



## STUDENT REPORT

Aalborg University Copenhagen  
A. C. Meyers Vænge 15  
2450 Copenhagen SV

<http://www.aau.dk>

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Business Model Innovation and Digital Transformation of the LEGO Group: An Open Innovation and Dynamic Capabilities Perspective

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**Supervisor:** Anders Hansen Henten

**Project Group:**

Elham Farahmand

Hilda Adur

Isaac Muñoz I Busto

Mudassir Akber Khan

**Abstract:**

This study examines the LEGO Group's business model innovation and strategic utilization of open innovation for digital transformation and the concurrent leveraging of its dynamic capabilities. The theoretical framework draws on open innovation theories, emphasizing collaborative idea generation and value creation within a digital ecosystem. Additionally, dynamic capabilities theory is employed to explore the LEGO Group's internal organizational processes and adaptations that enable responsiveness to external changes. The research employs qualitative analysis, utilizing interviews, and content coding to gain insights into the LEGO Group's practices and strategies in the realms of open innovation and digital transformation. Through an in-depth exploration of these research questions, this study seeks to contribute to a nuanced understanding of the LEGO Group's innovative business model approaches and organizational dynamics in the contemporary digital landscape.

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# 1. Introduction

## 1.1. Problem and Motivation

Today, digitalization is reshaping industries across the world, creating both opportunities and challenges that affect established companies and startups (Rachinger et al., 2018). The LEGO Group is a great example of a company that faced significant challenges, reinvigorated itself from potential failure, and embraced digital transformation to enhance its success. It is important to acknowledge that the LEGO Group's digital transformation journey has been commendable in many aspects, but it is not without its criticisms. For example, one area of concern is its extensive data collection from platforms like LEGO Ideas and Bricklinks. Combining this data with user purchase history and browsing habits raises concerns about data security and ethical consumer data usage (Holland & Wise, 2023). This research looks at the LEGO Group's journey with all its ups and downs, seeking to address the problems outlined in the following.

Firstly, we are living in an era where numerous companies face challenges in adapting to the digital landscape. This study aims to offer invaluable insights and lessons learned from the LEGO Group's experiences to assist struggling organizations in navigating their own digital transformation initiatives more effectively.

Furthermore, a noticeable research gap persists in exploring the integration of open innovation and dynamic capabilities within the domain of digital transformation. This research aims to address this gap by combining these two concepts in the context of the LEGO Group's digital transformation journey. Consequently, it offers a unique perspective that has not been explored in existing literature. Examining the LEGO Group's journey through both lenses provides a more comprehensive understanding of the company's digital transformation.

Finally, there is a gap between theoretical concepts and practical implementation in the realm of business models, particularly concerning open innovation and dynamic capabilities. Many organizations struggle with applying these theoretical frameworks in real-world scenarios, often due to a lack of clear, practical examples. This research aims to bridge this gap by demonstrating how these theories are applicable in a tangible, real-world context, using the LEGO Group's case as an example. By showcasing how open innovation and dynamic capabilities were implemented within the LEGO Group's transformation, this study seeks to make these theories more accessible and actionable for other organizations facing similar challenges, providing concrete guidance for their own strategic initiatives.

## 1.2. Research Objectives

This research aims to understand how companies, such as the LEGO Group, are evolving their business models to adapt to the digital age. It seeks to derive insights that inspire businesses by delving into the successful digital transformation journey of the LEGO Group. Another objective is to investigate the role of open innovation in facilitating digital transformation and business model innovation. It explores strategies and practices that companies can employ to effectively integrate open innovation into their business model innovation efforts. In other words, it shows how the utilization of external sources of

innovation helps companies to step beyond their internal boundaries. Last but not least, this study will examine how the dynamic capabilities of a company can combine with those external sources to result in business model innovation.

### 1.3. Research Questions

In order to reach the outlined research objectives, this study aims to answer the following research questions:

RQ1: How is the LEGO Group using open innovation for digital transformation?

RQ2: How is the LEGO Group leveraging its dynamic capabilities for open innovation?

### 1.4. Structure

The research begins with a comprehensive review of relevant literature, including an explanation of key concepts, a theoretical point of view, a brief history of the LEGO Group, and lessons learned from this company. Then, it discusses the selected theories and models, including business model canvas, open innovation, and dynamic capabilities. This section provides the foundational framework used in this research in order to answer the research questions.

Moving to the methodology section, an overview of the literature review process will be explained, followed by the development of interview questions. It also covers insights into employing a qualitative research method, using sampling techniques, and data collection from interviews. Additionally, ethical considerations and validation procedures are addressed within this section.

The next section is analysis, which starts with the findings from the empirical research and interviews, and ends with the validation of the data obtained from the respondents. Next, a discussion of the findings will be provided, using the mentioned theoretical foundation. The last part of this research consists of the limitations, a brief summary of the key points, references, and appendices.

## 2. Literature Review

### 2.1. Introduction

In this day and age digitalization is impacting all industries, presenting opportunities and challenges for established firms, large organizations, and startups alike (Rachinger et al., 2018). Digital transformation drives changes in the business world by introducing new technologies that have implications for society as a whole (Kiron & Unruh, 2017). Studies show that companies need to focus on BMI to thrive in this kind of transformation (Klos et al., 2023).

Digital transformation is recognized in research as a catalyst for organizations to adapt their processes, structure, and strategies to foster open innovation (Urbinati et al., 2020). Open innovation involves organizations looking beyond their internal resources and actively engaging external sources for innovation, while also being receptive to market feedback and fresh ideas (Kraus et al., 2021).

For firms to effectively undertake digital transformation, they require a set of abilities that enable adjustments to their business models and organizational structure (Ellström et al., 2021). Dynamic capabilities offer a consistent framework for examining digital transformation, taking into account the ongoing and significant influence of digital technologies on business performance.

The focus of this literature review is the LEGO Group. This company offers a great example of digital transformation using its dynamic capabilities and open innovation (Bernstein & Barrett, 2011; Chesbrough, 2010). Hence, in the following, the mentioned concepts will be discussed within the scope of this popular Danish toy manufacturer to provide valuable insights into their journey.

### 2.2. Business Model Innovation Through Digital Transformation

Digitization, or the conversion of analog data into digital datasets, serves as the foundation for digitalization, which can be described as the utilization of digital opportunities (Rachinger et al., 2018). Digital transformation is essentially the method employed to reconfigure economies, institutions, and society at a systemic level (Brennen & Kreiss, 2016). It reflects the increasing embrace of digital technologies in corporate operations, transitioning physical processes into digital forms (Tavoletti et al., 2021). Generally, the physical and digital worlds are increasingly merging, and they should collaborate to assist manufacturing companies in their digital transition (Linz et al., 2017).

Digitalization is leading to significant changes in how businesses propose value to customers, requiring the adoption of new capabilities (Rachinger et al., 2018). Specifically, digital transformation empowers firms to collaboratively generate value with customers by tailoring manufacturing, embracing servitization strategies, expanding their product and service offerings, establishing digital platforms and ecosystems, and tackling sustainability challenges. These shifts in value creation necessitate companies to reassess their competencies, roles, activities, and capabilities (Vaska et al., 2021).

Digital Transformation in a company goes hand in hand with business model innovation practices (Klos et al., 2023). Hence, it is important to review the required definitions to better understand this process. Fundamental to any company's identity is its business model, which defines how it works and generates, distributes, and captures value (Teece & Linden, 2017). Business model innovation (BMI) thus refers to “the search for new logics of the firm and new ways to create and capture value for its stakeholders” (Casadesus-Masanell & Zhu, 2013). From this perspective, BMI extends further than just innovating products or services and encompasses the transformation of a company's actions and functions (Björkdahl & Holmén, 2013).

To fully embrace digital transformation, companies must change their business models. Most experts agree that established firms should focus on BMI to thrive in this transformation (Klos et al., 2023). Warner and Wager's (2019) study on the dynamic capabilities needed for digital transformation is an example. They found that, in all the cases they analyzed, digital transformation for firms involved a strategic renewal of their business models (K. S. R. Warner & Wäger, 2019).

### 2.3. Theories

As stated in the objective section, this research will aim to analyze the digital transformation process of the LEGO Group focusing on the use of dynamic capabilities for an open innovation direction. These theoretical concepts of open innovation and dynamic capabilities will be used as the theoretical framework of our research. Therefore, a literature review on those concepts will be needed as well.

Open innovation has been extensively examined in the fields of management, business, and operational research. Scholars advocate extending investigations on open innovation to other relevant fields, stressing the importance of integrating open innovation with established theories in management, economics, and other disciplines (Hossain et al., 2016). According to Radziwon et al. (2023), over the last twenty years, Open Innovation has proven to be a valuable and promising concept, guiding academics, practitioners, and policymakers. Its applied nature and the diverse, inclusive, and open community associated with it distinguish it from other theories and concepts. Despite extensive study in various modes, contexts, and levels of analysis, Open Innovation is not an all-encompassing theory (Radziwon et al., 2023). The concept of open innovation is robust and has the explanatory potential to clarify diverse phenomena within the field of innovation management (Vanhaverbeke et al., 2023).

Chesbrough & Bogers (2014) indicates a predominant focus on the outside-in (inbound) aspect of open innovation, emphasizing how firms can use external knowledge to enhance internal innovation, particularly in R&D with an emphasis on absorptive capacity. The inside-out (outbound) side, though receiving less attention, is gaining interest, evident in research areas like intellectual property, licensing, and selective revealing (H. Chesbrough & Bogers, 2014). The Open Innovation (OI) field has evolved, expanding its application across various sectors and connecting with other management disciplines (Radziwon et al., 2023). To enhance its managerial relevance, further integration into areas like strategy, organizational design, organizational behavior, and leadership is essential. They further suggest that while OI has thrived in academia and industry events, there is a need for a deeper exploration of its success and failure conditions. Researchers should examine OI through human resource management and operations



management perspectives, fostering cross-disciplinary research for a more comprehensive understanding of its role and potential (Radziwon et al., 2023).

Regarding the Dynamic Capabilities Theory, a lot of literature has been written with a very broad range of focuses. The starting point was set by (Teece et al., 1997) by introducing and defining the framework of dynamic capabilities as “the firm’s ability to engage in adapting, integrating, and reconfiguring internal and external organizational skills, resources, and functional competencies to match the requirements of a changing environment”.

This first conceptualization of the theory was followed by some studies that studied the real implications of the dynamic capabilities ideas. For example, the paper written by (Douma & Schreuder, 2002) where dynamic capabilities are described as a bridge between the economics-based strategy literature and evolutionary approaches to organizations.

In another direction, literature has been written to provide a distinction of dynamic capabilities within the capabilities of a company. On one hand, Qaiyum & Wang (2018) and Winter (2003) show that ordinary and dynamic capabilities are needed in different contexts: zero-order ordinary capabilities are needed to exploit a firm's current strategic assets through day-to-day operations and higher-order dynamic capabilities are required to alter a firm's resource base by integrating, building, and reconfiguring competences. On the other hand, research conducted by Helfat et al. (2007) defend that the idea of dynamic capabilities is similar in some ways to the previously existing concept of operational capabilities; the latter pertains to the current operations of an organization, whereas the former, by contrast, refers to an organization's capacity to efficiently and responsively change these operations and develop its resources.

Finally, the theoretical framework of dynamic capabilities suffered major changes with the New Dynamic Capabilities Framework posed by Shuen & Sieber (2009) as it took into account digital, information, and network economics, causing a redefinition of the traditional dynamic capabilities. This new framework was the trigger for new areas of research that will be used in this research such as the integration of dynamic capabilities with digital transformation (K. Warner & Wäger, 2019)

## 2.4. The LEGO Group's Digital Transformation Journey

Although the aim of our research is unique as it merges the LEGO Group’s digital transformation with the Dynamic Capabilities and Open Innovation frameworks, multiple studies have focused on studying the LEGO Group’s business model, generating extensive literature regarding the historical overview of the company, its business model evolution, the open innovation direction and the use and adaptation of their dynamic capabilities. Therefore, the knowledge gathered from this literature will be collected for posterior use in our research.

### 2.4.1. Historical Overview of the LEGO Group

The LEGO Group, headquartered in Billund, Denmark, originally established in 1932 as a family-owned enterprise by Ole Kirk Christiansen, has evolved into a prominent global presence in the toy and entertainment industry today, offering a range of strategic entertainment products (LeGoff, 2004).

Simoes and Dibb (2001) denote that in its early days, the LEGO Group began as a producer of various items such as ironing boards, toys, stepladders, and stools. Among these offerings, wooden toys emerged as top sellers, establishing the company's strong presence in the entertainment industry (Richter, 2022). Then, in 1949, the company took a strategic step by venturing into the production of early iterations of the renowned LEGO plastic bricks. This move was particularly significant, given that plastics had recently entered the market as a novel material (IvyPanda, 2022).

From the mid-1990s through 2004, the LEGO Group ventured into video games, television programming, and retail stores (Heckmann et al., 2007). The LEGO Group has expanded its presence into various domains, including the film industry, prominent social media platforms, and even large-scale theme parks (Qian, 2020).

By 2016, the LEGO Group had successfully reversed its fortunes and was prepared for the subsequent stage in its development: the initiation of its digital transformation. While it did not categorize itself as a "digital" company during that period, it had already made significant investments in various digital technologies (Mixon, 2022).

For over two decades, the LEGO Group has taken a pioneering role in open innovation, making its mark by connecting with a passionate online community of dedicated LEGO fans to uncover innovative ideas and concepts (Antorini et al., 2012; Meiner, 2018). The company has partnered with customer communities to foster innovation for new product development and explore fresh market opportunities for new customers (Antorini et al., 2012; Kapustina et al., 2021).

In the latter part of 2021, the LEGO Group declared its intention to leverage expansion opportunities and progress into the subsequent stage of their digital transformation. This involves making investments in digital platforms, products, and operational processes. As part of this initiative, they are establishing "digital talent hubs" in Shanghai, Copenhagen, Billund, and London (Mixon, 2022).

## 2.5. The LEGO Group's Business Model, Challenges and Its Evolution

The LEGO Group's business model has evolved over the years to adapt to changing market conditions and customer needs (Heckmann et al., 2007; Kapustina et al., 2021; Abbas, 2023). The LEGO Group's marketing approach centers on digitalization and places a strong emphasis on understanding its customer base (Qian, 2020).

Abbas (2023) and Heckmann et al. (2007) reckon that the company has undergone significant transformation in its business model, manufacturing process, and organizational structure (Abbas, 2023). Besides, the toy industry faces numerous capable competitors (Oliver & Roos, 2005; Johnson et al., 2014). For example, Heckmann et al. (2007) noted the growing popularity of video games from cost-effective producers in China yet the LEGO Group's products and services are the top choice for the

majority of people worldwide (Oliver & Roos, 2005), but maintaining this global position requires more effort (Schroeder et al., 2006).

Internationalization is one of the key strategic focuses of the LEGO group, to drive business growth and overcome challenges of the toy industry (Törner & Henningsson, 2020). In today's global economy, reaching new customers, suppliers, and innovation networks through internationalization is more crucial than ever (Törner & Henningsson, 2020). To support this strategy, they are investing in platformizing their Information Systems, however, this is not the only strategy in their business model (Törner & Henningsson, 2020).

In the 21st century, the LEGO Group stands as a thriving and exceptionally flexible corporation. The LEGO Group's values are centered on fostering imagination and creativity through "free play" which remains unchanged (Ringen, 2015). However, the company has not grasped marketing principles that align with its global consumer base (IvyPanda, 2022). The company consistently innovates by researching and adjusting its marketing tactics to align with emerging digital communication trends. This blend of enduring principles and state-of-the-art marketing approaches allows the LEGO Group to adapt to shifts in society and thrive, even in the face of challenging circumstances (Business Model Innovation Lab [BMI Lab], n.d.).

In 2003, the LEGO Group faced a dire financial situation, with the company on the brink of bankruptcy. It incurred a substantial operating loss of DKK 1.6 billion (equivalent to \$240 million) despite generating sales amounting to DKK 6.8 billion. Additionally, the company grappled with a significant debt burden of approximately DKK 5 billion (IvyPanda, 2023).

One of the primary reasons for this decline was the company's decision to diversify into digital entertainment and away from its core product, the LEGO brick (ToyPro, 2021). While the LEGO brick is its trademark product, it appeared as though the company had started to lose confidence in its iconic brick and its established identity because the company diversified its approaches to toy manufacturing and marketing in the 20th century (El Sawy et al., 2020). This strategic shift led to disappointing sales and a substantial debt of \$800 million (ToyPro, 2021). The LEGO Group's expansion into new product lines and theme parks, coupled with a lack of focus on its core offering, further strained the company's financial position (Qian, 2020). Additionally, the company's designers were envisioning fresh toy concepts without considering the material costs or production expenses (Heckmann et al., 2007). The decision to produce a lot more variety in the bricks also incurred significant costs due to the need for new molds, contributing to the financial challenges (Abbas, 2023). The supply chain did not align with the business strategy as every product engineer or designer contacted their own favorite vendors for new materials because of the LEGO Group's unclear and strict procurement compliance procedures (Andersen & Ross, 2016).

LEGO bricks have been added on with digital technologies and video games (Kapustina et al, 2021), but this diversification on various platforms met with complexity and lastly, they were not paying enough attention to their customers (Heckmann et al., 2007), and there was a lack of internal communication (Renfree, 2016).

Following its successful avoidance of bankruptcy in 2003, the LEGO Group has adeptly employed open innovation to synchronize with customer preferences, resulting in its emergence as a prominent global player in the realm of toy innovation (Markowitz, 2018).

The LEGO Group's business shortcomings become evident through various indicators. Despite earnest efforts to broaden its product range, the company lags behind competitors in technology and IT-related aspects. Unlike other industry players who have adeptly harnessed technology to enhance the appeal of their products in the era of new media, LEGO faces challenges in this domain (Schau, 2009).

El Sawy et al. (2020) noted that the transformation of the LEGO Group began with the appointment of a new CEO in October 2004. The new CEO initially focused on survival and implemented a two-pronged strategy: reducing production costs, closing unprofitable product lines, and refocusing on the core brand and identity (Amarsy, 2015). From 2005 to 2007, the emphasis was on establishing a strong core of profitable products. Non-core and unprofitable product lines were phased out, leading to a reduction in the workforce from 8,500 to 5,000 employees. The company encouraged open communication about its challenges (IvyPanda, 2022; Misra, 2022). The main focus during this period was on the LEGO Group's core product (the brick), while also exploring complementary digital opportunities that aligned with their core business and did not stray into unrelated markets (El Sawy et al., 2020).

In 2008, the strategy shifted towards growth, with an emphasis on creating sustainable growth platforms while continuously improving the core business. The importance of digital platforms for the LEGO Group became evident, alongside the support provided by the Corporate IT department for recovery, stability, and growth (El Sawy et al., 2020).

## 2.6. Digitalization at the LEGO Group

This section presents literature mostly from El Sawy et al., 2020 on how the LEGO Group approached digitalization through three lenses: Products, Marketing, and Enterprise.

The LEGO Group's evolution in embracing digitalization is evident through its product innovation and community engagement strategies. Initially, the company focused on creating innovative playsets appealing to a diverse audience (Qian, 2020). The introduction of LEGO MINDSTORMS in 1998 marked a pivotal moment, integrating digital and physical experiences (Misra, 2020). Despite encountering hacking issues, the LEGO Group turned the situation into an opportunity by establishing the Adult Fans Of LEGO (AFOL) platform, fostering community interaction (Antorini et al., 2012). The LEGO Group continued its digital journey by launching platforms like LEGO Fusion and LEGO Dimensions, merging physical and digital play (Robertson, 2014; Andersen et al., 2016).

The company also tapped into crowdsourced innovation with LEGO Ideas, a successful platform collecting ideas from the LEGO Group's enthusiasts worldwide (Ringen, 2015; Qi et al., 2021). The LEGO Ideas Team operates through three models: Activities, Contests, and Product Ideas, fostering collaboration and skill-building (He et al., 2022). The submission process on LEGO Ideas involves detailed descriptions and images, aiming for 10,000 votes for board review. Rule changes prohibit

real-life weapon ideas and third-party licensed models. Once approved, the idea becomes a "LEGO Ideas" product, with designers earning royalties (Avasilcăi & Rusu, 2015; Alharbi, 2018).

The LEGO Group extended its digital presence to children through platforms like LEGO Club, My LEGO Network, and ReBrick, catering to various age groups (Antorini et al., 2012). Adult LEGO user communities (AFOLs) and the LEGO Ambassador Network connect enthusiasts and foster collaboration (El Sawy et al., 2020; Antorini et al., 2012).

For the LEGO Group, digitalization offered access to new concepts, technologies, and collaborations, allowing market expansion without fixed expenses (Antorini et al., 2012). Adult fans influenced strategic choices, prompting the LEGO Group to create products for teenagers and adults and support related enterprises (Antorini et al., 2012). These initiatives contribute to the LEGO Group's digitalization for the future, aligning with its 2032 long-term strategy, prioritizing "leveraging digitalization" (Mixon, 2022). The LEGO Group chose to evolve its existing business model, incorporating digital elements across all operations rather than creating a separate unit for digital products (Amarsy, 2015).

The LEGO Group's adaptation of digital marketing strategies played a crucial role in connecting with a diverse customer base encompassing both younger children and adults from nostalgia-driven generations (Markowitz, 2018; Qian, 2020). The LEGO Group formulated a highly successful strategy by dividing its digital initiatives into four distinct market segments: Consumers (not every consumer is necessarily a buyer), Shoppers (not every shopper is necessarily a consumer), Partners (collaborators involved in selling) and Colleagues (individuals working within the organization) (Haynes, 2023). The objective is to identify and address the unique needs, data preferences, and requirements of each group, aiming to develop tailored solutions (Haynes, 2023). Recognizing the significance of the digital experience in product engagement (Haynes, 2023), the LEGO Group transformed its marketing approach to become a pull activity, engaging customer communities in the era of social media and online discussions (El Sawy et al., 2020).

In the realm of digital marketing, the LEGO Group pursued three key moves:

1. **Omni Channel Marketing:** the LEGO Group seamlessly integrated physical and digital channels, including its stores, retail outlets, LEGOLAND parks, and online platforms, creating a unified omnichannel experience (Ringgen, 2015; Mixson, 2022). This approach extended to conventions organized by Adult Fans of LEGO (AFOLs), contributing to the brand's evaluation beyond sales metrics.

2. **Diverse Digital Channels:** The LEGO Group expanded its digital footprint through diverse channels, such as social media, the primary LEGO website, and platforms tailored for fan communities (Kapustina et al., 2021). Interactive storytelling, online game trailers, and an augmented reality product catalog were employed to captivate audiences and enhance brand affinity (Haynes, 2023; Sims, 2022).

3. **Community Engagement:** The LEGO Group invested in fostering community engagement, recognizing the correlation between increased interaction and both innovation and revenue growth (Antorini et al., 2012; Kapustina et al., 2021). Micro marketing data and the Net Promoter Score program were utilized to understand the digital purchasing journey and assess customer experience in real-time (Gocheva, 2023).

Moreover, the LEGO Group strategically expanded its portfolio by incorporating successful characters and franchises like Chima and Ninjago, maintaining a balance between proprietary and externally licensed properties (ToyPro, 2021; IvyPanda, 2022). This approach allowed the LEGO Group to leverage its intellectual properties without solely relying on licensing agreements.

The "Enterprise" lens at the LEGO Group focuses on integrating external and internal aspects of the company through enterprise platforms (El Sawy et al., 2020). This integration is driven by the evolving business needs of customers and partners, emphasizing responsive digital engagement (Qian, 2020; Haynes, 2023).

Two enterprise platforms serve distinct purposes: one for traditional transactions and the other, a second-generation platform, tailored for interactions and customer engagement (El Sawy et al., 2020). The strategic placement of IT professionals alongside other organizational functions enhances their understanding of colleagues' business challenges. In the LEGO Group's office environment, employees are unified by a collective identity, emphasized by the LEGO Group product displays (ToyPro, 2021).

For a legacy company like the LEGO Group, successful digitalization requires a focus on skill set enhancement and mindset reshaping within the corporate IT workforce (Mixson, 2022). The mindset shift within CIT includes a greater willingness to experiment, learn, and take risks, aligning with the dynamic nature of digitalization (El Sawy et al., 2020). This change has influenced the overall work culture, emphasizing collaboration with external partners possessing complementary expertise (Haynes, 2023).

## 2.7. Dynamic Capabilities of the LEGO Group

In the digital age, companies that can adapt and blend digital capabilities to seize market opportunities have competitive advantages. To tackle the organizational challenge of merging technology and managerial expertise from diverse sources, the dynamic capabilities framework has gained significant attention in strategic management research over the years (Törner & Henningsson, 2019). A company's dynamic capability is characterized by its deliberate actions in creating, extending, and altering its resource base (Helfat & Peteraf, 2009).

For the case of the LEGO Group, it lies in the company's adaptable business model, employing a hybrid approach. This model, which is called a "flexible backbone", provides cost-effective messaging and support to certain customers while offering a deeper level of collaboration and customized solutions to others (Court et al., 2006). The system has a versatile, cost-effective core for standard marketing, sales, and order fulfillment tasks that all customers need, including training, after-sales service, and warranties. Flexibility comes from LEGO-like modules at the front end, which cater to individual customer needs in areas like enhancement, technical support, education, logistics, and new product development (Tuli et al., 2007). Additionally, it offers quick response solutions based on extensive online or in-person interactions with high-value customers. Progress in systems integration, data analytics, and knowledge-sharing networks greatly eases coordination challenges (Day, 2011).

## 2.8. Lessons Learned from the LEGO Group

The LEGO Group case provides a set of valuable lessons. It emphasizes the importance of careful diversification, especially when it involves resources and capabilities different from the core business. It highlights the significance of empowered teams and dynamic research in exploring opportunities within the core business. Crowdsourcing is underlined as a means to connect with customers and enhance both products and marketing campaigns. The case underscores that successful digital transformation goes beyond product innovation and should encompass enterprise-wide digitization efforts. Building strong partnerships with suitable collaborators is essential for expanding into new markets. Lastly, the LEGO Group's success illustrates the effectiveness of a complex yet efficient blend of different types of innovation in business models (Gurcaylilar-Yenidogan & Gul, 2021).

## 2.9. Conclusion

Modern companies are facing the impact of digital disruption more than ever. In today's digital economy, innovation and going digital are closely linked. To stay competitive, businesses have to come up with new ideas that help them transform digitally and adopt fresh business models. In simple terms, what companies need today is digital transformation (Peter et al., 2020).

The LEGO Group's digitalization primarily centers on products, marketing, and the overall business strategy. Despite some early failed attempts, the LEGO Group managed to achieve a successful digital transformation while preserving its traditional core. This company serves as a valuable example, offering important lessons in both business models and strategies that can be used (Gurcaylilar-Yenidogan & Gul, 2021).

### 3. Theories

In this section, we will discuss the tools, concepts, and frameworks that will be used to conduct this research project. First, we will have a look at Business Model Canvas, which is a tool that provides an overview of a business model by helping identify its building blocks. Secondly, we will go through Open Innovation, which is a concept that helps understand distributed innovation processes that are beyond the boundaries of an organization. Thirdly, we will discuss Dynamic Capabilities, which is a strategic management framework that focuses on an organization's ability to adapt, renew, and reconfigure its resources and capabilities in response to changing environments and evolving competitive challenges. Lastly, we will combine all three to create a conceptual framework for studying the business model innovation for the digital transformation of an organization.

#### 3.1. Business Model Canvas

##### 3.1.1. Definition

To define the idea of business model innovation, it is necessary to first understand the business model concept and its building blocks. Although there is a lack of agreement on the definition of the Business Model as different authors have proposed different definitions (Foss & Saebi, 2018), looking at these different definitions will help to develop a broader understanding of a Business Model. For instance, according to Teece (2010), the business model “articulates the logic, the data and other evidence that support a value proposition for the customer, and a viable structure of revenues and costs for the enterprise delivering that value”. Besides focusing on value, another approach to understanding the concept of a Business Model is to look at its building blocks. For this purpose, the Business Model Canvas (BMC) (see Figure A1 in the Appendix). will be used as it is designed to visualize business models along their key elements (Osterwalder & Pigneur, 2013).

The Business Model Canvas (BMC) is a visual modeling tool that represents a company's business model using nine distinct building blocks. When completed, a BMC showcases the fundamental components of a business model at a specific moment in time, as determined by its creator (Fritscher & Pigneur, 2014). Therefore, BMC can be used for generating new business model ideas as well as to assess current business models. Established organizations utilize it to evaluate the business model of a particular business unit or their entire organization, employing the canvas as a tool to enhance and refine the business model (Osterwalder & Euchner, 2019).

The Business Model Canvas (BMC) has been widely adopted, not only to depict a company's present business model but also to explore potential innovations in future business models. Each canvas is self-contained, so a distinct time frame is selected for every canvas, whether it is the past, present, or a potential future (Fritscher & Pigneur, 2014). The widespread adoption of BMC can be attributed to its clear visual depiction and use of easily understandable language. The current BMC version has evolved from the original academic work known as the Business Model Ontology (BMO) by Osterwalder in 2004. This evolution was driven by the aim to better suit the requirements of practitioners rather than academics and was influenced by design thinking practices, resulting in an enhanced visual representation (Pigneur & Fritscher, 2015).



### 3.1.2. Model

As mentioned, BMC consists of nine fundamental components that illustrate how a company plans to generate revenue. These nine components encompass four primary aspects of a business: its customers, value proposition, infrastructure, and financial viability. (Osterwalder & Pigneur, 2013). The nine components can also be grouped into two categories: front-end components which are related to external factors and back-end components which concern the internal factors of a business (Pettersen & Krumsvik, 2019). The nine components of Business Model Canvas are as follows (Osterwalder & Pigneur, 2013):

1. **Customer Segments:** Identifies target groups a company aims to reach and serve, often based on shared needs or attributes. A business model may specify one or more Customer Segments, requiring a strategic decision on which to target and which to exclude. The business model is then tailored around a deep understanding of specific customer needs.
2. **Value Proposition:** Outlines the product and service package that provides value to a specific Customer Segment, serving as the reason why customers choose one company over another. It addresses customer needs and problems and is a bundle of benefits tailored to the Customer Segment, which can range from innovative and disruptive to enhanced versions of existing market offers. Value may be quantitative (e.g. price, speed of service) or qualitative (e.g. design, customer experience).
3. **Channels:** Outlines how a company connects with and delivers its Value Proposition to Customer Segments. Channels encompass communication, distribution, and sales, serving as vital points of interaction with customers and influencing the customer experience. These channels fulfill multiple roles, such as raising product awareness, aiding in the assessment of a Value Proposition, facilitating purchases, delivering value to customers, and providing post-purchase support.
4. **Customer Relationships:** Outlines the kinds of connections a company forms with particular Customer Segments, significantly shaping the overall customer experience. The company must define the nature of its relationships with each Customer Segment, which can span from personalized to automated interactions. These relationships serve various purposes, including acquiring customers, retaining them, and increasing sales through upselling.
5. **Revenue Streams:** Represents the income a company derives from each Customer Segment, after accounting for costs. To do this effectively, a company needs to identify what each Customer Segment is willing to pay for. This knowledge enables the creation of Revenue Streams, each with its own pricing model, whether fixed, negotiable, auction-based, market-driven, volume-dependent, or yield management.
6. **Key Resources:** Describes the critical assets essential for a business model's success. These assets are integral for enabling a company to develop and present a Value Proposition, access markets, manage Customer Segment relationships, and generate revenue. The specific Key Resources vary based on the type of business model and can encompass physical, financial, intellectual, or human resources. Companies may own, lease, or collaborate with key partners to secure these resources.
7. **Key Activities:** Describes the essential tasks a company must perform for its business model to be successful. Like Key Resources, Key Activities are crucial for creating and delivering a Value Proposition, reaching markets, managing Customer Relationships, and generating revenue, and they vary according to the specific business model type.

8. **Key Partnerships:** Outlines the supplier and partner network crucial for the business model's success. Partnerships have become integral to many business models, serving purposes like enhancing operations, mitigating risks, or accessing resources. Four types of partnerships include:
  1. Strategic alliances between non-competitors
  2. Coopetition: strategic partnerships between rivals
  3. Joint ventures for new business ventures
  4. Buyer-supplier relationships to ensure reliable supplies.
9. **Cost Structure:** Defines the essential expenses of a business model, including those tied to creating value, managing Customer Relationships, and generating revenue. These costs become clearer once Key Resources, Key Activities, and Key Partnerships are established. It is important to recognize that some business models prioritize cost management more than others.

### 3.1.3. Limitations

Although Business Model Canvas is a useful tool for visualizing business models, BMC has certain limitations as well. Euchner & Ganguly (2014) argue that strong business models cannot be created by brainstorming the components of a business model through a tool like the Business Model Canvas. BMC can serve as a valuable means of visualizing a business model but it lacks critical dynamic aspects found in operational business models. It does not depict the interconnections among elements, fails to address the competitive position (which exists beyond the canvas), and does not provide quantification of the economic leverage points. Another limitation of BMC is that each canvas stands alone. Therefore, when changes occur, it is challenging to compare two canvases as they are not linked, making it necessary to review and compare elements individually to identify modifications (Fritscher & Pigneur, 2014).

### 3.1.4. Relevance

The Business Model Canvas is a useful tool for this research project as it provides a foundation for an overall analysis of a business model along its building blocks. In order to define the LEGO Group's business model, the relevant information collected through literature review and interviews will be classified into the different components of the BMC model facilitating a more clear and deep understanding. BMC will set the ground of knowledge regarding the definition of the LEGO Group's business model. Therefore, together with the open innovation and dynamic capabilities framework and having in mind its limitations, BMC will help in understanding the business model innovation for the LEGO Group's digital transformation.

## 3.2. Dynamic Capabilities Theory

### 3.2.1. Dynamic Capabilities and Digital Transformation

In this project, the Dynamic Capabilities theory will be used to frame the building of capabilities for digital transformation in the LEGO Group's case. Therefore, the business capabilities studied will be narrowed down to the digital context. However, to fully understand digital dynamic capabilities, it is necessary to introduce the concept of digital transformation first.

As highlighted in the literature review, the rise of digitalization has empowered customers with increased choices, expectations, and demands. This shift has compelled businesses to reassess or complement

traditional transactional customer value propositions with novel relational or multi-sided value propositions. Consequently, this dynamic has posed challenges to revenue generation and profit earning, necessitating a digital transformation (K. S. R. Warner & Wäger, 2019).

Digital transformation sets itself apart from conventional forms of strategic change due to the accelerated pace of change driven by digital technologies. This acceleration results in heightened environmental volatility, complexity, and uncertainty (Matt et al., 2015). To effectively navigate these rapidly changing environmental conditions, “a firm should work in its ability to engage in adapting, integrating, and reconfiguring internal and external organizational skills, resources, and functional competencies” (Teece et al., 1997). There is one theoretical framework that defines innovation-based capabilities that provide the capacity to create, extend, and modify a firm’s resource base: the Dynamic Capabilities Theory (Helfat et al., 2007).

### 3.2.2. Theory Definition

The main assumption of the Dynamic Capabilities framework is that an organization's basic competencies should be used to create short-term competitive positions that can be developed into longer-term competitive advantages.

Nevertheless, for a deeper understanding of the dynamic capabilities concept, it is necessary to distinguish them from the two other types of capabilities a business can have: the operational capabilities and the ordinary capabilities.

In the realm of operational capabilities, the concept of dynamic capabilities bears some resemblance to the preexisting notion of operational capabilities. The latter concerns the ongoing functions of an organization, while the former, in contrast, addresses an organization's ability to adeptly and responsively alter these functions and enhance its resources (Helfat et al., 2007).

Simultaneously, dynamic capabilities exhibit a close connection with the concept of ordinary capabilities. However, their characteristics are distinct, and both prove essential in diverse contexts (Qaiyum & Wang, 2018). The resource-based view of the firm, in conjunction with the dynamic capabilities perspective, has focused on two fundamental categories of organizational capabilities critical for firm performance. These encompass zero-order ordinary capabilities, vital for leveraging a firm's existing strategic assets through day-to-day operations (Winter, 2003), and higher-order dynamic capabilities, essential for reshaping a firm's resource base through the integration, creation, and reconfiguration of competencies (Teece et al., 1997).

Focusing on the dynamic capabilities, Teece et al. (1997), in the first definition of the concept separated these capabilities in three categories that have been maintained through the years:

#### 3.2.2.1. Sensing Capabilities

According to Birkinshaw et al. (2016), incumbent firms need sensing capabilities to systematically scan the external environment for unforeseen trends that could potentially disrupt the organization. As emphasized by Teece and Linden (2017), this sensing activity should be pervasive across all levels of the

organization, where lower levels contribute by furnishing information and insights regarding external trends to middle and top managers. The cultivation of dynamic managerial capabilities (Helfat & Peteraf, 2014) and the establishment of business units dedicated to scenario planning (Teece et al., 2016) are deemed crucial for effectively sensing unexpected trends.

Furthermore, it is important to note that sensing capabilities are not confined solely within the boundaries of firms. Instead, they can be collaboratively developed in a relational manner with other entities within the business ecosystem (Giudici et al., 2018). As Teece (2018) highlights, “It takes time for business model innovation to catch up with technological possibilities, perhaps because business models are more context-dependent than technology,” which heightens the urgency for building seizing capabilities.

#### 3.2.2.2. Seizing Capabilities

To address opportunities or neutralize threats, incumbents require seizing capabilities that “ensure leaders avoid hubris, deception, bias, and delusion and that allow firms to experiment with decentralized boundaries, digital platforms, and new business models” (Teece, 2007). Day & Schoemaker (2016) report that “seizing” is an experimental capability that supports action and commitment by using techniques such as rapid prototyping and real options logic to effectively balance risk and reward.

To seize new opportunities, incumbents in traditional industries are starting to experiment with agility, defining agility as “the capacity of an organization to efficiently and effectively redeploy/redirect its resources to value-creating and value-protecting (and capturing) higher-yield activities as internal and external circumstances warrant” (Teece et al., 2016). Based on this agility, Sambamurthy et al., (2003) propose that firms should use information technology infrastructures to build three interrelated capabilities consisting of customer agility, partnering agility, and operational agility to enhance financial performance.

#### 3.2.2.3. Transforming Capabilities

The establishment and identification of opportunities are facilitated by sensing and seizing capabilities. However, for the effective implementation of a digital strategy, firms require transforming capabilities to fully unlock the potential of strategic change (Teece & Linden, 2017). Day & Schoemaker (2016) report that an organization with “transforming capabilities is one where the agile, entrepreneurial mindset is actively cultivated within, with a broad expansive approach to external network-building as well.” In this context, transforming capabilities play a pivotal role in supporting incumbent firms by facilitating the continual strategic renewal of assets and organizational structures, ensuring adaptability in rapidly changing environments (Teece, 2014).

### 3.2.3. Limitations

Many scholars have expressed criticism towards the dynamic capabilities theory arguing that it is vague and tautological. This is a critical issue, and while the theory remains very helpful when addressing how to respond to the business-changing environment, it may fail to describe exactly how (Wheeler, 2002). Furthermore, Lawson & Samson (2001) suggest that the capabilities of the theory are difficult to identify and/or operationalize, and in some cases, those very capabilities can lead to a core capability becoming core rigidity.

As such, the use of the theory in its current state is difficult without being able to further specify, develop, and identify those capabilities. For that reason, the framework introduced by Warner & Wäger (2019) will be used to identify, define and categorize dynamic capabilities in the digital realm.

### 3.2.4. Relevance

The Dynamic Capabilities Theory will be used to study how the LEGO Group has updated and used its processes and resources to achieve an effective transformation of its business model toward digitalization.

For that purpose, it will be necessary to delve into the LEGO Group's digital transformation process to understand the needs that the LEGO Group's new business model has created. Once the need for digitalization is identified, it will be easier to study how the LEGO Group has adapted its processes and resources. To define the LEGO Group's dynamic capabilities, the ordinary and operational capabilities will be identified and sorted out using literature and survey insights. Later, to identify its purpose in the digital transformation process, the resultant dynamic capabilities will be classified within one of the categories defined by the model: sensing, seizing, and transforming.

This way, it will be possible to understand the digital transformation process in an operational way. However, to identify the reason for its purpose it will be necessary to set a framework that contains the strategy and direction of the LEGO Group's business model innovation: the Open Innovation Theory.

## 3.3. Open Innovation

### 3.3.1. Introduction and Definition

Open Innovation is a paradigm suggesting that companies ought to utilize both external and internal ideas, as well as internal and external routes to market, in their pursuit of technological advancement. It involves integrating both internal and external ideas into structures and systems shaped by a business model's defined requirements (Chesbrough, 2003). More recently, Chesbrough & Bogers (2014) characterized open innovation as a managed process involving the purposeful exchange of knowledge between organizations, utilizing both financial and non-financial mechanisms aligned with each organization's business model. It involves the development and commercialization of new or improved products, processes, or services, with the openness aspect reflected in knowledge flows across organizational boundaries.

Open Innovation involves recognizing that valuable ideas can originate both inside and outside a company and can be brought to market from both internal and external sources. This contrasts with the Closed Innovation era, where internal ideas and paths to market were given higher importance (Chesbrough, 2003). In open innovation, the transfer of knowledge can encompass inbound knowledge to the central organization (utilizing external knowledge via internal processes), outbound knowledge from the central organization (utilizing internal knowledge through external commercialization processes), or a combination of both (connecting external knowledge sources with commercialization activities) (Chesbrough & Bogers, 2014).

One important aspect of open innovation is the efficient search for external knowledge. For this, Lopez-Vega et al. (2016) introduced two dimensions for knowledge search: search space (local or distant) and search heuristics (experiential or cognitive). Combining these dimensions, they identified four search paths: situated, analogical, sophisticated, and scientific. This approach responds to the need to explore not only "where to search" but also "how to search" in innovative activities (Lopez-Vega et al., 2016).

Bagherzadeh et al. (2021) emphasize the significance of project-level attributes, such as complexity and uncertainty, in successful open innovation management. It identifies five key managerial factors for successful OI management: Openness Level, External Partner Choice, OI Mechanism Choice, Collaboration Process Formalization, and Internal Firm Practices. They suggest that, particularly in complex or uncertain projects, managers should involve a diverse set of external partners and enhance internal practices, including rewarding knowledge acquisition and sharing, and improving communication among project members and with top managers.

### 3.3.2. Business Models & Strategy

Studies on open innovation propose that companies experience varying advantages when adopting open innovation strategies, but the reason for this disparity remains unclear. One potential explanation is that companies' business models may not align effectively with open strategies (Saebi & Foss, 2015). Open innovation necessitates inter-organizational collaboration across different organizational activities, prompting a framework that connects the business model to organizational strategy in uncertain markets (Paulose & Nair, 2015, p. 201).

According to Chesbrough (2003), open innovation involves identifying missing components, integrating internal and external elements, and realizing economic value through varied commercialization approaches. Innovations may adopt familiar business models or be licensed by other firms in alignment with their business models (Chesbrough, 2003). Open innovation also facilitates the implementation of Lean Startup in large firms, supporting corporate venturing with Outside-In and Inside-Out processes. This approach, informed by open innovation, eases internal tensions and helps innovation units secure early customers, engage internal business units, and achieve new growth in unexplored areas (Chesbrough & Tucci, 2020).

To utilize the potential of open innovation, Radziwon et al. (2023) argues that open innovation should be incorporated into both corporate and business-level strategy as a tool to attain a firm's strategic goals. Chesbrough & Appleyard (2007) proposed a new approach called "open strategy" for understanding innovation communities, ecosystems, and networks for competitive advantage. They argue that recent developments indicate challenges for open innovation, including value capture, business model sustainability, corporate influence, and co-option of initiatives, therefore traditional business strategy is essential for sustainable models for open innovation. According to Chesbrough & Appleyard (2007), open innovation challenges traditional business strategies by emphasizing collective creativity and challenging established theories. Open strategy integrates conventional business principles with the benefits of openness, introducing innovative business models for sustained value creation within a community of innovators. It seeks to reconcile the forces of value creation with the imperative to capture value, addressing the undervaluation of open invention and coordination in traditional business strategy. Open

strategy aims to update strategy concepts as openness extends beyond software to various industries (Chesbrough & Appleyard, 2007).

### 3.3.3. Limitations

Despite its positive effects, open innovation carries risks that management should be aware of in advance, prompting the need for precautionary measures (Temel & Vanhaverbeke, 2020). Organizational challenges, like unclear links with corporate strategies, different capabilities, and the need for effective management competencies, can impede the success of open innovation. Companies face obstacles when starting unprepared or implementing open innovation ad hoc. Therefore, success in open innovation requires gradual adaptation, integration with corporate strategy, technical capability development, collaboration, trust-building, and learning from best practices (Vanhaverbeke et al., 2023).

Temel & Vanhaverbeke (2020) identified two major risks in open innovation. First, knowledge-related risks that are significant but manageable. Managers should prioritize high-quality human resources, hiring individuals capable of collaborative external partnerships. Education, internal training, and effective knowledge management tools enhance the benefits of open innovation. Second, the risk of potential loss of internal innovation orientation. To ensure long-term success, prioritizing internal innovation and technology development capacity before transitioning to open innovation approaches is crucial according to Temel & Vanhaverbeke (2020).

Another challenge is that the methods for assessing open innovation are in their early stages, resulting in a lack of established models and frameworks for firms to measure the outcomes of their open innovation efforts (Hossain et al., 2016). Dabić et al. (2023) emphasize crucial lessons for successful open innovation, identifying risks such as data-related, individual, enterprise-level, and revenue risks. Madanaguli et al. (2023) identified five typologies of open innovation risks: data-related, people-related, firm-level, outcome, and other risks. To prevent failures due to these risks, strategic focus on familiar projects and attention to factors like organizational dynamics, sector knowledge intensity, and an entrepreneurial environment are essential, calling for tailored solutions (Dabić et al., 2023).

### 3.3.4. Relevance

As with any theory related to business model innovation, Open Innovation presents challenges related to the uncertainties of an always dynamic business context. However, by noticing its main risks - lack of knowledge and loss of internal innovation - and covering them with the integration of dynamic capabilities framework, it will be possible to effectively analyze and understand the use of Open Innovation in the LEGO Group's business model innovation.

When studying the LEGO Group's business model innovation, the analysis will be made using different concepts of the Open Innovation model. First, applying the Open Innovation definition within the LEGO Group's case focusing on the progress from the LEGO Group's Closed Innovation era to nowadays and defining the nature of the LEGO Group's innovation knowledge flow. Additionally, the effectiveness of the LEGO Group's Open Innovation will be assessed by studying not only where the LEGO Group has explored to innovate but also how effective this exploration has been. For that purpose, the analysis relies

on analyzing how the key managerial factors for successful OI management have been applied in the LEGO Group's case.

Individually studying these different dimensions of Open Innovation will provide an optimal framework for a deep understanding of the LEGO Group's open strategy. Therefore, when applying this framework to the knowledge extracted from the reviewed literature and to the data collected from the surveys, relevant insights will be generated. And this knowledge, when tackling its limitations by combining it with the knowledge generated within the Dynamic Capabilities Framework, will constitute the cornerstone of this research.

### 3.4. Conceptual Framework

In the last section, Dynamic Capabilities, and Open Innovation were presented as the theories that will give meaning to the definition, analysis, and outcomes of this research along with the knowledge gathered in the literature review. At the same time, Business Model Canvas was presented as a frame to describe the LEGO Group's business model and therefore will not be considered as a theory. The three frameworks were presented by stating their definitions, limitations, and relevance within the research. However, as we are using multiple theories for the definition of the research conceptual framework, it will be necessary to clearly define the relationships between theoretical entities, giving a conceptual congruence oriented to the goals of this research.

For this purpose, both Open Innovation and Dynamic Capabilities theories will be linked in an understandable and congruent way. At the same time, due to the digital transformation focus of this research, the literature review knowledge will be used to focus on the digital dimension of Dynamic Capabilities and Open Innovation.

#### 3.4.1. Digitalization and Dynamic Capabilities

The constitution of the conceptual framework will start with understanding how the traditional dynamic capabilities approach can be adapted to the digital context. Originally, the first definition of dynamic capabilities only contemplated analogic capabilities. However, the irruption of digital technologies has revolutionized the way companies can sense, seize, and transform for new business opportunities.

Multiple research in recent years has worked on defining a new digital reality for the Dynamic Capabilities theory. The direction was set by Shuen & Sieber (2009), who defined a New Dynamic Capabilities Framework that took into account digital, information, and network economics, causing a redefinition of the traditional dynamic capabilities. This new framework was the trigger for a set of research focused on setting Dynamic Capabilities, among which it is possible to find Warner & Wäger (2019) definition of Dynamic Capabilities for digital transformation.

In their work, Wäger and Warner identify the digital transformation of business models as a consequence of the already established digitalization process and, by studying real digital transformation cases, define a framework to build dynamic capabilities for digital transformation. The digital-focus framework is structured using the typical categorization of Dynamic Capabilities resulting in Digital Sensing, Digital



Seizing, and Digital Transforming. And for each category, the definition of necessary business capabilities for an effective digital transformation.

#### 3.4.1.1. Building Digital Sensing Capabilities

When presenting the sensing cluster, Warner & Wäger (2019) emphasize that the evolution of digital technologies poses a challenge to traditional strategic approaches. These advancements necessitate the development of new capabilities in digital scenario planning and digital scouting to identify emerging technological, customer, and competitor-based trends. The cultivation of these capabilities relies on leveraging informal and formal networks in global technology hubs to discern technological trends. Additionally, big data analytics and artificial intelligence play a crucial role in sensing new customer-centric trends that may be challenging for strategic planners to predict. The common thread in building sensing capabilities in digital scouting and digital scenario planning is the contingent development of a digital mindset. In essence, effective strategizing in a digital context requires the establishment of a robust digitally oriented culture. It is imperative to underscore the significance of fostering a long-term digital vision while promoting an entrepreneurial and digital mindset within large established companies.

Hence, the challenges confronted by incumbents in traditional industries seeking to build sensing capabilities in the digital age can be condensed into three core dimensions: Firstly, the integration of informal and formal scouting networks into the formal strategic planning processes of incumbent firms. Secondly, the conventional formal strategic planning mechanisms are lagging behind the disruptive impact of digital technologies, such as analytics and artificial intelligence, which have the potential to enhance strategic decision-making. Thirdly, the establishment of a digital mindset and culture across the entire organization is vital for constructing sensing capabilities that enable incumbents to capitalize on the latest unforeseen trends.

#### 3.4.1.2. Building Digital Seizing Capabilities

When reviewing the seizing cluster, Warner & Wäger (2019) underscore the significance of incorporating business model innovation as a fundamental element in an incumbent's digital transformation. This entails integrating strategic agility into their business model thinking to promptly capitalize on technological and market opportunities. A pivotal aspect in enhancing strategic agility is the ability to engage in rapid prototyping, exemplified by recent strategic decisions involving the establishment of "digital innovation labs" for experimenting with minimum viable products. Structures like innovation labs enable incumbents to obtain almost real-time customer feedback, which is then leveraged to respond effectively to emerging customer-centric trends. Additionally, investments in digital infrastructures for swift scaling, open innovation techniques, and technology acquisitions contribute to achieving an optimal speed of execution. It is crucial to maintain a balance in digital portfolios, ensuring that new business model innovations, such as servitization or subscription models, complement existing product-based business models.

Therefore, strategic agility emerges as the pivotal dynamic capability for incumbents to capitalize on the latest trends and avert potential existential threats. Incumbent firms must adeptly navigate strategic actions, recognizing the reality that no firm can emerge victorious in every competitive race.

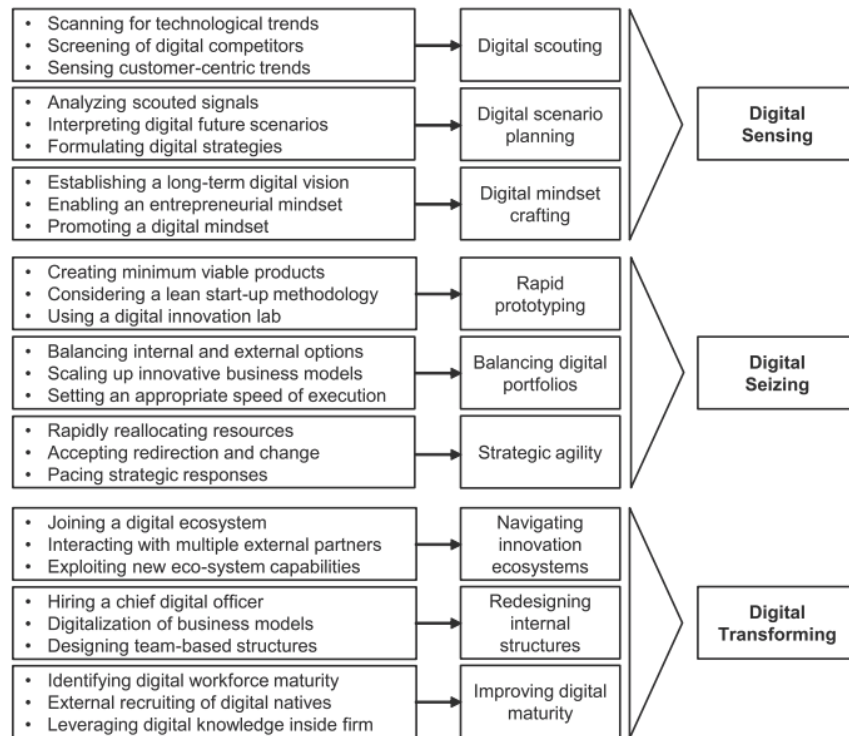
Consequently, continuous redirection is likely to become a commonplace practice, even for the most traditional firms. Furthermore, dynamic capabilities in rapid prototyping offer the opportunity to expedite an incumbent's digital transformation, necessitating decentralized innovation labs or new subsidiaries with a blank canvas to facilitate ongoing digital mindset crafting. Ultimately, maintaining a balance in digital portfolios equips incumbents with the capability to scale business model innovations up or down, aligning with the evolving needs and demands of existing customers. Collectively, this array of capabilities reflects the current industry perspective on the prerequisites for seizing opportunities presented by digitalization.

#### 3.4.1.3. Building Digital Transforming Capabilities

Lastly, the “transforming capabilities” cluster includes a wide range of strategic issues relating to organizational culture, organizational redesign, and managing innovation ecosystems. To improve the digital maturity of the workforce, Warner & Wäger (2019) stress the significance of involving younger "digital natives" in the capability-building process within traditional organizations. Striking a balance between enhancing the digital maturity of externally appointed and internally promoted employees is crucial. However, challenges arise in building capabilities for redesigning internal structures, and incumbents must overcome these challenges by establishing a leadership team, strategy, and business model with a digital focus. The authors also emphasize the need for traditional firms to create or join a digital ecosystem for collaborative activities such as "co-creation" and "coopetition" with new partners, redefining the pace of collaborative behaviors and introducing new business models. Furthermore, the skill of "unlearning" existing practices becomes crucial for effective interaction and collaboration with a diverse range of new partners in digital ecosystems, requiring transformational leadership.

Hence, this set of capabilities sheds light on the multifaceted challenges associated with digital transformation. It is evident that enhancing the digital maturity of the workforce stands out as a fundamental capability for the continuous digital transformation of incumbent firms. Incumbents need to focus on redesigning internal structures, achieved through the decentralization of business units and the establishment of independent subsidiaries. Moreover, navigating innovation ecosystems can significantly address customer needs, differentiating from firms adhering to traditional product-based business models. These strategic endeavors contribute to improving the digital maturity of the workforce and supporting the ongoing digital transformation of incumbents.

As a result of Warner & Wäger (2019) analysis, the following structure can be defined as consisting of 3 levels: the capabilities category, digital capabilities, and capability sub-activities.



**Figure 1:** Digital Dynamic Capabilities Model (K. Warner & Wäger, 2019)

In the context of this research, the work from Warner & Wäger (2019) will be used as a reference to identify the digital dynamic capabilities built by the LEGO Group for its digital transformation. For that, the LEGO Group’s capabilities will be classified into one of the groups - Digital Sensing, Digital Seizing, and Digital Transforming - and one of the distinguished sub-activities of each group. By approaching the Dynamic Capabilities analysis with this structure, it will be possible to have a holistic view of digital dynamic capabilities and optimally define which areas and activities have been prioritized by the LEGO Group.

### 3.4.2. Digitalization and Open Innovation

Like Dynamic Capabilities, Open Innovation Theory has also experienced the impact of digitalization as digitization has dramatically changed the ease and nature of information flows. More specifically, a recent trend is that digital convergence further renders open innovation an imperative. The techno-business environment has changed since the widespread adoption of the Internet, resulting in ubiquitous digital platforms. Digital data and signals provide a common base for handling diverse types of information, including words, sounds, and images and the widespread use of common standards allows connectivity among diverse information devices. Therefore, “multi-invention” and “co-innovation” contexts are more common (e.g., there are more than 100,000 patents involved in the iPhone).

At the same time, digital convergence requires greater connectedness and platform engagement. Although the external sourcing of innovation is thus not new, the current open innovation model is different from previous ones. In almost every firm today, the best ideas and people lie elsewhere. This is partly a function of the globalization of business and advances in education and technological catch up.

Companies are now able to connect with large and global technical communities quickly, which inevitably results in more efficient ways to find the right solutions for problems that otherwise might have been hard to solve. More and more work activities have become digitally connected, and new patterns of cross-functional collaboration have emerged. Making access to domain and technology expertise critical to firm-level competitiveness.

These developments are so fundamental to nowadays business innovation that today's open innovation is qualitatively and quantitatively different from that of the pre-Internet era. Therefore, given the digital nature of this research, it will be necessary to use a digitally updated version of the Open Innovation Theory. For that, although not being a static structured framework, work of Bogers et al. (2019) will be used to understand the new digital Open Innovation possibilities and understand the impact of these changes in the LEGO Group's case.

### 3.4.3. Dynamic Capabilities and Open Innovation

Once the digital context is set for Dynamic Capabilities Theory and Open Innovation Theory, both theories will be connected to create a common framework. For that, the work from Teece (2020) - the same author of the original Dynamic Capabilities Theory - will be used. In his paper, Teece reviews the modest theoretical and empirical literature that looks at open innovation from a capabilities perspective, identifies where open innovation fits into the dynamic capabilities framework and explores how treating open innovation as a separate construct can enrich a dynamic capabilities approach to the management of the enterprise.

As Teece states, Open Innovation is a natural fit with the Dynamic Capabilities framework as the two theories are mutually reinforcing. The implementation of Open Innovation can broaden top management's horizons for sensing and seizing. And strong Dynamic Capabilities will increase the effectiveness of Open Innovation efforts.

#### 3.4.3.1. Open Innovation enhancing Dynamic Capabilities

Focusing first on the enhancement that Open Innovation provides for Dynamic Capabilities, sensing capabilities are enriched by the deeper technological and market understanding that comes with openness to external knowledge sources. Linkages with university researchers, for example, can be used to solve specific problems while also providing access to cutting-edge thinking not tethered to immediate commercial goals, giving management a clearer view into potential future technological developments.

Seizing can be enhanced by the use of open innovation to build new capabilities. When a new business model is contemplated, a good management team will identify capability gaps. Where market-based options are available, the gaps can be filled through outsourcing. However, when the missing capability is strategic for reasons such as scarcity or the need to control the technology trajectory, open innovation resources may be available to accelerate the process of in-house capability development. Seizing can also be enhanced by adopting an outbound open innovation perspective. This might make a firm more receptive, for example, to the pursuit of hybrid business models involving both direct exploitation and out-licensing of intellectual property to maximize the returns to innovation.

Finally, transformation is implicated because opening up the innovation process can allow a redeployment of internal resources away from non-core technologies that can be externally sourced, further enhancing flexibility. New or stronger IP management capabilities may need to be developed in order to run inbound and outbound licensing programs.

#### 3.4.3.2. Dynamic Capabilities enhancing Open Innovation.

Looking from the opposite direction, strong dynamic capabilities enable effective open innovation practices. While open innovation is simple in theory, it can be fiendishly challenging in reality, and strong dynamic capabilities are needed to make it successful. When dynamic capabilities are weak, open innovation initiatives may be poorly chosen, poorly governed, and/or only weakly (or never) monetized.

Firstly, building strong sensing capabilities can help recognizing external know-how opportunities and, at the same time, learning from them, two key activities for an effective open innovation integration. Regarding seizing capabilities, once the external source is identified, open innovation will be optimally adopted when a company has an agile decision making mindset based on initiating combinatorial activities and adopting hybrid business models. Finally, from a transforming capabilities perspective, open innovation will be done effectively when a company's transforming capabilities allow it to select the governance mode for external linking and integrate internal and external knowledge. Therefore, the building quality of capabilities of every category has a direct impact on the quality of the company's open innovation.

Zooming out in perspective, Teece's (2020) work will be used to theoretically define the linkage between both theories. As his approach provides a bilateral enhancement analysis, Teece's (2020) work will allow to study how well-defined digital dynamic capabilities were key for the LEGO Group's digital open innovation and, at the same time, how the use of digital innovation has contributed to a strengthening of the LEGO Group's digital dynamic capabilities.

#### 3.4.4. Conceptual Framework Application

The resulting framework will therefore consist of a bilateral relation between Open Innovation Theory and Dynamic Capabilities Theory that will be framed within the concept of Digital Transformation. The two pillars of this framework will be Warner & Wäger's (2019) digital dynamic capabilities framework and Bogers et al.'s (2019) theoretical redefinition of open innovation in the digital context. Furthermore, these two pillars will be theoretically bridged using Teece's (2020) framework that establishes a relationship between the two concepts and defines the bilateral impact on each other.

Within this framework, the analysis strategy will be defined. The analysis will have its start point on building the LEGO Group's business model canvas. Once the LEGO Group's business model is defined, the focus will be on studying the LEGO Group's digitalization needs using the information gathered by the literature review and interviews. By demonstrating this need, it will be possible to infer the LEGO Group's need to define a strategy of digital dynamic open innovation. That justification will be framed using Bogers et al.'s (2019) work and the concepts learned on Section 3.3 will be used to analyze the LEGO Group's actual model of digital open innovation. Then, Teece's (2020) framework will be used to justify the rebuilding of the LEGO Group's dynamic capabilities towards a digital way. The LEGO

Group's updated capabilities will be identified using Warner & Wäger's (2019) structure of digital capabilities categories and activities. Finally, Teece's (2020) work will be used again to study how the definition of the LEGO Group's digital dynamic capabilities, triggered by the digital open innovation need, has influenced back on the creation of a successful digital open innovation strategy, closing the circle of influence.

## 4. Methodology

This section will detail the processes undertaken in this research study. Initially, the procedure for reviewing existing literature will be discussed, followed by the subsequent exploratory pilot study. In this study, we used a qualitative approach to explore how the LEGO Group, our case, leveraged digital transformation to innovate its business model. This approach allowed us to thoroughly examine the complex dynamics of how the company engaged with external partners for innovation and harnessed its internal capabilities to embrace open innovation. By opting for a qualitative approach, we aimed to provide a comprehensive exploration of the research questions at hand, offering a nuanced understanding of the processes and strategies employed by the LEGO Group in the context of its digital transformation and innovation endeavors. This approach facilitates a rich and detailed analysis, allowing for a deeper insight into the complexities of the subject matter. The next sections will elaborate on the sampling, interview guide design, and data collection. Lastly, the chapter delves into a discussion regarding the analysis of data, ethical considerations, and the validation process.

### 4.1. Literature Review

This section discusses the process of conducting a literature review for the research study. Initially, the background research phase commenced by exploring literature using keywords such as the LEGO Group's digital transformation, Open innovation, and Business model innovation. With these keywords we started with 41 papers including academic journals, papers, news stories, and blogs, then we dived into each topic that led us to different subtopics and explored different theories to end up with 85 reviewed papers. Through this process, we developed a solid background on the topic and we started to gather some ideas for keywords.

Secondly, we started to look into theories to add to our literature section. Based on the background check we performed, we concluded that digital transformation is broad but constantly changing at the LEGO Group. We discovered that the dynamic capabilities of the LEGO Group in embracing open innovation is a path that is less explored in research. Then, we incorporated it as a theory but also as a keyword in the literature search. Generally, the search and review of the use of the keywords for the literature review took a more iterative process. This was geared towards gaining a more recent but relevant angle to the literature review and identifying the gap in literature. This methodical and thorough approach ensured that the literature review would yield a current comprehension of the research in this field. By enhancing the overall validity and credibility of the research, the discoveries and insights obtained from this extensive review establish a robust foundation for the following analysis.

## 4.2. Pilot Study

The three key topics covered in our research relating to the digital transformation, open innovation and how the LEGO Group utilizes their internal capabilities to the changing nature of business today is indeed broad and less explored. Connelly (2008) recommends doing a pilot study to help to assess the feasibility of the research design, data collection and analysis. The pilot study also revealed if our research is built on a solid foundation of relevant literature. For this, through a purposive sampling method, we interviewed the Digital Transformation Manager to give a general overview of digital transformation at the LEGO Group. The semi-structured interview to explore digital transformation, open innovation and the dynamic capabilities of the LEGO Group was conducted online using a video-conferencing tool.

After doing the pilot study, we realized that the questions were broad so we redesigned the questions to be more specific and relevant to the different teams from the LEGO Group. Secondly, we realized that a participant's role is tied to whether they would answer specific research questions on Digital Transformation, Open Innovation and Dynamic Capabilities. For example, a Digital Transformation Manager would not answer questions on the Business Model Innovation.

Initially, we mentioned the LEGO Group in our questionnaire and the interviews but from the exchange of interview questions with the Senior Leadership, we were advised to refer to LEGO as the LEGO Group. Generally, the pilot study helped us to refine our research design particularly the research questions and the roles to be interviewed from the LEGO Group.

## 4.3. Qualitative Approach

We used a qualitative approach for the LEGO Group's case study on the innovation of its business model for digital transformation, the utilization of open innovation, and the leveraging of dynamic capabilities. Case study is a prevalent framework for conducting qualitative research (Stake, 2000). According to Neuman (2006), this approach does not zero in on a particular question but rather contemplates the theoretical philosophical paradigm in an inquisitive, open-ended manner as it adopts a perspective. Njie & Asimiran (2014) posit that the qualitative approach gathers in-depth, context-rich insights. We conducted semi-structured open-ended interviews with key stakeholders within the LEGO Group, such as managers, and employees involved in innovation and digital transformation efforts. Qualitative research is well-suited for studying complex social phenomena, where multiple variables interact in dynamic ways as is the LEGO Group's case of open innovation and dynamic capabilities which is not yet well grounded in research.

### 4.3.1. Development of the Interview Guide

Developing the questions for interviews entailed organizing them into specific categories: Digital Transformation, Open Innovation and Dynamic Capabilities. In answering our research questions, since our questions were broad, we developed sub questions to the broader topics or questions.

### 4.3.2. Interview Design

In the development of qualitative interview questions, we based it on the conceptual framework and findings from the literature review. With this approach, we gained a deeper and insightful understanding of how the LEGO Group engages with external partners for innovation and their internal capabilities to adopt the open innovation strategy. We developed Interview guides (find it in Appendix C); Interview guide A for general interviews with the LEGO Group employees and Interview guide B for interviews with specific platform leads for example team leads from The LEGO Ideas, LEGO Builder App. This provided a foundation for a comprehensive exploration of the research questions below. The table below demonstrates how the interview questions relate to the research questions.

#### Interview Guide A

Section	Interview Questions	Research Questions
Background	<ol style="list-style-type: none"> <li>1. Could you briefly introduce yourself and your experience?</li> <li>1.1. Follow up: What are some of the projects that you worked on or currently working on?</li> </ol>	General
Digital Transformation	<ol style="list-style-type: none"> <li>2. What are the different digital transformation initiatives at LEGO?</li> <li>3. What key areas within the business model are affected by those initiatives? (Ref: BMC)</li> <li>4. What are the key challenges during LEGO's digital transformation journey?</li> </ol>	RQ1
Open Innovation	<ol style="list-style-type: none"> <li>5. What strategies does LEGO have for innovation that involve outside parties?</li> <li>6. What are the reasons for LEGO to involve outside parties for innovation?</li> <li>7. What challenges does LEGO face while involving outside parties for innovation?</li> </ol>	RQ1
Dynamic Capabilities	<ol style="list-style-type: none"> <li>8. How do you sense external opportunities for digital innovation?</li> <li>8.1. Follow up: How do you filter these opportunities?</li> </ol>	RQ1 RQ2



	<p>9. How does LEGO integrate those opportunities into its business model? What are some examples?</p> <p>10. How does LEGO adapt its existing resources and processes to respond to the changing digital circumstances?</p>	
Wrap up	11. Can you recommend go-to platforms and contacts for investigating deeply into this topic?	General

**Table 1:** The relation between the interview sections, questions and the relation to research questions.

### Interview Guide B

Section	Interview Questions	Research Questions
Background	<p>1. Can you please introduce yourself and your experiences?</p> <p>2. Can you tell us more about LEGO Ideas?</p>	General
Open Innovation	<p>3. How do you do crowd-sourcing and how do you filter the generated ideas?</p> <p>4. How do you do crowd-validation?</p> <p>5. What are the reasons for the LEGO group to use external ideas?</p> <p>6. What are the challenges of crowd-sourcing and crowd-validation?</p>	RQ1
Dynamic Capabilities	7. How did the business internal structure change to adapt to the crowd-sourcing/crowd-validation strategies?	RQ2
General	8. How is [LEGO Ideas] related to [LEGO Insiders]?	General

Dynamic Capabilities	<p>9. Do you use submitted ideas to create themes for challenges? If not, how do you finalize themes?</p> <p>10. How is the journey from identifying one idea to actually selling a product based on that?</p> <p>11. How did you improve the digital maturity of the team to build the [LEGO Ideas] platform?</p> <p>12. How does the LEGO group align its resources to these new coming ideas?</p>	RQ2
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**Table 2:** The interview guide for platform-specific interviews and their relation to the research question.

#### 4.4. Sampling

This research utilized non-probability sampling which is elaborated in detail in the next section. We used non-probability sampling in this qualitative research to select participants. Purposive sampling was employed in this context to intentionally select participants who possess specific characteristics or qualities relevant to our research objectives. These participants will provide valuable insights, experiences, or perspectives related to our research questions. We scanned for interview subjects from within our academic institutions and social networking platform connections particularly LinkedIn search for those who are working at the LEGO Group. As researchers, we signed up for two (2) physical social networking events with the LEGO Group and Aalborg University partnerships at both locations. Some of these connections later introduced us to their colleagues.

A total of forty (40) potential interviewees from the LEGO Group were contacted, 5 honored our request to interview them. An estimate of 5 interviews helped us to gain a deeper insight into the LEGO Group's digital transformation initiatives. Based on the participants' availability and prior look at the research questions, potential participants accepted or declined to participate. A larger number of those who did not respond at all or declined were in senior leadership positions or thought that their roles would not be relevant in answering our research questions.

#### 4.5. Data Collection

The primary means of data collection for this research is 45-60 minute open-ended interviews with the LEGO Group's employees. All the interviews were conducted online using video conferencing tools particularly Microsoft Teams. Two interviewees conducted the interviews alternating roles to allow the other interviewee to be an observer or probe for more responses to questions. Find the breakdown of participants, their roles and time spent during the interview in Table A.

We drafted the research questions through different iterations depending on the roles and level of understanding of the key terms and theories. When addressing the specific research questions, we organized the data collection and analysis around the following themes:

**Business Model Innovation:** We explored how the LEGO Group is adapting its business model to embrace digital transformation, including changes in product offerings, distribution channels, customer engagement, and revenue streams.

**Open Innovation Strategies:** We investigated how the LEGO Group engages with external partners, such as customers, suppliers, and other stakeholders, to foster innovation. We examined the processes, challenges, and outcomes of the LEGO Group's open innovation initiatives.

**Dynamic Capabilities:** Analyze how the LEGO Group's internal capabilities, such as flexibility, learning, and adaptation, contribute to its ability to leverage open innovation successfully. Also, we explored how these dynamic capabilities are integrated into the company's overall innovation strategy.

By employing these qualitative research methods, the LEGO Group's case study provides a nuanced understanding of the LEGO Group's approach to business model innovation, digital transformation, open innovation, and the role of dynamic capabilities in shaping its innovation landscape.

## 4.6. Data Analysis

### Interview Analysis

Theoretical thematic analysis has been done on the cleaned interview transcripts (see Appendix F) to identify themes and recurring patterns. Particular themes from our literature review, pilot study, and eventually, from the subsequent interviews were noted. Five themes with numerous codes resulted from use of a computer-aided tool. During the analysis, two other themes emerged, done in pairs for purposes of accuracy in the interviews, transcripts, and analysis.

## 4.7. Ethical Consideration

To ensure the ethical conduct of this study, we provided the interview participants with comprehensive details regarding the project. Prior to confirming participation in the project, explicit verbal consent was obtained for recording the interview. Throughout the process, participants had the liberty to pose questions, express concerns, or withdraw their involvement at any stage. Most participants requested the interview questionnaire beforehand which was shared with them. Following the interview, the video conferencing tool was utilized for an initial transcript, and subsequently, the data was erased from the cloud storage. The interview transcripts underwent anonymization, with any personally identifying information being removed.

## 5. Analysis

This section covers the analysis of the interviews conducted with the LEGO Group's employees in different roles (for more details, check Table B1 in the Appendix).

### 5.1. Pilot study

The preliminary study involving the Digital Transformation Manager at the time revealed key facets of the digital transformation motives within the LEGO Group. This transformation primarily centers on the identification of technologies for the automation of operational processes, diverging from a primary focus on the creation of novel products for pre-existing automation systems. The LEGO Group's approach to innovation incorporates open innovation paradigms, particularly when internal knowledge proves insufficient, thereby leveraging collaborative endeavors with external stakeholders, notably the fan community. The strategic partnerships distribute and mitigate risks associated with substantial investments. However, there are challenges for example the risk of partners misusing the LEGO brand, and another is the potential imbalance in these partnerships. The LEGO Group also recognizes that they take a slow pace of innovation, with ideas taking up to three years to develop, which can be a risk as trends may change, and interest from fans and customers may wane.

On the positive side, the LEGO Group takes pride in its extensive collection of Intellectual Properties (IPs) and partnerships. They've strategically acquired a company in California to enhance their unique presence in the market. Therefore, we discovered several topics for example the Agile way of working, crowdsourced innovation with fans on digital platforms like LEGO Ideas which altogether highlight their ability to adapt and innovate as technology and market trends evolve.

### 5.2. Themes and Codes

After analyzing the interview transcripts, both deductively and inductively, we identified following codes (for definitions, see Table D1 in the Appendix). and themes:

#	Themes	Codes
1	Digital Transformation	Digital Transformation
2	Business Model Innovation	Business Model Innovation
3	Open Innovation	Ideas Research Crowdsourcing Crowd validation Co-creation Community
4	Dynamic Capabilities	Sensing

		Seizing Transforming
5	Key Challenges	Challenge
6	Lean Methodology and Startup Mindset	Startup Lean Agile
7	Innovation Opportunity - Digital Ecosystem	Ecosystem Touchpoints User Journey

**Table 3:** Themes and Codes

### 5.3. Digital Transformation

Digital transformation is a broad concept with diverse means to approach it but these responses highlight it as automation of work processes, transforming physical products to digital experiences or products.

*“[...] digital transformation for me is a hard term. What does it actually mean? Because it can mean so many things. Is it the way that we work or the products we make or what does digital transformation mean?” - Interviewee #3*

*“When I talk about digital transformation [...] it's transforming our organization to become a more digitally savvy and more nimble and agile organization. [...] The LEGO Group started to see digital as an enabler, something that can help their organization be more efficient, better and take away tedious tasks from people, automate them to have real people do creative stuff, innovative stuff and meaningful stuff.” - Interviewee #1*

*“LEGO is to be a digital consumer company or digitally driven consumer business in 2032. It's like a part of our big brand vision that's been communicated also publicly.” - Interviewee #5*

Digital transformation is a process and there might be no one-size-fits-all in adapting it into an organization. We learned that the restructuring has only been embraced recently.

*“Having a digital technology organization as being something that's a bit recent in LEGO. I don't know if it started a couple of years ago [...] maybe just 100 people [...] and they all work on different aspects of the business and in each, there is an element of, how can we use digital technology to elevate what is existing over there” - Interviewee #2*

*“One of the ways that it's doing this transformation is by creating this new digital technology organization [...] have digital expertise, engineers, digital designers, and product managers. Before that, they would sit under different organizations that might not be relevant.” - Interviewee #2*

The transformation involves separating the categories of people that the organization looks to serve entirely to bring structure for each archetype.

*"[...] the first step [of digital transformation at the LEGO Group] was to be more user-driven." - Interviewee #1*

*"Since our turnaround in 2003/2004, one of the key and winning moves we did was to include our fans much, much more. That's a lot of fan communities out there," - Interviewee #1*

*"[...] when we were structuring our audiences for the digital transformation, those that will receive these changes split that into four audiences: consumers, shoppers, partners, and colleagues." - Interviewee #1*

*"We wanted to focus on engineers [...], we hired a ton of engineers in order to have a metric of 50% engineers and 50% managers or people not doing engineering. Now our split is 70/30. So 70% of our workforce is actually doing engineering [30% are people not doing engineering] and we will also split 50/50 between internal resources and external resources with different consultancy firms and external contractors." - Interviewee #1*

Digital transformation is changing the way teams are working to produce better products and experiences.

*"[...] digitizing a lot of ways we are working and I guess in some ways, yeah, while I was in infrastructure, I was helping that journey, especially for developers being able to work more frictionlessly with the tools [...] where we are injecting some digital elements into our product." - Interviewee #3*

*"We're trying to create digital experiences for the stores, but I can also see that maybe other teams might be interested in creating more seamless data flow[...] an end-to-end customer journey." - Interviewee #2*

Digital transformation at the LEGO Group is a big undertaking with various initiatives involving multiple departments and people. Also it is very dynamic in nature which requires an agile approach.

*"We are part of big digital transformation, of course, [...] you need to consider that digital transformation is always moving, transformation. It's not like because you had the plan two years ago then you follow the plan. We are agile so we adapt. We are an agile company so if we see something to improve we do it." - Interviewee #4*

*"It's really a lot of those two things, understanding what product is, understanding agile ways of working and being data informed which is a big part of the digital transformation. [...] Those 3 aspects I would highlight from a digital transformation perspective." - Interviewee #5*

These digital transformation initiatives are both within the organization as well as on various touch points where customers interact with the LEGO Group.

*"[...] transformations are very important like you stop having excel, you use some system to embrace the digital transformation. You need to do it in the shop, but that will be everywhere in our digital ecosystem, lego.com and all the touch points also in the shop, how you handle the insider point, in the factory, so the digital transformation is giant, it's huge and of course it's changing and moving all the time." - Interviewee #4*

*“When we talk about digital expectations from customers today going to retail stores that have moved a lot since COVID. It's less about coming into a store filled with boxes and more about coming into a shop that you go to experience that universe and get actively involved with in a way that you can't do in a web store.” - Interviewee #5*

## 5.4. Business Model Innovation

The business model guides the strategy of a company realized through organizational structures, procedures, and systems. For the analysis of the business model innovation at the LEGO Group, we will map elements that fall in the nine building blocks of the Business Model Canvas.

We interviewed different employees from the different teams at the LEGO Group. Their response portrays that the different elements of the business model canvas are not reflective of their entire business model innovation.

*“My team is only one part of the business model Canvas, so it's very hard to sort of take that generalization.” - Interviewee #2*

### Customer Segments

The LEGO Group has diverse audiences including kids, adults and a combination called kidults.

*“[...] there are a lot of Kidults, so adults that are rediscovering their childhood hobbies and it's a segment in itself. And that is currently growing.” - Interviewee #2*

*“[...] adult art and craft segment and there we compete with people who are knitting or making pottery or painting.” - Interviewee #1*

For differentiating of users, there are age gates on different LEGO platforms, for instance LEGO Insider.

*“So if you want to go to Insider community, for example, it's only available for 18+, so you have an age gate. When you click on the insider community, they will ask you for your age before you can get to the website, so we have some age gate in some of the experience because if you want to give access to the children below 16 in our words, you need to have to limit what they have access to, the rules and the legacy compliant are very, very strict.” - Interviewee #4*

*“[We] have a differentiation with what is targeting adults and grown up and what's targeting kids. So there is no connection. The kids need parents to create an account, so it means we are talking to the parents of those kids because as a kid you cannot just create an account by yourself, you need your parents to create the account. So we are talking to the parents through the kids, of course, but it's not the main target.” - Interviewee #4*

### Value Proposition

The LEGO Group strives to win their audiences' attention to the LEGO sets.

*"[...] we have totally different competitors and again we compete on time. We want our consumers to spend as much time as possible using our LEGO sets instead of doing something else." - Interviewee #1*

*"We want our consumers to spend as much time as possible using our LEGO sets instead of doing something else." - Interviewee #1*

*"There was a fidget spinner all of a sudden and we compete on children's time so if a kid uses 2 hours a day with a fidget spinner, it means they don't use those two hours on LEGO sets and that means that they won't ask for LEGO sets and so on and so forth." - Interviewee #1*

The toy company has to invent their play products into a new line of products to tap into new markets.

*"We look a bit more generic and we want to be unique, we want to invent and create toy categories. Good example is our botanical line, which is LEGO sets of flowers built out of LEGO bricks for adults. We are tapping into a whole new market for us, which is this adult art and craft segment and there we compete with people who are knitting or making pottery or painting." - Interviewee #1*

One of the major ways that they capture the attention of their fans from the new business model is that they are innovating away from the traditional bricks to the digital environment while keeping the bricks at the core of all innovation.

*"If we focus on the play products, we've done a number of things to mix physical play with an online experience. It's what some people call fluid play because you flow between the physical world and the digital world [...] a step to move the building experience into the digital world while still having the physical brick." - Interviewee #1*

*"I think now we are back into the digital transformation space corporate space, not necessarily focusing on bricks and playsets because that runs its own innovation and design process. But we are much more focused on digital products being a product that can generate value for us." - Interviewee #1*

The LEGO brand identity helps them sustain the competition or changing environment.

*"We are not very scared of the change, we are observing, of course, but we are not very concerned because once again we are protected by that [LEGO brand]. Our concern will be to select the right product to go into production and to make sure they are successful and continue to be successful [...] But otherwise we don't really see a lot of change once again protected by the fact that we are the LEGO brand for now." - Interviewee #4*

## Channels

The LEGO Group creates communication channels to communicate with the four audiences: consumers, shoppers, partners and colleagues.



*“Creating some sort of Omni channel solution between the different channels that LEGO has as a company.” - Interviewee #2*

## Customer Relations

There are numerous ways that the LEGO Group is building relations with their audiences, one of them is through a television show.

*“LEGO Masters, it's this TV show about building LEGO, if you know Master Chef or something like that. It's a show that they've been airing all around the world where fans of LEGO come to build and compete with each other with their LEGO builds. I think it's a good way for LEGO to maintain engagement with the community, spread awareness.” - Interviewee #2*

Social networks are platforms that masses or every company or organization including the LEGO Group utilizes to reach their audiences.

*“We used Instagram and Facebook to target parents by saying, “Hey, you can build a fidget spin out of LEGO bricks with your kid.” So that's sort of the micro engagements that we want to do, but we won't bring a fidget spinner set to the world because by the time we do that, the fidget spinner will be out of the world anyway.” - Interviewee #1*

*“[...] we've been focused about community building and especially also while we work more and more online. So how can we use for example Microsoft Teams to build online communities where like minded people can meet and talk about their interests [...] if you are an AWS developer, you can join an AWS community [...] digital security, there's a community for that.” - Interviewee #1*

## Revenue Streams

Licensing has been one of the major schemes of generating revenue.

*“Well, we licensed the LEGO movies. That was probably the biggest IP, we partnered with Warner Brothers so that they did the whole production, but we were creative executives to sign off that everything was used in the right way.” - Interviewee #1*

Interviewees acknowledge that Intellectual Property Rights (IPR) in outbound innovation fortifies their partnerships with other companies.

*“IPs are pretty easy because if we do a partnership with Disney on Star Wars then Disney won't license Star Wars to any other construction toy company.” - Interviewee #1*

*“For our own IPs we also secure all the rights and trademarks so nobody else can build a NINJAGO set or Ninjago toy or even a T-shirt with Ninjago without our sign off.” - Interviewee #1*

## Key Resources

To develop in-house IPs reflects the LEGO Group's commitment to innovation and original content creation.

*"[...] we also want to create our own IP [Intellectual Property] and that's something like NINJAGO [LEGO Group digital animation of superhero television series]. That's a known IP [Intellectual Property]" - Interviewee #1*

## Key Activities

Partnership, especially the Intellectual Property for protecting their own ideas and safety of children in the digital space is a huge step in the LEGO Group's business model innovation.

*"I think 70% of our portfolio is new products. Those products are called novelties and a lot of our product portfolio are with IP partners." - Interviewee #1*

*"We have partnered with Epic Games to work on a metaverse area for LEGO Play and LEGO consumers, which is safe for children [...] So we are exploring that world, but the physical brick will stay at our core." - Interviewee #1*

Other activities include opening online stores, dedicating new payment methods and tapping into new markets by identifying and honoring specific festivities for the diverse audiences.

*"[...] to build an online store in new countries and add new payment types." - Interviewee #1*

*"We also do specific products for China, for example to celebrate their Lunar New Year and their special festive seasons. We tap into that because China is a huge market that is very specific and different from the rest of the world." - Interviewee #1*

## Costs

Business Model Innovation especially in incorporating Information Technology is a huge cost but pays off in the long run in terms of improving digital experience with the LEGO products.

*"When before IT was seen as a cost, something that we needed to have and it has an operational cost, licenses and server fees, now we see it as a value creator and lego.com is a good example [...] We sell a lot of LEGO sets through that, and if we can master that technology and the e-commerce technology, then we can increase our revenues. So if the checkout process is as good as Amazon's, and the UI experience is as good as Apple, then then we can sell more sets." - Interviewee #1*

*"We make partnerships for smaller products like Disney. We partner with them on what designs to use and then they sign it off and then we produce it and they get a license fee for our own IP products. We only license it on T-shirts or like a lunch box or like a water bottle or stuff for kids." - Interviewee #1*

## Key Partners

Innovation without involving partners is almost impossible for any enterprise. The LEGO Group has numerous partnerships for various reasons like reducing risk and uncertainty.

*“We’ve had a very successful partnership with Star Wars, which is now owned by Disney, just launched a set with Dunne, the movie. Also, we’re launching other sets with Disney because they have their 100 year anniversary [...] we also work with superhero universes, for example with Batman [...]” - Interviewee #1*

*“It’s very complex to simplify then what the business model of something is [...] to provide a model like the way you would in a theoretical way, everything is very interconnected. So it’s very hard for example, if you think of the business model canvas at the end of the day, the LEGO [group] as a company selling LEGO bricks as toys.” - Interviewee #2*

*“I think the only thing top of mind is that we purchased a bricklink a couple of years ago and they are actually in California. So we actually do have a presence in California, but that’s another like addition to our company. And it’s I think it’s the first time that we have bought another company. Ohh, otherwise our growth has been organically as we say it hasn’t been through acquisitions, which is something we’re very proud of.” - Interviewee #2*

The other reason for the external partnership is to retain the hired workforce by avoiding layoffs and reducing the external partners in times of slow progress.

*“[...] External gearing allows us to gear up and down and if we have slow periods, we don’t have to fire people, we will just offboard the externals.” - Interviewee #1*

## 5.5. Open Innovation

The LEGO Group indeed utilizes external sources or partners to innovate their products and services.

*“surfacing the ideas that for me can come from three sources. It could be the users, the internal team or some kind of stakeholder input.” - Interviewee #3*

While this explores both external and internal application of knowledge, we acknowledge that open innovation overlaps with co-creation. The LEGO Group's approach to product development, innovation, and user engagement is achieved through a combination of direct customer feedback, in-house research capabilities, and collaboration with external communities.

*“Ninjago was a good example because we asked kids what are the two coolest things in the world, and they said skeletons and ninjas.” - Interviewee #1*

*“[...] we have a global insights department [...]conducts a lot of studies across the year about [H1] customer behavior, then showcases their findings and [...] have access to all their research” - Interviewee #2*

*“We have a designer within our team who's quite skilled with user research [...] she will quite often do some of the research, but we are also connected to like a group of teams.” - Interviewee #3*

*“We have a couple of researchers that can be called upon for doing more foundational research projects, so we have also in the past used them [...] this summer, we did an eight [8] week deep dive into a specific opportunity in a strategic direction and they [couple of researchers] did some foundational research for us on that, which we can then pick up.” - Interviewee #3*

*“Just building on top of the [crowdsourcing idea], what happens is that there is also something called Bricklink Studio which is this sort of platform where people can build LEGO sets through a 3D program [...] with all the cataloged bricks and pieces that are available officially on LEGO and that is something that LEGO has supported for many years, some sort of community-driven initiatives.” - Interviewee #2*

*“I think there's sometimes some interesting options because they've seen something in another product that could be retrofitted to us [LEGO Builder App] or have ideas on how new technology could be applied in our context.” - Interviewee #3*

*“Then we maybe try to set up some specific sessions that will deep dive into that [...] having maybe a session with some kids and trying to trigger that specific scenario where they run into something.” - Interviewee #3*

These are the many ways in which the LEGO Group utilizes or searches for external knowledge including physical, intellectual, digital networks.

*“I personally have access to a lot of inside repositories.” - Interviewee #2*

*“[...] platforms as well that publishes a lot of industry reports on the toy industry.” - Interviewee #2*

*“[...] at the retail store experience team, we do and take a lot of inspiration from what is happening in the retail world [...] visit other stores from other brands and see how they are doing in terms of providing engaging experiences through technology in their stores, attending conferences on this physical and digital space, it's called phygital retail.” - Interviewee #2*

*“[...] Adidas because they are one of the brands that have a very strong digital engaging experience inside their stores. Aside from Adidas, I also try to see what other kids toys are sort of brands doing as well [...]we're not competing with Adidas, but on the other hand, we also like to take inspiration from other physical venues like for example museums.” - Interviewee #2*

Searching for this knowledge and putting it together presents many ideas from this process.

*“Some of the designers might even browse around and see all sorts of ideas.” - Interviewee #1*

*“[...] a term that's very common in the LEGO community called MOC stands for My Own Creation and LEGO fans typically when they create something and design it on their own[...]can be influencing the products that we put out as a company.” - Interviewee #2*

*"[...] it's just natural that LEGO has a company that promotes playfulness [...] idea of like when you're engaging playfully with your customer base, a lot of good ideas then can come up from it."*  
- Interviewee #2

*"Is it something that's come up in numerous App Store reviews? [...] Then we might dive straight into the solution, looking at different solutions, how could we solve this? Or maybe [...] maybe we've seen it a couple of times in some user research indicating that there might be something here."* - Interviewee #3

*"I try to rely on different sources of ideas. [...] Yeah, NPS (Net Promoter Score) data, all of that kind of data sources that's coming from users. Sometimes they'll highlight what problems they have, or also sometimes opportunities they see, wouldn't it be nice if the app did XYZ?"* - Interviewee #3

While it is important to draw ideas from external sources, the LEGO Group also builds innovative products and services with internal knowledge.

*"But our lego.com website, that's something we build in-house."* - Interviewee #1

*"We have a product community where we try to do regular inspirational sessions [...] I have a monthly session with myself and just look at some of our biggest competitors and see what they are up to and have they launched or updated their apps within the past month? Have they written anything in the App Store, update notes or on their websites. Just browsing through what's happening around us."* - Interviewee #3

Not only does the senior leadership guide the strategy on the three concepts in building innovations in-house, so do the LEGO Group employees.

*"The three of us (product trio comprising lead engineer, product manager and designer) are then representing feasibility and business viability and user desirability."* - Interviewee #3

*"Weighing out between the desirability, the viability and feasibility of the concept [...] desirability that you know it's this concept or idea, something that our customers [...] adults or kids can find meaningful for whatever they're doing. Is it fun for them? Is it useful for them? Viability in a sense that how does this concept tie into the business goals of the organization of the company and feasibility in a sense that is this even possible for us to deliver through our current technical capabilities."* - Interviewee #2

However, top Management has a final say towards the design concepts before building it out.

*"We need to have the design signed off by the leaders."* - Interviewee #1

*"We have a team for the platform [LEGO Ideas] and then we have the whole product lines, all the products under the brand LEGO Ideas. That's handled by two different teams."* - Interviewee #4

*“[...] when we set our strategy, we also involved some stakeholders a bit higher up in the organization and got their input and got their sign off on our product strategy and making sure it's somewhat aligned with what all other teams are pursuing.” - Interviewee #3*

The LEGO Group has many avenues to engage with their vibrant fanbase for gathering user feedback and testing their prototypes that are physical or digital interaction.

*“We have a channel where we can reach out or ask for input from very dedicated fans [...] if I need to get feedback on a specific concept that I am designing and I really need LEGO fans. I will talk to this one guy at the company and he will just arrange everything for me. So I don't know where he gets these fans from. I don't know how he does it, how he keeps the network, but there is something like that.” - Interviewee #2*

*“[...] qualitative research where we get kids into a room and have them try out the app or in other ways[...]we go to LEGO House for example, which is close to our office of course, and get consent from some families to ask them questions or test prototypes or something.” - Interviewee #3*

### 5.5.1. LEGO Ideas

One of the biggest venues of open innovation at the LEGO Group is LEGO Ideas platform where LEGO fans submit their design ideas which are shortlisted to a few designs that go into production and sold at LEGO stores worldwide.

*“The whole concept of LEGO ideas was also new for us to really invite people to design their own LEGO sets and if they got 10,000 votes from fellow fans, they would be brought into a quarterly assessment, then shortlisted, and then ultimately one or two sets per quarter would be chosen to actually come into production. And you as the designer would get a percentage of the profits. Of course, a lot of fans want to design their own LEGO set and gain money from it.” - Interviewee #1*

This platform started as a pilot project in Asia which later turned into a worldwide platform as a digital transformation and open innovation initiative by the LEGO Group.

*“[...] 10 or 15 years ago, we started LEGO Cruso in Asia which was the pilot for LEGO Ideas. First of all, we piloted this in a small region to see whether it would pick up or not. When it then picked up and actually became a success, then we launched it to the world and rebranded it as LEGO Ideas. [...] LEGO ideas is a good example of open innovation: how we look at intellectual property, how we partner with other companies and licensing[...]it is a big chunk of our product.” - Interviewee #1*

LEGO Ideas platform has multiple stages from crowdsourcing to crowd validation and from review to co-creation. Ideas submitted on the LEGO Ideas platform go through these stages before finally going into production and being sold at LEGO stores worldwide.

### 5.5.2. Crowdsourcing

Crowdsourcing of ideas starts with submission of ideas by the fan designers on LEGO Ideas platform. These submissions have to follow certain guidelines in order to get published on LEGO Ideas platform.

*“You have built something either physically with bricks or digitally, we accept both kinds of formats. Then you need to create a submission through the platform and then you have different guidelines and rules you need to follow. You need to have a proper description, a nice image. You need to respect our guidelines in terms of what we call intellectual property, so it means there are some licenses that we already have or we won't do, so that we won't accept for instance. - Interviewee #4*

After submission of an idea, it goes into evaluation before publishing on the platform for crowd validation. This involves both manual evaluation as well as AI based where certain keywords are filtered.

*“It [idea] is submitted [...] it goes through a team of what we call evaluators, it's a team at LEGO. We have two ways to do evaluation. We both use AI for text evaluation. They are screening more or less the text [description] and seeing if there are some major keywords that we don't want, like bad words or so. [...] And then we have the image, we have some rules regarding the size, the quality, if it's blurry, if it's to zoom out to zoom in. If you have too much text, there are a lot of rules that our user needs to respect in order for the submission to go through the process.” - Interviewee #4*

This evaluation is not about the quality of the idea itself but to check if it follows the guidelines.

*“At that stage, we don't judge the quality of the submission. We evaluate that it's just respecting the guidelines, so we are not saying it's a good idea or bad idea. We are not evaluating that part, we're just evaluating that the submission respects all the rules we have to submit an idea.” - Interviewee #4*

### 5.5.3. Crowd Validation

The next step after crowdsourcing is crowd validation, where users on LEGO Ideas platform vote for the ideas that they like the most.

*“As soon as this [an idea] is published, the user has different milestones to reach. The first one will be 100 votes, so users need to gather 100 votes, 1000, 5000 and 10,000. Reaching those milestones gives users more time to gather more votes. User needs to reach those milestones in a certain time frame. [...] [Otherwise,] submission expires from the website, so it is not shown on the website anymore” - Interviewee #4*

Apart from number of votes, other metrics are also measured however they are not the criteria to accept or reject an idea submitted.

*“The crowd validation is the support from the community, that's what we take in consideration. [...] there is a number of votes, minimum 10K. [...] But also we are looking at how fast it reached*

*10K. It's not necessarily a criteria to screen out an idea, so it's not because an idea took two years that we won't look at it or consider it at all.” - Interviewee #4*

Depending on the nature of the design idea, some ideas gain crowd validation faster than the other ideas, however as mentioned above this is not the decisive factor.

*“[if an idea submission reaches 10k votes in a day] it doesn't mean that it will be a good set [...]. because often the submissions that are linked to an IP, to a brand or franchise in general go faster because people are sharing on fandom space and will attract a lot of those of the fandom [...] what we call AFOL build, something is not linked to an IP, it's more slow to gather, but it can be a beautiful built. We have some amazing sets that were not linked to an IP that has been super successful as well. So it's not the criteria we take in consideration.” - Interviewee #4*

#### 5.5.4. Review Process

The review process for filtering the ideas submitted on LEGO Ideas platform involves various steps, starting from gathering all the information regarding the ideas.

*“We have three times a year a review process [...], we take all the projects that reach 10K in this four month period [usually 40-70 ideas]. And then we start to do another evaluation, it's called the review process. We gather all the information we can get on those submissions, how fast it reached 10k, how many page views, how many comments they got, if they got feedback, so all the data we can find on the platform regarding the submission.” - Interviewee #4*

After gathering all the information on the idea submitted, there are different criteria, some of which are confidential, to narrow down the ideas to a few ideas that can later go into production.

*“We look at different criteria that I cannot share because it's highly confidential but some criteria in the group that we look at [...] what we call AFOL Community, the adult fan of LEGO. But then [...] there are different stakeholders from the group with different criteria[...] and from there we will screen out some ideas [...] and then we select just a few because there are some for obvious reasons, we cannot choose. Also it could be the building techniques that are not good enough or like we already have something in the portfolio or we have some portfolio conflict.” - Interviewee #4*

At the last stage only a few ideas, as low as two, go for the production process.

*“[...] we select few and then we go to different stage when we test and we do different things I cannot share but to get to a shorter list and then we know how many we will select because that will come to the portfolio in maybe two years or something we know we have two slot, 2 project we can choose so then we choose those two product and then they will go to the process of production.” - Interviewee #4*

*“The one who went through evaluation, [in 2022] we had 3440 published projects. [...] [design selected for production] depends on how many slots we're gonna have, but it's between one and I*



*think the max we got was four. We have 3 review, for each review it can be up to four” - Interviewee #4*

### 5.5.5. Co-Creation

After the review process 1 or 2 ideas are selected for co-creation where the fan designer and the LEGO Group’s designer work together to create a final design ready for production.

*“We select one or two [out of 40-70 ideas] depending on the slot we have [...] the team reach out to the fan designer and they co-design, it needs to fit the LEGO standards in terms of building experience, quality, some bricks for example, we might not produce anymore or some bricks we don't want to do. So there are a lot of criteria, the LEGO designer is working with the fan designer who submit the idea they are working together to get to an agreement of a set and then it will go in the whole production process.” - Interviewee #4*

This co-creation process is preferably on site at the LEGO Group’s office but it can also be remote depending on the location and preference of the fan designer.

*“[Co-creation] really depends where the fan designer is located, so I believe that they are trying to have at least one physical visit in the process because we really want to have the best collaboration with the fan designer and often they are also very excited to come to the office. [...] otherwise it's online and with all the modern tools we have now, it's easy to work online. So it depends also on the fan designer himself [whether] it is working or not.” - Interviewee #4*

### 5.5.6. Motivation and Incentives

One of the motivation for the LEGO Group to engage in open innovation through LEGO Ideas is the creativity of their fans which is not limited as compared to their in-house designers who have various constraints

*“The passion that our fans have for the brand is just amazing and the unlimited creativity and innovation [...] Outside innovators don't have the limitation that we have at the group as a designer. Our designers are super good but of course there are a lot of things that we know, limitations or things we cannot do and the outside user would have some ideas that we never have, because we are in our own world.” - Interviewee #4*

Crowdsourcing of ideas from fan designers provides novelty in various aspects of LEGO products.

*“We are looking for new building techniques, the newness in different parts from different angles [...], new ways to use some piece or some element. Or a new license we haven't thought about. There is a lot of newness in the proposition innovators provide us and it's super exciting to do that and we love our fans and we want to continue to offer this opportunity.” - Interviewee #4*

Another motivation for the LEGO Group is the community building and fan engagement with the LEGO brand.

*“We think the crowdsourcing LEGO Ideas is a unique experience [...] just seeing in the eyes of our designer, like our fan when their set has been selected to become a real product. The LEGO brand really loves that fandom. [...] It's the core of LEGO. It's the fan community, like at any age, kids fan or adult fan. To be able to offer this opportunity, it's really unique.” - Interviewee #4*

*“We know that our fans are fans of the LEGO brand. Even if you have some other website [...] it will never have the LEGO brand and for some of our fans, it's super important, even if the chance to see the set live and on shelf is very low because only few will get selected. Just the potential of having the set on shelf with the LEGO brand is super important for them” - Interviewee #4*

This experience is also a motivation for the fan designers to participate in LEGO Ideas in addition to the monetary compensation that they get.

*“We can see a lot of submissions continue to come in and just seeing this creativity and joy to share their own design. When their design has been selected. And they get one percent of each set sold so it's not like a free thing, they get the revenue out of it as well.” - Interviewee #4*

*“They [fan designers with less than 10K votes] get some sets. [...] they get compensation in terms of sets, LEGO sets.” - Interviewee #4*

## 5.6. Dynamic Capabilities

These are the strategic decisions and organizational changes taken by the LEGO Group, particularly in the realm of IT reorganization to align IT functions with specific focus areas of digital consumer products, engagement technologies, and enterprise systems.

*“When I started, the first big thing was to do a reorganization of our IT departments [into] three [...] focusing on each step area: [...] Digital Agile Development [...] focusing on the digital side of our consumer products [...] like our LEGO bricks and our online offerings for kids and [other] consumers. [...] Engagement and Analytics Technology [...] focusing on engagement technology [...] lego.com and our web shop and analytics and data behind the scenes. [...] our third pillar was enterprise technology, [...] all our core systems and corporate functions, like our finance systems. So SAP, backbone or ERP systems, and all of those big enterprise chunks. All of that was then reorganized into one digital technology organization and I was sort of a program lead for that reorganization with a focus on the people side. That was the first program that set the foundation for digital transformation” - Interviewee #1*

The other strategy on work flexibility especially for the LEGO Group being a more cautious approach as compared to other workplaces which highly reflects long-term sustainability and workforce retention.

*“[...] especially after lockdown or during lockdown, where a lot of companies said employees can work from anywhere all the time. It was such a short-sighted decision [...] our stands were much more conservative [...] We waited [...] analyzed [...] designed [...] thought it through [...] reviewed it and then we came with a long term structure that we called best of both; 3 days in, two days at home and we're stuck to that [...] that's so valuable that we are staying strong and stable on that decision and not reacting quickly to these changes.” - Interviewee #1*

The interviewees talk about the adoption of techniques and technologies at the workspace which is a more hasty embrace which shows the LEGO Group's commitment to responsible and ethical business practices.

*"[...] we are much more deliberate and intentional about what we build, how we build it, in what sequence, and how we prioritize." - Interviewee #1*

*"The most important thing is how do we constantly stay alert to what is new, get these small ideas that can improve the way I work, code, or improve the product and the sum of those small things, small improvements." - Interviewee #1*

*"We're not a company who jumps 100% on the AI wave and says that we need AI. And we'll fire 20% of engineers because now the rest are more efficient because of AI." - Interviewee #1*

The LEGO Group has taken proactive steps towards adapting to the digital era in the restructuring of the workforce in terms of hiring product managers, technology-related professionals and the Chief Technology Officer.

*"We laid out our entire architecture and structured it into digital products and then we needed a product organization. We had very few product managers. We had some product owners because we were used to working in agile, but a product owner and a product manager are very different things in our mind."-Interviewee #1*

*"[...] we started to structure the stuff we had with the capabilities we had into this product organization and then we hired the needed people, especially in more senior roles. I was part of that program defining product, defining how the product organization looks like and getting all of that up and running with communities of practice and archetypes and role descriptions. Again, learning and development opportunities and so on."-Interviewee #1*

*"They have created a whole separate digital technology organization. And that means having a CTO role as well. So we have a chief technology officer who has been with LEGO for like only three, four years [...] previously that role did not exist in LEGO." - Interviewee #2*

*"[...] open up digital offices that are solely there to cater to hire people that work in the digital tech field." - Interviewee #2*

This speaks to the organization's commitment to fostering professional growth and adaptability among its workforce. The evolving career trajectories within the company, reflecting an awareness of the dynamic nature of the industry and the importance of staying relevant.

*"I know vaguely of someone who has worked in LEGO for 20 something years, and it's only recently that they have started switching their career to becoming a product manager. And to do that, there was a lot of support and internal training." - Interviewee #1*

To adapt also could relate to structuring the physical spaces into modern and innovative design structures which is motivated by the design from the Silicon Valley.

*"The LEGO headquarters, LEGO campus itself is a new building. The design is very reminiscent of a modern office, they took a lot of inspiration from tech companies in Silicon Valley. It's even*

*called the LEGO campus, similar to how maybe Google would call their office, Google Campus[...]so that it can shape the culture of the people inside as well.” - Interviewee #2*

*“[...] they have also created a more modern space for collaboration in the headquarters in Billund.” - Interviewee #2*

The interviewees gave an inside look on their decision making process and strategies but were very hesitant to disclose more internal processes which would otherwise be very revealing.

*“[...] November Gate and that's where we decide on which of these ideas we turn into products.” - Interviewee #1*

*“We have a strategy that spans across the four teams that are making the builder app and we set that product strategy a year ago and that was created through a framework that's called play- to -win which is quite focused on choosing a strategy [...]we have a process where you come up with different strategy possibilities.” - Interviewee #3*

### 5.6.1. Sensing

Considering the resources and capabilities that the LEGO Group has, it is not difficult to seize an opportunity. However, sensing the right opportunity to seize is an essential step for digital transformation for the LEGO Group which requires product discovery through techniques like opportunity landscaping.

*“The key point here is that in order to be good at digital work, you have to trust that you can come up with whatever solution that's not the problem. We have the best people in the world. We can come up with anything that's not the issue. The issue is finding the right thing to work on. So product discovery and what is largely called sort of assessing your opportunity landscape suddenly becomes key.” - Interviewee #5*

One approach that the LEGO Group used for gathering ideas is to involve external agencies and ask them to present their proposals.

*“We go out to a series of the best agencies in the world and say, [...] give us your best ideas and then they come in, everyone with their big pitch deck and then imagine 30 different companies just pitching their best wildest ideas and then some folks will sit and select the ones that they prefer. That's been like that in the past” - Interviewee #5*

However this is not the best approach for various reasons.

*“That's not a very scientific way of going about it because first of all, the people coming up with ideas, what if the brief sent out is the wrong brief? [...] Second of all, the companies want to look cool and hip, [...] They come up perhaps with a concept that will cost 10 million or more to implement it. We've done something like this in the past where we went ahead and spent all this money. Did we test it first? No, not really. [...] There's a lot of things that can go wrong along the way and it's very expensive this way of working.” - Interview #5*

In relation to open innovation, the LEGO Group keeps the control of the overall direction and strategy while involving other parties instead of relying on them.

*“It's not that we don't necessarily use open innovation in the sense of going out and if you want to work with some of the best in the industry [...] we want to go and at least talk with them. But there is a difference in saying, tell us what we need to know versus we have this specific problem we need you to help with that. Who controls the narrative and that's what's changing now. But we still use it for sure, but we need to own what we do best strategically speaking going forward.” - Interviewee #5*

The LEGO Group also relies on studies on major trends but most of the strategy is based on internal planning and on the understanding of the user's journey.

*“There will be studies done either in store or whatever around with trends and what's happening overall sort of the major trends. But other than that, most of these directions are strategically now internally as part of our planning or OKR planning ” - Interviewee #5*

*“You need to understand what's the hero's journey for the product or the area, the domain that you sit in and for us it's that we want to create all these cool experience from our customers” - Interviewee #5*

Another important point is that qualitative data collected through user interviews is more insightful and useful than quantitative data at least when it comes to sensing users' needs.

*“Or a product like ours [...] data is not as important as talking to real people and understanding what they're saying. I get more out of talking to 5-6 guests coming in and sitting with us in the room than me looking at a big PowerPoint with a bunch of slides. It can inform your hunch, but it's not the same as sitting down with a family and having them try with their kids.” - Interviewee #5*

## 5.6.2. Seizing

Once an opportunity is sensed, the next step is how to seize it and one of the challenges is how to break down a broad opportunity into small actionable items.

*“How do you translate some of those larger visionary items into actual needs that we can dive into ,that we can solve this specific challenge around.” - Interviewee #5*

Opportunity solution tree” is one approach where the LEGO team starts with an end goal and then works their way back to see different possible routes to reach that end goal.

*“Usually you set some kind of decided outcome [...] based on that business outcome that you want to achieve, what sort of problems do I hypothesize [...]. So you build up this tree of branches and you branch out into more and more details and you validate that along the way. [...] Let's try to break it down until you get further far enough down into the tree that you could start testing assumptions, [...] and from there on you can start looking into the actual solutions, that's sort of the approach that my team and I work on there.” - Interviewee #5*

In terms of team structure, the LEGO Group uses a “product trio” which consists of an engineer, a designer and a product manager to both sense and seize the opportunities for the LEGO Group. This has been shared by multiple interviewees.

*“We have a product trio which consists of the designer, lead engineer and myself [product manager], and we have a weekly meeting where we align on the day-to-day stuff. Every half year, we have a day where we try to just align on what we believe are the biggest opportunities for us to tackle and in which order.” - Interviewee #3*

*“We sit as a tight group that are responsible for setting the direction. What are we putting into discovery? What are we going to put into delivery? These two different swim lanes that kind of go parallel to each other. So you deliver on one track and you have your discovery running underneath, feeding your delivery train.” - Interviewee #5*

It also involves short term collaboration with other teams because they might have a different capability which may be needed for a particular opportunity that has to be seized.

*“I work with other teams all the time, so our team, for example, we're building a hardware fixture, a real thing needs to go into the store we are software team we have no idea what we're doing, [...] then we work with someone else who's whole specialties is to build and design these kind of fixtures.” - Interviewee #5*

Besides engaging a team or a resource on an ad hoc basis, they are also mobilization across various teams for a longer period depending on the need.

*“We started with a big team, let some people go to other teams because we didn't have enough work for them initially because LEGO like to overstaff a little bit, so we had a big team like wait we need three people, why do we have 12 people? That's too much. And then scale down.” - Interviewee #5*

*“We kind of extend our product team to involve specific folks for a limited time and once they're done with their part merge out again and then we keep a centralized communication hub internally where we can then chat and then we will do check-ins.” - Interviewee #5*

This mobilization of resources across teams happens under what the LEGO Group calls “working groups” that are led by program managers.

*“LEGO did employ quite a few what they call working groups that span multiple problems and products and domains. Usually the working groups will be led by a program manager and not a product manager. Because now we're talking about a project with a lot of stakeholders. We have multiple of those going on at any given time and I'm currently involved in one working group.” - Interviewee #5*

However, mobilization of resources sometimes creates problems when resources that were transferred from one team to another are no longer available for the original team. It then leads to hiring new resources in order to seize existing or new opportunities.

*“Now we're in the situation where we kind of need those folks back, but now they've been earmarked for somewhere else and they don't exist anymore. So then you have to kind of get creative and say alright, well, we can see that we might need someone coming in next year and then you need to work with the managers [for hiring].” - Interviewee #5*

Also some specific resources are not difficult to access as compared to other resources because they are often in demand by various teams at the same time.

*“And then research, that's the other one [besides engineering] that's hard to get access to, cause our service designers and user researchers are constantly being asked for assistance. [...] So my designer and myself do take on a lot of the research work. At least planning and carrying on. Then we'll meet with a researcher to validate [...] but it's hard for us to get the resources or capabilities we need?” - Interviewee #5*

### 5.6.3. Transforming

One major element of digital transformation at the LEGO Group is the transformation of its team and workstyle which shifted from traditional waterfall project based to agile and product based.

*“LEGO as a group has invested billions now in digital transformation, mainly with the aim of becoming what is in LEGO terms called product lead [...] it's another way of saying that we're product driven to some extent and that's of course, a huge investment in the business moving from waterfall projects, project thinking and focus on forecasting output based planning to then having to work on agile development” - Interview #5*

*“Before a couple years ago we didn't have any product management at all, we were just project managers and the whole legacy organization. Investing heavily in design, investing heavily in engineering and also in research, apart from the product mindset and trying to instill that in everyone” - Interviewee #5*

A long-term strategy for transforming the LEGO Group is to develop in-house capabilities which are currently outsourced to external vendors which can create bottlenecks for the digital transformation initiatives.

*“Currently most of my work is [...] mainly being on a roadshow talking with other teams, understanding where they're at and where they need some of the capabilities that we're working on, [...] we're working on how do you take a part of the organization that's usually been driven by projects and external vendors [...] and bring these capabilities back in house. [...] My job is in large part making sure that we have a strategy for bringing things in house and working with it in house going forward.” - Interviewee #5*

This transformation is not equal across the organization; rather some teams are more mature than others.

*“LEGO as an overall group when we talk about transformation in terms of maturity is on a broad scale. So the part of the company that I sit in is the most evolved product organization within the LEGO Group [...] the rest of the organization [...] are more delivery focused like, here's the menu of things we want you to build. Tell us when it's ready. Where in my case it is, we have this crazy*

*uncertain business problem? You tell us what to do. That's a different kind of maturity in the organization.” - Interviewee #5*

Another important aspect of transforming is to change the way stakeholders assess the digital transformation opportunities in situations where quantitative data may not be available.

*“In our stores we have very few numbers because again historically our technology has been quite blind. So we don't have the same level of data rigor as we have for online. And half the challenge right now in the digital transformation is explaining to your stakeholders that you can't set the same requirements because we don't have the collection mechanism in place to give you the rigorous answer that you would like.” - Interviewee #5*

This leads to another important point which is the fact that most of the challenges regarding digital transformation are not related to technology, but the people involved and the overall culture.

*“A large part of this [digital transformation] is cultural [...] what works in the startup doesn't necessarily work here [...] Just coming in and trying things out. I find that whatever you're trying to do, whether it's digital transformation or digital products at the end of the day, this is about people and about trust and it doesn't matter what the framework is or whether you use the framework correctly or this method or that method.” - Interviewee #5*

## 5.7. Key Challenges

### 5.7.1. Open Innovation

Open innovation draws ideas from all corners but how the company itself selects the ideas to implement is still abstract. Searching for this knowledge and putting it together presents many ideas from this process which makes it difficult to filter and pursue an idea further.

*“[...] an abundance of ideas, of course, from all over the place. So which do we actually bring forward for more testing or deep diving into.” - Interviewee #3*

Sometimes, innovation is frustrated where the ideas have to go through a long process for an idea to be launched.

*“[...] for our physical products, we spend roughly 18 months from idea to a product that we can sell.” - Interviewee #1*

*“[...] if we look at the really big themes that we're launching, we just launched a theme called Dreamzzz and that was a three-year research program.” - Interviewee #1*

The LEGO Group faces constraints in negotiations with entities holding Intellectual Property Rights (IPR) for potential product themes, such as movies or trending concepts suggested by their fan base. This impediment hinders the company's capacity for innovation, as it restricts their ability to seamlessly integrate popular ideas into LEGO sets. Consequently, this limitation jeopardizes the LEGO Group's capability to engage and maintain the attention of their fanbase to the LEGO sets. This obstacle undermines the LEGO Group's creative freedom and responsiveness to customer preferences potentially affecting their competitiveness in the toy industry.



*“LEGO Ideas is a great place to find both because people who are fans of PAC-MAN will push to make a PACMAN LEGO set. But then we need to negotiate with whoever owns the rights to PAC-MAN. And sometimes it's not possible. If people say, well, can you do a LEGO Barbie? Well, then we would have to negotiate with our competitor Mattel and that probably won't happen, right? So there's some limits to the ideas, but when we have original ideas like a blacksmith house, then which is one of the sets, then there are no IP rights we need to secure. Then we can just design it and sell it.” - Interviewee #1*

Being a leading toy company, many upcoming brands desire to be associated with the LEGO Group and this sometimes means that these potential partners break the LEGO Group Partner Promise.

*“We are such a strong brand that a lot of partners, companies want to partner with us. So they would go quite far to put our logo on the website and say, you know, LEGO is one of our customers.” - Interviewee #1*

To be relevant in the toy market, the company has to collect enough user data but remain true to the rules and regulations of the European Union.

*“Everyone is saying, you have to have lots of data to base your decisions on data. But then we do run into the ethical issue.” - Interviewee #3*

*“Our quantitative source of data is somewhat limited because we just really want to be on the ethical high ground when it comes to tracking.” - Interviewee #3*

## 5.7.2. LEGO Ideas

For LEGO Ideas, the biggest challenge is to keep the LEGO community engaged and motivated to submit the ideas considering the long timeline from idea submission, promotion, review, co-creation and finally the production of the physical product.

*“We need those who submit an idea, we call them innovator, we need to keep them motivated to submit because it's a very long process [...] The challenge is this long timeline to get your ideas on shelf [...] we cannot reduce this timeline. We would love to be able to be more reactive in helping the designer to have their assets chosen and on shelf but it just takes a lot of time. So for me, it's really the challenge to make sure we continue to be attractive to this community and we continue to have some strong submission to the platform.” - Interviewee #4*

Once an idea is submitted, it requires promotion on social media platforms which is not easy for every user of LEGO Ideas platform.

*“If you want to reach 10K [votes], you need to do some marketing, you need to push to some social media. You need to do your own marketing and it's not easy for everyone. It's not necessary [that] everyone who has some [social media] account with the number of followers that is decent enough to attract voters and support on the platform.” - Interviewee #4*

Once an idea gets enough crowd validation, still there is a long process afterward.

*“Even if you reach the 10K [votes] in no time the process still after is long [...] you still have four months waiting for the review. [...] It takes months to give the result and then months again for the set to be produced because development of a product is quite long. [...] So for me, the biggest challenge is to make sure we continue to offer the best experience.” - Interviewee #4*

Review process has various dependencies on which the LEGO Ideas team does not have much influence.

*“[...] there are a lot of things we cannot control, [...] the time to the review process to check [...], if it's a new franchise or a new brand, [...] new license we don't have in our portfolio. The team needs to reach out to the license. Is it compliant with the LEGO rules and the brand guideline? [...] We have a big adult portfolio, but we are a kids brand. There are a lot of rules that we need to respect to start partnering with a new license. There is a lot of stuff that takes a lot of time to be checked to be negotiated.” - Interviewee #4*

However this challenges is not big enough to causes a major hindrance in LEGO Ideas operations

*“When I say challenge, it's not like a big challenge, just if I have to give some challenges then it would be one of those, but it's not a blocker for us.” - Interviewee #4*

### 5.7.3. Dynamic Capabilities

This highlights the challenges that can arise when different workflows within the LEGO Group clash due to differing approaches to project development.

The LEGO Group has senior leadership staff who are used to the traditional, linear development phases contrasted with the more iterative and agile methodologies employed by digital teams which reflects a potential divergence in work styles.

*“Some Workflows clash when they don't meet in the middle because one side might be used to working in a certain kind of way and the other might be used to working in this sort of like agile way.” - Interviewee #2*

The long history of the LEGO Group presents established processes that may require adaptation to accommodate the agile methodologies embraced by certain digital teams.

*“Being a company that has been around for 90 something years LEGO can be [...] very used to doing things in a very certain way and [...] for example, going through development phase that is [...] waterfall from one end to another with very linear flows whereas the way I see it, some of the digital teams that have been built, they are used to working in a way that's more iterative. That's more agile. That works in a very short cycle of sprints and they ship out and test.” - Interviewee #2*

In the context of pursuing other opportunities within the organization, indicating that certain shifts may be nuanced and require careful consideration, especially when navigating across different teams with varying workflows.

*“[...] when it is a big organization like the LEGO Group there's always a different agenda at play at one time [...]” - Interviewee #3*

*“[...] with big organizations like the LEGO Group it is a hot topic, how do you shift to pursuing other opportunities?” - Interviewee #3*

Strategic decisions on what opportunities to pursue may involve careful scrutiny of interconnected teams.

*“It's [shifting to pursue other opportunities] easier within a team like the Builder app, so within that I can somewhat shift to other opportunities, but of course, I have to be mindful that I'm touching with maybe seven and eight different teams, so I can't just change on my own because it might change the workflow in other teams or the resources they need or something like that[...]because then you have to maybe take away resources from one team that is committed to delivering on something to something else.” - Interviewee #3*

Lastly, weighing the importance for other teams and the changing needs of the company on a case-by-case basis might be a thoughtful and adaptive approach to managing conflicting priorities but it is always blurry how the innovations in individual teams match the company strategy.

*“There will always come things here and there which are a bit contradictory to our strategy. And then we evaluate on a case by case basis [...] Is this super important for another team to succeed [...] or it's not super critical for them then it can be more easily pushed back.” - Interviewee #3*

## 5.8. Lean Methodology and Startup Mindset

The LEGO Group has the structure, resources and workflows of a large organization which also means it does not have the flexibility of a startup. However there are ways, for instance lean methodology, to incorporate the “DNA of entrepreneurship” for innovation in its business model.

*“LEGO will never be a startup but how do you at least take some of the DNA from entrepreneurship and put it into the business? [...] the lean methodology, the lean startup, the ability to go through the product discovery loop and test your hypothesis rapidly, that's part of what I'm trying to do. [...] takes ideas in and scales up the ones that work, [...] we validate the right opportunities and test the solutions that we have, early and often.” - Interviewee #5*

Considering the nature of products the LEGO Group is working on, this startup and lean mindset is the right choice in order to be successful in product delivery.

*“He [Eric Ries] argues in that book [Startup Way] that what is missing in modern corporations to be a modern benevolent company is an internal entrepreneurial function. [...] I do see myself and my team a little bit in that role. We're a very small team in a big machine and we're working on something completely from scratch under a lot of uncertainty. So for this specific thing I'm working on, this is the right kind of mindset.” - Interviewee #5*

Getting higher ups in the organization on board to approve this new way of working is an important aspect of it which requires some convincing.

*“That's half the work, just educating people on what it means to work this [agile, startup] kind of way. It's very rare that I really talk about the nitty gritty stuff about what we're doing in that sense because my team represents something new that most of my stakeholders like, whoa, whoa, whoa. Can we even do this?” - Interviewee #5*

*“The other week we tested one of our newer experiences in the store for the first time, [...] and usually you would do the test once you finalize your entire project [...] We decided we didn't want to do that, so we literally just took the prototype we have in the office, put together duct tape, put in a cab and managed to get fast track approval high up in the business.” - Interviewee #5*

One important aspect that helps convince higher up is to showcase who it is not dangerous for the organization rather it provides ownership to the staff down the organizational hierarchy.

*“Going to the store and talking with the staff and showcasing [to higher ups] that it's not dangerous to do new digital transformation work where you involve your colleagues, you involve the staff you are working for instead of just, you know feeding them what you want them to do. That's a lot more valuable because everyone's suddenly feeling co-ownership of what they're doing. And they feel a certain level of respect, trust and autonomy.” - Interviewee #5*

*“For me, half of what I'm doing right now is just showcasing all of these little activities as part of digital transformation that are just vital.[...] just going out and doing it, the results almost don't matter, just the fact you did it. That's kind of the state that we're in.” - Interviewee #5*

## 5.9. Innovation Opportunity - Digital Ecosystem

One opportunity for innovation is to create an ecosystem to synchronize all the relevant digital initiatives for a better user journey across various touchpoints.

*“Insider community, LEGO Idea, Builder app, all those touchpoints until now are very independent. We are trying to bring them more into an ecosystem and to have some user journey that makes sense. If you buy your LEGO Idea set, you can co-build or you have the instruction in the Builder app. There are a lot of journeys that make sense to have.” - Interviewee #4*

This ecosystem will primarily revolve around the user experience across various digital touchpoints to help users perform various tasks that they want to perform.

*“When I say ecosystem, it's more like in terms of user experience. Today it's super important to make sure that your experience is the best and you feel that you belong to the LEGO community as a whole, the LEGO brand as a whole, [...] We need to make sure you can find in our ecosystem all the things you are looking after at a certain moment. So that's what we call the ecosystem.” - Interviewee #4*

This opportunity for innovation is sensed by the LEGO team as well and they are trying to seize this opportunity, for instance in the case of LEGO Ideas and LEGO Insiders there is a gap which can be bridged.

*“We could think of some opportunities and we have some project in mind [...] We are trying to create those bridges when they make sense, we are looking at the user needs, the job to be done for the user and we know for example LEGO Ideas is a huge community and there is a group that has been created in the Insider community with LEGO Ideas [...]. So now we are trying to see how we can just make a simple bridge between the two” - Interviewee #4*

One of the reasons for not seizing this digital innovation opportunity which the LEGO Group has already sensed is because as of now teams from different digital initiatives are operating independently without much collaboration with each other.

*“We [LEGO Ideas] don't work necessary today with those teams [other Digital Initiatives like LEGO Builder app, etc.]. So the builder app for example, mainly works with the one who is doing the building instruction and the product. They are, maybe, working with the marketing but not necessarily with us because we don't have a link with building instruction.” - Interviewee #4*

This challenge can be resolved by transforming the LEGO Group's existing structure and workflows. It will require digital transformation on both the back-end and the front-end but it has to be user-centric in order to become relevant for the users.

*“The [LEGO] group will have some needs to consolidate to have the same system.[...] So all those systems [CRM, evaluation, etc.] need to be aligned, you have back-end work to consolidate all those experiences [...]. and then you have the front end and the user journey, [...] we need to understand that to make sure the digital transformation makes sense for the user and not only for the [LEGO] group.” - Interviewee #4*

## 5.10. Validation

After data analysis, we shared a summary of our findings (see Appendix E) with the LEGO Group employees who participated in interviews to receive their feedback. Note that not all the sections of our report were relevant to every interviewees since they have different domains and expertise for instance some are more involved with open innovation while others are more into digital transformation.

One feedback is that in the context of digital transformation hiring is not only focused on engineering, it includes all the key tech roles such as:

*“Designers, researchers, data analysts and PMs [Product Managers]: Basically, key roles in any tech company” - Interviewee #5*

Another important feedback is that data collection is not limited to qualitative data only. There are investments in quantitative data as well.

*“I'd consider emphasizing the investments made into quantitative capabilities as well. Likely, they surpass the focus on qualitative customer insights. Not that I'm a personal fan of the “data-driven decision making” mantra. I prefer to be evidence informed, personally. Not*

*everything can nor needs to be an A/B test — depends on where you sit in the organization + the maturity of your product.” - Interviewee #5*

*“Mainly investments into improving our data collection capabilities at scale and enabling teams across the business to leverage said data (earlier in decision making)” - Interviewee #5*

## 6. Discussion

In this chapter, the interview data will be examined through the lens of chosen theories and reviewed literature. The research questions of this project will also be answered here and key concepts of the research will be discussed.

### 6.1. Business Model Canvas

To start the discussion, it is necessary to have a general overview of the LEGO Group's business model. For that purpose, the Business Model Canvas (BMC) model will be used to structure the knowledge gathered regarding the LEGO Group's business model into nine different sections. As our research has a focus on open innovation, the obtained information is also focused in that direction. Therefore, the BMC sections that focus on external factors of the LEGO Group's business model will be more developed.

The first section of the BMC model is Customer Segments. As seen in the literature review, with its digital transformation the LEGO Group has made a huge effort to reach different customer segments by recognizing and adapting its marketing strategies to connect with the different audiences (Markowitz, 2018; Qian, 2020). As learned from the interviews, the LEGO Group has a broad audience that goes from younger children to nostalgia-driven adults. The fact that kids are a big part of the LEGO Group's audience opens the possibility that the shopper of a LEGO product could not be the same as the final user. At the same time, some LEGO products - especially the ones related to open innovation - require age compliance due to their nature. Therefore, for these reasons, identifying the different customer segments will be crucial for the LEGO Group.

Using the information gathered in the interviews and El Sawy et al. (2020) and Haynes, (2023) literature review, the LEGO Group's audience can be divided into kids, adults, and "kidults" - this last group is adults who are re-discovering their childhood hobbies. Resulting in 4 different customer segments: customers (retailers like Target, Walmart, and Amazon), shoppers (adults, such as parents and grandparents, who purchase LEGO products for children), consumers (individuals, mainly children, who play and learn with LEGO products), and fans (adult and teenage enthusiasts who serve as both shoppers and consumers).

Digitalization has also reshaped the value proposition of the LEGO Group's business model. As learned from the literature review, the former value proposition was based on the physical "brick" product (IvyPanda, 2022). However, due to a bankruptcy threat and using the new opportunities digitalization offered, the LEGO Group added a new dimension to its value proposition more oriented to a digital side. This new value proposition includes not only the traditional physical product but also hybrid and digital products that, although not fully physical, still offer the play experience (Robertson, 2014; Andersen et al., 2016).

On the other hand, interviewees also confirmed this new direction. As the main goal is that "consumers spend as much time as possible using our LEGO sets instead of doing something else", the LEGO Group has focused on reinventing an obsolete traditional product while still using the LEGO brand identity helping them to "sustain the competition or changing environment". The interviewees affirmed this new

value proposition consisted of creating new product lines - such as the LEGO Group's botanical lines - to tap into new markets and, on the other hand, "innovating away from the traditional bricks to the digital environment while keeping the bricks at the core of all innovation".

The digital shift in the value proposition also resulted in a shift in the LEGO Group's channels. As stated by the interviewees and in the literature review (Mixson, 2022), the LEGO Group has moved to an omnichannel structure to engage customers in the digital landscape. This new channeling strategy encompasses various digital platforms alongside physical channels. Nowadays, LEGO products are physically available in the company's stores, retail outlets, LEGOLAND parks, and LEGOLAND Discovery Centers. Still, at the same time, it is also possible to buy digital and physical LEGO products through online platforms - such as the LEGO Group's website. Consequently, the company seamlessly integrates its retail outlets, online stores, and other digital offerings to form a unified, immersive omnichannel experience.

The LEGO Group has invested significant resources in fostering a culture of engagement around its community platforms, recognizing that increased interaction within a customer community leads to both innovation and revenue growth. For that purpose, the LEGO Group has also used the new possibilities of digital tools to improve its customer relationships. On one hand, the LEGO Group has created platforms - such as LEGO Ideas - or digital communities - such as LEGO Club or Adult Fans Of LEGO - to promote community building (Antorini et al., 2012). On the other hand, as learned from the interviewees, the LEGO Group is also using media channels to reach and build relations with its audiences. For example, LEGO Masters, a TV show where fans of the LEGO Group come to build and compete with each other with their LEGO builds.

Regarding revenue streams, the principal Revenue Stream for customers is still physical product sales (Ringen, 2015). However, in the interviews, it is mentioned a new form of Revenue Stream is gaining importance inside the LEGO Group's business model: intellectual property licensing. The LEGO Group, by licensing its intellectual property in movies - such as The LEGO Movie - or video games - such as LEGO Star Wars - expands and promotes the brand securing a dominant position to its competition.

By analyzing the last BMC sections, it is possible to affirm that Intellectual Property is the differential Key Resource of the LEGO Group's business model. Although physical and human resources - such as the machinery or the employees - are basic pillars of the LEGO Group's business model, intellectual property will be key to sustaining the new lines of products, platforms, and partnerships that are making the LEGO Group a competitive business again.

To successfully use the Key Resource, the interviewed employees agreed on defining partnerships as a Key Activity. The association with creative users or companies from other sectors is key for the successful innovation of a business model that "bases 70% of the portfolio on new products with intellectual property partners". Furthermore, the interviewees also defined other key activities such as opening online stores, dedicating new payment methods, and tapping into new markets by identifying and honoring specific festivities for diverse audiences.



Partnerships are one of the LEGO Group's key activities. Therefore, the volume of the LEGO Group's key partnerships has remarkably increased in recent years due to the expansion of the LEGO Group to new markets and opportunities (Ringen, 2015; Mixson, 2022). Among these key partnerships, the LEGO Group has partnered with different media companies. As stated by interviewees, the LEGO Group has associated with Disney to "get licenses for smaller products," including the design of intellectual property to create LEGO sagas of Star Wars or Dune. At the same time, the LEGO Group has also partnered with Warner Bros by ceasing its intellectual property rights for the making of a movie (El Sawy et al., 2020). The interviewees also explain that this type of partnership has also been made with Epic Games in the context of video games "to work on a metaverse area for LEGO Play and LEGO consumers." Finally, the last type of partnership that is key in the LEGO Group's business model is the partnership with users. As Qi et al. (2021) affirm, by building crowdsourcing platforms such as LEGO Ideas, the LEGO Group is partnering with its fans to successfully collect innovative ideas - many of which have turned into popular products - and at the same time create a feeling of community.

As stated by the interviewees, IT represents a major cost for the company. However, it pays off in the long run, as it helps to improve the digital experience within the LEGO Group services resulting in more sales and revenue. Besides fixed costs that are common to all companies, El Sawy et al., (2020) remark R&D and advertising as key expenses that, as IT, are key for successful innovation.

## 6.2. Digital Transformation

The LEGO Group's journey from a family-owned business in 1932 (LeGoff, 2004) to a global toy giant is marked by significant digital transformation. Evolving from wooden toys to plastic bricks in 1949 (Amarsy, 2015), the LEGO Group's expansion into video games, TV, and retail by the mid-1990s laid the groundwork for its digital leap in 2016. The company's digitalization strategy encompassed three major aspects: Product, Marketing, and Enterprise IT Platforms. In late 2021, the LEGO Group announced plans to expand and enter the next phase of their digital transformation, aiming to invest in digital platforms, products, and operational processes. They even established "digital talent hubs" in multiple countries (Mixson, 2022).

The LEGO Group's digital transformation journey emerges as an evolution, encapsulating various facets from process automation to reshaping products into digital experiences. It is seen as a means to enhance efficiency, creativity, and innovation within the organization. The company's vision to become a digitally driven consumer business by 2032 aligns with its endeavors to integrate digital elements across operations. A critical pivot in this journey was the recent establishment of a dedicated digital technology organization at the LEGO Group, emphasizing digital expertise and fostering a user-driven approach.

Teams at the LEGO Group are adapting work processes, infusing digital elements to enhance product development and customer experiences. The transformation extends beyond internal operations, resonating across touchpoints where customers interact with the brand, from retail stores to digital ecosystems. Interviews highlight the dynamic nature of this transformation, emphasizing the agile approach adopted by the LEGO Group, constantly adapting and refining strategies based on evolving needs and insights. While the company has made significant strides in integrating digital elements into its products, operations, and customer engagement, there are indications of ongoing adaptations and

adjustments. The agile nature of digital transformation implies a continuous evolution, and the LEGO Group appears responsive to this dynamism.

Yet, challenges might emerge in maintaining this agility and ensuring seamless integration across all facets of the company. Balancing the needs of diverse user segments while effectively leveraging internal and external resources remains an ongoing task. Moreover, while the LEGO Group's digital initiatives are extensive, there might be areas where further refinement or innovation is needed to meet evolving consumer expectations, especially in the rapidly changing digital landscape.

### 6.3. Open Innovation

The LEGO Group exemplifies a multifaceted approach to sourcing innovation. Interviews with the employees and literature review revealed the company's active integration of internal and external ideas through various channels and platforms. The LEGO Group leverages co-creation platforms like LEGO Ideas and community-driven initiatives such as Bricklink Studio, alongside global insights departments, to source innovative concepts. This resonates with Open Innovation Theory as discussed by Chesbrough and Bogers (2014), which emphasizes integrating ideas from external networks, users, and partners. Moreover, the company maintains robust in-house capabilities, exemplified by the development of lego.com and dedicated product communities, showcasing a balanced integration of internal and external inputs, as mentioned by Chesbrough (2003).

Data from interviews underscores the company's proactive engagement with users, designers, and stakeholders for idea generation and product innovation. This mirrors the core concept of Open Innovation Theory, highlighting the value of tapping into external knowledge pools. For instance, insights from kids' preferences significantly influence product development, showcasing how external ideas are incorporated into the LEGO Group's innovation pipeline.

Yet, there are several challenges that the LEGO Group faces in its open innovation endeavors. First, the abundance of innovative concepts from various sources necessitates a meticulous filtering process to identify ideas worthy of further exploration. This process, while crucial for refining ideas, prolongs the journey from concept to product, impacting the speed of implementation. Another significant challenge stems from negotiating IPR associated with potential product themes when integrating fan suggestions into LEGO sets. Lastly, balancing the need for market data with ethical considerations creates complexities in data collection and usage. This challenge is aligned with existing concerns about data security and ethical consumer data usage of the LEGO Group, explained by Holland & Wise (2023). Overall, all these challenges closely mirror the complexities and risks outlined within the open innovation literature.

Despite obstacles, the LEGO Group adeptly balances control while involving external parties, showcases ethical data practices, and remains committed to fostering creativity through external collaborations. Notably, the LEGO Group embraces the elements of open strategy, proposed by Chesbrough & Appleyard (2007). It actively engages with its fanbase, seeking input and conducting qualitative research sessions to ensure active user involvement in the innovation process. This engagement with dedicated fans and

families, along with user-centric qualitative research and co-creation strategies, underscores the LEGO Group's commitment to user participation in innovation.

We can also look at the LEGO Group's open innovation through the lens of five key managerial factors for successful open innovation management, introduced by Bagherzadeh et al. (2021): Openness Level, External Partner Choice, OI Mechanism Choice, Collaboration Process Formalization, and Internal Firm Practices. Starting with the openness level, the LEGO Group displays a high level of openness by actively seeking ideas not only internally but also from external sources such as user feedback, fan communities, and partnerships. However, there is a lack of transparency in the decision-making process, for example final selections for production. Regarding external partner choice, the LEGO Group strategically collaborates with external entities, including fan communities, retail industry observations, and even potential IP holders, aiming to source ideas and stay updated on industry trends. Nonetheless, challenges arise when negotiating with IP holders, impacting their ability to seamlessly incorporate popular ideas into products. The company faces limitations in partnering due to IP constraints.

Third, the LEGO Group's choice of mechanisms for open innovation is evident through LEGO Ideas, which features crowdsourcing, crowd validation, and a thorough review process. This mechanism allows fan designers to submit ideas, gather votes, and potentially co-create products with the LEGO Group designers. But, there are challenges in maintaining engagement and motivation within this platform due to lengthy timelines and promotion difficulties for participants. Fourth, the collaboration process is somewhat formalized, especially within the LEGO Ideas platform, where submissions undergo structured evaluation, review, and co-creation stages. Certain dependencies, such as IP negotiations and lengthy review processes can impact the formalization and collaboration. Last, the LEGO Group practices an inclusive approach to innovation, involving various departments like global insights, design teams, and retail experience teams. The company emphasizes the importance of feasibility, desirability, and viability when considering ideas. Yet, there is a hierarchical structure where senior leadership's final approval is necessary, potentially causing delays in implementing innovative concepts.

It is necessary to mention some other criticisms of the LEGO Group too. The reward structure in LEGO Ideas, offering successful designers 1% of total net sales alongside acknowledgment and set copies (Holland & Wise, 2023), might be seen as imbalanced. While the recognition and credits hold value, the financial compensation might not fairly represent the extensive effort and creativity invested in designing a set. Moreover, even though licensing, as a form of outbound open innovation, can be seen in the LEGO Group, their focus on open innovation is mostly on inbound forms. Internally developed technologies at the LEGO Group tend to be directed only for internal use. The LEGO Group's strategy seems more centered on using open innovation to enhance their internal capabilities and product offerings rather than pushing their innovations outward.

In conclusion, the findings from the LEGO Group's practices in open innovation affirm the theoretical principles of Open Innovation Theory. The company effectively balances internal and external idea generation mechanisms, yet grapples with challenges such as idea selection and negotiation hurdles. Despite these challenges, the LEGO Group's strategies align well with the core tenets of open innovation, emphasizing the managed exchange of knowledge between internal and external sources for innovation.

## 6.4. Using Open Innovation for Digital Transformation (RQ1)

The LEGO Group teams' flexible work styles blend digital elements into products, aiming for smooth customer experiences. This approach mirrors a digitally powered open innovation model, highlighting the importance of using both inside and outside resources in a connected digital setting. Furthermore, the LEGO Group collaborates closely with its user community, gathering diverse ideas to create products that match what users want in the digital world (through LEGO Ideas platform). This teamwork sparks innovation and helps the LEGO Group adapt its products to digital preferences, driving digital transformation through creative input from fans.

As seen in the literature by Mixson (2022), the LEGO Group started to invest on digital platforms as part of its plan to expand its digital transformation scope. The data collected from interviews show the company's proactive engagement across various digital platforms, notably through LEGO Ideas, which promotes open innovation. This platform serves as a place for crowdsourcing and co-creation, facilitating the submission, validation, and realization of fan-generated ideas into the LEGO products. This echoes the concept of connectivity and platform engagement in theoretical settings which are required for digital transformation.

Moreover, the LEGO Group's approach to source ideas from diverse external sources, including user communities, industry reports, and global technical communities, aligns with the contemporary trend highlighted in the theoretical framework. We can witness the shift towards accessing the best expertise and ideas from beyond the organization's boundaries through different initiatives. However, this should not inadvertently overshadow the value of in-house expertise and internal innovation processes.

The company's adaptability and constant refinement of strategies based on evolving digital landscapes resonate with the notion that today's open innovation fundamentally differs in quality and quantity from the pre-Internet era. Also, balancing investments in innovation that align with long-term sustainability against those that might become outdated quickly can be a challenge.

## 6.5. Dynamic Capabilities

The LEGO Group's group strategy direction towards open innovation has forced an adaptation of its capabilities into a more dynamic aim. Due to the digital nature of the LEGO Group's open innovation activities, this dynamism will be shaped in a digital context creating digital dynamic capabilities. This direction is confirmed by the literature review where Abbas (2023) affirms that the LEGO Group has undergone significant transformation in its business model, manufacturing process, and organizational structure. Furthermore, El Sawy et al. (2020) affirm that the digital innovation of the LEGO Group's business model has been done through a "Product" and "Marketing" lens, but also through an "Enterprise" lens by digitally integrating external and internal aspects of the company. This integration of merging technology and managerial expertise from diverse sources represented a paramount organizational challenge that can be tackled by using dynamic capabilities (Törner & Henningsson, 2019).

Therefore, to achieve that digital transformation and transform the LEGO Group into “a more digitally savvy and more nimble and agile organization” (Interviewee #1), the LEGO Group has made a special effort to enhance the key factors for a successful digital transformation. This will be a “continuous and agile transformation” (Interviewee #4) based on the building of digital dynamic capabilities for business model innovation (Klos et al., 2023; Warner & Wäger, 2019). The LEGO Group’s digital transformation has affected all the areas of the business model (El Sawy et al., 2020) and consequently all three of Teece et al.’s (1997) categories of dynamic capabilities: sensing, seizing, and transforming capabilities. Therefore, to discuss how the LEGO Group has leveraged each category of its dynamic capabilities in the digital context, Warner and Wager’s model will be used.

### 6.5.1. Digital Sensing

From a product and workforce point of view, building the Digital Scouting capability as a part of the LEGO Group’s Digital Sensing has been of paramount importance. As Interviewee 1 affirms, “The most important thing is how do we constantly stay alert to what is new, get these small ideas that can improve the way I work, code, or improve the product and the sum of those small things, small improvements”. Following the same direction, Interviewee #5 signaled that, when facing digital innovation, the most challenging part will not be building the solution but deciding which will be the right solution to work on, remarking on the importance of building an effective Digital Sensing.

To sense external opportunities, the LEGO Group has tried to use proposals from external agencies. However, due to its high cost and the uncertainty of ending up with a good solution, the LEGO Group has shifted to other innovation sources with the purpose of “keeping control of the overall direction and strategy while involving other parties instead of relying on them”. (Interviewee #5). As signaled by Interviewee #5, the LEGO Group senses new opportunities by relying on studies of major trends, by doing a curated Digital Scenario Planning using the OKR Planning template, and, above all, by understanding the users’ journey through qualitative and quantitative user data. Finally, for effective digital sensing, the LEGO Group is also working on its Digital Mindset Crafting by, for example, designing a remote-work system that will promote digital embracement in the short and long term.

### 6.5.2. Digital Seizing

When it comes to seizing the sensed opportunities, the LEGO Group is improving its capacity for Rapid Prototyping. For that purpose, the LEGO Group also has created an R&D Future Lab dedicated to research and enhancing the seizing of innovative ideas (Andersen & Ross, 2016). At the same time, although the LEGO Group is an incumbent company, it is trying to improve its innovation mechanisms by setting a “DNA of entrepreneurship”. According to Interviewee #5, the LEGO Group is using start-up methodologies - such as lean methodology - to foster “the ability to go through the product discovery loop and test your hypothesis rapidly”. This methodology, although it required some convincing when presented to the management board, is key for product development and delivery (Interviewee #5).

Additionally, as stated by multiple interviewees, another key factor for effective Digital Seizing has been the adoption of Strategic Agility. The LEGO Group has integrated the Agile Mindset into its seizing processes by changing the structure of the work methodology from linear (Waterfall methodology) to

iterative (Agile methodology) and also the structure of the teams, with a dynamic allocation of the employees depending on the workload and the requirements on every stage of a project (Interviewee #5).

### 6.5.3. Digital Transforming

Finally, the LEGO Group has also worked on building effective Digital Transforming capabilities to create a digitally favorable context to effectively respond to new opportunities. For that purpose, the LEGO Group is Redesigning its Internal Structures using an opportunity solution tree that starts with defining the end goal for the sensed opportunity and then works its way back to see different possible routes to reach that goal. To achieve this rapid prototype the LEGO Group defines teams with the “product trio” - consisting of an engineer, a designer, and a product manager - and promotes collaboration between different teams for an effective exchange of capabilities (Interviewee #5). Additionally, the LEGO Group has reorganized its IT departments into three focus areas: digital consumer products, engagement technologies, and enterprise systems (Interviewee #1).

At the same time, the LEGO Group has made efforts on Improving Digital Maturity. By hiring a new Chief Technology Officer, the company has created a role that did not exist previously centered on satisfying digital needs. Also, the LEGO Group has “opened up digital offices that are solely there to cater to hire people that work in the digital tech field” (Interviewee #2). Finally, the LEGO Group has also worked on improving the digital maturity of the existing employees with digital support and internal training (Interviewee #1).

### 6.5.4. Challenges

Overall, the LEGO Group has been able to effectively build different dynamic capabilities that are suitable for the needs of the digital era (RQ 1) and, at the same time, has leveraged these capabilities for open innovation (RQ 2). However, the LEGO Group has also encountered some challenges when building these capabilities. The first challenge faced by the LEGO Group is adaptation. The LEGO Group has senior leadership staff who are used to the traditional, linear development phases contrasted with the more iterative and agile methodologies employed by digital teams which reflects a potential divergence in work styles. Therefore, the long history of the LEGO Group presents established processes that may require adaptation to accommodate the agile methodologies embraced by certain digital teams (Interviewee #2). The other challenge the LEGO Group has encountered is related to its size. As Interviewee #3 states, “When it is a big organization like the LEGO Group there is always a different agenda at play at one time”. Therefore, strategic decisions on what opportunities to pursue will be challenging as may involve careful scrutiny of interconnected teams.

## 6.6. Leveraging Dynamic Capabilities for Open Innovation (RQ2)

When studying the RQ1, it was possible to analyze the suitability of Open Innovation as the innovation strategy for the digitally transformed LEGO’s business model. However, for a complete analysis of LEGO’s business model innovation, it is necessary to study how LEGO has its capabilities for the new digital direction towards open innovation. That goal is stated in RQ2 and given the gathered information from the literature review and interviews it is possible to analyze the bilateral enhancement between open innovation and dynamic capabilities. Teece (2020) states that Open Innovation is a natural fit with the

Dynamic Capabilities framework. The two theories are mutually reinforcing, proving LEGO's strategy right when deciding to build digital dynamic capabilities to face open innovation.

Open Innovation is simple in theory but can be challenging in reality, strong dynamic capabilities are needed to make it successful (Teece, 2020). For that purpose, LEGO has built capabilities in each category - sensing, seizing, and transforming - centering them in a digital context as a consequence of the digital nature of the open innovation strategy. Building strong sensing capabilities - such as its Digital Scouting or Digital Mindset - has helped the company to recognize external digital opportunities and, at the same time, learn from them (Interviewee #5), two key activities for an effective open innovation integration. Regarding seizing capabilities, open innovation has been optimally adopted by LEGO due to the company's agile decision-making mindset based on initiating combinatorial activities and adopting hybrid business models (Interviewee #5). And, finally, from a transforming capabilities perspective, open innovation has been done effectively by LEGO as the company, by redesigning its internal structures and improving its digital maturity, has been able to select the governance mode for external linking and integrate internal and external knowledge (Interviewee #1, Interviewee #2, Interviewee #5).

At the same time, the quality of LEGO's digital dynamic capabilities has also improved with the use of an open innovation strategy. Based on what was stated by the interviewees, the building of LEGO's sensing, seizing, and transforming capabilities has been enriched by the deeper technological and market understanding that comes with openness to external knowledge sources. For example, as explained by Interviewee #5, by hiring outside companies for innovation LEGO has realized that promoting a better Digital Scouting is most of the time more effective. Also, by openly redesigning internal structures - integrating part of the workforce as external in a seasonal way - LEGO has been able to improve its Strategic Agility and Rapid Prototyping dramatically.

Therefore, it is possible to affirm that although the building of dynamic capabilities has posed multiple adaptive and sizing challenges for the company, LEGO has been able to successfully leverage its digital dynamic capabilities for open innovation.

## 7. Limitations

This section is an integral component of this study as it preempts transparency and responsible research conduct. It contributes to the overall quality of the research and informs both current and future scholarly discussions in the field of digital transformation at relatively larger companies.

Digital Transformation is a comprehensive and high-level subject, necessitating responses specifically from designated LEGO Group's employees. The breadth of the topic prompted interviewees to seek clarification on specific areas of focus through the pilot study within the realm of Digital Transformation, such as the automation of work processes, products, or customer experiences. While the responses from the pilot study was enlightening, other areas like open innovation and dynamic capabilities were not thoroughly explored. This demonstrates the complexity and diversity encompassing digital transformation requiring particular interviewees who are thoroughly familiar with the LEGO Group's operations to provide particular insights and responses. While we were able to interview a Senior Digital Transformation Manager, only one person's opinions may not cater to all the digital transformation initiatives of the LEGO Group even though the other participants responded to the topic from their own perspective.

The selection of interview participants from the researchers' social networks introduces a potential limitation with a constrained representation of the entire LEGO Group, with the responses primarily reflective of this specific group. Despite the LEGO Group's global presence, including offices in various regions such as China, the researchers encountered limitations in reaching out comprehensively to all these locations. Consequently, the responses obtained are confined to the context of the LEGO Group in Denmark. Certain personnel identified by the researchers as potential interview candidates were prevented from participation due to work commitments, while others were unresponsive to the interview solicitations. Subsequent research endeavors should contemplate engaging top leadership to identify best fit candidates possessing substantial insight into the business model and dynamic capability aspects of the LEGO Group. Furthermore, it is noteworthy that specific inquiries were intentionally designed to unveil strategic facets of the company, yet respondents opted to withhold certain information.

While the researchers conscientiously endeavored to contact at least forty individuals affiliated with the LEGO Group, the inclusion criteria were confined to those who were both accessible and responsive within the designated timeframe of the research study. Consequently, a predominant proportion of the responses emanated from the researchers' proximate social circles and direct connections. Several employees were unable to provide referrals to their colleagues, leading to the conclusion that the utilization of social networks as a better approach, despite the anticipation of faster responses, did not yield the anticipated results.

The researchers discovered diverse literature addressing the LEGO Group's digitalization, business model, and capabilities concerning digital transformation. However, there is a noticeable scarcity of text specifically focused on open innovation and dynamic capabilities. Predominantly, the literature concerning the LEGO Group's business model and its journey through digital transformation heavily relies on the comprehensive work by El Sawy, Kræmmergaard, Amsinck, and Vinther (2020). This text meticulously elaborates the foundations, digitalization processes, and entrepreneurial capabilities at the



LEGO Group. Notably, the scholars provide valuable insights into the dynamic capabilities of the LEGO Group, a dimension that has received comparatively less attention from scholars.

## 8. Conclusion

The examination of the LEGO Group's digital transformation journey through the lens of open innovation and dynamic capabilities offers profound insights into how a company evolves within the digital landscape while navigating challenges and opportunities. An examination of the LEGO Group's business model using the Business Model Canvas is one of the key aspects of this analysis, offering deeper insights into their strategies. Notably, the LEGO Group's strategic shift in its value proposition towards digital experiences and hybrid products signifies a pivotal transformation in response to evolving consumer preferences.

The LEGO Group's open innovation endeavors, specifically through platforms like LEGO Ideas, exemplify a strategic integration of internal and external ideas, aligning with the fundamental principles of Open Innovation Theory. However, they also face some challenges during these initiatives and there are criticisms involving their strategies and actions.

The synergy between open innovation and digital transformation at the LEGO Group is evident in the company's proactive engagement across various digital platforms. The emphasis on user-centric innovation, platform engagement, and connectivity underscores the LEGO Group's commitment to embracing digital elements for driving innovation and transformation. However, challenges in balancing long-term sustainability investments against evolving digital landscapes remain pertinent.

The LEGO Group's evolution towards dynamic capabilities in a digital context underscores its adaptability and responsiveness in fostering a digitally savvy and agile organization. The company's focus on digital sensing, seizing, and transforming capabilities signifies a continuous effort to stay abreast of emerging opportunities while refining internal structures and mindsets to drive innovation. Challenges pertaining to adaptation within established processes and strategic decision-making within a sizable organization emphasizes the complexities of driving digital transformation across diverse teams.

In summary, our research highlights how combining dynamic capabilities with open innovation practices can fuel business model innovation. As the LEGO Group continues its pursuit of digital transformation, the lessons learned from its journey offer valuable insights and actionable strategies for organizations aiming to navigate their own digital evolution effectively.

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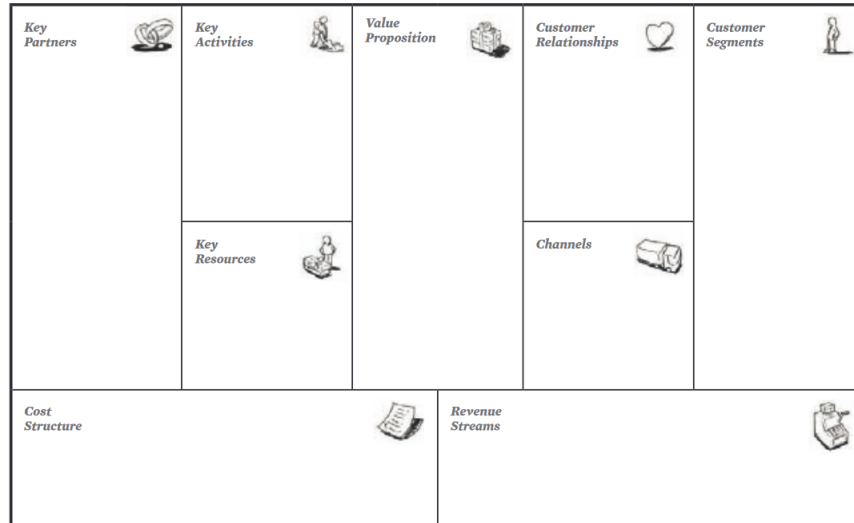
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## 10. Appendices

### 10.1. Appendix A - Theory



**Figure A1:** The Business Model Canvas (Osterwalder & Pigneur, 2013)

### 10.2. Appendix B - Description of Interview Respondents

Interviewee	Role	Time
Interviewee 1	Digital Transformation Lead	58 minutes
Interviewee 2	Senior Digital Product Designer	38 minutes
Interviewee 3	Senior Product Manager	28 minutes
Interviewee 4	Business Lead, LEGO Ideas	49 minutes
Interviewee 5	Senior Product Manager	48 minutes

**Table B1:** Description of Interview Respondents

## 10.3. Appendix C - Interview Guide

### Introduction

- The purpose of this interview is to gather information and have your perspectives on The LEGO Group's business model innovation for digital transformation.
- Interview will be conducted via Microsoft Teams and will take approximately 1 hour.
- If you agree, interview will be recorded for transcription and data analysis.
- Disclaimer: Your responses will be kept confidential and anonymous. The information you provide will be used solely for research purposes.

### Research Questions

#### 1. How is The LEGO Group innovating its business model for digital transformation?

- 1.1. *How is The LEGO Group using **open innovation**\* for innovating its business model?*
- 1.2. *How is The LEGO Group leveraging its **dynamic capabilities**\*\* for using open innovation?*

### Key Concepts

\* **Open Innovation:** Use of inflows and outflows of knowledge and ideas to accelerate internal innovation, and expand the markets for external use of innovation, respectively.

- **In-bound:** Bringing external ideas, technology, or intellectual property into internal development and commercialization processes.
- **Out-bound:** Making products, technologies, knowledge, and intellectual property available to outside organizations through licensing, joint ventures, or spin-offs.

\*\* **Dynamic Capabilities:** Ability to adapt, integrate, and reconfigure organizational resources and capabilities to address rapidly changing environments and evolving competitive challenges.

- **Sensing Capabilities:** Perceive and identify changes in the external environment and to understand the implications of those changes for the business.
- **Seizing Capabilities:** Take advantage of the opportunities identified through sensing.
- **Transforming Capabilities:** Reconfigure and transform existing resources, processes, and routines in response to changing circumstances.

## **Interview Guide A**

### **Interview Questions**

#### **Section 1 (5 mins)**

1. Could you briefly introduce yourself and your experience?
  - 1.1. Follow up: What are some of the projects that you worked on or currently working on?

#### **Section 2 (45 mins)**

##### **Digital Transformation and Business Model (15 mins)**

2. What are the different digital transformation initiatives at The LEGO Group?
3. What key areas within the business model are affected by those initiatives? (Ref: BMC)
4. What are the key challenges during The LEGO Group's digital transformation journey?

##### **Open Innovation (15 mins)**

5. What strategies does The LEGO Group have for innovation that involve outside parties?
6. What are the reasons for The LEGO Group to involve outside parties for innovation?
7. What challenges does The LEGO Group face while involving outside parties for innovation?

##### **Dynamic Capabilities (15 mins)**

8. How do you sense external opportunities for digital innovation?
  - 8.1. Follow up: How do you filter these opportunities?
9. How does The LEGO Group integrate those opportunities into its business model? What are some examples?
10. How does The LEGO Group adapt its existing resources and processes to respond to the changing digital circumstances?

#### **Section 3 (5 mins)**

11. Can you recommend go-to platforms and contacts for investigating deeply into this topic?
12. Is there anything else you would like to add or discuss before we conclude the interview?

## Interview Guide B

### Interview Questions:

- 1. Can you please introduce yourself and your experiences?**
- 2. Can you tell us more about LEGO Ideas?**
- 3. How do you do crowd-sourcing and how do you filter the generated ideas?**
- 4. How do you do crowd-validation?**
- 5. What are the reasons for LEGO to use external ideas?**
- 6. What are the challenges of crowd-sourcing and crowd-validation?**
7. How did the business internal structure change to adapt to the crowd-sourcing/crowd-validation strategies?
8. How is LEGO Ideas related to LEGO Insiders?
9. Do you use submitted ideas to create themes for challenges? If not, how do you finalize themes?
- 10. How is the journey from identifying one idea to actually selling a product based on that?**
11. How did you improve the digital maturity of the team to build the LEGO Ideas platform?
12. How does LEGO align its resources to these new coming ideas?

## 10.4. Appendix D - Codebook for Thematic Analysis of Interviews

#	Code	Description
1	Digital	Relating to the use of technology, digital systems and data.
2	Transformation	Significant change in structure, form and working
3	Business Model	Model describing how a business creates, delivers, and captures value
4	Innovation	The process of introducing new ideas, methods, or products
5	Ideas	Creative concepts or thoughts for a potential solution, strategy, or inspiration.
6	Research	Systematic study to discover new information, and insights.
7	Crowdsourcing	Obtaining ideas through contributions from a large group of people.
8	Crowd validation	Process of seeking feedback or approval from a group of individuals to validate an

		idea or concept.
9	Co-creation	Collaborative creation involving multiple stakeholders, typically including end-users, in the development of a product or service.
10	Community	A group of individuals with shared interests, goals, or characteristics, often connected through a common platform or organization.
11	Sensing	Capability to detect or perceive opportunities in the external environment.
12	Seizing	Taking advantage of identified opportunities and translating them into actionable initiatives.
13	Transforming	Process of making significant and lasting change in form, nature, structure.
14	Challenge	Situation testing one's abilities to overcome obstacles or achieve a goal.
15	Startup	A newly established business or company, often characterized by innovation and a focus on growth.
16	Lean	An approach focused on efficiency and eliminating waste in processes to maximize value.
17	Agile	A flexible and iterative approach to project management and development, emphasizing adaptability and collaboration.
18	Ecosystem	A complex network of interconnected entities, organizations, or elements that function together as a unified whole.
19	Touchpoints	Points of interaction between a customer and a product, service, or brand.
20	User Journey	The complete experience and interactions a user has with a product or service from the initial encounter to the final outcome.

**Table D1:** Codebook for Thematic Analysis of Interviews

## 10.5. Appendix E - Summary of Findings for Validation

### **Business Model Innovation and Digital Transformation of The LEGO Group**

#### Research Questions

To study the business model innovation and digital transformation at the LEGO Group in context of open innovation and dynamic capabilities, the following main research questions has been selected:

*RQ1: How is the LEGO Group using open innovation for digital transformation?*

*RQ2: How is the LEGO Group leveraging its dynamic capabilities for open innovation?*

#### Key Findings



Here are the key findings of our study, after analyzing the data generated by the interviews with regards to the selected theories and the literature review.

## Digital Transformation

Digital Transformation at the LEGO Group involves automating work processes, turning physical products into digital experiences, and becoming a more digitally savvy organization. The LEGO Group is restructuring, creating a digital technology organization, and focusing on user-driven strategies. The establishment of "digital talent hubs" and a dedicated digital technology organization emphasizes the LEGO Group's focus on expertise and user-centricity. The transformation includes hiring more engineers, changing work dynamics, and creating digital experiences. It's a dynamic, agile process, adapting to changes. The ongoing agile adaptation of work processes, product development, and customer experiences reflects the dynamic nature of the LEGO Group's digital transformation, extending across retail and digital touchpoints. The focus is on understanding products, agile working, and data-informed decision-making. The shift also addresses changing customer expectations, emphasizing experiential retail over traditional box-filled stores. While the company demonstrates responsiveness to evolving needs, challenges in maintaining agility and meeting diverse consumer expectations in a rapidly changing digital landscape persist.

## Business Model Innovation

The LEGO Group's business model, analyzed through the Business Model Canvas (BMC), reflects a strategic focus on open innovation and adaptation to digital transformation. The LEGO Group's business model centers on diverse customer segments, including kids, adults, and "kidults," with a focus on competing for consumer time and innovating play products. The Value Proposition has evolved from a traditional brick product to include hybrid and digital experiences, aligning with the goal of maximizing consumer engagement. They navigate the digital landscape while retaining the essence of physical bricks. Communication channels emphasize an omnichannel approach, and customer relations are fostered through initiatives like the LEGO Masters TV show and social networks. Licensing, especially for LEGO movies, and protecting Intellectual Property Rights are key revenue streams. In-house IP development, strategic partnerships, and diverse key activities, from online store expansion to market-specific products, contribute to the company's success. Costs involve IT incorporation for enhanced digital experiences and partnership licensing fees. IT investment is highlighted as a major cost, crucial for enhancing the digital experience, driving sales, and supporting successful innovation, along with significant expenses in R&D and advertising. Key partnerships, both internal and external, play a crucial role in risk reduction, uncertainty management, and maintaining a flexible workforce. Overall, the LEGO Group embraces

innovation, strategic alliances, and a strong brand identity to adapt to market changes while staying true to its core offerings of LEGO bricks and playsets.

## Open Innovation

The LEGO Group demonstrates a comprehensive approach to innovation sourcing by actively integrating internal and external ideas through platforms like LEGO Ideas and initiatives such as Bricklink Studio, while maintaining robust in-house capabilities. This involves user input, internal research capabilities, and collaboration with external communities. The LEGO Group proactively engages with users, designers, and stakeholders, reflecting the core concept of tapping into external knowledge pools. External sources, such as the LEGO fan community and industry reports, provide diverse perspectives and ideas. Additionally, the LEGO Group monitors competitors and draws inspiration from various industries, including retail and technology. The internal development process involves a product trio representing feasibility, business viability, and user desirability, with senior leadership providing final approval. User feedback is sought through dedicated fan channels, qualitative research, and prototype testing at locations like LEGO House. This comprehensive approach allows the LEGO Group to blend external creativity with internal expertise, fostering continuous innovation in both physical and digital realms. However, challenges include meticulous idea filtering, negotiating intellectual property rights, and balancing market data needs with ethical considerations in data collection.

## LEGO Ideas

LEGO Ideas serves as a prominent avenue for open innovation, allowing fans to submit design ideas that, upon receiving 10,000 votes, undergo a rigorous evaluation process before potentially being produced and sold worldwide. The platform originated as a pilot project in Asia, evolving into a global initiative as part of the LEGO Group's digital transformation and open innovation strategy. The process involves crowdsourcing, crowd validation, a thorough review, and co-creation for selected ideas. Crowdsourcing entails fan submissions, subjected to both manual and AI-based evaluations, ensuring adherence to guidelines. Crowd validation relies on community votes, and the subsequent review process considers various criteria, leading to the selection of a few ideas for production. Co-creation involves collaboration between fan and LEGO designers to refine the selected ideas. The motivation for the LEGO Group to engage in open innovation through LEGO Ideas lies in tapping into the unlimited creativity of passionate fans, overcoming in-house design limitations, and fostering community engagement with the brand. The fan designers receive not only monetary compensation but also experience the unique joy of seeing their creations become real LEGO products, contributing to the core essence of the LEGO brand.

## Dynamic Capabilities

The LEGO Group's dynamic capabilities for digital transformation involve strategic decisions and organizational changes, such as IT reorganization focusing on digital consumer products, engagement technologies, and enterprise systems. The company adopts a cautious approach to work flexibility, opting for a stable long-term structure instead of quick changes. Their commitment to responsible business practices is evident in deliberate and intentional technology adoption. Hiring product managers, technology professionals, and a Chief Technology Officer reflects their proactive stance towards adapting to the digital era. The company invests in restructuring physical spaces with modern designs inspired by Silicon Valley, aiming to shape the internal culture positively. In terms of decision-making processes, the LEGO Group follows a deliberate and well-thought-out approach, particularly in product strategy and opportunity sensing. The company employs a "product trio" structure for sensing and seizing opportunities, comprising a designer, engineer, and product manager. The transformation journey includes transitioning from traditional waterfall project-based approaches to agile and product-based methodologies. The LEGO Group emphasizes in-house capability development for digital transformation and acknowledges cultural change as a crucial aspect, highlighting the significance of people and trust in this evolution.

## Key Challenges

The LEGO Group faces several key challenges in its digital transformation journey. Open innovation brings an abundance of ideas, making it challenging to filter and pursue the most promising ones. Negotiating Intellectual Property Rights (IPR) for potential product themes poses a constraint, limiting innovation opportunities. Maintaining ethical data practices while collecting enough user data for relevance is another challenge. LEGO Ideas encounters difficulties in keeping the community engaged due to a lengthy process from idea submission to physical product production. Challenges include promoting ideas on social media, a prolonged review process, and dependencies outside the LEGO Ideas team's control. Additionally, dynamic capabilities face clashes in workflows between traditional and agile methodologies, reflecting potential divergence in work styles and the need for adaptation. Navigating conflicting priorities and pursuing other opportunities within the organization requires careful scrutiny and consideration of interconnected teams and changing needs, presenting nuanced challenges in aligning individual team innovations with company strategy.

## Lean Methodology and Startup Mindset

The LEGO Group, as a large organization, recognizes the need to incorporate elements of entrepreneurship into its business model without aiming to become a startup. The lean methodology and startup mindset, particularly the ability to swiftly go through the product discovery loop and test hypotheses, are seen as valuable. While the structure and resources of the LEGO Group differ from a startup, embracing this mindset is crucial for success in product delivery. Convincing higher-ups to adopt this new way of working involves educating them on the benefits and showcasing that it isn't detrimental but rather provides ownership to staff across the organizational hierarchy. Demonstrating the positive impact on digital transformation, involving colleagues, and fostering co-ownership are essential aspects of this approach, emphasizing the importance of showcasing proactive efforts in the digital transformation journey.

### Innovation Opportunity - Digital Ecosystem

The LEGO Group recognizes the opportunity for innovation in creating an ecosystem that synchronizes its various digital initiatives, such as the Insider community, LEGO Ideas, and the Builder app, to enhance the user journey across touchpoints. The goal is to provide a seamless and cohesive user experience within the LEGO Group's ecosystem. The team acknowledges the need to bridge gaps, such as between LEGO Ideas and LEGO Insiders, and is actively working on projects to create these connections. However, a current challenge lies in the independent operations of teams handling different digital initiatives, hindering collaboration. To seize this opportunity, the LEGO Group must undergo a digital transformation, aligning back-end systems and consolidating experiences to ensure a user-centric approach that remains relevant to its users.

## 10.6. Appendix F - Transcripts of Interviews

### Interview #1 - Transcript

#### **Could you briefly introduce yourself and your experiences in LEGO?**

My name is [Interviewee's Name] and I've been with the LEGO group for 12 years. I started as a student assistant when I was studying for my Master's Degree. After that period, I got a full-time role as a junior IT project manager, then I worked with IT project management for 5-6 years and then I moved to London working in the LEGO London hub for five years. It was during that time that we switched from classic IT projects to more agile ways of working, including digital delivery management. During that time, instead of being a project manager, I was a delivery manager working on the lego.com site. Almost three years ago, I was hired into a role as a transformation lead in our digital transformation. So I've been back in Denmark for 2 and a half years and now actually on October 1st, I started a new position as program lead for our workplace transition programs. So when we open up a new office around the world, I'm the program lead for that.

### **Are there any specific projects that you worked on that you find interesting to mention here?**

I think what is really relevant is our whole digital transformation and I've been in some of the key programs. When I started, the first big thing was to do a reorganization of our IT departments. We had like 3 different IT departments, focusing on each step area. We had an area called Digital Agile Development that was really focusing on the digital side of our consumer products. Products like our LEGO bricks and our online offerings for kids and consumers. And then there was a department called Engagement and Analytics Technology. I think that was focusing on engagement technology. So lego.com and our web shop and analytics and data behind the scenes. And then, our third pillar was enterprise technology, which was all our core systems and corporate functions, like our finance systems. So SAP, backbone or ERP systems, and all of those big enterprise chunks. All of that was then reorganized into one digital technology organization and I was sort of a program lead for that reorganization with a focus on the people side. That made us look into what type of archetypes and roles we need in the future. From 40 or 50 different titles and roles we wanted to align those to only 14 or 15 different archetypes, also included a progression framework (what does it take to be a junior, mid, or senior level). So having an organization split into three different types and then reorganized them into one organization with the same archetypes, the same structure, and all of that. That was the first program that set the foundation for digital transformation and a piece that we called engineering lead. As we wanted to focus on engineers and engineering, we hired a ton of engineers in order to have a metric of 50% engineers and 50% managers or people not doing engineering. Now our split is 70/30. So 70% of our workforce is actually doing engineering and we will also split 50/50 between internal resources and external resources with different consultancy firms and external contractors. External gearing allows us to gear up and down and if we have slow periods, we don't have to fire people, we will just offboard the externals. And then the next big chunk I worked on was implementing digital products and as I said before, we were a very project-driven company with annual funding cycles and business cases. So whoever is on the business side had the money, would get prioritized. So if someone came from our product development department, and said we need this IT project or this IT platform, then if they could secure the funding, we would do it. But that left us with a lot of challenges because we were building in silos and we didn't have a holistic view of our architecture and kind of the garden guardrails and guidelines on how we actually build stuff. Also, part of the transformation was also to make standards, and standard decides how we do API. Make sure that when we do an API, it can be reused. Part of this was also moved to be product lead, so we were engineering lead. Now we also product lead and the big difference is that, instead of doing projects, we have organized in digital products and when I talk about digital products it's not our physical play product and it's not our digital play products. A digital product in this case is lego.com or our finance system or our HR system or our app. So we laid out our entire architecture and structured it into digital products and then we needed a product organization. We had very few product managers. We had some product owners because we were used to working in agile, but a product owner and a product manager are very different things in our mind. So we started to structure the stuff we had with the capabilities we had into this product organization and then we hired the needed people, especially in the more senior roles. I was part of that program defining product, defining how the product organization looks like and getting all of that up and running with communities of practice and archetypes and role descriptions. Again, learning and development opportunities and so on.

### **How is LEGO digitally innovating its business from the traditional interlocked bricks?**

I think there are two things to distinguish here. One is our play offerings, so our LEGO bricks, that's a lot of innovation on the play offerings and the play products also in the digital space. But when I talk about digital transformation, it's everything else. It's transforming our organization to become a more digitally savvy and more nimble and agile organization. But if we focus on the play products, we've done a number of things to mix physical play with an online experience. It's what some people call fluid play because you flow between the physical world and the digital world. A couple of examples here is LEGO mile, which is the classic Mario game that you know, but you build the course in LEGO bricks and then you have a mile figure that jumps on the coast collects coins and then you can see in your game or in the app or in your iPad how fast you did and how many points you collected. For this set, we also decided that all the building instructions will be on the app only, so you don't have the booklet only in the app. So that was also a step to move the building experience into the digital world while still having the physical brick. A couple of other examples are that we have partnered with Epic Games to work on a metaverse area for LEGO Play and LEGO consumers, which is safe for children and all of that. So we are exploring that world, but the physical brick will stay at our core.

### **Can you give us some examples about different digital transformation initiatives at LEGO?**

Since our turnaround in 2003/2004, one of the key and winning moves we did was to include our fans much, much more. So if you read the books about the turnaround, there is a book called The Miracle. So the first step was to be more user-driven. And like 10 or 15 years ago, we started LEGO Cruso in Asia which was the pilot for LEGO Ideas. And I think there are 2 interesting things here. First of all, we piloted this in a small region to see whether it would pick up or not and when it then picked up and actually became a success. Then we launched it to the world and rebranded it as LEGO Ideas. Then, the whole concept of LEGO Ideas was also new for us to really invite people to design their own LEGO sets and if they got 10,000 votes from fellow fans, they would be brought into a quarterly assessment, then shortlisted, and then ultimately one or two sets per quarter would be chosen to actually come into production. And you as the designer would get a percentage of the profits. Of course, a lot of fans want to design their own LEGO set and gain money from it. But we also use it as inspiration. Some of the designers might even browse around and see all sorts of ideas. They may not have gotten more than a hundred votes, but if there's something that can spark their inspiration then they do that, and we also have more analog and innovation processes where the designers under some time pressure create a LEGO set and then displace it. One of the success stories is the theme called LEGO Briquettes, which was actually done as a joke or as a small fun thing. And then it caught on because the designers and the colleagues wanted them. Then we tried to launch it as a product and it was quite successful.

### **How do these digital transformation initiatives affect the overall business model of LEGO?**

I think now we are back into the digital transformation space corporate space, not necessarily focusing on bricks and playsets because that runs its own innovation and design process. But we are much more focused on digital products being a product that can generate value for us. When before IT was seen as a cost, something that we needed to have and it has an operational cost, licenses and server fees, now we see it as a value creator and lego.com is a good example. Of course it's a web shop. We sell a lot of LEGO sets through that, and if we can master that technology and the e-commerce technology, then we can increase our revenues. So if the checkout process is as good as Amazon's, and the UI experience is as

good as Apple, then then we can sell more sets. I think a lot of the areas at the LEGO Group, start to see digital as an enabler, something that can help their organization be more efficient, better and take away tedious tasks from people, automate them to have real people do creative stuff, innovative stuff and meaningful stuff. So it's definitely catching on in areas where we're not that tech-savvy.

### **What areas of LEGO's business model are affected with those changes?**

Well, all of the areas are affected and this is one of our key messages: that the digital transformation is not only a reorganization of digital, it's not only a thing that happens in the digital area and it's not going serverless or it's not going away from on-premise whatever. It's something that affects the entire organization and we have defined our audiences. So when we were structuring our audiences for the digital transformation, those that will receive these changes split that into four audiences: consumers, shoppers, partners, and colleagues. Consumers are the people who play with our products. It's mostly kids, but we also have adult fans. Then we have the shoppers. Those are the ones who buy our LEGO sets online or in the store because LEGO sets are for kids and kids are not allowed to buy their sets. So someone else needs to buy the set for them, right? That's why we have shoppers and consumers. Then we have our partners who are our B2B partners like Amazon or Walmart who sell on our behalf. And then we have colleagues who are also recipients of digital products. So the entire organization will be a user of a digital product. So when I get my paycheck every month, that's through the finance system or the HR system. I am a consumer of that digital product. When I request a vacation I use a digital product and when I am on teams that's a digital product. We have a whole section called colleagues and that's our enterprise. So we are looking into how we can improve our HR system. We just implemented workday to see how we can make our finance processes easier?

### **What are the key challenges or obstacles during the LEGO digital transformation journey?**

I think on a strategic level, there's a big challenge in having the senior leaders in the business areas to understand these new ways of working. So when we implemented a product, we added in a layer between IT and the business before the business could come directly, a product management layer. Product management will ask challenging questions such as: What problem are you solving? Why is this important to you? What value do you think this will bring? Then they will take it into a portfolio process where they look at how do we then solve for this and it might be that a team over here is already building a platform that they can tap into and then say, OK, if you wait six months, this platform will be ready and we just need to build an add on and then you'll get your value. So it's much more synced and aligned. We reuse what it's available (the APIs, the architecture, etc.), it's a much more holistic process and it's the first time that we do such portfolio planning across the entire company. So for example that means that someone in our finance area might be deprioritized because someone in our shopper area gets some of the funding because it's the best choice for the LEGO group. Therefore, it means that we are much more deliberate and intentional about what we build, how we build it, in what sequence, and how we prioritize.

### **Focusing on open innovation, how are you automating some of your processes? Could you give us an idea about the open innovation process in LEGO?**

I think the LEGO ideas example is a good example of open innovation: how we look at intellectual property, how we partner with other companies and licensing,... It is a big chunk of our product. Every

year we send out new products. I think 70% of our portfolio is new products. Those products are called novelties and a lot of our product portfolio are with IP partners. We've had a very successful partnership with Star Wars, which is now owned by Disney and we just launched a set with Dunne, the movie. Also, we're launching other sets with Disney because they have their 100 year anniversary. We do some special limited anniversary sets, like with Disney or Mario and we also work with superhero universes, for example with Batman. We also do specific products for China, for example to celebrate their Lunar New Year and their special festive seasons. We tap into that because China is a huge market that is very specific and different from the rest of the world. However, we also have to be aware that we are not too reliant on these partnerships. So if a Star Wars movie is a huge fiasco in the cinemas then we will see that on the sales numbers and if we rely all our portfolio on partnerships and all of the movies fail then that will have a huge impact on our revenue for the year. We also want to create our own IP and that's something like a NINJAGO. Our CD line of course and now classics and pirates and so on. So we want to balance that, LEGO Ideas is a great place to find both. Because people who are fans of PAC man will push to make a Pacman LEGO set but then we need to negotiate with whoever owns the rights to PAC man, and sometimes it's not possible. So there are some limits to the ideas, but when we have original ideas like a blacksmith house, there are no IP rights we need to secure. Then we can just design it and sell it.

**Do you make some technology in-house that you license to people outside your company or the other way around? (In-bound or out-bound open innovation?)**

When we partner with IP's to create a product and for the pick-up products, it's really nice back-and-forth process. For example, we partnered with Lamborghini or Bugatti to build technique cars. Then the partners will also get a ton of PR out of it because sometimes we build a life-size Bugatti. If you visit our office and Billand, we have a real-life size Bugatti Chiron standing there with engine sounds and and lights that you can actually drive. So we do a lot of PR's that also benefit Bugatti. Also we make partnerships for smaller products like Disney. We partner with them on what designs to use and then they sign it off and then we produce it and they get a license fee for our own IP products. We only license it on T-shirts or like a lunch box or like a water bottle or stuff for kids. But we don't do a lot bigger. Well, we licensed the LEGO movies. That was probably the biggest IP, we partnered with Warner Brothers so that they did the whole production, but we were creative executives to sign off that everything was used in the right way. But Warner Brothers got most of the profits. So we got a license fee and then on the technology, I don't think we license any technology out and we are through some open API and open source for a lot of fans to tap into. That's a lot of fan communities out there, a lot of websites that wanna tap into our websites. So for example, the product API can fetch all the product information that you can see online. If they wanna make a site that uses ours then they have an open API access for that.

**Does this open innovation happen the other way around? Do you integrate an external solution to innovate? (in-bound innovation)**

Yes, for sure. Some years ago, we had sort of updated our architectural strategy and kind of the message was we wanna shrink the core. We were very reliant on SAP and SAP was sunsetting some of their products, for example, SAP Armstrong which was the HR module for SAP. SAP announced that in three years they won't support this any longer. That's why we bought and implemented Work day. We wanna go away from monolithic architecture and be much more, with a headless and more API driven architecture.



Our rule of thumb is that we ask what technology gives us a competitive advantage and which ones do not. So the HR system is a good example. We are not the leading company in the toy sector because we have the world's best HR system. No, we need an HR system that works and they can do the basic things and be easy to use. But our lego.com website, that's something we build in-house. We have 100 engineers working on that trying to optimize the experience specially optimizing the checkout experience. They want to build an online store in new countries and add new payment types. So that is a competitive advantage for us and that's how we decide whether to buy or to build.

**What are the reasons if you want to go outside your own organization? One reason you mentioned was the competitive advantage that you might decide if you want to go out or not?**

Yeah. If we don't have the knowledge in house. If we don't want to invest in building that capability and for example, as I said, we partnered with Epic Games on building a metaverse and it would be a huge investment and a huge risk if we were to hire 1000 engineers and upskill them, buy the best engineers in the world to build Metaverse. It would be such a big risk that if that fails, it could take down the company. So we are big, but we are not the size of Meta or Alphabet or whatever. So we need to partner with someone to kind of share the risk to also to get a way into the capabilities and I think Epic games are probably in California, as an example, we don't have a presence in California. So if we were to first open an office in California and then hire a lot of people, it would be, you know, even a bigger investment. I mean, and we don't think that we can develop a better HR system than WorkDay can. And we're not interested. It's not where our strength is. It's not where our passion is, but we know that we can build a better toy webshop than most other companies can. We are such a strong brand that a lot of partners, companies want to partner with us. So they would go quite far to put our logo on the website and say, you know, LEGO is one of our customers and that can blur the picture a little bit on whether they are the right partner for us and we have something that we call Partner promise and if you look our brand framework on on lego.com, we have 4 promises and one of them is Partner promise and that means we want to go into partnerships. We don't want to exploit a company because a lot of companies come to us saying, well, you can get 10 consultants for free and then we can build up a partnership and we don't want to exploit them, especially not smaller companies, right? That will give everything to to partner with us, so it has to be a back and forth. It has to be an equal partnership and then there's also funny because when I worked on a program where we implemented a time registration system in all our LEGO brand retail stores and we partnered with a industry leading company and they really wanted us as a partner.

But we were actually a really, really small customer. We had, say 250 stores, but they were doing the same for Starbucks and Nike and Pandora and they have 5000 stores. So when it came to it, we were actually a really, really small player. So in that case we might want to choose a small vendor as well, because then we would be the biggest client and maybe get some more attention, no?

**How do you sense external opportunities for digital innovation? If we talk about the physical play products, how do you know then it becomes more into product research and product design, is that the right alley to go down on or?**

We have a lot of curious people and they stay updated on the latest, of course AI and machine learning and all of that has been really, really big over the last year. And luckily we have a few people who are super interested in it and are really reading everything and following everything that happens and testing a lot of stuff. And I think what is, you know, our approach to these sorts of things is that we move with

caution. We're not a company who jumps 100% on the AI wave and says that we need AI. And we'll fire 20% of engineers because now the rest are more efficient because of AI. But we're really understanding, What does that mean to us? What opportunities do we see? What challenges do we see? And we might move a bit slow in the beginning, but my experience is that we tend to get it right, Apple for example, they were not the first with the smartphone, or laptop, or an iPad or a tablet. But when they entered the market, they did it with a winning product. So they didn't care about being first, they wanted to be the best. And I think we have a similar approach to these sorts of things, especially after lockdown or during lockdown, where a lot of companies said employees can work from anywhere all the time. It was such a short-sighted decision that a lot of the companies are paying for now because they got a lot of talent in, very expensive talents sometimes and they were happy for a short time because now they are asking people to come back into the office and that's super expensive. First of all, you're going to lose a lot of talent. You're gonna pay a lot of money to relocate people closer to the offices, and you're just losing efficiency and productivity while you do it. And our stands were much more conservative. We didn't announce anything early. We waited. We analyzed, we designed, we thought it through. We reviewed it and then we came with a long term structure that we called best of both; 3 days in, two days at home and we're stuck to that, you know that's so valuable that we are staying strong and stable on that decision and not reacting quickly to these changes. I think if we talk about the physical products, I don't know the detailed processes here. But I know that for our physical products, we spend roughly 18 months from idea to a product that we can sell. So that means we can't react quickly to trends and a very good example is a theme called YIDIO which is a tik tok music scene. You dress up physically and online, it is an app for girls but also boys of course. We were trying to tap into that trend about Tiktok videos, music and acting. But we spent so much time on it that when it finally launched, we also launched globally. So it was a Big Bang launch as we call it because we had Katy Perry perform in a LEGO dress but it never really caught on because we kind of missed that trend. We know that our battleground is in the playground at a school. So, if we look at kids in a playground at school and what they play with. There was a fidget spinner all of a sudden and we compete on children's time so if a kid uses 2 hours a day with a fidget spinner, it means they don't use those two hours on LEGO sets and that means that they won't ask for LEGO sets and so on and so forth. How do we compete with a fidget spinner? Sometimes we just wait it out because we know the trend will go away anyway or what do we do? Well, we built building instructions for a LEGO fidget spinner. We used Instagram and Facebook to target parents by saying, "hey, you can build a fidget spin out of LEGO bricks with your kid." So that's sort of the micro engagements that we want to do, but we won't bring a fidget spinner set to the world because by the time we do that, the fidget spinner will be out of the world anyway.

### **How do you filter these opportunities?**

So we've been focused about community building and especially also while we work more and more online. So how can we use for example Microsoft Teams to build online communities where like minded people can meet and talk about their interests. Of course it's mostly work related, so if you are an AWS developer, you can join an AWS community and talk about what you know, what things are happening in the world of AWS. If you are a lot into digital security, there's a community for that. When I was in London, our engineers were attending a lot of meetups at different companies. We also hosted a couple of meetups where peers showed some of the work that they have done. What were the challenges? They are showing actual code. There were some competitions and quizzes and beers and pizza and all of that, and it was super exciting. So in London especially, there's this engineering community where you learn from

one another. This fantasy about getting great ideas and how do we channel that to something and then it becomes something big. I think that's one out of 1000. I think the most important thing is how do we constantly stay alert to what is new, get these small ideas that can improve the way I work, code, or improve the product and the sum of those small things, small improvements. That's more important than one instead of that one big idea that comes every 10 years. And but I know as I explained in the beginning, there was this. The designers do different pop-ups where they share some crazy ideas, and then maybe someone sees something in that idea and builds on it, and that's how the LEGO brickheadz came to life.

### **How do you seize external opportunities for digital innovation?**

So if we look at the really big themes that we're launching, we just launched a theme called Dreamzzz and that was a three-year research program. So, our whole LEGO Development Circles in these big circles, and I think every two years, we have a Big Bang launch or something like that. But that starts 5 years earlier, right? So we know that, let's say 2030 Big Bang out there, right? So we start the research, OK? What should this be about? And really start with a blank canvas and then they go and visit thousands of families. Observe how the children and the parents interact at the dining table in the living room. How is the morning routine before they go to school? How do they spend the weekends? You know, a research designer went to Japan and stayed there for two weeks and just observed a Japanese family and then they started to gather all of these insights and see if there is something here. You know what is the common denominator? And to my knowledge of these dreamzzz was that, you know, it was a bunch of crazy ideas and match-ups and it was hard to put that into the shape of a theme like we had before with Ninjago. Ninjago was a good example because we asked kids what are the two coolest things in the world, and they said skeletons and ninjas and I'm like, OK great. So they created a world where the ninjas were the heroes and skeletons were the villains. Right? And the Ninjago was a huge success, actually. Ninjago was meant to only run for three years, then we extended it with another year, then another year, and now it's an Evergreen. So that's a really good example of a homegrown IP where we look at the research, what do kids want. Now back to dreamzzz. So we had all of these sort of matchups like how do we put that under one umbrella and where do things happen, you know, in all sorts of ways, well, in your dreams, your dream, all sorts of different things. So all of the sets are kind of built on this idea that these things are happening in your dream. So you have a dinosaur with a house on the back. You should see some of the sets. They are crazy and, you know, an adult would not think up those ideas because it's too crazy. But for kids, it's natural. [5] Of course, it's in my (their) dreams. You know, they dream of a turtle with a house on the back, you know? Of course, the designers start to be more concrete. Then we normally have a wide range. We have a big set, a medium set, a small medium set and then a few small sets so we know the size of the box and then they start to develop these sets and design them. And this is a huge cool set. This is a smaller thing you know, and then there's a lot of economics in it as well. How many bricks can I put into this set? Because we know if it will sell at 599 kr, then you can only use this amount of sets. If you have special bricks then they are more expensive than normal bricks. If you have special colors, then it's more expensive than the normal colors, and that sort of creativity within a frame. And that's also why you see the design is being super creative like using a banana in the Eiffel Tower as decoration for example.

**How does LEGO adapt its existing resources and processes to respond to the changing digital circumstances? Because you said there's kind of a competition as well in terms of funding and**

**prioritizing which to pursue. So how do you mobilize your existing resources? Maybe add more resources?**

And so all of this is tied into something that's called LDP (LEGO development process). And again, it runs in these annual cycles and this is now getting a bit too detailed for my knowledge because it's also a bit confidential how this exactly works. But in November, we have what we call November Gate and that's where we decide on which of these ideas do we turn into products? What will be The Big Bang product? What will be the secondary product line? What will be, just small products on the side so they have different categories or hierarchy almost and then teams, the designers also do like a reshuffle. So we assembled this team of 10 people for The Big Bang. These five people go to the other theme, and these five people go to this group of other products and then they all organize themselves during December and then in January they kick off the work and then they have a lot of milestones through the year. By this date, we need to have the design signed off by the leaders, by this date, we need to have built in instructions ready and then we need the cardboard art. You know the cardboard box is designed and then production needs to know which bricks to produce, and then there's the forecasting of how many sets do we think will sell and then it's a whole process that's literally the core of our company.

**How do you keep your competitive edge when you already have an idea you have already utilized?**

So I think with IPs it's pretty easy because if we do a partnership with Disney on Star Wars then Disney won't license Star Wars to any other construction toy company, right? So we own the rights to it. IP and licenses. For our own IPs we also secure all the rights and trademarks so nobody else can build a NINJAGO set or Ninjago toy or even a T-shirt with Ninjago without our sign off. So we are protecting our rights. And if we look a bit more generic and we want to be unique, we want to invent and create toy categories. Good example is our botanical line, which is LEGO sets of flowers built out of LEGO bricks for adults. We are tapping into a whole new market for us, which is this adult art and craft segment and there we compete with people who are knitting or making pottery or painting. So for that segment we have totally different competitors and again we compete on time. We want our consumers to spend as much time as possible using our LEGO sets instead of doing something else.

**So I wanted to ask if you would recommend any specific platforms or even contacts to go to for investigating more into this topic?**

And no, I think the only thing top of mind is that we purchased a bricklink a couple of years ago and they are actually in California. So we actually do have a presence in California, but that's another like addition to our company. And it's I think it's the first time that we have bought another company. Ohh, otherwise our growth has been organically as we say it hasn't been through acquisitions, which is something we're very proud of. I think my advice for you is probably figuring out how LEGO is looking at digital transformation and the digital product and all of that story of how that will propel the LEGO group from the inside-out or are we looking at physical product innovation. How do we develop new products also using digital. But those digital tools and platforms are more outside of the LEGO group and like it is something very consumer-facing. While the other one is more internal. Digital transformation is not confidential. I've done talks about digital transformation at different universities and it's not confidential because a lot of companies are doing it and it's not a core piece but new products and novelties. That's

very confidential because we don't want to share that until the launch date. So those detailed processes about how the designers work can also be something we wanna keep within our own walls.

## Interview #2 - Transcript

Interviewer

**Can you please introduce yourself and your experiences at LEGO?**

Interviewee #2

So my name is [Interviewee's Name]. I'm a senior digital product designer at LEGO. I've been working at Lego for one year and a few months, so very recently compared to my colleagues at LEGO, who may have, you know, been there for like 20 something years. So I am quite new.

**Can you talk about some of your projects that you worked on or some of them that you're currently working on?**

I'm in a team called retail store experience and we are a team that is dedicated under the digital technology organization and we work mostly on the digital experiences inside of LEGO stores. So for example, if you go into a physical LEGO store in Tivoli or Stroll here in Copenhagen, there might be some digital screens, that is, you know, that falls under our team's responsibilities and we are currently working on trying to create new ones. Well, new versions of these digital experiences just to say, yeah.

**Do you know some different digital transformation initiatives at LEGO?**

I'm not entirely sure. I guess when you work in the company, you're so used to seeing all of the different projects, you don't know which is a digital transformation and which isn't. But I would classify that the LEGO Group having a digital technology organization as being something that's a bit recent in LEGO. I don't know if it started a couple of years ago or what not, but this whole digital technology organization, which consist of hundreds of, I don't know if it is 1000, maybe just 100 people, is very recent and they all work on different aspects of the business and in each, there is an element of, how can we use digital technology to elevate what is existing over there. So yeah, as you can probably guess, one of the examples is my team, you know, we're trying to create digital experiences for the stores, but I can also see that maybe other teams might be interested in creating more seamless data flow for an end to end customer journey that transact at LEGO or it might be about creating some sort of Omni channel solution between the different channels that LEGO has a company. So yeah, there's a lot of things that's going on.

**Do you feel that most of these digital transformation activities or initiatives are happening internally or no, there are lots of them that are customer-faced?**

For example, developing new software systems for HR for example, which are completely internal but some of them are related to products and customers can see them. They can be related to platforms or stores, products. I think LEGO is a big enough organization that I think they have an equally massive amount of projects for internal transformation and also new projects or products for the customer-facing side of things. So there's a lot of both.

**What key areas of the LEGO business model are affected? Mostly by these kinds of activities and initiatives?**

Maybe use business model canvas areas to answer this question or for example, are there some partnership activities that are changing or some of the key activities or changing customer relationships. I already forgot the theoretical side of the business canvas model, but you already mentioned some things that already come to me as examples. So in terms of one thing, for example, in the customer side of things, LEGO is focusing heavily on its new membership program and that's something that is also grounded very much in the digital side of things. So that's also something that is quite new. So having this LEGO membership program that synchronized across all of the LEGO touchpoints is something you I guess another focus is on the distribution channel that LEGO has. LEGO is a global brand. It has a lot of channels to distribute the products. It has a lot of partners that it engages with to distribute those products and I think digital transformation comes in as an example, to create a sort of platform that sort of connects all of that seamlessly. I can for sure give an example for everyone of the sectors. It is really, really that massive internally you mentioned HR tools as well. That is also something that is something. Being developed right now, we have a special team that is taking care of the internal digital transformation for our employees as well.

**Do you know some challenges that LEGO might face during this digital transformation journey?**

From my personal experience, it is the workflow and the collaboration. Being a company that has been around for 90 something years LEGO can be, you know, most of the company is very used to doing things in a very certain way and that means, for example, going through development phase that is very much waterfall from one end to another with very linear flows whereas the way I see it, some of the digital teams that have been built, they are used to working in a way that's more iterative. That's more agile. That works in a very short cycle of sprints and they ship out and test and Some Workflows are clash when they don't meet in the middle because one side might be used to working in a certain kind of way and the other might be used to working in this sort of agile way. So finding a middle ground is important because we also know that LEGO have been used to this process for many years. So yeah, it's not something that can change overnight, right? So.

**I would like to know about the strategies that LEGO has for innovation that involves outside parties. It can be either outbound or inbound. For example, inbound means bringing external ideas, technology to internal development, example can be LEGO Ideas platform which uses external ideas and outbound could be making products, technologies or whatever available to outside organizations through maybe licensing or some other things**

The LEGO Ideas platform is something that is crowdsourced. There's a certain degree. I don't know if we have, I mean. Just building on top of the LEGO Ideas thing, LEGO has a community of very dedicated fans. What happens is that there is also something called Bricklink Studio which is this sort of platform where people can build LEGO sets through a 3D program. Basically, with all the cataloged bricks and pieces that are available officially on LEGO and that is something that LEGO has supported for many years, some sort of community-driven initiatives.

**So does it get any ideas of the fans or customers through that platform or not, they just build some, you know, predefined maps or something for the actual physical products. Does LEGO get any insights or ideas from customers here too? Or no, it's just some activity for community building.**

I don't think I can answer this because the people that design these LEGO sets are very far away from my department. So I don't know what they do specifically, where they get their inspirations from and what not, but I can tell you at least that the people I've met that have those experiences, they are also fans themselves so they are a part of their community. I don't think you can cross out that they might be also taking a lot of inspiration from the fans that are creating all these amazing builds. In fact, I don't know if you've been to a LEGO House as this place in Billund where people can visit and just be immersed in this world of LEGO. Some of the builds that are showcased there are builds that fans have made, so they usually invite builders from around the world to come there and build for them. Speaking of builds, because I don't really know how this influences the actual design of the product. But Speaking of builds, LEGO also has maintained a couple of things like the LEGO Masters, it's this TV show about building LEGO, if you know Master Chef or something like that. It's a show that they've been airing all around the world where fans of LEGO come to build and compete with each other with their LEGO builds. I think it's a good way for LEGO to maintain engagement with the community, spread the awareness and fun of LEGO, but also maybe as a way for LEGO to also take inspiration from what people have built. For this show specifically, LEGO Masters, no, they built their own. It's an innovation in its own way. It does not have to do with digital transformation. This is a term that's very common in the LEGO community called MOC stands for My Own Creation and LEGO fans typically when they create something and design it on their own. And then there's a lot of MOCs running around like these ideas are sets that are all around the world, and sometimes you know these MOCs can be influencing the products that we put out as a company

**What are the reasons for LEGO to involve these outside parties for innovation?**

One of the essence of LEGO is basically having fun together. I feel like it's just natural that LEGO has a company that promotes playfulness, and also engages playfully with a lot of the fans that they have around the world. And I think it's this idea of like when you're engaging playfully with your customer base, a lot of good ideas then can come up from it.

**Do you know any specific challenges during the process of involving outside parties for innovation?**

No, I don't know any specifics.

**How does LEGO sense external opportunities for digital innovations?**

Well, I can only speak on behalf of the digital technology side of things from at least from my experience. It's literally the typical design process where you are actually where you are, you have a starting point where it is a goal or a mission or something that you would like to do as a team and then from there you do research. Uh, well, you go into a discovery phase and you doing research is then part of that work. So for example, in my team we since we are at the retail store experience team, we do a lot of and we take a lot of inspiration from what is happening in the retail world. So it can be as simple as our team going to visit other stores from other brands and see how they are doing in terms of providing engaging experiences through technology in their stores, that could be one thing, it could be also attending

conferences on this physical and digital space, it's called phygital retail. It's something that we keep an eye on. It's also then you know brainstorming and ideating concepts and then testing that out quickly by involving users in a quick iterative process.

**Do you also analyze some potential competitors too?**

Yeah, in a sense, I have a map of other brands that have very notable store experiences. So for example, I personally look at Adidas because they are one of the brands that have a very strong digital engaging experience inside their stores. Aside from Adidas, I also try to see what other kids toys are sort of brands doing as well. Aside from other competitors, we're not competing with Adidas, but on the other hand, we also like to take inspiration from other physical venues like for example museums as simple as that, because museums have a lot of interactive things that we might not have thought of. So we take inspiration from there as well.

**How do you become aware of customer trends that are existing outside?**

So one of the good things about working at LEGO like I've already mentioned is that the company is really big, that we have a global insights department. So this global Insights Department conducts a lot of studies across the year about customer behavior, then showcases their findings and we are privileged to have access to all their research. And this has been very helpful for us to see, you know, the trends. We are privileged to have access to a lot of like inside platforms as well that publishes a lot of industry reports on the toy industry. So I didn't know before I joined, but right now for example, there is this trend that there are a lot of Kidults, so adults that are rediscovering their childhood hobbies and it's a segment in itself. And that is currently growing. I personally have access to a lot of inside repositories.

**How do you filter those opportunities and how do you decide that you're going to implement this one inside our products?**

The typical way of weighing out between the desirability, the viability and feasibility of the concept right, desirability in a sense that you know it's this concept or idea something that our customers, adults or kids can find meaningful for whatever they're doing. Is it fun for them? Is it useful for them? So that's something that we can check. Viability in a sense that how does this concept tie into the business goals of the organization of the company and feasibility in a sense that is this even possible for us to deliver through our current technical capabilities?

**How do you analyze the newly found opportunities and how does LEGO integrate those opportunities into its business model? Do you have any examples?**

Does it really then translate to a business model? It might depend on the things that you're working on, because, for example, the things that I work on, they don't sit in isolation. Like the digital experience inside the stores ultimately sit together with the people that are working in the stores with where the store is, with what marketing does. So it's very complex to simplify then what the business model of something is. The best we can do, when we have a concept, is what kind of success metrics can we measure out of this and what does that success metrics provide in terms of actual business value like actual revenue, cost savings. But to provide a model like the way you would in a theoretical way, everything is very interconnected. So it's very hard for example, if you think of the business model canvas at the end of the day, LEGO as a company selling LEGO brick toys. My team is only one part of the business model Canvas, so it's very hard to sort of take that generalization.



**How does LEGO adapt its existing resources and processes to respond to those changing digital circumstances?**

For example, if it digitally transforms and redesigns the company's internal structures so that the ideas and opportunities can be developed internally. I think for LEGO, one of the ways that it's doing this transformation is by creating this new digital technology organization that I've mentioned a few times before. I think before that a lot of people that have digital expertise, engineers, digital designers, product managers before that, they would sit under different organizations that might not be relevant. So they might be a part of marketing, ecommerce but ever since LEGO decided to invest heavily in digital transformation, they have created a whole separate digital technology organization. And that means having a CTO role as well. So we have a chief technology officer who has been with LEGO for like only three, four years. But that in itself is a big change, because I think previously that role did not exist in LEGO. And I think as part of that digital transformation which I'm grateful of, is for LEGO to open up digital offices that are solely there to cater to hire people that work in the digital tech field basically. So the office in Copenhagen actually is something that is only recently opened. It opened in 2022 and it's the office that I go to on a daily basis and it's an office for basically all the tech people that work at LEGO. So that is one of the investments that LEGO has made in making this digital transformation. Aside from that, they have also created a more modern space for collaboration in the headquarters in Billund, which appeals to a more modern and tech kind of people. The Copenhagen office is new, something they invested in because they want to invest in the digital transformation journey. LEGO that there was no Copenhagen office. The LEGO headquarters, LEGO campus itself is a new building. The design is very reminiscent of a modern office, they took a lot of inspiration from tech companies in Silicon Valley. It's even called the LEGO campus, similar to how maybe Google would call their office, Google Campus. They try to instill that into the design of the building so that it can shape the culture of the people inside as well.

**How do some of these activities or programs improve the digital maturity of the team? So what about people who are not technically ready for this transformation?**

Internally, there's a lot of learning that you can do inside LEGO and part of the learning that I'm aware of is for example, I know vaguely of someone who has worked in LEGO for 20 something years, and it's only recently that they have started switching their career to becoming a product manager. And to do that, there was a lot of support and internal training that was given. So I think there is a lot of support and activities that LEGO is doing to transfer some of the competencies of people that have worked there for quite a long time.

**Do you have any recommendations for the platforms? You already mentioned Bricklink?**

Check out LEGO education because they are a subdivision of LEGO that focuses on giving back or relating play to education.

**Does LEGO Insiders also gather and collect any information or ideas from fans and users or not?**

I don't think there is a systematic way. But we have a channel where we can reach out or ask for input from very dedicated fans. It's really hard to explain now, but the best way I can describe it to you is for example if I need to get feedback on a specific concept that I am designing and I really need LEGO fans. I will talk to this one guy at the company and he will just arrange everything for me. So I don't know where he gets these fans from. I don't know how he does it, how he keeps the network, but there is something like that. LEGO is a big company, that I might have spent a year or more, but you keep finding new things about the company.

**Is there anything else you would like to add or discuss before we conclude the interview?**

No. I hope it was helpful.

**Yes, of course. Thank you so much for your time!**

### Interview #3 - Transcript

**Can you please briefly introduce yourself and your experience with the LEGO Group?**

I've been with the LEGO group for almost three years. The past year and a half, I've been working with the LEGO Builder app that you can use to build LEGO with. If you get a set, you have the physical instructions, where our instructions are catering to more specific segments. So for example, young kids, they can easily build with the LEGO Builder app because it's more slow-paced and we know from app reviews that young kids that work with LEGO, they often stick with it longer and also require less adult supervision while they're building. We also have a build together feature where you can sit five people together and build a set. You build a physical set and you can pass the small parts of the build to each other so those are the main features of our app. Before that, with the LEGO group, I worked in infrastructure with developer experience, so a whole other area, whereas with a small team there working with developers experience and doing a developer platform.

**Are there any other digital transformation related initiatives that you saw in LEGO ?**

I guess, digital transformation for me it's a hard term. What does it actually mean? Because it can mean so many things. Is it the way that we work or the products we make or what does digital transformation mean? Of course, in the LEGO Group we have tried to tackle all of the above. So we of course digitizing a lot of ways we are working and I guess in some ways, yeah, while I was in infrastructure, I was helping that journey, especially for developers being able to work more frictionlessly with the tools. So that was one kind of digital transformation. The other is of course, where I'm now, which is more like a user facing where we are injecting some digital elements into our product.

**By digital transformation we meant for example, the Builder app transferring the manual work into a digital form. You can just go and see the instructions. So if we talk about the business side of it, let's say for example the builder app, how does it influence the business side of LEGO? Is there any specific area which it influences?**

There are some changes that need to happen when you work in the digital way. One example being that when we do the physical building instructions, we do quite a lot of layout in Indesign and that can all be handled on a case by case data basis. Whereas when we do it with the LEGO Builder app, we rely on data and so that the data structure needs to be more strict. We can't go a bit offrail with this one and so we have

to be quite specific with the way we do it in the same way every time and that makes for changes to ways of working.

### **How do you get different kinds of ideas or inspirations for how to improve ?**

I try to rely on different sources of ideas. There's of course the user facing one. We conduct regular user interviews and user research, also looking at App Store reviews. Yeah, NPS data, all of that kind of data sources that's coming from users. Sometimes they'll highlight what problems they have, or also sometimes opportunities they see, wouldn't it be nice if the app did XYZ? So there's the user part of it. Then of course, there's the internal team part of it. I also do try to have sessions on a regular basis within the team where engineering, design and product come together and try to see what are the obvious opportunities that we could chase, especially from engineering. I think there's sometimes some interesting options because they've seen something in another product that could be retrofitted to us or have ideas on how new technology could be applied in our context. And then, of course, there's our stakeholder landscape internally within the LEGO Group. They also sometimes have ideas and requirements, and wouldn't it be awesome if the app did XYZ and for me then I'm then trying to combine all of these inputs and make it into a road map and of course if everything that then we we I use that opportunity solution tree, a kind of a tree mapping structure for identifying opportunities. And I just plot everything on there in that tree structure and then of course, when we pick something up, needs to be validated further. Is there actually and would this be an opportunity for us or would it solve some kind of user-facing problem? Or is it just an idea that surfaces somewhere and it actually doesn't have merit? So of course there's a validation process after that as well, but surfacing the ideas that for me can come from three sources. It could be the users, the internal team or some kind of stakeholder input.

### **You mentioned this tree structure for selecting ideas or which opportunity to pursue. Is it more like your own personal approach or is it like how other product managers do it? Is there any kind of process for filtering the ideas that you get?**

We don't have any formalized way, but I think opportunity solution trees is a method that's quite widely used and being tried out in more teams all the time. We have a product community where we try to do regular inspirational sessions. So that's the way we try to get ideas to take root, so it could be I'm using an opportunity solution tree. Someone else might be using some other method, and that's quite a lot of freedom to choose the tool or the methods that you want, but just trying to surface some of the ones that has the most merit or success through these inspirational sessions.

The opportunity solution tree is quite well described as a concept from Theresa Taurus and there's a book about it, continuous discovery habits and I think she's the one who's really made this popular. So definitely not just my own, but as to how we use it within the team. We made the foundation of it together as a team. We had a workshop where we tried to map our opportunities and cluster them in different nodes in a tree, the basis was formed with the team. But it's me who's really using it as a tool and maintaining it. For that, I think the engineers from the team, for example, they're more like, this is the opportunity we are tackling this sprint or this quarter. So they're not looking that far ahead and into the tree structure as such. So it's me that's trying to see when we get something new from the stakeholders, does it go on the opportunity solution tree or not? We get some user reviews, does that go on there or not? That's me doing

all of that manual updating of the opportunity solution tree, but I do present it to the team from time to time and just say OK, we updated this branch, we got this knowledge on that branch or or whatever to see just what is on the road map in the horizon for the next sprint quarter or year. We don't validate the opportunities from the opportunity solution tree up front, it can contain things that are not validated. It can be just brought up from stakeholders or seen in one app review, but we then validate when we prioritize it. So when we move forward and that, is this something that we want to tackle? We think it is, so we pick it up and then we validate and at that point it can also easily be blocked. So we start up the research process to ask if there is something to this opportunity and if we find that there's no evidence. It was apparently just one App Store review, or it was just one stakeholder shouting a lot. Then we block it at that point, so we test the part to come up with the assumptions and the hypothesis that we can solve with this and then try to get some findings on that before we move into full on ideation or even building it.

**And before you know filtering there is this sensing part of where you can see or sourcing part where you collect a lot of ideas. How much of it involves, like qualitative or quantitative, because you know, in case of digital products, you do have the option to get quantitative data, maybe user tracking some kind of analytics, some behaviors, how they are using the app. So how do you collect those?**

We do all of that, but since our product is for children, we are very mindful of how we're tracking and we're not tracking kids. So that means that our quantitative source of data is somewhat limited because we just really want to be on the ethical high ground when it comes to tracking. And with the kids product, so we do have a bit of tracking and we also do more like qualitative research where we get kids into a room and have them try out the app or in other ways. So we go to LEGO House for example, which is close by our office of course, and get consent from some families to ask them questions or test prototypes or something. I have a monthly session with myself and just look at some of our biggest competitors and see what they are up to and have they launched or updated their apps within the past month? Have they written anything in the App Store, update notes or on their websites. Just browsing through what's happening around us.

**Are there any specific challenges that you face while sourcing the ideas, whether it's the competitive side or or more so on the customer side?**

I wouldn't say any particular issues. Of course, there's always the issue of filtering. There's an abundance of ideas, of course, from all over the place. So which do we actually bring forward for more testing or deep diving into. I guess that's always an interesting topic. And it would be awesome to have more data, more quantitative data available because this is the way right here. Everyone is saying, you have to have lots of data to base your decisions on data. But then we do run into the ethical issue.

**If you have too many ideas, how do you prioritize and make selection in terms of the back-end side or the team or resources side ?**

It depends a bit on the opportunity and also how strong the evidence of it. Is it something that's come up in numerous App Store reviews? So it's quite well documented that there's something at play here. Then we might dive straight into the solution, looking at different solutions, how could we solve this? Or maybe it's just something that's more of a hunch maybe we've seen it a couple of times in some user

research indicating that there might be something here. Then we maybe try to set up some specific sessions that will deep dive into that. So having maybe a session with some kids and trying to trigger that specific scenario where they run into something. Yeah, it could be something more specific too like a high affinity builder, what would they prefer then we make sure we get some higher finity builders. We try to set up the situation where we assume that this issue might be at play and then get some learnings from that.

**Is it mostly like the team or the resources that you already have or do you mobilize the resources? Maybe you get help from some other team or is it like a cross team effort?**

We have a designer within our team who's quite skilled with user research. So she will quite often do some of the research, but we are also connected to like a group of teams. We do have a couple of researchers that can be called upon for doing more foundational research projects, so we have also in the past used them. Like this summer, we did an eight (8) week deep dive into a specific opportunity in a strategic direction and they did some foundational research for us on that, which we can then pick up. So they listed a couple of opportunities that these might be worth exploring further so they weeded out some and got some that are now more validated, but not to the extent that we just pick up any design it's it's like now we have 3, 4, 5 opportunities that still within this phase needs further validation and that our own designer will then do.

**If you have like two or three opportunities, which are like some people in the team think maybe you know this one is good, someone thinks about the other one then how do you decide?**

We have a product trio which consists of the designer, lead engineer and myself (product manager), and we have a weekly meeting where we align on the day-to-day stuff. Every half year, we have a day where we try to just align on what we believe are the biggest opportunities for us to tackle and in which order. Some teams have different scoring matrices but we don't, we just discuss different perspectives. The three of us are then representing feasibility and business viability and user desirability. So we are tackling it from those angles. If this is maybe super hard to do engineering wise that then is an input for how high on the list should this opportunity be. Maybe this is because we have super strong knowledge that this is a user problem. The designer will come with that background that pushes something further up to say that this is super important for us as the business that we need to solve this because other teams rely on us or something that's related to KPI that we are measured upon, that also could push things up and down. So each of us try to cover these different aspects and together for the past year and half, where I've been in the team called this a bit of pushing things up and down. But we are more or less aligned on what are the opportunities that we're supposed to pursue.

**What about in a long term perspective, a lot of things change very fast in the market or in the digital space. How do you make a long term strategy for that?**

We have a strategy that spans across the four teams that are making the builder app and we set that product strategy a year ago and that was created through a framework that's called play- to -win which is quite focused on choosing a strategy. So we have a process where you come up with different strategy possibilities. I think we defined in that process we came up with 21 different directions we could go into, we consolidated that into like 6 main directions. We then had a validation process for those, or we had four of them weeded out quite quickly due to big risk with either feasibility, viability or desirability. And then two of them, we did a more thorough deep dive on during the two weeks validation phase and then just tried to again validate feasibility, viability and desirability on those two. And then we chose the end point. So we do have a strategy that spans a bit longer horizon for us, which we then try to map these opportunities that we are pursuing short and long term too.

**How does it go with the other initiatives, both in terms of competition within the company? Which product to focus on and also collaboration with each other ?**

I guess when it is a big organization like the LEGO Group there's always a different agenda at play at one time. But of course, when we set our strategy, we also involved some stakeholders a bit higher up in the organization and got their input and got their sign off on our product strategy and making sure it's somewhat aligned with what all other teams are pursuing. So for the most part, I think we are aligned. Of course, there will always come things here and there which are a bit contradictory to our strategy. And then we evaluate on a case by case basis. Is this super important for another team to succeed with what they need and want? Then maybe we can help to deliver on that. Or it's not super critical for them then it can be more easily pushed back on so it is a case by case evaluation then. So any other specific platform that you have worked on or you know about like LEGO Ideas because there's another source of collection of a lot of ideas and then LEGO Insiders which is about membership of users or customers.

Can you tell me a bit about that if you are engaged in those two? I am not very engaged with those two and I think we are also approaching something that is strategically revealing. So I would prefer not to deep dive into that. I guess with big organizations like the LEGO Group it is a hot topic, how do you shift to pursuing other opportunities? I think it's easier within a team like the Builder app, so within that I can somewhat shift to other opportunities, but of course, I have to be mindful that I'm touching with maybe seven and eight different teams, so I can't just change on my own because it might change the workflow in other teams or the resources they need or something like that. So there is a big value chain to be mindful of. It is easier if you're talking about shifting to a whole other product or a whole other other opportunity, because then you have to maybe take away resources from one team that is committed to delivering on something to something else.

#### Interview #4 - Transcript

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Interviewer

Let's start with your introduction and what do you do at LEGO?

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Interviewee #4

Yes. So I joined the LEGO Group one year and a half ago, so I'm still quite new in the system. I work in

the department called Digital Consumer Engagement and especially for the grown up engagement, specifically for LEGO Ideas. So before that I was working in a really different type of company, the startup and scale up company in the digital world, but previously I had some completely different experiences. LEGO is the first big enterprise I'm working for. So right now I'm what we call the business lead for the LEGO Ideas. We have a team for the platform and then we have the whole product lines, all the products under the brand LEGO Ideas. That's handled by two different teams, I'm the business lead for the platform itself. And the platform itself, as you might have seen, so if you want me to share with you how it works or I can share my screen also to explain a bit of the platform if you need but or you know it enough you believe.

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Interviewer

What we want to know is, what specifically do you do when you need to Crowdfund the ideas. And how do you filter those ideas that you collect?

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Interviewee #4

When someone, let's say you want to submit an idea, so you have built something either physically with bricks or digitally. So we accept both kinds of formats. Then you submit, so you need to create a submission through the platform and then you have different guidelines and rules you need to follow. You need to have a proper description, a nice image. You need to respect our guidelines in terms of what we call intellectual property, so it means there are some licenses that we already have or we won't do, so that we won't accept for instance. So you submit, you respect all those rules, so you have a lot of guidelines on the site. It's a lot of text to read, but you need to respect those guidelines, it's LEGO. When users have started making the submission, it's submitted to the product idea, first in the back end so it's not visible to anyone yet and it goes through a team of what we call evaluator, it's a team at LEGO. We have two ways to do evaluation we both use AI for the text evaluation. I'm not in the moderation team, but they are screening more or less the text and seeing if there are some major keywords that we don't want like a bad words or so. We have a list of words and so on. And then we have the image evaluation so they have a lot of different criteria they need to look at and then if the submission doesn't respect some of the rules, it's rejected and it's sent back to the user. User needs to correct what is not working and what has not been approved and then the user can resubmit again. That is the first filter we have in terms of evaluation. So do you have any questions so far?

0:5:59.350 --> 0:6:7.260

Interviewer

Yeah, one question is that you said AI basically you use to scan the text, but what kind of text? Because I assume LEGO Ideas are mostly designs right?

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Interviewee #4

No. I can maybe share my screen so it would be easier for you to understand. Just let me open one submission. When you have a project, in our portfolio we call it a project, but it's a product Idea. When a user submits [a product idea], the user has to submit some image, but the user also has to submit a description. That [description] is the one we are evaluating through AI. If we see some keywords once

again, I don't have the details. I believe they have a list of keywords that you cannot use for. And then we have the image, we have some rules regarding the size, the quality, if it's blurry, if it's to zoom out to zoom in. If you have too much text, there are a lot of rules that our user needs to respect in order for the submission to go through the process. So in every product idea you have a description.

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Interviewer

But is it not about the one which gets the most votes?

0:7:27.440 --> 0:7:28.370

Interviewee #4

That's another step. Now we are in the first step, just to have the idea published on the sites. So that's a pure evaluation. So in order for it to appear on the website, you need to go through this evaluation.

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Interviewer

So this is more like for moderation before making it public for voting?

0:7:53.980 --> 0:7:54.440

Interviewee #4

Exactly. When you want to submit an idea, you go through this process, so you have the rules we explain, and then you start this process. It's an original idea, or it's an IP. Then you go through the different steps, then you need to put the description of the image. So all this you need to fill in first. Then you send it to our backend so it's not visible yet on the website. And it's where we are going through the evaluation. So we are looking at a lot of different guidelines and rules. I don't know them by heart because there are a lot, but we are going through all those rules. Regarding the quality of image, the text, at that stage, we don't judge the quality of the submission. We evaluate that it's just respecting the guidelines, so we are not saying it's a good idea or bad idea. We are not evaluating that part, we're just evaluating that the submission respects all the rules we have to submit an idea.

0:9:2.570 --> 0:9:4.700

Interviewer

Once it's published, there is voting, but what's the next step then?

0:9:8.630 --> 0:9:14.880

Interviewee #4

As soon as this is published, the user has different milestones to reach. The first one will be 100 votes, so users need to gather 100 votes, 1000, 5000 and 10,000. Reaching those milestones gives users more time to gather more votes. User needs to reach those milestones in a certain time frame. And so you can see it, let me share my screen. So you can see the milestones here. You submit an idea, you have 60 days to reach the 100. If after 60 days you haven't reached the 100, your submission expires from the website, so it is not shown on the website anymore. If you manage to reach the 100 votes before the 60 days, then you move to the next, then you get one year, so 12 months to reach the 1000.



0:10:22.260 --> 0:10:27.920

Interviewer

If someone got 10,000, then what happens after that?

0:10:29.580 --> 0:10:36.330

Interviewee #4

When you get to 10,000, we have three times a year a review process. It means let's say it's the period of four months, we take all the projects that reached 10K in this four months period. And then we start to do another evaluation, it's called the review process. We gather all the information we can get on those submissions, how fast it reached 10k, how many page views, how many comments they got, if they got feedback, so all the data we can find on the platform regarding the submission and then we look at different criteria that I cannot share because it's highly confidential but some different criteria in the [LEGO] group that we look at. Our group is really responsible from the Community, what we call AFOL Community, the adult fan of LEGO. But then this review process, there are different stakeholders from the group with different criteria that are implementing those criteria and from there we will screen out some ideas. For some reason that I cannot share but we screen out some ideas and then we select just a few then because there is someone for obvious reasons, we cannot choose for example. Also it could be the building techniques that are not good enough or like we have already something in the portfolio or we have some portfolio conflict. So there are many different reason like that and some other and then we select few and then we go to different stage when we test and we do some different things I cannot share but so to get to a shorter list and then we know how many we will select because that will come to the portfolio in maybe two years or something we know we have two slot, 2 project we can choose so then we choose those two product and then there will be go to all the process of production.

0:12:48.470 --> 0:12:51.120

Interviewer

So I have two quick questions, how many ideas do you typically get which have 10,000 votes? Is it like too many, too little? And the second question is, do you do it all the year or is it like at a specific time?

0:13:8.460 --> 0:13:8.810

Interviewee #4

No. So the first question, it depends of course on each review, but we could get between 40 up to 70 submissions that reached 10K. So we wait more or less four months [and then] we close the review period. So let's say on the 31st of December, we close the review period and we take all the submissions that reach 10k in the last four months. So we look back, for example on September 1st of September to 31st of December, we take all the submissions that reach 10K in this period of time. It will be then 50 or 60 or 70 in that period of time.

0:14:7.300 --> 0:14:11.730

Interviewer

Can I say that it happens three times a year for four months?

0:14:11.400 --> 0:14:13.250

Interviewee #4

Yeah, it will be 3 times, yeah.

0:14:14.640 --> 0:14:17.10

Interviewer

What is the crowd validation? Is this the validation process?

0:14:21.210 --> 0:14:38.270

Interviewee #4

The crowd validation is the 10k, what we call the crowd validation part. The crowd sourcing is everything that's happened before. The crowd validation is the support from the community, that's what we take in consideration. But also, for example how fast it reached the 10k. So some projects will reach 10K in no time, in one day and some projects we reached 10K takes 2 years, so it's up to two years. So we look at that as well. But the crowd validation there is a number of votes minimum 10K. We will look at but also we are looking at how fast it reached 10K. It's not necessarily a criteria to screen out an idea, so it's not because an idea took two years that we won't look at it or consider it at all, because, for example, if your submission is linked to an intellectual property.

So let's give BTS for example, one of the set releases was BTS. The BTS set reached 10K in one day. So the user the creator shared on the Reddit account or I can't remember where, but because he touched the fandom of BTW. So the BTS fans saw it, they didn't care if it was LEGO or not, they just saw BTS it was like, wow. And they just went to the site and created an account and voted. So in one day we reached 10K, so it doesn't mean that it will be a good set but it will reach 10K in one day. Some others will take more time, but we are looking at it but it's not because once again, you took two years that we won't consider it. It's a very nice build because often the submissions that are linked to an IP, to a brand or franchise in general we go faster because people are sharing on fandom space and will attract a lot of those of the fandom when more what we call AFOL build. So something is not linked to an IP, it's more like slow to gather, but it can be a beautiful build. We have some amazing sets that were not linked to, an IP that has been super successful as well. So it's not the criteria we take in consideration.

0:16:48.770 --> 0:16:50.720

Interviewer

So you did the crowd sourcing, you got the ideas, you did the crowd validation and then you did the internal validation. What's next then?

0:16:57.680 --> 0:16:58.180

Interviewee #4

We go to this review process, the one I was explaining and then we have once again different gates where we look at all the criteria that are very confidential and then we select one or two depending on the slot we have. So we know in advance if we can select 1, 2 or 3 and then we select the product and then they go to the whole development of LEGO. So the process that I don't own at all, so I cannot explain to you this process, but the whole development of a product like in any other enterprise. So in connection with the fan designer, the team reached out to the fan designer and they co-design. It needs to fit the LEGO standards in terms of building experience, quality, some bricks for example, we might not produce anymore or some bricks we don't want to do. So there are a lot of criteria, the LEGO designer is working with the fan designer who submit the idea they are working together to get to an agreement of a set and then it will go in the whole production process that I don't own. So I don't know exactly how.

0:18:12.510 --> 0:18:22.450

Interviewer

When you say working together co-creation, do they visit you or is it like online video calls or how does it work? Is it some kind of documentation?

0:18:25.110 --> 0:18:26.580

Interviewee #4

Yeah, it really depends. Once again, I don't own that part, so I won't be able to give you a lot of details, but it [co-creation] really depends where the fan designer [LEGO Idea user whose idea is selected] is located, so I believe that they have. They are trying to have at least one physical visit in the process because we really want to have the best collaboration with the fan designer and often they are also very excited to come to the office. So we are always trying to have at least one physical visit also at which stage I won't be able to say. Is it like when we do a mockup or is it when we don't know exactly which state of the process is coming? Maybe they are coming several times that I won't know, but most of the time we are trying to make that come and otherwise it's online and you know with all the modern tools we have now, it's easy to work online. So it depends also on the fan designer himself whether it is working or not or whatever.

0:19:24.670 --> 0:19:31.360

Interviewer

You said you don't own that part, but that part is within the LEGO ideas team or no, it's a completely different department who did the design?

0:19:35.360 --> 0:19:35.750

Interviewee #4

We have a big group. We have all the digital experience, it's called the digital consumer engagement, that's one big department and we have another big department regarding physical products. The whole platform and the digital touch point at LEGO are owned by this big digital consumer engagement group which is giant and all the physical products are owned by another group. So in that group, it's where all the development of the project is happening. The designer, the project manager, and marketing all those parties is in another big department. So we are working very closely and a lot of projects are opening together, but we really own the digital experience and they own the product line. It's not the same owner but of course we collaborate, it's just a way it's set up. But of course we are working together because the product line won't exist without the digital experience and vice versa. So we collaborate, but it's still a very different process. There are a lot of parts they don't know from our process and there are a lot of things we don't know from there. You cannot know everything, so it's a big expanding team, it's owned by another department.

0:21:3.700 --> 0:21:4.490

Interviewer

In this whole process, what are the typical challenges that you face? All the way from sourcing ideas to validating, and then passing it on to the co-designing or to the physical product development team. Top two or three challenges.

0:21:29.190 --> 0:21:29.670

Interviewee #4

Yeah. I don't know the challenge on the product line, so with more talk on our side is to make sure we continue to engage with the right community. We need those who submit an idea, we call them innovator, we need to keep them motivated to submit because it's a very long process and you need to be very motivated to get to LEGO Ideas because it can be very long and even if you reach the 10K in no time the process still after is long. So even if you reach 10K, you still have four months waiting for the review. Then we do the review. It takes months to give the result and then months again for the set to be produced because development of a product is quite long. So the whole process is long. So for me, the biggest challenge is to make sure we continue to offer the best experience.

But of course there are a lot of things we cannot control, so the time to produce sets the time to the review process to check. There are a lot of things to check, for example, if it's a new franchise or a new brand, for example, I know you submit something that we don't have in our portfolio, or a new license we don't have in our portfolio. The team needs to reach out to the license. Is it compliant with the LEGO rules and the brand guideline? We are a group for kids products as well. We have a big adult portfolio, but we are a kids brand. There are a lot of rules that we need to respect to start partnering with a new license. There is a lot of stuff that takes a lot of time to be checked and to be negotiated. The challenge is this long timeline to get your ideas on shelf

For example, some have submitted the idea maybe in the end of 2021 then they reach 10K in a year and a half. If you want to reach 10K, they need to do some marketing, you need to push to some social media. You need to do your own marketing and it's not easy for everyone. It's not necessary for everyone who has some account with the number of followers that is decent enough to attract voters and support on the platform. So those kinds of things are just the challenge is like we cannot reduce this timeline. So we would love to be able to be more reactive in helping the designer to have their assets chosen and on shelf. But it just takes a lot of time. So for me, it's really the challenge to make sure we continue to be attractive to this community and we continue to have some strong submission to the platform. That's the most important part for me. But once again, I don't know the challenge in the product.

0:24:43.620 --> 0:24:45.290

Interviewer

How do other products relate with it [LEGO Ideas]? For example LEGO Insider or Builder app or any other digital initiative that LEGO has. How does it work with LEGO Ideas?

0:25:0.390 --> 0:25:1.600

Interviewee #4

It's a very good question. We [LEGO Ideas] don't necessarily have yet [collaboration between different digital initiatives], we have connections, but we are trying to integrate more in our ecosystem. Today it's a very independent touchpoint, Insider community, LEGO Idea, Builder app. All those touchpoints until now are very independent. We are trying to bring them more into an ecosystem and to have some user journey that makes sense. If you buy your LEGO Idea set, you can co-build or you have the instruction in the Builder app. There are a lot of journeys that make sense to have.

We [LEGO Ideas] don't work necessary today with those teams [other Digital Initiatives like LEGO Builder app, etc.]. So the builder app for example, mainly works with the one who is doing the building instruction and the product, there may be working with the marketing but not necessarily with us because we don't have a link with building instruction. It's a product based not on our experience.

We could think of some opportunities and we have some project in mind that I cannot share where we could collaborate more with builder app for example but today it's not. We are trying to create those bridge when they make sense, we are looking at the user needs, the job to be done for user and we know for example LEGO Ideas is a huge community and there is a group that being created in Insider community with LEGO Ideas and some of our users are sharing some content on LEGO Ideas. So now we are trying to see how we can just make a simple bridge between the two. But the only challenge we have, and you were talking about challenges is because like this is not.

0:27:4.210 --> 0:27:7.260

Interviewer

So the bridge between LEGO Ideas and?

0:27:8.730 --> 0:27:10.380

Interviewee #4

Insider community. I don't know if you know this platform.

0:27:14.350 --> 0:27:15.380

Interviewer

Yeah, I know. But if you have anything worth mentioning about it, that would be even better.

0:27:21.60 --> 0:27:21.470

Interviewee #4

Insider community as the name just explains it's about community. LEGO Ideas by itself, it's a community. Because the users of LEGO Ideas are a big family, so naturally on Insiders community a group of LEGO Ideas have created their own group. So the connection is obvious to connect both but today if you go on the LEGO Ideas you don't have a link to Insiders community we don't have those connections. Just adding a link it needs to make sense in the user journey. But our aim is to have one ecosystem, so when you visit LEGO Ideas or when you visit Insider community, or when you go to the app, or when you go to lego.com, then you have one world and you feel like, OK, if I want to submit an idea, then we'll go to LEGO Ideas. If I want to join the AFOL community, I will go there. So it's just today, it's too many different touch points. So we need to work on a smooth journey for the users depending on what they are looking for. Because one day maybe you want to submit an idea. But the day after you want to buy a set, and that after you just want to share your designer because you have, uh, put that on your shelf and you are super proud. So you want to share on the community, so your needs will be different every day. So that's why we are also trying to look at what makes sense to turn off user journey and that's the most when you were talking about digital transformation, it's of course the group will have some needs to consolidate to have the same system. If you are using a CRM for example, it's the same CRM system for everyone. If you are using a way to evaluate, you choose the same evaluation for everyone you know. So all those systems need to be aligned, so you have a back, back end work to consolidate all those experiences to make sure you can, you know, understand also how the journey is. So

you need to use the same tool and the same back end and then you have the front end and the user journey like so depending on your needs to be identified like you are tomorrow you want to buy assets but then time they said maybe you want to discover something else from you know what's happening in the LEGO world and you want. So we need to understand that to make sure the digital transformation makes sense for the user and not only for the group if it makes sense.

0:29:58.880 --> 0:29:59.920

Interviewer

How about LEGO Life that's also a community?

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Interviewee #4

Yes, but that's for kids, and I really won't be the right person to talk to. I have really too small knowledge on LEGO life, unfortunately.

0:30:14.920 --> 0:30:19.470

Interviewer

No, I didn't want to ask about the specifics of it, but it's another community. So when you said ecosystem are you talking about some kind of social media for LEGO where you also have the Builder app there you have LEOG Ideas there, you also have membership there or is it something else?

0:30:33.360 --> 0:30:35.610

Interviewee #4

No. First of all LEGO Life is for kids. So you have a differentiation with what is targeting adults and grown up and what's targeting kids. So there is no connection.

0:30:49.700 --> 0:30:51.580

Interviewer

So the two different customer segments.

0:30:52.830 --> 0:30:54.360

Interviewee #4

Yes, of course. The kids need parents to create an account, so it means we are talking to the parents of those kids because as a kid you cannot just create an account by yourself, you need your parents to create the account. So we are talking to the parents through the kids, of course, but it's not the main target. It's two different systems. So the back end could be the same, but in terms of experience, the tone of voice, what you are seeing, the content you share, what they have access to, it's very child safe compliant with child safety. When on the adult experience you don't need to be in the same rules. Let's say the same tone of voice or how you create content. So those two will always be a bit different or separated because you are not targeting the same audience. So if you want to go to insider community, for example, it's only available for 18 plus, so you have an age gate. When you get to the, if you click on inside the community, they will ask you for your age before you can get to the website, so we have some age gate in some of the experience because if you want to give access to the children below 16 in our words. You need to have to limit what they have access to, the rules and the legacy compliant are very, very strict. So when I say ecosystem, it's more like in terms of user experience. Today it's super important to make sure that you are

experience is the best and you feel that you belong to the LEGO community as a whole, the LEGO brand as a whole, and from there, depending on what you're looking for at a moment of specific moment, you will find what you're looking for in our world. So you will find insider communities, our social media, if we can call it insider communities, talking with some other fans, like sharing, if you have a fandom or if you're a fan of Star Wars, then you can share your picture of your set on shelf or you can share anything regarding Star Wars or the set of Harry Potter. That moment is what you want to do, but then you come back an hour later and you would like maybe to shop something. We need to just make sure you can find in our ecosystem all the things you are looking after at a certain moment. So that's what we call the ecosystem. It's not necessarily having the main branding or exactly the same block or something. It's just more like you feel belonging to a brand and you feel the same experience in different touch points and you feel the same feeling like you feel at home when you visit lego.com. That would be the idea.

0:33:43.950 --> 0:33:46.900

Interviewer

So you mentioned some challenges that are very time consuming, why would you still want to do that? What's your motivation for still collecting the ideas from the outside?

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Interviewee #4

First it's the passion that our fans have for the brand is just amazing and the unlimited creativity and innovation there are some of the lead users, what we call lead users or the innovator, outside innovators don't have the limitation that we have at the group as a designer. So our designers are super good but of course there are a lot of things that limitation we know or things we cannot do and the outside user would have some ideas that we never have, because we are in our own world. So sometimes when you come from external you have some idea that people inside won't necessarily have because they are too into their world. If you look at the globe or the typewriter or the grand piano, those things are just like, wow. We are looking for new maybe building technique, the newness in different parts from different angles, so it could be a new internal of not every element, because that's a bit tricky to produce and so but more like a new technique. How new way to use some piece or some element? Or a new license we haven't thought about. There is a lot of newness in the proposition innovators provide us and it's super exciting to do that and we love our fans and we want to continue to offer this opportunity. We think the crowdsourcing LEGO Ideas is a unique experience and it's been now just celebrate 15 years and we are still blown away by what we receive and just seeing in the eyes of our designer, like our fan just when their set has been selected to become a real product. It's just like, wow. The LEGO brand really loves that fandom. It's really something. It's the core of LEGO. It's the fan community, like at any age, kids fan or adult fan. To be able to offer this opportunity, it's really unique. When I say challenge, it's not like a big challenge, just if I have to give some challenges then it would be one of those, but it's not a blocker for us. We can see a lot of submissions continue to come in and just seeing this creativity and joy to share their own design. When their design has been selected. And they get one percent of each set sold so it's not like a free thing, they get the revenue out of it as well. I think it's a beautiful system. There are things we need to look at because once again, it's a long process, so some innovators might also be a bit tired of waiting so I can understand but not a lot of things we can do again today.

0:37:14.700 --> 0:37:20.40

Interviewer

Just 1% of the share of it that is for the one which goes into the production, right. So the one person shared that you mentioned, is for the design which goes into the production, right?

0:37:28.260 --> 0:37:29.410

Interviewee #4

Yeah, absolutely. We'll go on the shelf.

0:37:30.180 --> 0:37:37.90

Interviewer

What about the other designs which, like you said they were like 40 to 70 designs, which reached 10,000 K what happens with them? Is there any kind of incentivization for them as well?

0:37:39.330 --> 0:37:41.600

Interviewee #4

Yes, yes, they get some sets. I believe it's an amount. They get the compensation. I think they have \$500.00 of compensation for sets or something like that. I believe I'm not sure about that, but they get compensation in terms of sets, LEGO sets.

0:38:0.380 --> 0:38:6.520

Interviewer

So it's only for 10,000 or do you have compensation for at least the one with votes?

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Interviewee #4

It's too many. We would love to but it is too many now, so it's the one who reaches the 10k, which is already a lot. It's a budget, which is normal, but no, it's just for the one which is 10K.

0:38:18.80 --> 0:38:22.970

Interviewer

Speaking of too many, how many ideas do you get in the beginning of this validation chain? Which goes to 70 in the end.

0:38:27.240 --> 0:38:27.940

Interviewee #4

Yeah. So in terms of, let me give you a little view of my dashboard. So up to now the publishing project. So the one who went through evaluation, we have around. So let's check 2022. We had 3440 published projects. They have been published.

0:40:35.500 --> 0:40:36.830

Interviewer

We got some sense that it basically started off with a big number and then you boil it down to few and in the production there's only one design go for the production.



0:40:46.870 --> 0:40:47.550

Interviewee #4

No it depends. Sometimes it's two or three. It depends on how many slots we're gonna have, but it's between one and I think the max we got was four. We have 3 reviews, for each review it can be up to four, I believe the max was four.

0:41:13.810 --> 0:41:17.140

Interviewer

Do you have to change your team internally? Do you have to align something to accommodate all of this? Because there's so much uncertainty in what you can get from the users or how the environment can change. Maybe some other competitor also start doing something like this. How do you align internally to keep up with the changes?

0:41:45.340 --> 0:41:46.50

Interviewee #4

We have some competition but that's the same because we are the LEGO brand. So you can call competition as much as strong as the LEGO brand. So we know that our fans are fans of the LEGO brand. Even if you have some other website like rebrickable for example, you have some other big sites to where user can share that building instruction for example, they can sell their sets so it's probably strong, but it will never have the LEGO brand and for some of our fans, it's super important, even if the chance to see the set live and on shelf is very low because it's only few will get selected. Just the potential of having the set on shelf with the LEGO brand is super important for them. We are not very scared of the change, we are observing, of course, but we are not very concerned because once again we are protected by that. So I think our concern will be to select the right product to go on production and to make sure they are successful and continue to be successful. So that might be the biggest challenge, not to select the right one and not to have the success we were expecting to get with those. But otherwise we don't really see a lot of change once again protected by the fact that we are the LEGO brand for now.

0:43:21.50 --> 0:43:26.440

Interviewer

But apart from competitors, is there a team that is within your domain or not? Like the production team is different, similarly, there's a digital team who is actually building the platform, the user experience? and one short question, why you don't have a mobile application for LEGO Ideas.

0:43:45.230 --> 0:43:51.160

Interviewee #4

Why we don't have an application, I won't be able to say. I believe it's also because the number of data we have on the platform is huge and having it through an app might be complicated to handle. We need to be responsive for sure, we need to be able to have a website that works very well on mobile for sure. I'm not sure we need to have an app to be honest, in order to make it work. For the change we have a digital team working on the platform that's closer from me because I'm the business lead for the platform. So I'm working very closely with them. In terms of ecosystem, it's a whole organization with engineer and product designer and UX designer and they are the one really building the platform or maintaining the platform or doing all the new feature we could have and they are working as team of team and they have some project leader looking at all the grown up touch point and experience. So they are the one giving the

direction on OK, we are going in that direction with the grown up experience. We would like to do more engagement or to do more recruitment so they are the ones adapting depending on where we want to go and the strategy. But they are the one making decisions on the feature. I'm working with them on a daily basis, but it's not me giving the direction on the change on the platform. We are adapting depending also on what's happening but I'm not the one guiding the product development directly.

0:45:26.340 --> 0:45:35.740

Interviewer

So it's like 1 specific team which is dedicated to LEGO Ideas, but it's within that development engineering department.

0:45:35.370 --> 0:45:37.70

Interviewee #4

Exactly. Yeah.

0:45:36.480 --> 0:45:39.170

Interviewer

I think we are almost done. Any comments or any specific thing that you think we should look into considering all the questions and our research focus?

0:46:10.160 --> 0:46:11.650

Interviewee #4

I've not been in the LEGO group for so long. I'm the small part of the big boat, right? So I can talk on LEGO Ideas, but I cannot talk about the rest of the ecosystem. I cannot help you on that part [digital transformation] at all. We are part of a big digital transformation, of course, but once again it touches so many I don't even know if you can find someone who would be able to answer all your questions. And once again, you need to consider like a digital transformation is always moving, transformation. It's not like because you had the plan two years ago then you follow the plan. We are agile so we adapt. We are agile company so if we see something to improve so we do it. Yeah, you have a bigger plan of we need to have an ecosystem, so those transformations are very important like you stop having excel, you use some system to embrace the digital transformation. You need to do it in the shop, but that will be everywhere in our digital ecosystem. So lego.com and all the touch points also in the shop, how you handle the insider point, in the factory, so the digital transformation is giant, it's huge and of course it's changing and moving all the time. So we are maybe the ones that have more agile because it's a lot about the relation with the consumer. So if we see that something is not working, we can change it right away and put the button here or here or we see the experience is not performing enough like we just remove the page, we create a new one. So of course we are way more agile in now environments than maybe some other parts like if you do a digital transformation in the factory, it's a bit bigger. So there are a lot of aspects to the digital transformation, but it's moving, and specially in the digital touchpad as we are, I think we are the one that we need to adapt the faster depending on the result of we do a landing page and we see OK, it doesn't perform well. We need to change something so we are quite agile for that in our department.

0:48:49.160 --> 0:48:53.70

Interviewer

Thanks so much.

0:49:23.260 --> 0:49:24.300

Interviewee #4

No, you're welcome.

## Interview #5 - Transcript

0:0:48.400

Interviewer

Let's start with a very basic question which is your introduction and your experience with LEGO.

0:0:55.960

Interviewee #5

Yep. Hi. My name is [Interviewee's Name] started in LEGO last year in September. So it's fairly recent still. I've been here a little year, senior product manager at the LEGO Group, have been a product manager for it's just about a little over decade now, mainly working in startups, so it's my first corporate job in long time used to work a little bit IBM, way back in the day, but startups and also running my own companies and confounding them a couple of those. I sit in what's called retail store experience, which is a part of the larger shopper organization under LEGO retail mainly this is the part of the business where we sell LEGO directly to consumers. The way LEGO as a business function or as a group works. We have manufacturing and design of Lego sets and they can be sold in a couple different ways, either B2B to wholesalers or Amazon or any kind of big department store. And then the direct to consumer channels and I deal with the direct to consumer part of the business, specifically our team is responsible for any digital experiences that are in our LEGO branded retail stores that means the stores that we own and operate. We also have what's called LEGO Certified stores, which are operated as a franchise for third parties. I don't deal much with them specifically at the moment. Our team has, as I said, any digital experience in our stores that is not something that we sell. Anything like passive video screens for marketing content, we don't touch those, but anything that's interactive and by products we don't sell. So we do have the ability in our stores to design your own minifigure and have it printed for you. That's an experience that you buy, so you pay for the minifigure and then you go and design it, but anything in between that's just there to engage, create buzz, information like find the right kind of gift on the screen or whatever those kinds of experiences that are digital. My team is responsible for those. I managed to, you know, mainly the strategic work in, in the team, making sure that we're aligned with the right strategic initiatives. Also from the top down, but also from the bottom. What challenges are we hearing in the stores from the store associates? What are the needs of the shoppers so people that come and buy and consumers that mainly be the kids that consume our products. What do they want in the LEGO store? What are they missing out on and for my job is of course to match those two with each other. It is something and come up with something that's both viable, desirable and feasible at the same time to do for the business.

0:3:50.820

Interviewer

Is it specific to the store experience only for you or do you interact with other digital transformation initiatives? LEGO builder app that say or LEGO Ideas or something more internal in terms of updating the processes and automation of some processes internally.

0:4:8.850

Interviewee #5

Digital transformation is a big thing, it's a companywide initiative. Just by the fact that I exist as a person in the company is a major step in the digital transformation. So to go back a few steps, LEGO as a group has invested billions now in digital transformation, mainly with the aim of becoming what is in LEGO terms called product lead outside LEGO Group product lead means something different, that's like a growth strategy for usually B2B startups, but it's another way of saying that we're product driven to some extent and that's of course, a huge investment in the business moving from waterfall projects, project thinking and focus on forecasting output based planning to then having to work on agile development, that's something that I represent because of my role and having done so in other companies bring those capabilities in from like LEGO will never be a startup but how do you at least take some of the DNA from entrepreneurship and put it into the business? And I need to add that I as a specific individual specialized mainly in zero to one products, from scratch to the first couple of versions. So when we're talking more like a project's been alive for a long time and you just made me tweak, this is usually not something that I would be involved with. So I can't speak to that part. So back to the more specific of the question. Yes, we do work with other teams. I can't necessarily say what we're working on with them, but we do collaborate and it's usually because they find themselves working in a silo and they find themselves unable to test things that they would like to test before it's the real deal. So currently most of my work is not so much internal. It's mainly being on a roadshow talking with other teams, understanding where they're at and where they need some of the capabilities that we're working on, can't speak much to it, but we're working on how do you take a part of the organization that's usually been driven by projects and external vendors either to design and come up with experiences and or to deliver them and or to maintain them and bring these capabilities back in house so that we can ensure there's the proper guardrails in place, the proper analytics, the proper security, the standardized platforms, standardized tech, all those things. So my job is in large part making sure that we have a strategy for bringing things in House and working with it in House going forward. Majority of the experience at least. So when I meet with all the teams, they usually say ohh you have these cool things you want to put into the store or this campaign you want to do. OK, awesome, you can't do it because you're not allowed to work with a vendor anymore. OK, well I'm here now and we can start talking about moving forward how you'd like to do that thing. Actually, we're working on some tech that might be related to you. So I'm currently building up all the potential business cases with all the teams where they want what I have. We have found ourselves now in a situation where the realization that my customers are not the users in the store, store associates and the customers, the clients, the buyer stuff, but to a large extent my job is to enable all the teams. And if you're familiar with the lean methodology, the lean startup, the ability to go through the product discovery loop and test your hypothesis rapidly, that's part of what I'm trying to do. I keep telling people that I'm here to build a betting machine that takes ideas in and gets them and scales up the ones that work, I don't care much about what exactly we're building, more that we validate the right opportunities and test the solutions that we have in place early and often and that's half the work, just educating people on what it means to work this kind of way. It's very rare that I really talk about the nitty gritty stuff about what we're doing in that sense because my team represents something new that most of my stakeholders like, whoa, whoa, whoa. Can we even do this? As a short example, the other week we tested one of our newer experiences in the store for the first time, and normally this would take many, many months, many, many meetings and approvals and yada yada yada to get to do a test and usually you would do the test once you find finalize your entire project and you pilot then you put it in big shebang. Fireworks. Will it work? We decided we didn't want to do

that, so we literally just took the prototype we have in the office like put together duct tape and whatever, put in a cab and managed to get a fast track approval high up in the business to say listen, we need to test this urgently. There's no risk, staff hasn't to do it. We're going to come in before the peak holiday season. We're going to do this thing for X amount of hours. Would you please approve this and just approve that thing and go to the store and talk with the staff and showcasing that it's not dangerous to do new digital transformation work where you involve your colleagues, you involve the staff you working for instead of just, you know feeding them what you want them to do? That's a lot more value because everyone's suddenly feeling co-ownership of what they're doing. And they feel a certain level of respect, trust and autonomy. And if you don't have trust, which comes from transparency authenticity, being vulnerable with what you're doing, you're never going to have success. For me, half of what I'm doing right now is just showcasing all of these little activities as part of digital transformation that are just vital. It doesn't mean that the user research we did, whether that's invalidated or not. Of course, that's important, but half of it just going out and doing it, the results almost don't matter, just the fact you did it. That's kind of the state that we're in. And I will add before I stop that LEGO as an overall group when we talk transformation is in terms of maturity is on a broad scale. So the part of the company that I sit in is the most evolved product organization within the LEGO Group by far because we have all the lego.com, all the digital shops, all those things that you can find in a lot of other companies. So most other teams in other parts of the organization will look to us and say, OK, they do it this way where the rest of organization, they might have product owners and they know what scrum is and yadda yadda yadda, but they're more delivery focused like, here's the menu of things we want you to build. Tell us when it's ready. Where in my case it's. Can we have this crazy uncertain business problem? You tell us what to do. That's a different kind of maturity in the organization. So I see the day-to-day a lot.

0:11:25.210

Interviewer

I have so many questions to ask based on what you already mentioned. You mentioned the DNA of entrepreneurs, lean startups. I will come to that especially from a business perspective. But if I ask you about some of the examples of digital transformation initiatives.

0:11:47.950

Interviewee #5

The big one is the fact that we have product teams that in itself is probably one of the biggest aspects of before a couple years ago. We didn't have any product management at all then we were just project managers and can imagine that whole legacy organization. Investing heavily in design, investing heavily in engineering and also in research, apart from the product mindset and trying to instill that in everyone which we have done by putting normally you would have engineering design and product usually under the same umbrella, whereas in the LEGO group they have decided good and bad, there's always pros and cons to it, they decide to put product as part of the business and design and engineering as part of the technology group. And that means there's certain information that doesn't flow the way I would like it, but they've done it because they want us product folks to be evangelists. So when we come in, half of my time, I speak with finance, marketing or whomever operations that are not used through the tech world and their view of what is capable and what's not. When you talk with an external vendor and you tell them that you want something, they will always deliver it in three or four months. But if you know the project triangle you have certain leverage you can pull, you can only pull 2 out of three at one time. Vendors like to tell you they can do all three, and usually you find out after the fact that they cut cost on security or

they cut cost on something else and then you're in a heap of trouble. It's really a lot of those two things, understanding of what a product is, understanding agile ways of working and being data informed which is a big part of the digital transformation. Being data informed or data driven as they say I will call the evidence informed is not just about quantitative data and having lots of reports and numbers and whatnot because it's like a fake sense of comfort but a lot of the business they calls for will say what are the numbers, if you work on a zero to 1 product you have no numbers, you have to kind of find proxies for those. So there's a lot of work in relaying how you make bets under extreme uncertainty about the future when you can't predict it and forecast it because we don't want to tell people a lie. So those 3 aspects I think are the three I would highlight from a digital transformation perspective that I'm at least involved in. I'm sure there's a lot of other things going on in manufacturing and whatnot, but I don't know about it.

0:14:44.680

Interviewer

In terms of something tangible like we had one example you mentioned, you can get your figure printed right in the store. Can you give some examples? Just to clarify one thing, when we say digital transformation, we do not necessarily mean the processes on the back end, but also the digital products that you have.

0:15:25.850

Interviewee #5

I'm not involved with product development in the sense of what we worked on. My job is to facilitate sales of boxes, honestly. So of course I do know things about what we worked on in terms of digital transformation, but I'm not at liberty to discuss it in this context.

0:15:47.970

Interviewer

Fair enough. Maybe we can go back to entrepreneurship and lean startup. Why are you trying to do that in a big company why startup, why DNA of an entrepreneur? And while you do that, what are the challenges that you face? You mentioned some of them already, but if you want to list down top three reasons and top three challenges.

0:16:16.890

Interviewee #5

Yeah. Now of course, I speak for myself and I'm an engineer by trait from the Technical University of Denmark, and when I studied that's about a little over a decade ago, Lean Startup was just coming out at the time. So that was kind of like the Bible for a lot of folks. I want to build businesses. I have worked quite extensively with it and LEGO will never be a startup. I think that's pretty given. Eric Ries, the founder of Lean startup, wrote a book a couple years ago called Startup Way. And he argues in that book that what is missing in modern corporations to be a modern benevolent company is an internal entrepreneurial function. That is not necessarily the same as product management, but has some form of overlay and I do see myself and my team a little bit in that role. We're very small team in a big machine and we're working on something completely from scratch under a lot of uncertainty. So for this specific thing I'm working on, this is the right kind of mindset. So I spent a lot of time teaching that to my colleagues outside of my specific group.

And there's more to it than lean startup, product discovery is a whole field on itself. You have people like Teresa Torres, who re-popularized this idea of opportunity solution trees, so a lot of what I'm taking from all these, all these and books and ways of working is really the key point here is that in order to be good at digital work, you have to trust that you can come up with whatever solution that's not the problem. We have the best people in the world. We can come up with anything that's not the issue. The issue is finding the right thing to work on. So product discovery and what is largely called sort of assessing your opportunity landscape that's suddenly becomes key.

So I do have a very strategic focus whenever I do something because most of what we're doing here for us at least in the context of what I'm doing is changing ways of working to support the needs of a changing market. So when we talk about digital expectations from customers today going to retail stores that have moved a lot since COVID, what do they want? And it's less about coming into a store filled with boxes and more about coming into a, I hate to say like not, it's not like a Pokémon Center, but like a brand, like a shop that you go to experience that universe and get actively involved with in a way that you can't do in a web store. Then how do you translate some of those larger visionary items into actual needs that we can dive into that we can solve this specific challenge around. Let's say finding the perfect gift in the store, or whatever it might be like. The journey usually customers have a job to be done. Again, going back to lean, you know most people, they don't buy a product because they want the product, they buy the product because they want something else. So like if you buy a power drill, you don't buy the drill to make a hole you know you're buying because you want to have a photo on the wall and you can't do it any other way.

0:19:27.680

Interviewer

So if we talk a little bit about the business side of it and let's say if you use a reference of business model canvas, the initiatives that you are engaged in for digital transformation, how are they affecting or changing the business model or is there any specific part within business model canvas that are more affected by those initiatives?

0:19:56.180

Interviewee #5

Good question, I guess it's one of those situations as you move along your career. Early on I would use the business model canvas, as an example, a lot to fill out the framework and go through the framework. But then again, after 5-10 years you slowly get to have an intuitive understanding of. OK, here's the line. What I will say is that I do a lot of storyboarding actually which is a little bit of a mix of all these different techniques. But I will pull in a canvas if I need to or SWOT analysis or opportunity solution tree. But for me and I did a talk internally last week about this like product strategy in practice for me is storytelling. So you need to understand what's the hero's journey for the product or the area, the domain that you sit in and for us it's that we want to create all these cool experience from our customers, but we have this fragmented landscape of IT because imagine 15, 20 years of just building stuff and not retiring things and not having a model for evaluating the life cycle of these experiences because we were just projects. So once you finish the project what happens then with the tech? What happens with the fixtures? What happened with the software? You end up like a graveyard in the end of things that aren't working and someone has to clean it up. So that's kind of what we're going to do now. So you have to understand, OK, where is the company trying to go. So for LEGO to be a digital consumer company or digitally driven

consumer business in 2032. It's like a part of our big brand vision that's been communicated also publicly. And I work backwards from there. So like 10 years into the future, that's when I started. You know that was in 22 and started working backwards. OK, what does that mean in Five years and three years and two years, and what are the things along the way that must be true? If it is to materialize and that becomes sort of the framing of the strategic opportunity and that defines our telling that I'm telling everyone. So when I talk to people that are engineers, they'll have one view of things. But then I talk to someone in marketing like how do I explain to them that they need this, let's say like a new standardized check platform for whatever, they don't care. But I need to tell them a story. Why should they care? Like what's in it for me? So I use storyboarding quite a bit. I use the Northstar framework quite a bit, like how do we even evaluate if something is successful or not? Asking a lot of meta questions these days. What I'm doing is kind of like customer development. If it doesn't resonate, I haven't hit the need that they have as a customer or founder or investor in what I'm doing, and then I have to go back and redo my pitch, come back again like ohh OK is this more like what you care about? And I do that for 7-8 different areas of the business and then need to find commonalities like the Venn diagram where they are all somewhat happy or not too displeased.

0:23:6.860

Interviewer

Steering it a bit towards what we are researching, two other areas are open innovation and dynamic capabilities. Are you aware of these two concepts?

0:23:20.460

Interviewee #5

Yeah, let's talk through them.

0:23:22.460

Interviewer

OK, so open innovation is basically when you take ideas from outside resources or you outsource some of the innovation that you do inside your organization, so how do you get the ideas for what should be done for digital transformation?

0:23:48.720

Interviewee #5

OK, I got it. Up until recently, I'm sure we're still doing it in some capacity because we're only one team, but we have in the past, just within my area of business where we had these. I don't know what they call it today. But this idea where we go out to a series of the best agencies in the world and say, listen, we want to do XYZ, we have this idea about ABC, this might be a big focus for us the coming, how could we make something cool? Give us your best ideas and then they come in. Everyone with their big pitch deck and then imagine 30 different companies just pitching their best wildest ideas and then some folks will sit and select the ones that they prefer. That's been like that in the past and you can argue that's not a very scientific way about going about it because first of all, the people coming up with ideas, what if the brief sent out is the wrong brief? Then you have 30 companies working towards the wrong brief. Second of all the company is making these briefs, they want to look like they're cool and hip, so they're going to throw everything at it to make the wildest thing ever. They come up perhaps with a concept that will cost 10 million or more to implement it. We've done something like this in the past we're like, wow, we went



ahead and spent all this money. Did we test it first? No, not really. So we spent all the money where we could have made some balloons that would have been enough for whatever. There's a lot of things that can go wrong along the way and it's very expensive this way of working. It's not that we don't necessarily use open innovation in the sense of going out and if you want to work with some of the best in the industry of making more like Theme Parkish experiences, well there's one company you want to go to, they're specialists in this area, so we want to go and at least talk with them. But there is a different saying, tell us what we need to know versus if we have this specific problem we need you to help with that. Who controls the narrative and that's what's changing now. But we still use it for sure, but we need to own what we do best strategically speaking going forward.

0:26:3.130

Interviewer

So instead of agencies pitching you, how do you do it now? I couldn't understand that part.

0:26:11.190

Interviewee #5

So now I would say I decide, but the way it works now, basically, uh is that we are.

0:26:19.290

Interviewer

I'm asking about, not the decision part will come later, like how are you going to filter when you have ideas. But like for example in LEGO Ideas, they basically Crowdfund the ideas to get for the design part. So similarly, are there any kind of workshops or some other companies you interact with so that you can get some of their technologies or their ideas or something which then you can use?

0:26:39.760

Interviewee #5

No, not really. I mean, we rely on, of course there will be studies done either in store or whatever around with trends and what's happening overall to set sort of the major trends. But other than that, most of these directions are strategically now internally. Yeah. So as part of our mainly arguably planning or OKR planning or the like.

0:27:11.370 --> 0:27:28.490

Interviewer

How do you manage it in terms of if you see some opportunity, how do you do it? How do you mobilize your resources, how do you get the stakeholders onboard internally? How do you seize that opportunity?

0:27:46.260 --> 0:27:51.950

Interviewee #5

I'm a big fan of opportunity landscaping, so I mentioned before OST, opportunity solution trees. So very briefly just for you to understand the context is usually you set some kind of decided outcome what you as a business would like to achieve. It could be an increase in store conversion whatever you want, and you say based on that business outcome that you want to achieve, what sort of problems do I hypothesize if solved would move the needle on the thing that you would like to move the needle on. So you build up this tree of branches and you branch out into more and more details and you validate that along the way.

Is this actually a problem? Or store associates are missing let's say a digital tool to help them with their sales process. Let's dig into that. Let's try to break it down until you get further far enough down into the tree that you could start testing assumptions, so. OK, assume if this, this and this in place this will help them get better and from there on out you can start looking into the actual solutions that's sort of the approach that my team and I work on there. There's other teams that work in a different way, and usually it all ties back into larger strategic outcomes that boil down into what can we achieve now and what is for us to achieve later.

I might actually have an example of how I work with all this in a non-confidential manner. So just give me a moment. I might have a Miro board that I can pull up. I can just quickly find it might be helpful to you if you want to see an actual example of this in progress. If I can find it, it's always a little bit tricky. We have a lot of boards. I don't know if you also use Miro, but I couldn't say. But when you have thousands of boards then it is always difficult to find the one you need. But I would say we'll probably be helpful for you to see this. So yeah, here we go. OK, let me share my screen. Let me find the right one. Can you see? Uh this board here.

So this is actually what I presented during my interview process. So this is like a public case. So nothing secret in here, but this is like a very glamorous example of how I may use it if you work, maybe not in such beautiful detail because you know this is one for an interview. But some kind of business analysis about the top level, what are we doing? Qualitative work on what our customers are actually saying. Get some real meta-data on the why. In this specific case I was talking about in store capabilities. I can't remember the actual details, it doesn't really matter. The thing is, I took a specific case, one of our products and then I built this all around. So what I normally do to assess opportunities is to make sure that the strategic context is in place. Everything I know about the company where we want to be, what's the vision? What's the mission we have? What's the goal? So be a digital consumer goods company by 2032 and then going into OK what are the sub areas of the business now? I know that I was applying for shopper. I came up with some hypothesized, OKRs and goals, doubling some sales and then how might we be able to do those based on what I learned and then picked random a couple of different goals subgoals to then say OK, let's build an opportunity around ensuring that 4% of shoppers by personalized product on lego.com and then 1/3 of our customers to visit the store will have minimum basket size to €25. When it comes to personalized goods, again, all fantasy examples, this has nothing to do with real life. And then you kind of go through the hierarchy of opportunities like as a customer, I'd like to personalize at my own convenience. That can mean a lot of stuff. It can mean whenever you want to, you want to do it on your own device instead of doing at the store. So we'll go down the tree. I want to use my own computer to do it. Cool so one solution here for a personalized product is based on this minifigure factory, where you can design your minifigure, we should have a web based version of a minifigure factory. All right. How do I go and assess it? What are the assumptions they need to be in place? Well, you have to be able to easily convert the current app to a web app, vendor agreement, yadda yadda yadda, you can test all of these and the way you test those is of course that you write a brief opportunity one page with what is the problem? Why is it important? What business object to start it? Does it support and then you can go through your discovery, you learn process if you will and do a design and then you roadmap all this stuff out and that's maybe not as interesting but that's sort of the high level approach I have. If not in a board like this, I will have it mentally when I go through the work that I do.

0:33:33.730 --> 0:33:52.360

Interviewer

Thank you for sharing this, it's very detailed and it's more about brainstorming and theoretical validation of what could be the possible products or solutions that are based on business cases?

0:33:52.150 --> 0:33:56.910

Interviewee #5

I don't care much about the solution itself at all at this point in time. Mostly, I say mostly I don't care as a product manager I know it sounds wild, but I don't really care much about how we solve it. That's really my team. That figures that out with my support. For me, it's really.

0:34:8.970 --> 0:34:13.740

Interviewer

So you are more on the what and why part of it like what do you want to build and why do you want to build?

0:34:14.360 --> 0:34:17.70

Interviewee #5

The why first and foremost, and then maybe some of the what? If you have the solution opportunity space, I will always be in sort of the problem opportunity space like 80% of the time.

0:34:25.300 --> 0:34:27.830

Interviewer

But then, who cares about the how part? For example, in terms of internally you have something and now you have to get it done. Do you have resources inside your department, your team? You need more resources from outside. Who manages and how do you manage it?

0:34:36.120 --> 0:34:50.810

Interviewee #5

My product team follows the modern constellation for product teams, which is that we have a product trio with myself, our designer and our leading engineer taking also our engineer manager. We sit as a tight group that are responsible for setting the direction. What are we putting into discovery? What are we going to put into delivery? These two different swim lanes that kind of go parallel to each other. So you deliver on one track and you have your discovery running underneath, feeding your delivery train. So the three and four of us, more or less the little mastermind of the group. And we'll do most of the communications with stakeholders, adjusting what we learned and go to the various meetings and then the wider team is mainly engineers that didn't work on this. That's how we plan most of our work as the one unit so it's not me who will tell them what to do. Of course, when I say how I don't care as such. I mean, I have opinions, but it's up to my team, my engineers and designers to go with the context. I think in order to provide enough autonomy and self-driven ambition and empowerment in a modern product team, you need to be able to trust and put that away. So if I sit and start micromanaging what I would like, the dynamic very quickly changes to something that I had learned is not good.

0:36:2.930 --> 0:36:15.710

Interviewer

Do you have to restructure your team? In some use cases you might need resources from other teams or you have to merge to teams or something like that. Do you have to do that?

0:36:16.790 --> 0:36:17.660

Interviewee #5

I work with other teams all the time, so our team, for example, we're building a hardware fixture, a real thing needs to go into the store we are software team we have no idea what we're doing, but we did go ahead and like figure out what kind of components should go in there and we hacked together our own prototype with literally duct tape and put a camera and put a thing here and put that thing and then we work with someone else who's whole specialties is to build and design these kind of fixtures.

0:36:44.440 --> 0:36:48.560

Interviewer

So you engage other teams on an ad hoc basis depending on your need?

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Interviewee #5

Yeah. You can imagine that we kind of extend our product team to involve specific folks for a limited time and once they're done with their part merge out again and then we keep a centralized communication hub internally where we can then chat and then we will do check-ins and whatnot. LEGO did employ quite a few what they call working groups that span multiple problems and products and domains. Usually the working groups will be led by a program manager and not a product manager. Because now we're talking about a project with a lot of stakeholders. We have multiple of those going on in any given time and I'm currently involved in one working group.

0:37:34.410 --> 0:37:39.810

Interviewer

Does it also influence on a strategy level sometimes when you work like that? Do you make a long term transformation of your resources or your capabilities?

0:38:1.420 --> 0:38:3.270

Interviewee #5

I try to keep my governance group, I have a governance group or governance board. You can think about it as a board directors or investor group. They're the one funding our team. They will care about these things so if we have staffing issues we'll bring it up. We started with a big team, let some people go to other teams because we didn't have enough work for them initially because LEGO like to overstaff a little bit, so we had a big team like wait we need three people, why do we have 12 people? That's too much. And then scale down. Now we're in the situation where we kind of need those folks back, but now they've been earmarked for somewhere else and they don't exist anymore. So then you have to kind of get creative and say alright, well, we can see that we might need someone coming in next year and then you need to work the managers I don't really do any of this because it is mainly engineering resources and I don't sit in the engineering department. So it's my engineering manager who does most of this work, but I will flag it of course to say, well, we are just less likely that we'll reach this deadline because we have 1 1/2 engineer available like I can't plan more work than what we have. But we're such a young team working under the radar. I'm not saying we're like a special Unicorn. Anything like this? But we have a

little more wiggle room perhaps than some other teams that are more set because we're not business critical in the same sense yet.

0:39:28.960 --> 0:39:32.30

Interviewer

So resources that you need are often on the engineering side of it?

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Interviewee #5

Yes. And then research, that's the other one that's hard to get access to, cause our service designers and user researchers are constantly being asked for assistance. But we're hiring in that area of the business. So my designer and myself do take on a lot of the research work. At least planning and carrying on. Then we'll meet with a researcher to validate. Are we asking questions the right way or whatnot but hard for us to get the resources or capabilities we need?

0:40:6.220 --> 0:40:9.650

Interviewer

So is this research about sourcing of ideas or not?

0:40:13.160 --> 0:40:20.770

Interviewee #5

No, user research and user testing, we have plenty of teams that will do big research decks with hundreds of slides and all that kind of stuff. And although they're great, they don't tell you much about why something is happening. And for a product like ours, like I've funded companies from zero to one and getting to that early, product market fit data is not as important as talking to real people and understanding what they're saying. I get more out of talking to 5-6 guests coming in and sitting with us in the room, then me looking at a big PowerPoint with a bunch of slides. It can inform your hunch, but it's not the same as sitting down with a family and having them try it with their kids. The thing you're doing and like, wait, this doesn't make any sense at all. What are we doing here? I find that quality is more important.

0:41:3.720 --> 0:41:11.650

Interviewer

When you said that it's not more important, you basically mean by quantitative data because the interviews itself is a data, but like a qualitative?

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Interviewee #5

Yeah. For me, I'd like to be evidence informed. For me that's like a mix of market research, qualitative data, we have numbers. In our stores we have very few numbers because again historically our technology has been quite blind. So we don't have the same level of data rigger as we do online and half the challenge right now in the digital transformation is explaining to your stakeholders that you can't set the same requirements because we don't have the collection mechanism in place to give you the rigorous answer that you would like. So anything I'll tell you would likely be fake and you shouldn't use it for anything. And then you have to explain why they can't use it.

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Interviewer

You mentioned that there is a board which makes decisions, is that board specific to your team or is it for multiple teams and then they make this strategy for transformation of your team or resources?

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Interviewee #5

They don't make the strategy. I do that myself. I mean, of course on a higher level, they'll set the overall frame for a year. So every year we'll have portfolio objectives in line with usually a 3 year plan. So LEGO plans everything in three year increments up to big milestones, so the next one is for 25. Plan 25 is what we're working towards. So we'll know the larger framing and normally year to year it wouldn't change much. So the portfolio level that you're contributing to they will set some of the larger things, but I being a senior PM and also coming from funding my own companies and stuff like this, I tend to be very heavy on the strategy stuff and like to do things on my own. I don't like to be told what to do, so it's mainly for me going up and saying here is what I found out. This is what we're looking at. This is the direction we want to go, this is how we want to evaluate it and then ask them for guidance and then you can have maybe a challenging conversation about what this means. But yeah, early in my career it would be more of the thing. Go build this feature. I don't get that anymore. It's more of an unclear, uncertain business problem, figure out how to solve it, and then it's my job to tell them what to do, because if they knew the strategy already, they wouldn't really need me to do anything. But in other teams it will be very different. They'll be told you have to build these next four payment integrations because we're launching in these markets. You have to get it ready in three months. That's a different kind of product team. Which is why it's so difficult to do because the product is so wide spanning.

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Interviewer

Is there any comment or anything that you would like to mention in context of all the conversation that we had.

0:44:7.400 --> 0:44:9.520

Interviewee #5

A large part of this is cultural, now it's my first time in a big corporate environment coming back after many years from startup world like 5-10 people. You have a very tight ship and you all know each other and you come in here and what works in the startup doesn't necessarily work here, at least for me, it was a year of making a lot of mistakes, making some people unhappy by just being this elephant in the room. Just coming in and trying things out. I find that whatever you're trying to do, whether it's digital transformation or digital products at the end of the day, this is about people and about trust and it doesn't matter what the framework is or whether you use the framework correctly or this method or that method. After 10 years in product, it all depends. That's the one answer all the time, it all depends. It is also context specific so what you end up building is really seeing something before the pattern recognition and the intuitive sense. I came in after one month and I knew exactly what we were supposed to do. It took me a year to provide all the evidence so that my board of governance tell me you should go do that thing like, yeah, I told you a year ago. But now you're ready to tell me to do it or agree with it. So there's a lot of patience and understanding that you know you're teaching people something that's difficult. And if it challenges their worldview, which it often does, I've done digital transformation before in other

companies. If someone's been there for 10 years or more in the service business or project business and they get told something different from some blonde young guy with his MacBook from Copenhagen, imagine people from Billund. We had a meeting where we sat, our team with these folks we are taking over, which is like men in their late 40s start 50s with Dell computer, been in the company for the whole life and whatever. And we're here to tell them that we're taking over. You can imagine how that meeting went. Not that great. And then building from that and then finding those small victories, it's trust, it's being vulnerable, it's being transparent. Those are the things that if you want to be successful in doing this is way more important than whether you do. Let's say how you get your ideas. Like all of those are very technical elements, but at the end of the day, it's like, are you moving the business forward towards outcome or not? That's what matters and if that means me dancing and showing explaining and hosting campfire sessions on something a little bit unrelated, that's the thing we need to do because it's mainly about my team knows exactly what to do. It's mainly about controlling everything around them. That's the hard part to deal with, and that might sometimes get lost and it got lost me early in my career as well and after now 10 years like, yeah, OK, the book is great and I've read all the books, but it's not where I can do it by the book that matters, it is where I can get my thing achieved or not? That matters. That means sometimes starting to cut corners and not using the canvas the way it was intended or whatever. No one cares that you use the framework right if you use it on the wrong problem. So I think that's just something to be mindful of.

0:47:31.170 --> 0:47:31.840

Interviewer

Thank you so much. That was really profound in the end.

0:47:34.830 --> 0:47:35.440

Interviewee #5

I hope so.