Agile Transformation at LEGO Group

Implementing Agile methods in multiple departments changed not only processes but also employees' behavior and mindset.

Anita Friis Sommer

OVERVIEW: LEGO Group launched an Agile transformation of its corporate digital departments in early 2018; this transformation included the introduction of a new digital operating model. One year into the transformation, the impact of the new model is beginning to show in a significant reduction in the time required to respond to change—from months to weeks—in the company's core functions. This article describes how the Agile transformation was orchestrated and Agile values and principles integrated into the process to avoid implementing a set of Agile processes and tools without changing behavior and mind-set.

KEYWORDS: Agile transformation, LEGO group, Digital transformation

Recent years have seen increasing interest in adapting Agile processes to larger organizations, and especially what happens when the Agile way of working is scaled to the department organizational level. Rigby, Sutherland, and Noble (2018), describing examples of Agile organizations (teams of teams), argue that Agile transformation can make companies more responsive to change. The Agile transformation at LEGO Group (referred to simply as LEGO) provides a unique case study to explore this claim further, as well as an in-depth study of a novel approach to managing an Agile transformation.

Agile transformation in LEGO's two large digital departments has improved responsiveness of digital deliveries, and early results show significant improvement in speed of response to change in many areas, from market engagement to digitalization in production. Project delivery time has been reduced from months to weeks compared to the traditional development approach. But perhaps most importantly, the new way of working has improved motivation and satisfaction among employees in the two departments that kicked off the Agile transformation—contributing to a significant positive increase in the yearly employee motivation and satisfaction survey score.

LEGO has just begun its Agile transformation—the transformation began only a year ago. However, LEGO's journey offers some key lessons for other companies contemplating such a change.

LEGO's experience demonstrates that an Agile transformation can be successfully executed by applying Agile values and principles to the transformation efforts themselves, enabling Agile behavior rather than prescribing a particular method or model. This in-depth case study of LEGO's journey shows how an Agile transformation can be executed using Agile values and principles, through a change approach that follows Agile principles of empowerment. The transformation story illuminates successes and also highlights challenges, such as those related to changes in the role of leadership and in the emphasis on prioritizing deliveries. Overall, the insights from the LEGO Agile transformation provide both inspiration and an action plan for others considering implementing Agile in their organizations.

Background

As the pace of change in most markets increases, companies find that responsiveness—the ability to respond swiftly to change—is a key competitive capability. For instance, in the toy market, an increasingly digital marketplace has seen a much higher rate of change; the market can be altered by fast-developing, unpredictable developments, such as the fidget spinner, which for a short time in 2017 attracted more than 17 percent of the online toy market (Fu 2017). To stay competitive in such markets, companies must increase responsiveness, not only in product development and sales, but also in enabling departments, such as marketing, R&D/innovation, and IT.

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A promising approach to increase responsiveness in both IT and product development is found in Agile methods. In software development, Agile methods have improved quality and speed to market, while increasing employee motivation and satisfaction (Rigby, Sutherland, and Takeuchi 2016).

Agile processes adhere to the Agile Manifesto (Beck et al. 2001). The Agile Manifesto is not a methodology, but rather a mind-set, a way of thinking that supports certain behaviors. The Manifesto contains 12 principles; all Agile methods are built on these bedrock beliefs. Those principles emphasize customer engagement, flexibility, collaboration, and rapid delivery of working products. A true Agile enterprise follows the Agile values and principles throughout its development organization (Rigby, Sutherland, and Noble 2018). The principles are enacted via any of several Agile practices (see "Agile in a Nutshell, right)

Agile is increasingly being adopted by physical product manufacturers, who are seeing similar benefits as those seen in software development (Cooper and Sommer 2018; Sommer et al. 2015). Following on this success, some companies are now exploring the potential to scale Agile across the entire organization (Rigby, Sutherland, and Noble 2018). Such an effort represents a large-scale transformation. Creating a fully Agile organization requires integrating the principles of Agile in every element of the company. Key ingredients in an Agile enterprise include centrality of Agile values and principles, a modularized operating architecture, employee motivation through continuous feedback and coaching, and flexible planning and budgeting.

As of yet there are no empirical guidelines for creating such a transformation. However, Rigby, Sutherland, and Noble (2018) outline the changes required. Based on that work, we deduced a framework for Agile transformation that includes five categories:

- **Organizational structure**—Evolve from existing structure (such as functional or matrix) to a product-oriented team structure.[1]
- **Mandate**—Shift mandate and ownership of deliverables within the strategic frame from managers to product teams.
- **Financial processes**—Move from traditional yearly budgeting processes (fixed) to frame-based dynamic budgeting (venture-capital style) based on strategic aims.
- **Performance measures**—Redefine from traditional key performance indicators (KPIs) or similar measures that focus on process adherence to value measures, product measures, and team measures.
- **Delivery processes**—Change from end-of-project delivery based on specifications to continuous delivery in iterations based on value added.

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[1]The "product" need not be an actual physical or software product; it can also be a service offering or another artifact, such as a marketing addition (Agile marketing) or an improvement to a business process (Agile consultancy).

Agile in a Nutshell

Agile originates from the Agile Manifesto for Software Development (Beck et al. 2001). The Agile Manifesto was created by a group of leading experts in software development who originally came together to create a common methodology for software development. The outcome of that gathering was a common set of values and principles for "being Agile." Today there are well over 30 documented Agile approaches, methods, and frameworks, all built on the values and principles of the Agile Manifesto. Examples of such methods and frameworks include Scrum, Kanban, Extreme Programming, and DSDM (Rigby, Sutherland, and Takeuchi 2016; Schwaber 2004; Scrum Guides 2017).

Agile methods were originally developed as a rebellion against traditional software development methods—broadly referred to as "waterfall" methods—which were linear and siloed. Problems with waterfall methods arise largely from their overemphasis on documentation, strict discipline around prescribed process and tools, and general lack of space for experimentation and collaboration. To counter those characteristics, the founders of the Agile Manifesto developed four value statements that restructure the balance between governance and collaborative development (Beck et al. 2001):

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

A number of methods adapt Agile principles and tools for physical product development, such as Lean Startup (Ries 2011), Lean product development, and Agile–Stage-Gate hybrid processes (Sommer et. al. 2015; Cooper and Sommer 2018). For project management, PMBOK and PRINCE2 (methods from two dominant project management institutes) now include sections on Agile project management, as well (Project Management Institute 2013; Axelos and Bennett 2017).

Some scaled Agile approaches, such as SAFE, NEXUS, and LeSS, explain how Agile methods—mainly Scrum—can be synchronized across teams, while maintaining the focus of shared delivery in one product group or across one portfolio (Alqudah and Razali 2016). Common to these methods is the focus on single teams or groups of teams in the context of either one product (software or physical) or one project or portfolio.

In addition to a guiding framework, transformation also requires a change management approach. Organizational change either is imposed on the organization from the top or emerges from the bottom (Todnem 2005). In top-down change management, the details of what needs to change are decided by leaders and imposed on employees. The primary challenge in top-down change management is resistance to change; entire theories are built on how to manage such resistance (Ford and Ford 2010). The alternative approach is bottom-up change, or emergent change, which occurs when employees decide themselves to change behavior and that change reshapes the organization. Bottom-up

change can challenge the status quo without strategic direction from company leaders and thus may jeopardize the company's strategic aims.

Neither of these approaches is viable for an Agile transformation. Top-down change management runs counter to Agile principles, telling employees what to do and how to do rather than empowering teams to make decisions on their own. On the other hand, the bottom-up approach lacks the direction needed to proliferate change across an entire enterprise.

Open-source change theory, a novel change management approach, offers a middle way (CEB 2016). In open-source change management, employees are not told what to do or when to do it. Instead, they are called to make changes for the benefit of the company. This framework seeds change in three stages:

1. **Create strategy and vision.** Employees cocreate strategy rather than leaders setting the change strategy.
2. **Implement the plan.** Employees own implementation planning instead of leaders creating the plans and telling employees what do.

3. **Communicate and sustain change.** Employees talk openly about change rather than being the target of communications rolled out through planned, top-down campaigns.

This approach improves change efforts by reducing time employees spend waiting to be told what to do, misdirected efforts toward wrong activities, and resistance to change (CEB 2016). An Agile transformation is more likely to succeed using the open-source change approach, since it is congruent with Agile principles, empowering employees to make decisions and cocreate change.

The Study

The case study set out to explore how an Agile transformation can be conducted in practice, and the data provides various perspectives on the phenomenon. Because the primary researcher was part of the Agile transformation team during the period described (and is still an employee of LEGO), an action research approach was used (Van de Ven 2007). This approach, which is designed to support case study research in which the researcher is also an active participant, can help avoid positivity bias, by following the principles of the engaged scholarship diamond model (Van de Ven 2007). Action research is an iterative process (within the context of the research perspective) between research design, theory building, problem formulation, and problem solving. It emphasizes reliance on collected facts, including hard data such as documents and written statements, as well as employee accounts collected through formal interviews. In this case, data took the form of company documents, surveys and assessments, and interviews and observations (Table 1).

Analysis began using the five categories derived from Rigby, Sutherland, and Noble (2018) to frame the essential constructs of an Agile transformation. The data were sorted by these categories and analyzed to see how decisions made at LEGO within each of the categories led to particular outcomes.

The transformation process itself was analyzed using the Agile manifesto values (Beck et al. 2001) as a framing structure. Data were initially structured according to the relevance to the themes of the Agile values using pattern matching. The analysis was evaluated in two steps, and each time independently by two managers on the transformation team. These reviewers critically evaluated the conclusions in relation to their experience and checked the

TABLE 1. Data sources

Category	Data Type	Description
Pattern-Matching Analysis	Emails	Emails from department leaders describing transformation decisions and approach
	Transformation presentations	100-day plan, descriptions of transformation process, and decisions and documentation of communicated approach
	Transformation sprint data	Details on transformation progress through Agile sprints and biweekly sprint planning/adaptation to change/learnings
	Yammer posts and videos	Posts from employees throughout the transformation, asking questions and sharing news, success stories, and challenges and concerns
Assessments	Agile assessments	Three high-level maturity assessments conducted across departments by team leaders and/or product owners within all product areas
	Change readiness assessment	Thematic analysis of 20 internal Yammer threads, involving 48 employees, on topics such as Agile advantages and transformation concerns
	Competing-values framework assessment	Assessment of senior leadership team members' perception of company's current values*
Interview and/or observation study	Culture study	Five semi-structured interviews and a three-month observation study of teams during the transformation period. Interviews transcribed and analyzed from a culture perspective.
	Project method study	Focus group interview and three in-depth interviews of senior project managers to explore the connection between project success and project management approach. Focus group and interviews were recorded, transcribed, and analyzed.

*Leaders were asked to respond to a set of questions about the company's values and then to draw their views of the relative weight of those values on a competing values matrix. (See http://changingminds.org/explanations/culture/competing_values.htm for the competing values matrix.) All answers were captured together on a whiteboard, which was used as a springboard for a discussion on how to modify company values to enable the Agile transformation.

data for accuracy. In the second step, the analysis was also evaluated by the senior vice president funding the transformation. Both rounds resulted in removal of conclusions that could be perceived as overly positive or conclusions that were not supported by multiple data sources. This process resulted in an objective, fact-based account of the Agile transformation.

As a whole, the data show that LEGO's Agile transformation, using the open-source change approach to implement Agile across all five categories of transformation, was successful in creating a product-oriented team structure with team ownership of deliverables, frame-based budgeting, value product and team measures, and continuous value delivery in iterations. The primary analyses are pattern matching on key documents of the transformation and a set of assessments examining the organization's status in the context of Agile, change readiness, and competing values frameworks and tracking its evolution.

Pattern-Matching Analysis

Results of the pattern matching analysis of key documents show the progress of the open-source change approach. Initially, some teams struggled to cope with uncertainty around choice of methods and the lack of direction. The introduction of local team coaches reduced these challenges over time. Documents show that Agile transformation constructs were implemented across the five categories of the framework, although at varying paces:

- The *organizational structure* was changed to a product-oriented team structure.
- The *mandate* shifted more gradually. Local managers transferred ownership of deliverables, with support from senior leaders, over about six months. Six months into the transformation, the majority of teams were defining their initial products.
- The *financial process* shifted gradually to frame-based budgeting across the first transformation year, mixed with traditional budgeting by departments and projects.
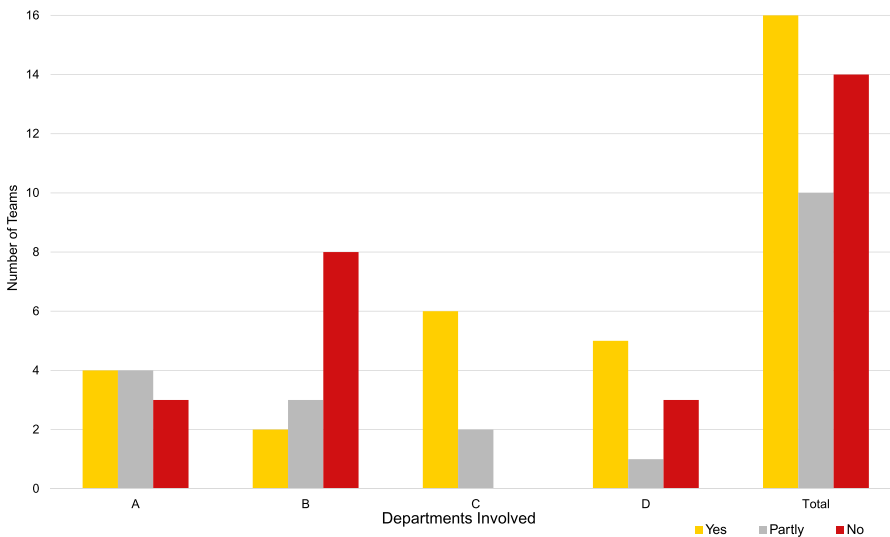
- *Performance measures* for bonuses were immediately changed for all departments involved in the change, from individual to team-level KPIs, to foster a focus on team performance. Traditional, process-focused KPIs used at the local level were exchanged more gradually for value, product, and team measures.
- Changes in *delivery processes* came more slowly. Deliveries in existing projects still had to be completed before the organization could move to a product-oriented approach, which delayed change in some teams.

Searches for success stories on the company's social media platform provided more detailed accounts (often in the form of video statements from internal customers) of successful results. Four of those success stories (chosen because sufficient evidence was available to support them) were included in the pattern-matching analysis. These stories highlighted and supported Agile transformation results, such as increased speed to market, product quality, team productivity, and team motivation.

Agile Assessments

Three Agile maturity assessments were conducted across departments to follow the progress of the Agile transformation: after the first month, after the first four months, and after the first year.

The first assessment, conducted after the first month of the transformation, showed that over two-thirds of teams had initiated Agile value delivery, either fully or partly (Figure 1). This assessment also showed that allowing teams to freely choose which Agile tools to implement had enabled teams to use no less than six different types of tools (Figure 2).

Analysis at the department level showed huge differences in maturity across departments at this early stage. While some departments had all of their teams working Agile to some extent, other departments had few or no teams doing Agile. Some of these differences were driven by department-specific factors. The open-source change approach allowed departments to initiate change when the timing was right for them.

By the end of the first four months, at the second assessment, all teams had started their Agile transformation.

The second assessment looked further into impediments to transformation, categorized as culture, leadership, teams and roles, and delivery/action. The assessment showed that although Agile methods had been deployed, teams were still too far from their customers, and team members struggled to believe leaders really had empowered them to fail fast. The assessment also showed challenges at the leadership level, in understanding what Agile leadership entails and how to best support newly empowered teams without interfering.

The third assessment assessed the teams' ability to "be Agile" as opposed to

FIGURE 1. Agile assessment: Have you started using an Agile way of working in your team?
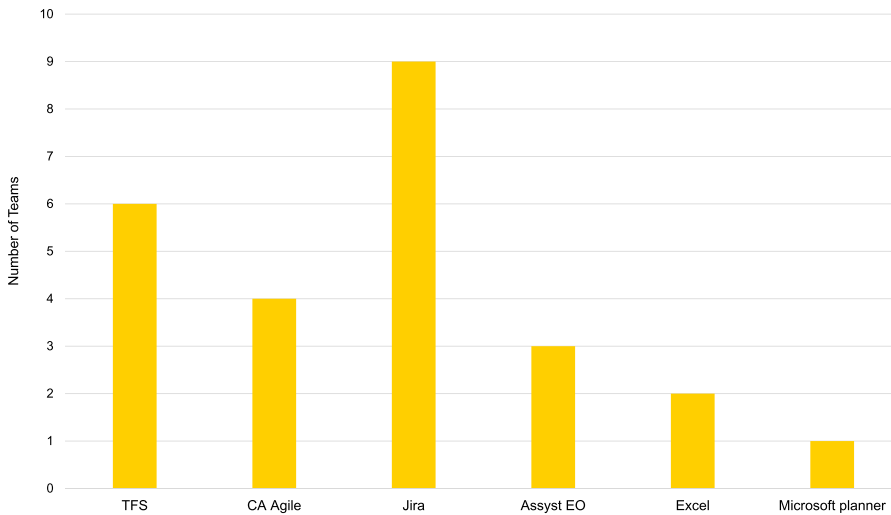
FIGURE 2. Agile assessment: What Agile software tools is your team currently using?

just "do Agile" through a set of 14 statements to which respondents were asked to indicate their agreement on a scale of 1 to 5. The results showed that after the first year, teams were still struggling to varying degrees to create clear product definitions, sustain close engagement with customers, and prioritize deliverables appropriately.

Change Readiness Assessment

This assessment analyzed activity on the company's social media platform. The analysis broke down #goingAgile conversations on internal social media around eight themes: change journey; customer collaboration; common terminology; empowerment of teams; Agile values and principles; culture, structure and processes; and IT strategy. Results show that the Agile transformation was following the open-source change approach; conversations around change strategy included both employees and leaders as active participants. Information and conversation about change planning was shared between teams, demonstrating team ownership of the process, and communication around the change journey was open to all on the platform.

Competing Values Framework Assessment

This assessment (Pogorzala 2018) is a tool used by Agile coaches to assess the maturity of an organization and initiate dialogue around company values. The assessment showed that hierarchies and hierarchical behavior were generally viewed as an overly favored behavior in the company. This

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finding enabled a discussion of how Agile behaviors could be encouraged by senior leaders and provided insights into how leadership dialogues catalyze changes in governance structures that enable behavioral change.

Culture Study and Project Method Study

The purpose of these two studies was to verify the assumptions derived from the pattern-matching analysis. Each study was conducted by an independent researcher not directly involved in the Agile transformation. Both studies supported the assumptions of the prior analyses and offered deeper insight into some of the challenges in the change journey.

The interview and observation data demonstrated the presence of overall cultural support for the Agile transformation, as well as challenges in coping with the lack of clear direction for how to change. The culture generally supported change efforts, the appropriate resources were allocated to the transformation, and employees had both motivation and competencies to execute the change.

This evaluation helped illuminate project management and process selection practices. The interview data revealed that the likelihood of project success within corporate IT at LEGO was influenced by the fit between the project type and project method. This finding led to the recommendation that teams perform an early project assessment before choosing a specific project execution method. The results also reinforced the Agile principle that methods or processes should not be prescribed from the top, but should be chosen by teams to suit the needs of the project and the team.

Agile Transformation at LEGO

The LEGO Group is a family-owned company famous for its core product, the LEGO building system (see "LEGO Group Fact Sheet," p. 26). Founded in 1932, the company is now globally present, with manufacturing sites and offices all over the world, although the headquarters remain in the rural town of Billund, Denmark (LEGO Group 2018). The LEGO Group's core philosophy is that good-quality play enriches children's lives and enables creative learning. The company is strongly committed to its core values: imagination, creativity, fun, learning, caring, and quality. As the company's vision statement says, the LEGO Group aspires to invent the future of play. Such a vision cannot be achieved via a one-off solution; rather, it is a dynamic, moving target. To succeed, employees must be able to innovate—test and learn—fast in a world that is in constant flux.

The groundwork for LEGO's Agile transformation was laid a few years prior to its beginning by the company's first Agile pilots. Inspired by the Agile Manifesto and experiences with Agile in other companies, a small group of digital project

managers in the digital marketing team decided to pilot Agile in their projects, using the Scrum methodology within the existing Stage-Gate project model. The project managers and team members who participated in this experiment were excited about the approach. Not only was this way of working much more motivating and engaging, it also produced value much faster and in closer contact with end users.

Preparing for Transformation

In 2017, based on these positive experiences, the senior vice president of corporate IT, Henrik Amsinck, decided to move forward with an Agile transformation, including a new digital operating model, new organizational structure, team empowerment, and redefined delivery mandates, in two large departments. Those two departments encompassed more than 500 employees located around the world. The roll-out of the transformation was carefully planned to allow team members and leaders alike plenty of time to adjust (Figure 3).

The transformation was announced on August 30, 2017, well before the kickoff, planned for January 2018. The direction was communicated clearly, in an email from the CEO to all employees:

> We are going to organize ourselves around the products or services that we provide to our LEGO colleagues . . . . This move to a product oriented, Agile setup is the trend seen across the technology industry as digitalization of businesses gathers pace. Digitalization is creating a completely new paradigm in business, where the pace of technology change has increased dramatically, the landscape is much more volatile as new digital concepts come and go, and there is an increasingly blurred technology responsibility. These factors offer IT—as the primary technology enabler—unprecedented opportunities to create value by

becoming an agile change agent to accelerate the rest of the LEGO Group on the digital journey.[2]

During the final months of 2017, employees and leaders alike were given time to consider the change; communicate with each other about its possible impact and their hopes and fears for the change; and ask the leaders questions about the transformation. Following this early communication, the company sought to generate buy-in from all leaders; all 70+ leaders from around the world were summoned to headquarters for a two-day Agile onboarding workshop one month prior to the roll-out of the changes to the teams. At this workshop, leaders with Agile experience—from both inside and outside of LEGO—shared their perspectives and knowledge, and the LEGO team leaders had an opportunity to ask questions about leading Agile and share their reflections and honest concerns. They also had the chance to try out Agile ways of working on their own using the LEGO Scrum city game (Steghöfer et al. 2017).

The results of this onboarding quickly became obvious to all involved. The leaders left with a clearer understanding of Agile and—crucially—the knowledge that Agile ways of working, by enabling continuous value delivery and quicker response to change, would be critical for LEGO to maintain its competitive advantage. At the same time, however, many questions were left unanswered, especially questions about how the leader role would change when responsibility for product delivery was handed down to product teams. That question would be explored further throughout 2018, as the Agile transformation unrolled.

The Agile Transformation Team

At the center of the transformation process was a transformation team of three people responsible for orchestrating the change journey. The team chose a transformation approach inspired by CEB's (2016) open-source change theory. The change was not forced but encouraged, by making coaches available, equipping leaders to support the change, and creating real mandate and space for Agile teams to form and mature.

The underlying principles driving the transformation were based on the same principles teams were being encouraged to adhere to—the Agile values laid out in the Agile Manifesto

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[2]Email from Henrik Amsinck to all employees in LEGO Corporate IT, November 9, 2017.
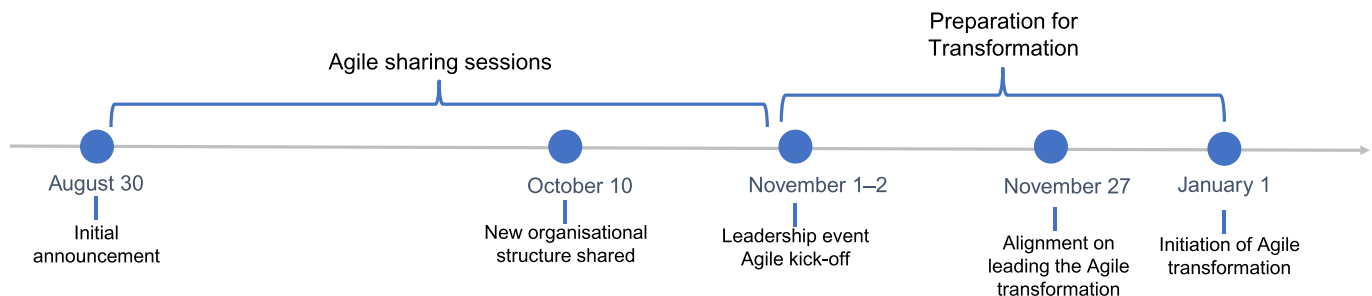

FIGURE 3. Preparation timeline for LEGO's Agile transformation

(Beck et al. 2001). In other words, the transformation was aimed at emphasizing:

- Individuals and interactions over processes and tools—Specific methods or tools were not required or dictated from the home office. Rather, teams were encouraged to explore methods on their own as they learned the Agile principles and values through LEGO serious play, training courses, coaching, and ongoing communication via the internal social media. Training on the most generally recognized Agile methods, such as Scrum and Kanban, was offered to employees at all levels. Information about tools such as JIRA, Microsoft teams, and Team Foundation Server (TFS) was shared widely. Most importantly, the focus on individuals and interactions was strengthened through the appointment of local Agile ambassadors, provision of local coach support, and support for ongoing peer sharing within and across teams and departments.
- Working product over comprehensive documentation—An Agile hub and Yammer site (internal social media) were used to share knowledge and grow understanding of the transformation. On the internal social media (which was open to all employees within LEGO), videos quickly became one of the primary ways of communicating and sharing learnings from coaches, employees, and leaders alike. There were no manuals or heavy processes; no "book of truth" for how to be Agile at LEGO was created or circulated. Rather, a collection of good practices and guidelines on where to acquire support and information developed, and continues to develop, via ongoing sharing of learnings, challenges, and success stories from working Agile teams (the product of the transformation).
- Customer collaboration over contract negotiation—The transformation team involved core stakeholder groups (customers of the transformation) early on in active collaboration to develop and form the transformation within their areas. This was done through a network of Agile coaches; local coaches for each product area supported and collaborated on the transformation directly with teams, while two or three Agile coaches in each product area ensured local anchoring and dissemination of key Agile competencies across the organization. No internal contracts were made to control transformation deliverables—local teams were simply trusted to create value

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through collaboration. Early and frequent feedback from teams and their leaders ensured that the transformation team delivered value and that issues were resolved as they arose.
- Responding to change over following a plan—The Agile transformation was not subject to a detailed implementation plan. Instead, the team created a strategic frame for one year with an approved budget frame for just the first six months and a "First 100 Days" plan of major activities to establish the direction of the transformation and build momentum. The transformation team used Agile artifacts, such as a backlog and kanban board, and Agile practices, including two-week sprints with daily standups, reviews, and retro meetings, to respond to changes and plan next steps based on new developments.

The activity plan for the first 100 days consisted of four streams: training, proactive knowledge sharing, leadership and people processes, and value management. In each stream, a set of high-level activities was defined and then rescoped when appropriate, as the transformation unfolded.

- Training included Agile basic training, Scrum master training, product owner training, Agile leadership training, and Agile coach training.
- Knowledge sharing included social media activities; Agile hub activities; self-organized Agile networks for Scrum masters and product owners, called *guilds*; and biweekly Agile meetings with specific topics or guest speakers.
- Leadership and people processes included exploring the need for new job structures and leadership processes. This work is still ongoing in the second half of 2018, as the company adjusts structures to make Agile roles attractive and relevant to the right people and to ensure all members have an appropriate mandate, for instance, that product owners really have full product responsibility including, for example, financial responsibility.
- The value management stream focused on establishing product definitions and new performance management structures.

The Agile transformation team took a central role in supporting and guiding the transformation at all levels. Initially, the lack of full implementation plans and KPIs was like parachuting for the first time—an adrenaline-filled leap of faith—but the approach quickly proved its value in supporting rapid response to emerging issues at the local level. The team worked to continuously improve the support and service it offered to transforming teams and their leaders. At times, the team and leadership considered whether it would be easier to prescribe a particular method, but these suggestions were rejected as contrary to Agile values. This stand proved valuable when several teams discarded Scrum (the suggested place to start with Agile) and moved toward Kanban or hybrid Agile methods. Had the transformation prescribed Scrum or SAFE, these teams would have been unable to evolve to improve their value delivery.

The transformation team also provided a lever of communication with other parts of LEGO supporting the efforts of the IT senior leader team. Although this account focuses on changes within the digital departments, the Agile transformation in digital was also felt in the rest of LEGO. As such, communicating with other parts of the company, and encouraging those other groups to change processes and governance structures that impacted the digital departments' ability to be Agile, became part of the transformation team's agenda.

Organizational Transformation
Although the Agile transformation was not mandated from the top, supporting it required changes in the company's organizational structure and operating model, as well as adjustments to performance and incentive systems and project delivery processes. For instance, the organization moved from functional towers to cross-functional product-based teams; project (waterfall) delivery processes were shifted to continuous delivery models based on prioritization (Figure 4). To make this shift successful, a change in mandate was also effectuated, giving full responsibility to product teams that had previously been coordinated across functions by middle management. The funding model was also changed (although more gradually), from a yearly budgeting process to a frame-based funding approach in which funds were gradually released within strategic buckets as product increments added value to the business.

Despite best efforts in the run-up to the transformation, not all teams were optimally organized for product-based delivery at the onset of the change. Those teams were gradually morphed to more appropriate team structures over the following year. Opportunities for improvement continue to emerge.

The reward system was also changed radically to support the shift to a team-focused system. Before LEGO's transformation, individuals earned a significant part of their bonuses by meeting individual KPI goals. New structures made clear the organization's team focus and sought to reward team

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players rather than individual success. The change did pose a challenge for leaders, who were charged with defining appropriate team rewards (together with the teams). Agile principles guided the process toward value creation indicators at the customer level. For example, a value-based measure for developers of a consumer-facing software platform was the customers' net promoter score (NPS) for the platform (a measure of the customer's willingness to recommend the platform to others). As this score became the reward measure for the backend platform team, the team's focus shifted from delivering according to plan to delivering shared value.

Progress toward Transformation
Although the transformation is only a little over one year in, at the end of 2018, some results were beginning to show. Based on informal conversations with transformation leads in other companies, the transformation team chose as the lead indicator of transformation success increase in employee motivation and satisfaction within the digital departments. Based on this measure, results from the yearly survey, administered at the end of 2018, show an increase in motivation and satisfaction across the digital teams much above expectations, indicating a successful launch of the Agile transformation.

There are other indicators of success as well. Teams that were able to transform early to Agile ways of working are delivering value much more quickly, creating several early successes and benefits:

	Before	After
Organizational structure	**Mixed models**, from business proximity to functional towers; some siloing	**Product-based focus** with stable teams and dedicated resources; end-to-end perspective
Business and IT interaction	**Waterfall delivery** (development) managed by project manager based on initial feature specification from business; project closes and IT operations take over after go-live	**Continuous delivery** (development) managed by product owner in close iterations between business and IT with ongoing prioritization of features
Roles and responsibilities	**Floated ownership** (shifting hands) across functional IT teams demanding high level of coordination; substantial amount of "cold" hands in middle offices	**Stable ownership** within product line team with all roles integrated to deliver service; fewer "cold" hands and no middle offices
Budgeting and control	**Traditional yearly budgeting** (initial estimate), with fixed budget; business case to release funding and steering committees to control project progress	**Frame-based budgeting** (venture-capital style) in which success of minimum viable product determines future funding; performance controlled via outcome KPIs

FIGURE 4. Changes in organizational structure and operating model to support Agile transformation

- Creating and opening new pop-up stores—With a large traditional toy store struggling financially, LEGO sales teams had to find new ways to engage with shoppers who prefer physical stores. The team decided to create a series of pop-up shops to provide physical outlets at minimal cost. Making this idea work required fast response from the digital teams to create the inventory management and IT backbone for these stores. The improved ability to prioritize and respond provided by Agile allowed the teams to support the sales teams and create positive shopper experiences while growing consumer sales.
- Developing a finance product in just two sprints—The finance department had requested a specific product, estimated to require 8,000 hours of development time, under the traditional project portfolio. Due to central prioritization, the business case was never approved. Once the Agile transformation shifted prioritization mandate to the finance team's product owner, the product was made a top priority. The team developed and demonstrated a minimum viable product in just two sprints—four weeks, and less than 800 hours—one-tenth of the originally estimated 8,000 hours.
- Connecting production machines to the Internet of Things (IoT)—When a business team wanted to explore the value of coupling machines to an IoT platform to, among other purposes, visualize production data for quality management purposes, a digital team quickly developed a pilot, which was not only used from day one at the shop floor but also resulted in the desired approval of a full-scale roll out. The pilot took six months—three months longer than planned due to the need to develop a new backend platform—but the business team judged that the pilot would never have been successful at all without the Agile approach, because the solution required close collaboration between digital and business teams and several learning iterations.
- Reshaping supply chain planning—The growing complexity and unpredictability of market behavior has created a need for simpler and more integrated planning tools. Digital teams and business teams from both the supply chain and marketing groups, working together using Agile processes, created such a tool to meet the needs of both groups. Following Agile principles, the teams chose to go live with the tool when it was "good enough" to use and then continuously added functionality based on user feedback. With this approach, users have started to get value from the tool months (if not years) before the go-live date estimated under the traditional system.

> Agile values must be at the heart of any Agile transformation; each transformation will be unique and highly complex.

These stories represent only a few examples of the success stories that emerged on LEGO internal social media through the end of 2018. As a result, internal customers are changing their attitude toward their digital colleagues and seeking new ways to add value through enhanced collaboration and relentless focus on key priorities.

Challenges and Speed Bumps

In spite of the undeniable successes, the Agile transformation at LEGO has not been completely painless. Indeed, the path to a full Agile transformation is littered with challenges. Some product teams are still not working Agile, either because they struggle to find the right setup as a team or because they find Agile ways of working unnecessary or limiting even after having tried several different methods.

The teams that struggle seem to be those whose members have a diverse set of (often individual) responsibilities to a broad range of customers. When these teams try to define their products, they end with a broad product portfolio. In many cases, they simply continue to service customers individually rather than forming a functional team with shared responsibilities. The solution to this problem is not simple. For now, the solution is to enable organic reformation and flow between teams (without a change of manager) to allow for self-organization to eventually resolve it. This is only an experimental solution, with no results to report as yet.

Other teams have been tempted to blindly follow a specific Agile method—in many cases Scrum—without a corresponding change in the fundamental principles or way of working. Suddenly everything becomes about sprints, backlogs, and demos. These teams end up doing Agile without ever *being* Agile. The way to solve this problem was, in several cases, to build the team's awareness of Agile principles and enhance its ability to continuously improve through team retrospectives and related actions. In most cases, the role of a Scrum master or process facilitator was the key to successful change.

Managerial Implications

LEGO's Agile transformation is a single case. But a single study of an Agile transformation can provide inspiration to managers considering how to leverage the benefits of Agile in their own organizations. Of course, a single case study must be approached with caution and guided by the understanding that contextual factors likely shaped the outcome. Understanding the particular context of any organization will be key in creating a successful Agile transformation, as with any kind of transformation.

One key implication of LEGO's experience is the need to consider the managerial approach to a transformation—how will the Agile mind-set be applied in management decisions and transformation processes? Agile values must be at the heart of any Agile transformation; each transformation will be unique and highly complex. Some essential leadership behaviors are likely necessary to any successful transformation; above all, leaders must "walk the talk" on Agile behaviors. Teams cannot be empowered to make decisions independently if they are still being told what to do by

managers. Full adoption of an Agile mind-set requires that the manager steps aside on team decisions. Leaders will need to be more invested in setting the strategic direction and providing the structural and governance changes needed for teams to succeed in the change—without directing the process. Investing heavily in Agile leadership training and coaching to support the mind-set change at the senior management level has been a key part of the recipe for success at LEGO.

It's also important to remember that all does not have to be Agile. For instance, Agile ways of working will probably not work—or be productive—in areas with high predictability and repetitiveness. A balance must be struck so that Agile is used when it makes sense and not needlessly forced into spaces where it does not. Looking ahead, the LEGO Group will continue its Agile journey to support its ongoing quest to invent the future of play in an increasingly digital world.

Conclusion

As the Agile transformation continues, its success stories ripple through the company, driving a growing interest in the new ways of working. Most parts of the company rely heavily on collaboration with digital teams, and as those teams become more motivated and deliver value faster, people in the other parts of the business take notice. Many have even tried a few pilots of their own. Agile is being piloted in projects and development in almost all areas of the business—even areas such as sales and marketing, operations, and materials development. Agile ways of working were initiated in the fuzzy front end of product development years before the digital departments went Agile. But not until this year—when the Agile transformation of the digital departments kicked off—did Agile pilots take hold in the main product development processes.

The Agile journey has just begun at LEGO Group, and many unknowns still remain; new challenges and perspectives are continuously emerging. One area still to be explored is the governance of Agile at a larger scale in a traditional manufacturing firm. The answers remain unclear, but the direction is set to explore governance of Agile portfolios. The central question in that regard is what governance looks like when the product and project portfolio is dynamic and continuously evolving and delivers value in short increments. Other areas are changing as well, for instance, job structures and financial processes—in both areas, structures to promote Agile ways of working across the company are still to be explored and tested. The key, going forward, will be to remember that the methods are not the key—the values and principles are.

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