Lego: Embracing Change by Combining Business Intelligence with a Flexible Information System
Arroyo, Daniel Ortiz

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The LEGO Group, which is headquartered in Billund, Denmark, is one of the largest toy manufacturers in the world. LEGO's main products have been the bricks and figures that children have played with for generations. The Danish company has experienced sustained growth since its founding in 1932, and for most of its history its major manufacturing facilities were located in Denmark.

In 2003, LEGO was facing tough competition from imitators and manufacturers of electronic toys. In an effort to reduce costs, the group decided to initiate a gradual restructuring process that continues today. In 2006, the company announced that a large part of its production would be outsourced to the electronics manufacturing service company Flextronics, which has plants in Mexico, Hungary, and the Czech Republic. The decision to outsource production came as a direct consequence of an analysis of LEGO's total supply chain. To reduce labor costs, manually intensive processes were outsourced, keeping only the highly skilled workers in Billund. LEGO's workforce was gradually reduced from 8,300 employees in 2003 to approximately 4,200 in 2010. Additionally, production had to be relocated to places closer to its natural markets. As a consequence of all these changes, LEGO transformed itself from a manufacturing firm to a market-oriented company that is capable of reacting fast to changing global demand.

LEGO's restructuring process, coupled with double-digit sales growth in the past few years, has led to the company's expansion abroad and made its workforce more international. These changes presented supply chain and human resources challenges to the company. The supply chain had to be reengineered to simplify production without reducing quality. Improved logistics planning allowed LEGO to work more closely with retailers, suppliers, and the new outsourcing companies. At the same time, the human resources (HR) department needed to play a more strategic role inside the company. HR was now responsible for implementing effective policies aimed at retaining and recruiting the most qualified employees from a diversity of cultural backgrounds.

Adapting company operations to these changes required a flexible and robust IT infrastructure with business intelligence capabilities that could help management perform better forecasting and planning. As part of the solution, LEGO chose to implement SAP's business suite software. SAP is a company that specializes in enterprise resource planning applications designed to efficiently manage a company's essential functions and is one of the leading software suppliers in the world. SAP's software products include applications such as Supply Management (SCM), Product Lifecycle Management (PLM), and Enterprise Resource Planning modules.

The SCM module includes essential supply chain monitoring and forecasting, planning, and inventory management processes and systems. The PLM module enables management systems to facilitate the development processes and systems of suppliers, manufacturers, and service companies. The HR module includes, among other applications, Capital Management (HCM), and Human Resource administration and development.

SAP's business suite is based on a tier client-server architecture that adapts to the new Service-Oriented Architecture (SOA) available in the latest version. In the first tier, a client interface with a graphical user interface (GUI) on a laptop, desktop, or mobile device sends requests to the application server—the second tier in the client-server system. The third tier is the database—the third tier in the client-server system—connected to the database system and containing the databases of various locations, including those offered by Oracle, Microsoft, and others. The relational databases can easily store data on LEGO's products and supply chain, and thousands of databases can use the SAP query language from the databases, because it is relatively easy to use and does not require technical skill. Additionally, the SAP platform enables authorized personnel to access to the database system from various locations, including those in Europe, America, and Asia.

SAP's ERP-HCM module includes features such as "Talent Management," which handles employee administration, recruitment, and time management. These features enable LEGO to maintain a professional and efficient human resource management system that aligns with the company's strategic goals.