Transforming the LEGO Group for the Digital Economy

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Title: Transforming the LEGO Group for the Digital Economy

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Abstract: To avert bankruptcy, the LEGO Group had transformed itself starting in 2004. As it entered 2016, the company was poised for a new transformation. This time the transformation builds on the strength of an enterprise platform the company developed to provide needed discipline around core business processes. The goal of the new transformation is "to become a digital company." Although the company already looked digital in 2016, management felt it had not become digital—in its products and processes. This case describes the LEGO Group's journey to become a successful digital company.

14 Pages

Massachusetts Institute of Technology
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Transforming the LEGO Group
for the Digital Economy

In early 2016, the LEGO Group was benefiting from digitalization in many ways. Consumer demand for digital toys was feeding sales of LEGO blocks packaged with video games and programmable LEGO robots, while consumer demand for online connection had led to widespread enrollment in LEGO online communities and a growing library of fan-produced LEGO YouTube videos. Internally, highly integrated supply chain and product lifecycle management systems were accelerating product to stores on an as-needed basis.

> *One of the things people often overlook is the massive system integration and to what degree the LEGO Group is actually an IT-driven company as much as a brand-driven company.*
>
> —*Jørgen Vig Knudstorp,*
> *Chief Executive Officer*

Despite the company's early success with digital innovation, management felt that the LEGO Group was at risk of failing to respond quickly enough to the opportunities and threats the digital economy posed. The LEGO Group was still in the midst of transforming from a traditional brick and mortar company— famous for the iconic LEGO brick—into a digital company producing digitalized toys that accompany LEGO bricks and developing multichannel relationships with consumers, shoppers, and customers.

> *Where we're not savvy enough is in where software development is going now, like smaller applications, disruptive business models, omni-channel landscapes, e-commerce, web-based services, cloud-based services, and so on. We're not nimble enough there. And we could risk ending up with a legacy platform instead of an advantage platform.* —*Jørgen Vig Knudstorp*

The LEGO Group had been through earlier business transformations, but the transformation to a digital company posed unique adaptive challenges. In particular, the end state was less well defined and critical success factors were less clear. The LEGO Group had built a powerful enterprise platform that had positioned the company for this next evolution, but much of the transformation lay ahead.

Background

The LEGO Group was founded in 1932 in Billund, a small, remote town in Denmark. Its founding father, Ole Kirk Christiansen, put together the two Danish words "leg godt" (play well) to form the name of the company. At the time the company focused on making wooden toys for children; in 1958 the LEGO Group launched the brick that became the company's core product. The seemingly infinite[1] possibilities for play and creativity offered by the brick transformed the LEGO Group from a small local carpenter's workshop into an international manufacturer of toys for children. But around 1995, the growth stalled.

Patent protection for the iconic LEGO brick expired in 1988, which quickly led to the introduction of similar toys by companies like TYCO. Soon thereafter, electronic games and toys such as PlayStation and Xbox came out and children became absorbed with computers and video games. Consultants, scholars, media, and the LEGO Group itself questioned the long-term viability of the brick.

The LEGO Group management responded to new competitive challenges by diversifying its product portfolio—moving away from its core product into the video game and television industry. Also, between 1996 and 2002, the LEGO Group opened theme parks in England, California, and Germany as management attempted to strengthen the LEGO brand by promoting the sale of a wide range of different products and experiences that were not necessarily centered on the brick.

But these efforts did not have the desired effect. In trying to diversify itself out of the crisis, the LEGO Group had grown the number of SKUs from 6,000 in 1997 to over 14,000 by 2004. This diverse product portfolio involved complex and expensive production processes. Production was rigid and slow, and many of the LEGO Group's new product launches and innovations failed.

Meanwhile, LEGO Group designers had not considered the cost of materials in their designs. As the designers introduced new products requiring different materials, they formed relationships with new suppliers. By 2004 the LEGO Group was ordering specialized materials in small quantities from more than 11,000 different suppliers.[2]

At the other end of the supply chain, large chains such as Walmart were accounting for more than two-thirds of the company's sales. But the LEGO Group had not developed transparency in regards to store demand and inventory levels. Ultimately, supply chain issues resulted in lost sales.

> *Christmas sales are a big part of our revenue (approximately 50 percent) and we had, for example, pirate ships in demand in Germany, and we actually had too many in France. But we weren't able to see that! And those big boxes, they don't sell very well the following nine months!*
> *—Henrik Weis Aalbæk,*
> *Vice President, Corporate Finance*

In 2003 the LEGO Group reported an operating loss of $228 million on sales of just over $1 billion. The company had a negative cash flow, and industry analysts were predicting the demise of the LEGO Group.[3]

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[1] Six eight-stud LEGO bricks (2x4) can be combined in 915,103,765 different ways.

[2] This was nearly twice the number of suppliers as Boeing used to build airplanes. See K. Oliver, E. Samakh, and P. Heckmann, "Rebuilding LEGO, Brick by Brick," *strategy+business*, August 29, 2007, http://www.strategy-business.com/article/07306.

[3] Rosie Murray-West, "Lego wobbles as Star Wars and Harry Potter sales tumble," *The Telegraph*, December 30, 2003, http://www.telegraph.co.uk/finance/2872600/Lego-wobbles-as-Star-Wars-and-Harry-Potter-sales-tumble.html.

Architecting a Business Transformation

In early January 2004, Kjeld Kirk Kristiansen, owner of the LEGO Group and a member of the founding family, invested a substantial portion of his own fortune into the dying company, stepped down as CEO, and appointed former McKinsey consultant Jørgen Vig Knudstorp as the new CEO. Knudstorp was just thirty-five years old at the time, had been with the LEGO Group for only three years, and had no executive experience. But as he took the reins of the struggling company, he quickly identified supply chain issues as a competitive disadvantage.

> *One of the things that dawned on me when I arrived at the LEGO Group was that basically you have an allocation problem. You are producing 100,000 components every minute, twenty-four hours a day, 365 days a year. And you have to allocate them in optimal quantities at different sites, so that you can deliver a set of finished products at Walmart in Arkansas on Tuesday at 5:00 p.m. (and not 5:00 a.m.) in optimal order quantity, optimal transportation quantity, optimal manufacturing batches, and so on.* —*Jørgen Vig Knudstorp,*
> *Chief Executive Officer*

Knudstorp learned that many of the LEGO Group's supply chain issues had grown out of the company's commitment to innovation. Knudstorp knew there was no shortage of innovation at the LEGO Group but also that much of the innovation was not profitable. Allowing product development staff free rein to innovate had led to gross inefficiencies in purchasing, production planning, and distribution. For example, product innovations involving new colors that were only slightly different from the old colors added a great deal of cost but no real value.

> *What happened was that out of our design departments we were creating too many variants of new bricks and too many different new color variants.* —*Erik Hansen,*
> *Senior Director, Technology & Open Innovation*

Knudstorp focused the company initially on cost-cutting and efficiency, particularly related to supply chain processes. In 2005, just a year after he took over as CEO, the LEGO Group turned a profit. But Knudstorp believed that the LEGO Group needed to radically improve its core business.

Building a Core Enterprise Platform

Around 2000 the LEGO Group had instituted a business initiative called "LEGO Light" to implement SAP and underlying technology infrastructure as a common technology platform across the business. The main objective of LEGO Light had been to induce globally consistent and reliable information by standardizing processes primarily within finance and sales. Early on the project was more successful at implementing enterprise resource planning (ERP) systems than at creating standardized processes and shared data. Knudstorp insisted that the company take advantage of the SAP infrastructure and adopt standard supply chain processes.

> *Since 2004, we've been very focused on getting the best out of the SAP platform and building a team that's capable of understanding it.* —*Jørgen Vig Knudstorp*

To implement the business changes needed to effectively deliver value from the SAP platform, Knudstorp deputized an operational team of logistics, sales, IT, and manufacturing managers that met regularly for a year to revamp operations. This team identified thirteen interdependent processes (e.g., order to cash, procure to pay, manufacturing, quality) comprising the global supply chain. The LEGO Group then implemented process changes that simplified distribution, cut down on suppliers, and reduced the

number of logistics providers. The company also established close collaboration with the largest retailers to conduct joint forecasting, inventory management, and product customization.[4]

Most of the processes in the supply chain business area also needed to be integrated into one or more of the LEGO Group's other four business areas: Corporate Finance; Corporate Center; Markets and Products; and Community, Education, and Direct. To ensure further standardization and integration of the processes in these business areas, the company established formal process teams. These process teams, consisting of key users and often an application architect, optimized processes across the five business areas.

Improvements in supply chain processes helped lead to an 11 percent increase in revenues—more than double earnings year over year—from 2005 to 2006. In the company's 2006 annual report, Knudstorp stated that one of the most important reasons for the growth was that "inventories held by retailers at the beginning of 2006 were extraordinarily low."[5] Those low inventory levels were the result of close collaboration with the retailers and optimized production and distribution.

Extending the Platform

The ERP platform underlying supply chain processes was just one of several key platforms critical to the LEGO Group's core business. In 2008 the LEGO Group consolidated multiple HR platforms into a single global platform. In 2009 the company started implementation of a global manufacturing platform called Combi 2 (see exhibit 1 for a timeline of platform development). These investments helped consolidate and integrate the LEGO Group's global operations.

> *LEGO Enterprise Platform, which is a term we gave birth to, is the IT below all the business processes that run the LEGO Group end to end. It is all the software and hardware and the wiring that run the LEGO Group beneath the human interaction. That understanding and that concept and the proven success of that platform—in terms of where other companies have failed and we have succeeded—has very few business issues.* —*Henrik Amsinck,*
> *Chief Information Officer*

The LEGO Group's leaders credited its enterprise platform with elevating the efficiency and effectiveness of daily operations. The company's financial performance further demonstrated the value of the platform. In 2008–9, while much of the world was dealing with a global recession, the LEGO Group reported surging profits.

In 2011 the LEGO Group further extended its enterprise platform with a new product lifecycle management (PLM) system. PLM influenced more than 80% of the business processes at the LEGO Group, and effective PLM was essential in accelerating the company's ability to quickly bring new products to market. The company targeted an increase in its product pipeline from around 200 products in 2010 to between 250 and 300 in 2012.

Expanding the LEGO Enterprise Platform with the new PLM system supported better master data management in the supply chain. Together, the PLM and improved master data management increased process automation, which improved product output an estimated 50%.[6] More importantly, the new PLM system exposed the cost and manufacturing implications of a new product early in its lifecycle, which enabled more informed decision making.

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[4] Oliver, Samakh, and Heckmann, "Rebuilding LEGO, Brick by Brick," 2.

[5] "Annual Report 2006, LEGO Group," http://cache.lego.com/downloads/aboutus/annualreport2006UK.pdf.

[6] Dave Hannon, "LEGO Builds a Broader Product Line with SAP PLM," *SAPinsider*, April 1, 2012, http://sapinsider.wispubs.com/Assets/Case-Studies/2012/April/LEGO-Builds-A-Broader-Product-Line-With-SAP-PLM.

Part of our innovation process is that everyone—all the big players—are present and part of the discussions. Already at the early stages of our innovation process, we talk about what are the risks from a supply chain point of view and what new materials do we need for solving this or that so that everyone is aware of what is coming up and we have that dialogue a little bit earlier than we normally had.
—Erik Hansen,
Senior Director, Technology & Open Innovation

Implementing the LEGO Group's Enterprise Platform took nearly a decade, and it created a culture of continuous improvement in all key business processes. Management often points to the systems as a huge development at the company, but the LEGO Group had experienced far more than technology change: Through building its enterprise platform, the company had fundamentally transformed.

Executing Strategy Digitally

In June 2015, CEO Jørgen Vig Knudstorp posted a blog post for all employees in which he mandated that the company approach digital and business matters the same way. *"No more digital strategy,"* he pronounced. Instead, a directive made leveraging digitalization one of the LEGO Group's four strategic priorities. The transformation that had accompanied the implementation of the LEGO Enterprise Platform had developed important capabilities that positioned the company to leverage digitalization. These capabilities touched three major areas within the company: (1) streamlined decision making, (2) direction for future IT development, and (3) global collaborative culture.

Streamlined Decision Making

The LEGO Group had emphasized the importance of business process integration with every major systems implementation. Business process integration at the company was the responsibility of networks of process experts, composed of leaders drawn from each of the process teams. The goal of a Process Expert Network or PEN was to ensure the creation of end-to-end global processes. Leaders who represented processes such as order to cash, manufacturing, finance support, and innovation and development met regularly to discuss interdependencies. Five such networks were established, one for each LEGO Group business area—Corporate Finance; Corporate Center; Global Supply Chain; Markets and Products; and Community, Education, and Direct—and together these comprised the LEGO Group's PEN network (see exhibit 2).

The PENs make sure that we think global... [The members] are close to process owners and that is something we are focusing on: make sure that these people meet colleagues from other locations because that is something we tend to forget every now and then.
—Edwin Van Kouwen,
Chief Enterprise Architect

PENs governed overall process optimization through formal audits and reviews, approval of a project's process documentation, and input to business cases. However, the PENs also ensured knowledge sharing across the organization and delivered business process training to produce understanding and buy-in across the business areas. Finally, PENs served as think tanks to guarantee that line functions in the business units were compliant with architectural principles. Through these activities, PENs helped bridge the functional and organizational gaps within and across business units.

Over time, the LEGO Group reorganized from the five business areas in exhibit 2 to just three:

- Operations: responsible for procurement, planning, manufacturing, distribution, and operations across the LEGO Group

- Marketing: responsible for all commercial functions such as product development, innovation, marketing, and sales[7]
- Business Enabling: responsible for supporting the overall business of the LEGO Group; consisting mainly of areas previously owned by Corporate Center and Corporate Finance

To enable faster decision making, the CEO expanded the Corporate Management (CM) team from five members to more than twenty (see exhibit 3 for the new management structure). The new management structure helped to break down what had traditionally been siloed thinking and to focus everyone in the company on fewer strategic goals.

The enlarged Corporate Management team enabled Knudstorp to eliminate nine out of ten formal governing boards. For example, he cut a board that addressed IT issues, but in placing the CIO on the CM team, Knudstorp provided it with all necessary expertise available to address IT. This also meant that the CIO would be equipped to leverage any emerging business problem to argue for architecture and for making the necessary IT investments. The CEO, COO, CMO, CFO, and CCO (chief commercial officer) together continued to serve as the more senior Management Board (MB), but the CM team ran the operations of the LEGO Group by making cross-functional decisions and leading implementation of those decisions.

With clearer goals, management felt that leaders below the CM team could be empowered to jointly make many decisions that did not require corporate management approval. By empowering business leaders and restructuring the organization, the hope was that business leaders would collaborate directly with each other to make the LEGO Group more responsive while also driving innovation through collaboration.

Direction for Future IT

When Henrik Amsinck became CIO in 2007, he introduced a set of IT principles intended to protect and continuously build out the LEGO Group's Enterprise Platform (see exhibit 4). He also set out to establish closer collaboration between IT and business professionals. That collaboration involved exploring new innovative solutions together.

Amsinck insisted that IT leaders look beyond IT efficiencies and focus on the value added to the business. Instead of deep, functional experts in narrow areas, he organized IT to align with the business verticals of Marketing, Operations, and Business Enabling (see exhibit 5). Enterprise architects, business relationship managers, project managers, and solution developers were assigned to one of the three domains. (A fourth leg of the Corporate IT organization—Technology and Security—provided infrastructure and operations services across the three business-oriented verticals.)

The size of the three verticals was such that the benefits of specializing within a vertical were much greater than the potential costs of reduced enterprise focus. Thus, architects gained a deep understanding of their business area. Additionally, this focus meant that the enterprise architects could proactively shape the portfolio of their business area.

> *It is about shaping the decisions and being proactive early. You get the good results, not by having a theoretical mandate and saying this is how things are, but by being involved with the business early on—making them understand the rationales that you have.* —Søren Nørgaard, Chief Enterprise Architect

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[7] In late 2014, Marketing was split into two departments: Product & Marketing Development (Chief Marketing Officer) and Market Management and Development (Chief Commercial Officer). The IT organization, however, continued to have just one chief architect responsible for marketing systems.

To limit siloed thinking within the three verticals, the CIO created overarching excellence teams in charge of IT functions like enterprise architecture. The excellence teams were responsible for ensuring synergies and collaboration across the verticals. They were also in charge of developing governance approaches to coordinate the efforts of the three verticals. For example, the chief enterprise architects of the three verticals took turns serving for a year as head of company-wide enterprise architecture to define common practices and share enterprise-wide solutions.

To ensure that each vertical's portfolio of projects was in line with the IT platform and operating model of the company, management instituted "enterprise architecture challenge sessions." These sessions engaged a network of architects, along with representatives from IT management and the business, to challenge the architectural impacts of major projects. By involving architects from each business area in the challenge sessions, discussions could look beyond the goals of a single business area.

Global Collaborative Culture

The LEGO Group embraced globalization by establishing a number of hubs outside of Billund, Denmark: Enfield, CT in the US; London; Shanghai; and Singapore. In Singapore and London the LEGO Group was experimenting with open office spaces to facilitate collaboration. Everybody up to the EVP level had no fixed desk but was given the newest collaboration tools. From an IT perspective, there was a continuous focus on how to facilitate collaboration within and between the hubs and the headquarters in Billund.

By 2016 leaders believed that both collaboration and coherence had become integral parts of the company's DNA. The CIO noted that this culture made it easy to argue for architecture.

> *We have hardly any politics in this company, which is really unusual for a company our size. But it is because of the level of collaboration we have. So for me it is like Christmas every day. If a company with different departments cannot collaborate, you kill architecture. So for me, the greatest gift is this fostering and nurturing collaboration and coherence. It is screaming architecture.* —Henrik Amsinck,
> *Chief Information Officer*

The CEO noted that the LEGO Group's collaborative culture made it possible to execute an overall strategy. One problem with the more collaborative approach, however, was that it took a good deal of time and effort. But this was seen as time well spent.

> *We emphasize collaboration, cohesiveness, and coherent choices to a very large extent—to such a large extent that many of our employees and leaders call it extremely complex. When you strive for coherency, it sounds so nice in theory. But the reality is that it means people really need to include many more variables in the equation when they make a decision because they can't make decisions in isolation. But we actually stress to our managers that you can't run a manufacturing site in China or a business in China without considering what the global operating model is and what the global system requirements are.* —Jørgen Vig Knudstorp,
> *Chief Executive Officer*

The LEGO Group's leaders were generally convinced that the investment of their time in collaboration generated significant benefits.

> *It looks like we are taking less action because we are talking about a decision or change for a long time, but when you finish with that and everybody nods and says, "I am on board," you execute in like a flash of a second! That is what you have to learn when you are on board here. You have to respect the networks and talk to everybody whether they are high or low. You have to onboard everybody and get their feedback and adjust your decision and do timely changes, etc. But then when you execute, you feel no resistance.* —Henrik Amsinck

Growing Digital Engagement

In 2016, the LEGO Group was reaping significant benefits from its enterprise platform, including faster innovation, enhanced customer relationships, and efficient supply chain processes. The company had also started to offer digital enhancements to its toys and to engage digitally with end consumers. These efforts had exposed both the vast opportunities and the unique challenges of increasing digitization.

Digitalized Products

The LEGO Group's product portfolio has increasingly bridged the physical and digital worlds. In 2011, the company launched a game called *Life of George* involving a physical LEGO set and a mobile app to challenge kids to solve problems by combining physical and digital play. In 2014, the company rolled out LEGO FUSION as a pilot in the US. LEGO FUSION allowed kids to use physical LEGO brick designs in a digital game on mobile devices by scanning brick designs with the LEGO FUSION app. This pilot project led to the 2015 global rollout of LEGO DIMENSIONS, a science fiction action-adventure video game featuring the characters and contexts of franchises such as *Back to the Future*, *Ghostbusters*, and *The Simpsons*. LEGO DIMENSIONS is in the toys-to-life genre, in which players build LEGO figures to accompany use of the video game.[8]

Digitalization offered seemingly infinite opportunities to incorporate traditional LEGO products into new digital toys, games, teaching tools, and scientific experiments. Looking to capitalize on these opportunities, the LEGO Group tapped the legions of passionate LEGO consumers for new product ideas. This involved extending its internal product development platform to introduce LEGO Ideas, an online platform that allowed customers to propose new products using existing LEGO components.

> *The process around LEGO Ideas is to put innovation upside down. It is not product push but product pull from the markets, from our users. [A consumer] suggested LEGO Minecraft and within forty eight hours we had 10,000 people saying "if this product was out there I would buy it." And by the way, they crashed our server two or three times during that weekend.*
>
> *—Erik Hansen,*
> *Senior Director, Technology & Open Innovation*

This new approach to product development accelerated time to market. The normal product innovation cycle at the LEGO Group was two years, involving idea generation, design, tests, and engaging with consumers. With the LEGO Ideas platform, fan participation eliminated the need for some of those steps. Additionally, fans were incentivized to propose projects by a small share of revenues from any product that achieved at least 10,000 supporters and went on to be approved and developed by the LEGO Group.

> *You don't have to do all the market research. It's all done for you. The consumers are also doing the models and we just have to brush it up a bit and then put it on the shelves—because we can do the math. We know based on how many people online sign up for these things, what size the market is more or less.* *—Erik Hansen*

Marketing and Sales

The LEGO Group was finding that the rapid emergence of social media and networking tools created enormous opportunities to engage with end consumers. The company used fan pages, groups, and networks to grow and strengthen its fan base. The CEO estimated that once online communities had started growing, the number of big fan-based gatherings of between 500 and 1,000 people increased

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[8] *Wikipedia, The Free Encyclopedia*, s.v. "Lego Dimensions," (accessed January 2016), https://en.wikipedia.org/wiki/Lego_Dimensions.

from around ten major conferences to more than five hundred different conferences. On YouTube the LEGO Group became the second-most watched brand, with almost all its content generated by users. The LEGO Click campaign[9] integrated online networks, video, and mobile technologies. The campaign included a short video that quickly went viral and referred consumers to an online platform where consumers could share ideas and use hashtags for social media.

> *Consumers want to engage, they want to have a dialogue, they want to talk to each other, and they want to talk to the brand and the company. That has always been a strength of the brand, but that strength has been so much increased on the back of the digital technology.*
>
> *—Jørgen Vig Knudstorp,*
> *Chief Executive Officer*

By leveraging fan communities and social media, the LEGO Group managed to reconnect with its adult fans that had grown up playing with LEGO bricks and still had an urge to build. This resulted in the highly successful LEGO Architecture product line that featured iconic buildings made out of LEGO bricks.

The LEGO Group was attuned to changing marketing requirements. The company introduced 3D catalogs with entertaining animations of LEGO products to entice owners of tablets. Marketing innovations were just one way that LEGO Group was responding to the growing demands of its retail customers. These customers were going digital and demanding omni-channel capabilities that combined traditional and digital marketing/sales approaches.

> *Over the past five years, Amazon, for instance, has become a global top-ten customer for us, and has become the most globally integrated customer that we have.   —Jørgen Vig Knudstorp*

Although the LEGO Group was generating some great benefits from increasing digitalization, management was intent on developing the company's digital capabilities.

Becoming a Digital Enterprise

The LEGO Group greeted 2016 attempting to better understand and position itself as a digital enterprise. Company leaders were concerned that their technology base and understanding could limit future success.

> *There are new spaces where software development is still at the edge and revolutionary—areas like consumer interaction and new products. What is the next upcoming disruptive gaming or consumer-engaging technology that could really impact our business and our business model? That evolution is unlikely to take place anywhere near our development center, and they are quite concerned about how long it will be for us to catch the trend in that landscape because we're not part of the clusters. We're not part of where all the solution is taking place.*
>
> *—Jørgen Vig Knudstorp*

The LEGO Group was looking to ensure that the company would be able to recognize and adopt important new technologies and business opportunities quickly. Leaders were particularly focused on requirements for new systems and processes, and new skills and mindsets in its workforce.

Systems and Processes

One area of concern was the limitations of the company's enterprise platform. Digital engagement involved more immediate, fast-changing, personalized interaction than traditional customer engagement. This meant that LEGO Group systems needed to provide 24/7 uptime, omni-channel access, and rapid delivery of new functionality. On the product side, digitalized toys entailed ongoing engagement between

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[9] Christina Warren, "LEGO Click: Building Blocks Meet Social Media," *Mashable*, "January 11, 2010, http://mashable.com/2010/01/11/lego-click/.

consumers and the LEGO Group. This engagement created demands for the LEGO Group to respond when new technologies rendered old ones obsolete or simply less interesting. The production of digital toys also necessitated that the inventory of LEGO products at retailers be monitored, because unlike LEGO bricks, digital toys could become outdated. Additionally, rather than the LEGO Group producing them itself, most of the company's digital products were being developed by digital partners. LEGO Group management wanted to have a technology base strong enough to take the lead in identifying opportunities and developing new products.

The LEGO Group's Enterprise Platform alone could not address new digital requirements. The platform and global processes had been essential in the prior decade in enabling the company to attain enormous growth—as factories, divisions, and products were rolled out globally—without having to make changes to the underlying systems. These globally integrated process capabilities were still valuable, but the LEGO Group could not rely on the same platform to meet emerging digital demands such as:

- *Continuous delivery of functionality* in days or weeks, rather than twelve to eighteen months, with an emphasis on exploration, experience, and continuous improvement
- *Insert and delete functionality* that could be deployed quickly as interaction preferences and user demands change
- *24/7 uptime* with nearly unlimited as-needed scalability—to avoid outages during surges in demand, such as when a movie on the LEGO website is a hit and is clicked simultaneously by thousands of users—in contrast to scheduled maintenance windows

The characteristics the LEGO Group needed in an engagement platform were quite distinct from an enterprise platform. For example, for its enterprise platform the company needed a tightly integrated, bullet-proof production environment ensuring the reliability and security of business transactions. Its engagement platform would support loosely coupled microservices providing digital functionality in a flexible, scalable, 24/7 environment that would constantly adapt its interface to the individual consumer. The reliability and security requirements of the enterprise platform suggested that development of new features might continue to adhere to a twelve to eighteen month project delivery schedule. In contrast, the engagement platform would rely on continuous delivery of functionality in days or weeks, applying user-centric design and rapid iterations through self-governing teams and agile development. The enterprise platform would facilitate efficiencies, and data integrity that is secure; the engagement platform would facilitate innovation and customer intimacy.

The engagement platform was expected to deliver not just greater consumer, shopper, and customer engagement, but also increased productivity and faster time to market. It would permit the more personalized experience that the LEGO Group believed consumers and shoppers expected in the digital economy—delivered at a speed consistent with the demands of the digital economy. Meanwhile the enterprise platform was still essential to meeting the operational demands of high-volume manufacturing and sales. Although the two platforms would provide different capabilities and operate in different modes, they would co-exist and share data to facilitate seamless end-to-end transactions and interactions.

Digital Workforce

In addition to technology requirements, the LEGO Group's leadership team was considering the workforce requirements for a digital enterprise. The company's consumers and customers were potentially outpacing the LEGO Group's people in the demand of digital services and in imagining digital opportunities. The company had grown comfortable with the workplace practices of a traditional manufacturing company.

The enterprise transformation had produced more discipline in organizational processes and a better understanding of end-to-end processes. But the transformation to a digital enterprise would require employees to think differently about how they got work done. For example, for the LEGO Group to

leverage new digital capabilities, management would have to create a culture for data-driven decision making for all employees. While many worked standard eight-hour days, increased globalization had rendered these traditional work norms ineffective as global teams were brought together through mobile and collaborative technologies. Such a change would require even less hierarchy, more portable work, and new ways for employees to connect and create new networks. Becoming digital would be a challenge for many employees who appreciated the stability of predictable standard processes. These employees had not started thinking in terms of digital requirements, and the earlier transformation designed to instill discipline in operational processes had not positioned them to think about experiments and innovation.

To ensure a constant flow of innovative ideas for new products and services, to build and leverage a powerful engagement platform, and to collaborate effectively with both colleagues and external employees, the LEGO Group was considering a variety of initiatives to foster new mindsets and skills. Ideas under consideration included digital "boot camps" to reskill employees, a portfolio approach to risk management, hackathons, the introduction of an analytics teams, and development of new performance metrics.

At the Threshold of Digital
Although the company could count more than a decade of annual performance improvements, the LEGO Group's management believed that the development of its people, processes, and platforms was an ongoing commitment.

> *You have to understand that we have just begun; we are not done. It is a journey; as with Hans Christian Andersen, it is a journey—not a destination.*   *—Henrik Weis Aalbæk,*
> *Vice President, Corporate Finance*

In early 2016, the LEGO Group was positioned to become a digital business. The leadership challenge was to navigate the company's next transformation.

Exhibit 1
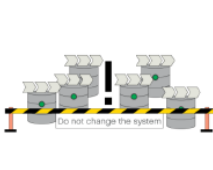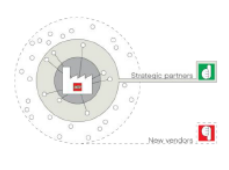## Platform Development
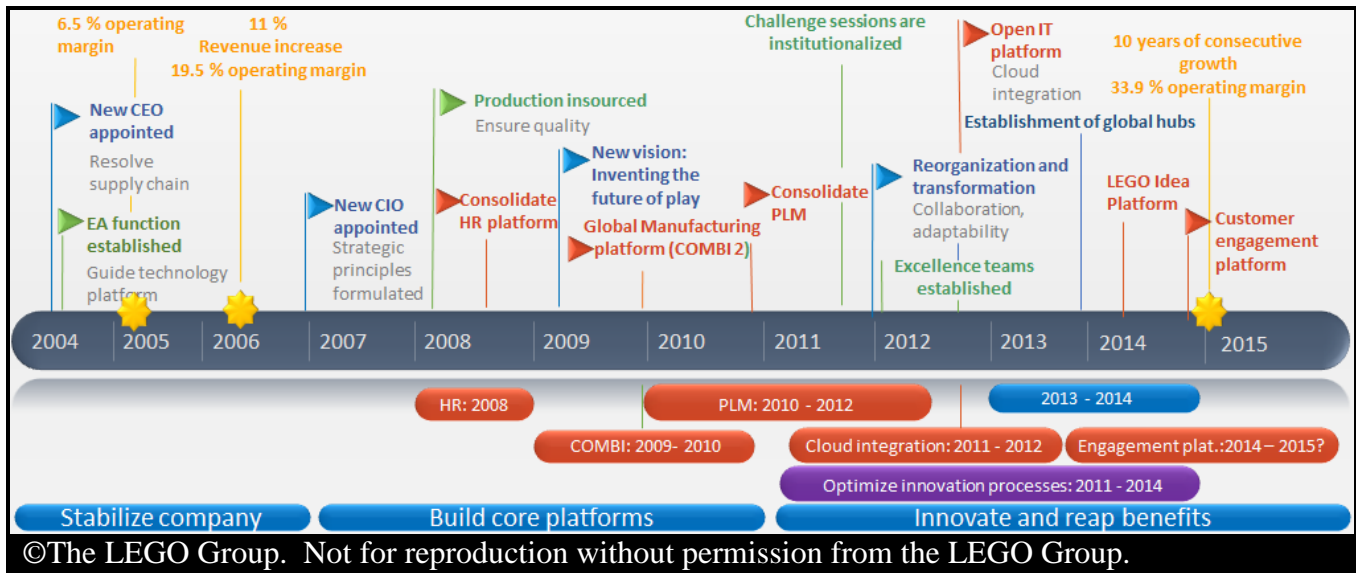
Exhibit 2
The LEGO Group's PEN Network
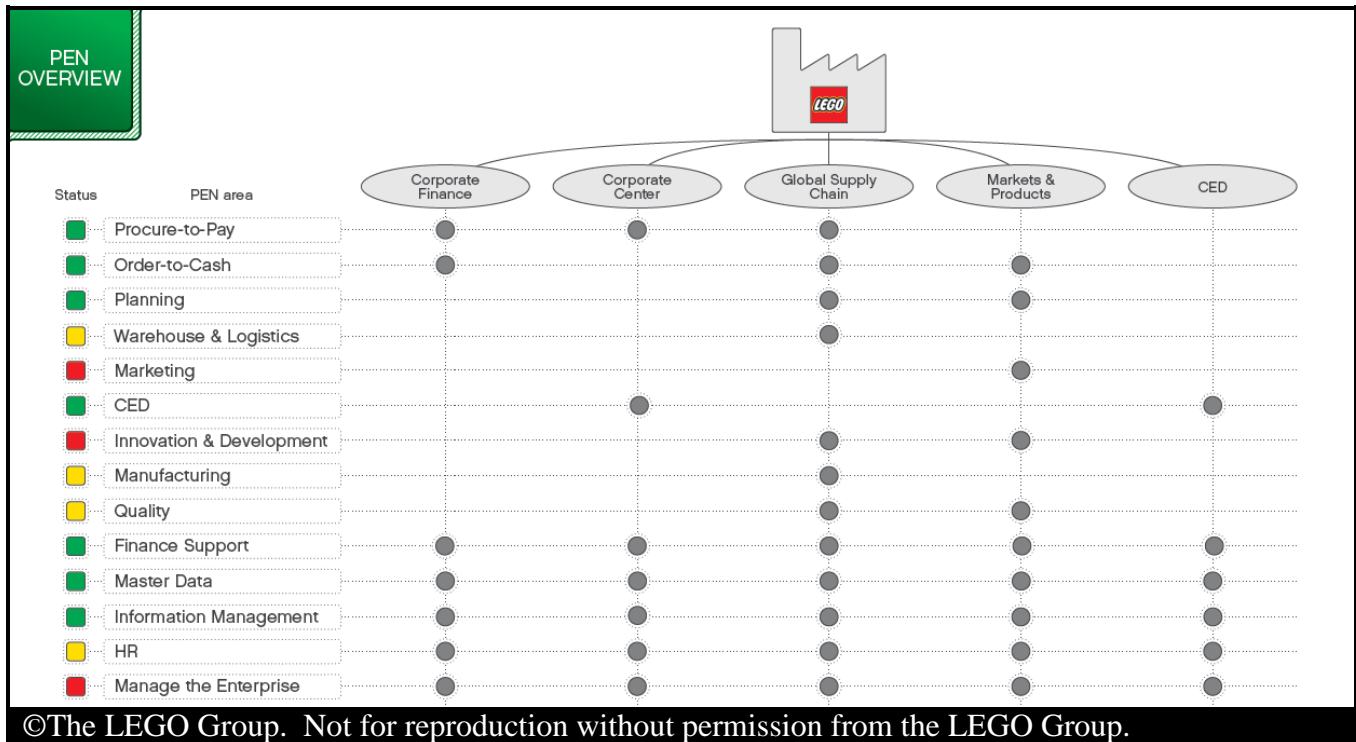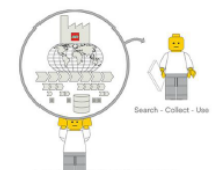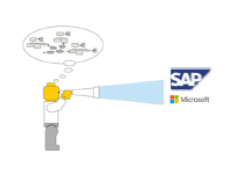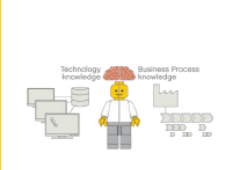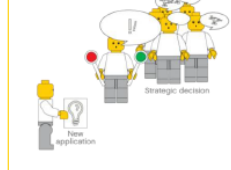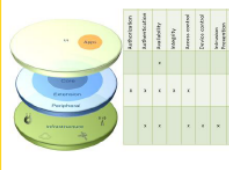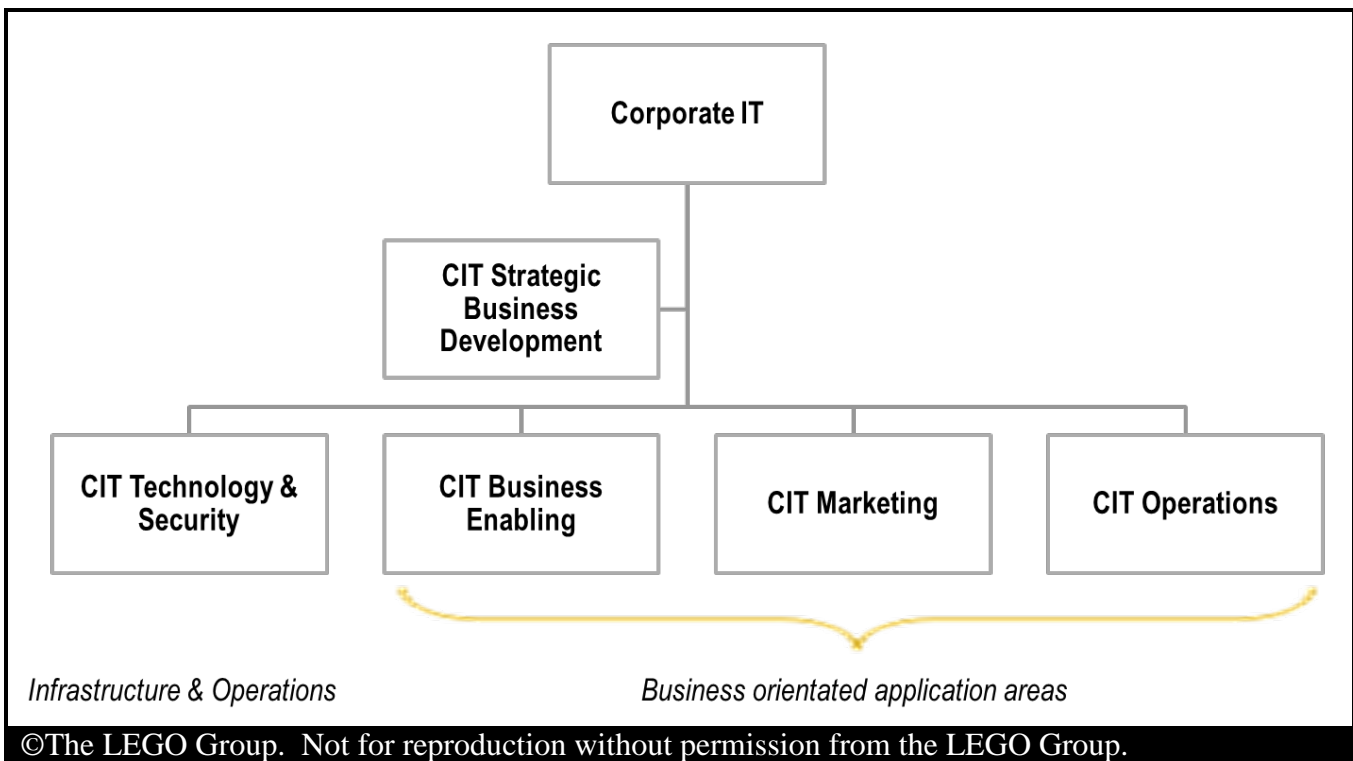
Exhibit 3
The LEGO Group Management Structure as of 2013

Corporate Management (CM)

Management Board (MB)

CEO

COO Operations

CMO Marketing

CFO Business Enabling

Value Chain Innovation

Supply Chain Planning & Distribution

Engineering & Quality

Procurement

Americas Manufact.

Asia Manufact.

EU Packing

EU Moulding & DUPLO

Executive HR

Corporate IT

Corporate Finance

Group Finance

Corporate Legal Affairs

Corporate Affairs

Innovation & Consumer Marketing

Shopper Marketing & Channel Development

Asia

Americas & Pacific

Europe, Middle East & Africa

Product Group 2

Product Group 1

Exhibit 4
IT Strategic Principles

Exhibit 5
Corporate IT Management Structure as of 2015

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Cielo (Brazil)
Coles (Australia)
Commonwealth Bank of Australia
DBS Bank Ltd. (Singapore)
DentaQuest
Deutsche Telekom (Germany)
Dunkin' Brands
Eaton Vance Management
El Corte Inglés
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National Disability Insurance Scheme (Australia)
New Zealand Government— GCIO office
Nielsen
Nomura Research Institute, Ltd. (Japan)
Northwestern Mutual
Orange S.A. (France)
Origin Energy (Australia)
Owens Corning
PepsiCo Inc.
Principal Financial Group, Inc.
Procter & Gamble
Raytheon Company
Reserve Bank of Australia
Royal Bank of Canada
Royal Philips (Netherlands)
Sabadell Bank
Schindler Digital Business AG (Switzerland)
Schneider Electric Industries SAS (France)
Standard & Poor's
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State Street Corp.
Sydney Water (Australia)
TD Bank
Teck Resources Ltd. (Canada)
Tenet Health
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