worked there for three years, then joined the LEGO Group as director of strategic development in 2001. As the LEGO Group slid into the most serious crisis in its history, Knudstorp and his team began to formulate a plan to save the company. It was a very tough problem. On the one hand, the company's previous leaders had already tried to "innovate" and by any measure had produced an impressive set of new, revenue-generating products and play experiences. However, too many of these were not profitable. What, he wondered, could they do differently? Given the challenges facing the company – limited cash, increasing price pressure, powerful retailers, high fixed costs and, in particular, the shift away from traditional play and the consolidation of retail-outlet power – it was unclear what options remained for them.

Knudstorp and his team titled their new plan "Shared Vision." Knudstorp characterized it not as a new strategy, but as "an action plan for survival" that built on LEGO's traditional strengths. The plan had three parts. The first phase, "Stabilize for Survival," to be carried out in 2004 and 2005, focused on reducing costs, eliminating debt and returning the company to profitability. The second phase, "Profit from the Core," to be carried out in 2006 and 2007, aimed to improve the profitability and growth of the company by revitalizing the core product lines and transforming the business platform (e.g., through outsourcing of manufacturing and strengthening the IT platform). The final phase, "Achieving Vision," scheduled for 2008 and 2009, focused on developing innovative new play experiences to profitably grow the company.

The LEGO Group immediately began the effort to reduce debt and cut costs. In 2004 it announced a decision to investigate outsourcing of the majority of its plastic brick manufacturing to external suppliers or its own factories in low cost countries, an effort that despite a target of reducing the overall workforce by more than 50% was done in collaboration with LEGO blue collar employees. In 2006, LEGO announced that 80 percent of manufacturing would relocate to low cost countries in Eastern Europe and Mexico. To reduce debt and generate some much-needed cash, the LEGO Group sold a 70% share of the four LEGOLANDs to the Blackstone Group for $456 million. To reduce complexity and manufacturing costs, it began reducing the inventory of LEGO components.

Knudstorp and his team knew that reducing the number of components would be controversial in LEGO's design community and could potentially hurt the company's performance. Some designers argued that it would hinder creative expression and reduce the number of products on the market, which would lower revenues. Yet a reduction in components would simplify manufacturing operations, trim inventories, reduce cost of obsolescence, reduce mold investment cost dramatically and unburden the distribution systems. The team tasked with the effort believed that many of the components were unnecessary and hurt the company's profitability. For example, the chef figurine had seven different facial

expressions, each represented by a separate component; only one, the team reasoned, should suffice. Reducing the current number of 12,500 components by as much as 50%, the team speculated, would force the designers to focus.

## Clarifying the Group's Identity

As the company executed the first phase of Shared Vision, Knudstorp began to think about the next phases. Successfully revitalizing the core product lines and inventing new ones would require a better sense of what LEGO stood for. Knudstorp believed that LEGO had lost a "crisp sense" of its identity. The LEGO brand, he felt, had been stretched almost beyond recognition. More focus was needed to prevent the company from repeating its mistakes. He explained:

> Every year we started at least five major new initiatives: TV, film, huge theme parks. We expanded so fast that it was harder and harder to execute anything properly…If an initiative failed, we would just drop it and start something else.

The end result, he said, "was a loss of confidence" in the company's direction and abilities: It was unsure of what to do and its execution was weak.

"What," Knudstorp asked, "makes us unique? Why are we here?" While Knudstorp posed this question to his inner circle, it also sparked a debate throughout the company. "If there is a quick answer to these questions," he said, "we know what we were doing. If not, then the brand is too vague." After intense discussion, both within the company and through focus groups with customers, the answer emerged: The core assets of the LEGO Group were: (1) the brick, which was instantly recognizable; (2) the building system, which amounted to a platform for innovation; (3) an emotionally appealing brand, perhaps the world's best for children; and (4) the unusually devoted LEGO community. According to Knudstorp:

> In essence, we saw ourselves as a unique niche player in the toy industry. We would never become the biggest, but being the best is good enough. Our products should transmit the joy of building, generate pride in creation, and help to equip children for the future through playful learning and education, in other words make children the builders of tomorrow.

From this base, they formulated the company's next strategic direction. They decided that any new product family from the LEGO Group had to be true to this identity; a new play experience should be "obviously LEGO, but never seen before." While this did not rule out the extension of the LEGO brand into new media and experiences, it did mean a return to the iconic brick as a focal point.

## Phase 2: Profit from the Core

By the end of 2005 the LEGO Group was out of immediate trouble. Although sales were flat due to the elimination of some products, the company was in a solid cash position, costs were down 35% and it was debt free. As Phase 2 of Shared Vision began, the company turned its focus toward revitalizing its product lines and restoring profitability. The product groups were called upon to

demonstrate profitable results. They were also asked to start thinking of how they would implement the third phase of the Shared Vision – new ideas for organic growth – that was scheduled to begin in 2008. One product line that needed revitalization was LEGO City.

Long one of the traditional and best-selling product lines of the company, LEGO City[5] sales had been declining since 2000. Some believed that the product line should be phased out. Its share of the company's gross revenues had dwindled from over 15% to about half that figure in 2003. In 2004 LEGO City marketing director, Birthe Jensen, asked her team to reassess where they were going. Their products, Jensen concluded, were not differentiated enough and had become overly simplified, that is, dumbed down for easy assembly. Moreover, they appeared undistinguished and unrealistic, somehow lacking focus or relevance. "We were doing space stations and race tracks," she recalled, "but not things that children saw everyday." To move ahead, Jensen and her team decided they would develop more realistic products, with convincing details, for a limited number of products with which children had direct experience. "We would make fire engines that look real," she explained (*refer to **Exhibit 4** for examples of LEGO City toys*). But the team, like the rest of the LEGO Group, had to contend with a reduced product line necessitated by the reduction in complexity.

## Future Challenges

At the end of 2005, with the company on a solid financial footing, Knudstorp and the management team considered what to do next. Sales had fallen by 35% in the previous two years, and the company was still adjusting to the dramatic cutback in personnel. The reduction in LEGO components was also being felt, inside and outside the company. Designers complained that their creativity was being reduced, and some passionate users complained when their favorite components or figures were eliminated. The team wondered how LEGO's designers would react to a reduction in the number of components available to them. If the toys were constructed only from the components available, would the cut in manufacturing, supply chain and inventory costs be worth the loss of creativity?

Knudstorp and his team also realized that they needed to improve development effectiveness. It was important to develop not just breakthrough new toy ideas but also the next generation of Bionicle, Exoforce, LEGO City, Harry Potter™, Star Wars™ and other toys. How could the product development process be sped up and improved? The company had implemented a stage-gate process in 1995, called the LEGO Development Process (LDP), to improve the flow of products to market. Over the past nine years, the LDP had evolved into a cumbersome bureaucratic mechanism. For a product to advance, elaborate checklists had to be filled out, and each person understood the requirements differently. According to Per Hjuler, vice president of product and marketing development, "At first it worked well, but then it got too dense." It also remained a sequential, linear process:

---

[5] This product line had gone under various names, including LEGO Land and World City.

> Designers would brainstorm, then engineers took over. Next, it went to the manufacturing groups, and finally the marketers got it. Getting something to market took about 36 months.

And, as the process slowed down, the success rate dropped. By 2003, according to Hjuler, "only one or two" of ten new product ideas actually made it to market. How could they improve the process both to make it faster and to increase the success rate?

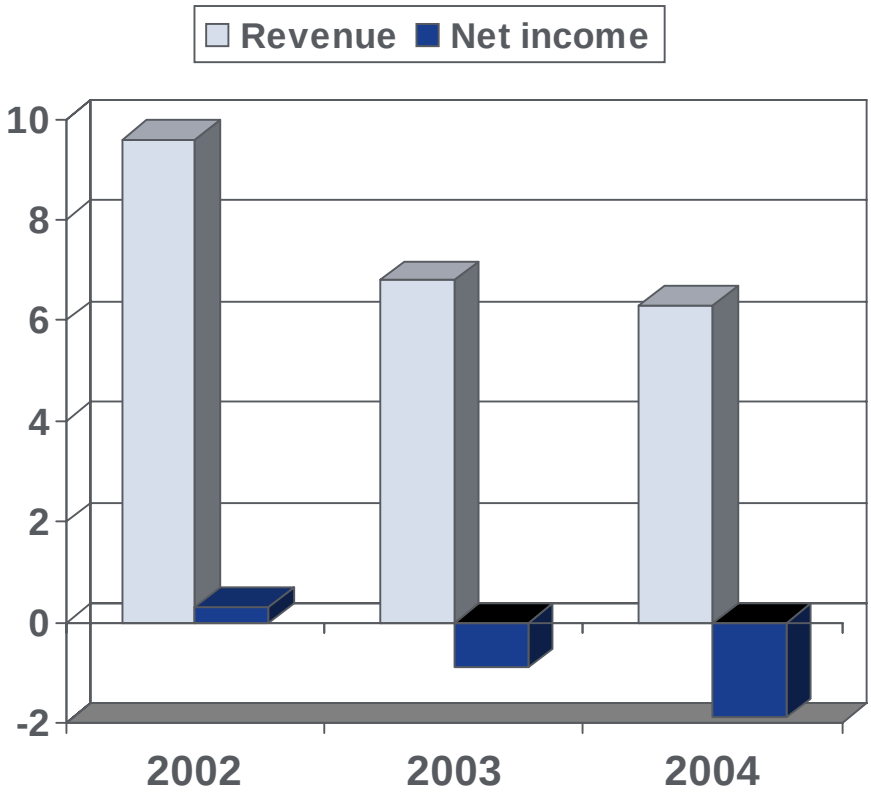
In addition to being slow, the product development process suffered from a lack of success in developing and bringing to market radically new ideas. In an effort to address this, LEGO had created a Concept Lab, whose charter was to develop revolutionary breakthrough products. Set up as a cost center, the Lab was seen as a free resource to development teams, and Concept Lab personnel often became involved in the development of more incremental product concepts. This diversion of personnel, coupled with the difficulty of navigating ideas through the LEGO Group's cumbersome development process, hindered the productivity of the Concept Lab.

Another opportunity for improvement was in the area of licensing. While the company was aggressively lowering its internal product range and complexity, it agreed that there was still an opportunity to generate income by licensing the LEGO brands to external partners. These partners could produce books, movies, computer games, T-shirts and other products around brands such as Bionicle, Exoforce and LEGO Star Wars™. The company also wished to explore whether it could augment its internal development team with outside inventors. But in both cases, it needed to ensure that the products generated were consistent with the brand image of each product line, and were delivered to the market at the same time as the products they were designed to complement.

Based on its research, the company also knew that it had a unique asset that it had not been leveraging – its passionate customer base. For example, LEGO had recently released a computer-aided design tool called LEGO Digital Designer, which allowed users to create new LEGO toys virtually. After building a virtual toy a user could check the price of the new creation, upload it to the LEGO website, and order exactly the pieces needed to build it. The new service, called LEGO Factory, also allowed users to purchase other users' creations. While the logistics of the packing and shipping of these kits was still under development, the company saw great potential in the service and wondered how it could grow the idea more. (*Refer to **Exhibit 5** for screenshots of the LEGO Factory website and the LEGO Digital Designer design environment.*)

Anther opportunity to leverage the company's customer base was for the development of the toys themselves. For example, in the previous generation of LEGO Mindstorms, users had hacked the code for the programmable brick and developed other programming languages that many in the community felt were better. Should the company prevent this from happening in the future, or should it develop its next generation of LEGO Mindstorms as an open source product?

**Exhibit 1**
**Revenues and Net Income of the LEGO Group**
**(in billions of Danish krone)**




Source: Company information

**Exhibit 2**
**Examples of LEGO Star Wars™ Toys**

Source: Company information

**Exhibit 3**
**Examples of Bionicle Toys**

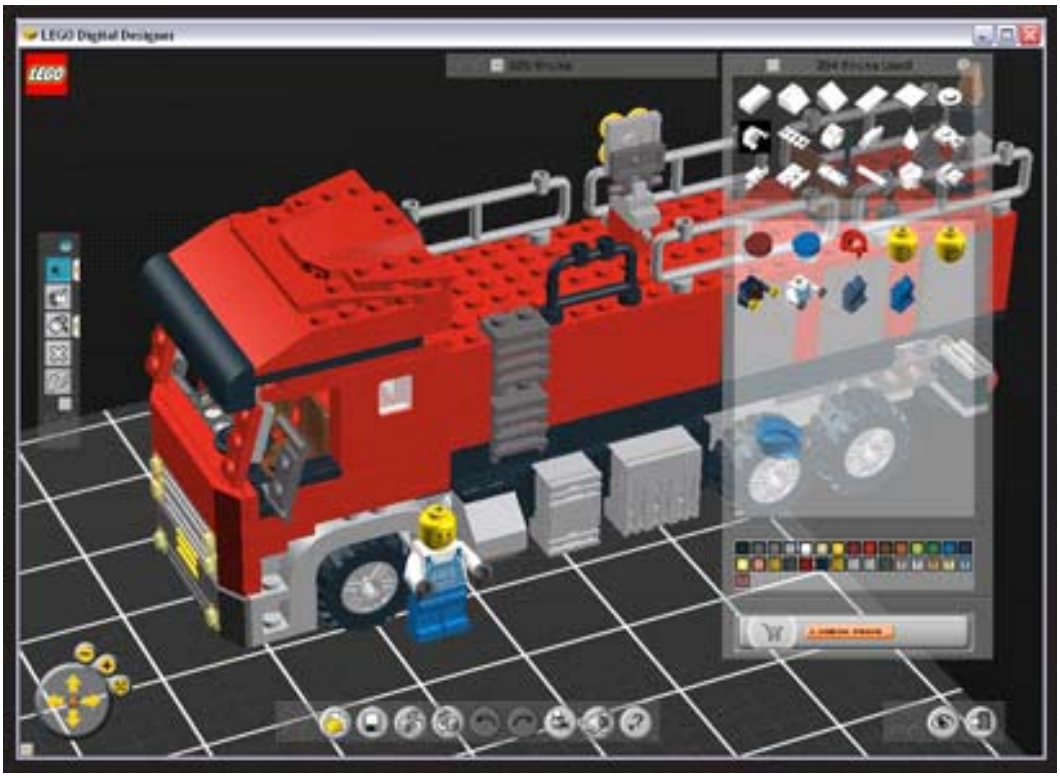
Source: Company information

**Exhibit 4**
**Examples of LEGO City Toys**



Source: Company information

**Exhibit 5**
**Screenshots of the LEGO Factory Website and LEGO Digital Designer**

Source: Company information