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Research on Dynamic Adaptation and Path Optimization of LEGO Company's Development Strategy Based on SWOT

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Abstract. In recent years, the rapid development of high-tech industries has made them a trendsetter across various sectors. Beneath this prosperity, however, some traditional manufacturing industries face numerous challenges. Taking LEGO, the world's largest building block manufacturer, as an example, this study analyzes its unique development strategies, external environment, and internal resources through the SWOT model. The investigation indicates that LEGO benefits from several key strengths: superior raw materials, precision manufacturing, robust product development, considerable customer allegiance, substantial brand awareness and impact, and efficient marketing tactics. However, the company also faces weaknesses, such as being easily imitated. Digital entertainment methods like video games, social media, and short videos have captured the attention of children and teenagers, significantly reducing the appeal of traditional building blocks. Environmental regulations and consumer demand for sustainable products are driving LEGO to reform its materials and production processes. As LEGO gains unprecedented attention in 2025, while winning sales battles through traffic-driven marketing to secure a position in fierce competition, formulating long-term development strategies will also provide valuable insights for its future growth.

Keywords: LEGO, Building block toys, Development strategies

1. Introduction

The Danish toy industry traces its origins to the late 19th century. Following World War II, as peace returned to the world, people discovered the immense potential of this sector. Ole Kirk Christianse, inventor of LEGO, leveraged his exceptional craftsmanship and passion to create toys that became wildly popular. In 1934, he designed the iconic LEGO trademark for his building blocks. LEGO's ascent, fueled by sustained innovation and strategic development over several decades, has culminated in its recognition as a Fortune Global 500 corporation, securing the 313th position in 2020, with projections forecasting a climb into the top 100, specifically to the 96th rank, by 2025. Today, the number of LEGO toys reaches 80-90 million children globally yearly, while over 10 million adults purchase their own sets. However, no industry can remain invincible forever. With technological advancements, the global toy market has evolved beyond its primitive stage. Innovative board games continue to emerge, while various toy categories undergo constant refinement. The market thrives like never before, yet competition remains fierce as the industry

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expands. The toy industry must develop efficient and practical market development strategies to maintain a stable position in the highly competitive market environment. LEGO enjoys strong consumer enthusiasm as a leading brand in the global toy industry. This paper employs the SWOT analysis model to examine challenges in LEGO's corporate development process, enabling timely adjustments to its strategies to solidify its dominant position in the consumer market.

2. Advantages of LEGO

2.1. Brand effect

LEGO is not only one of the world's earliest toy companies, having secured a significant market share and gained widespread recognition, but it also enjoys a strong brand reputation for its exquisite craftsmanship and superior quality. Under Niels Christiansen's guidance, LEGO has steadfastly pursued its central tenet of "inspiring and developing future builders" in recent years, committing to "delivering the delight of construction to children globally via imaginative play and educational opportunities."LEGO stimulates children's imagination and creativity, encourages free thinking and out-of-the-box thinking, emphasizes hands-on practice, building, and innovation processes, while equipping them with lifelong skills through these activities. The integration of LEGO robotics education into school IT curricula has become a new course for cultivating primary school students 'innovative literacy. By fully leveraging LEGO robotics education's advantages in fostering innovation capabilities and strengthening the integration of other subjects with LEGO programming instruction, it not only ignites students 'learning interest but also cultivates their interdisciplinary innovative literacy [1]. LEGO's profound educational significance and long-term stable development have earned widespread recognition from society, gaining high acclaim from consumers and industry experts. This bolsters the firm's brand identity, progressively augmenting its trustworthiness with consumers, thereby amplifying customer allegiance and refining business outcomes [2]. According to LEGO's 2021 annual financial report, the brand invested 4.237 billion yuan in IP collaborations throughout the year, achieving revenues of 52.293 billion yuan (a 27% year-on-year increase) and net profits reaching 12.577 billion yuan. According to the 2022 Future Brand Value Ranking in FMCG and Fresh Food Fields jointly released by JD Supermarket and JD Consumption and Industry Research Institute (2022), data show that LEGO is the most popular toy product among consumers [3].

2.2. Remarkable breakthroughs in self-developed gaming capabilities

The company invested 120 million euros to build a proprietary "building block algorithm engine," with its internal development team expanding by 300% over three years and planning to launch its first self-developed IP game by the end of 2025. LEGO's collaboration with Epic Games on LEGO Fortnite attracted 87 million players, validating the feasibility of hybrid "physical-action digital" gameplay and bringing massive traffic to LEGO. LEGO has also made significant progress in product innovation. The complete set of constituent elements is intentionally engineered to integrate with the proprietary convex coupling system established in 1958, thereby fostering sustained platform dependence via a comprehensive repository of over 3,600 discrete components. This allows users to still build and play with new products using their existing old blocks, maximizing the potential of building blocks.

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2.3. Building IP

LEGO has established deep partnerships with iconic IPs like Star Wars and Harry Potter through its IP dual-track system, developing open-world games like The Legend of Skywalker that faithfully recreate Hogwarts. While collaborating with popular franchises, the company has also created original IPs, including Phantom Ninja and Monkey King, effectively reducing reliance on copyright risks. Notably, LEGO has introduced AR interactive sets based on Super Mario and Sonic, allowing users to trigger storylines by scanning physical models, extending narrative spaces and achieving human-machine synergy—a significant advancement in LEGO's product development.

2.4. LEGO: taking off the label that building blocks are only for young children

When targeting younger children, LEGO developed Brucado Granules with dynamic structures designed to match children's hand development, while STEM certification fulfilled their essential educational needs.In 2024, the adult market witnessed the LEGO Group's strategic pivot towards sophisticated, 18+ mechanical sets, exemplified by Lamborghini-inspired models. These offerings, designed to meet the stress-reduction needs of adult collectors, propelled the adult product line to become the fastest-expanding segment within the company's portfolio. Additionally, LEGO launched wheelchair figurines and Braille building blocks to lower accessibility barriers for special needs customers. The "Sun Spider" became the first inclusion of a disabled superhero (fan-created character).

2.5. Environmental conservation

LEGO has achieved significant breakthroughs in environmental protection through its corporate material revolution. The company has implemented sustainable materials for over 1,000 components, including plant-based alternatives like sugarcane polyethene parts and transparent building blocks from recycled PET bottles. In 2024, half of the raw materials procured by LEGO were sustainably sourced. Furthermore, with an annual R&D investment of $150 million, LEGO is poised to introduce e-methanol technology for durable components by 2025, utilizing a conversion process from biowaste. The company has also revolutionized toy packaging by phasing out single-use plastic containers, replacing them with FSC-certified paper bags that reduce plastic waste by 90%.

3. Disadvantages of LEGO

3.1. Over-dependence on external IP

LEGO has progressed in digital integration, yet its self-developed games have consumed over 200 million euros in R&D investment. The company's heavy reliance on external IPs (Star Wars, Disney, Marvel) contrasts sharply with the limited appeal of its original IP portfolio, like "Phantom Ninja" and "City Series". Revenue from IP collaborations, such as LEGO Fortnite, accounts for merely 6% of total revenue. The "LEGO Star Wars" franchise, developed through partnerships with Warner Bros., has also incurred losses. The absence of a proprietary platform, compounded by the restricted capabilities of the official LEGO Builder application, engenders diminished social interaction and engagement. According to its 2024 financial report, ROI fell short of expectations. Beyond slow digital transformation, LEGO faces controversies over user data governance. The EU's Digital

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Services Act has subjected its children's social app LEGO Life to data compliance reviews, with annual compliance costs skyrocketing to 30 million euros—a significant financial burden for LEGO.

3.2. Overvaluation

As premium building block toys, LEGO commands higher prices than competitors like Mattel and Hasbro. Their prices have continued to rise in recent years, leading to the loss of customers beyond loyal fans and making it particularly challenging to penetrate developing markets. Local budget-friendly brands such as Bangbao and Brucor are more competitive in price-sensitive regions like Asia and Latin America. Moreover, high-end complex sets like the Taj Mahal cost hundreds of dollars, making them unaffordable for most average households

3.3. Unable to follow the sustainable development concept

In environmental sustainability, LEGO has pledged to fully adopt sustainable materials by 2030, yet its progress remains limited and its eco-friendly image faces public skepticism. The organization is confronted with a trio of salient impediments: (1) A mere 2% of the structural components are currently fabricated from botanical sources, with flagship commodities still contingent on petroleum-derived Acrylonitrile Butadiene Styrene (ABS) – a sluggish technological evolution in material science. (2) The incorporation of environmentally benign substances has modified the haptic properties of the merchandise, possibly influencing the user's tactile interaction. (3) The creation of ecologically sustainable substances has markedly augmented expenditures, engendering considerable fiscal strain for the enterprise while yielding no prompt perceptible advantages.

3.4. Customer engagement is low

LEGO faces a prominent yet challenging issue: Its products' durability and value retention paradoxically hinder new product sales. Due to users' low sensitivity to brand changes, many purchase LEGO items at lower prices through second-hand markets (e.g., classic sets like "Out-of-Print Street View" are frequently traded on eBay and Xianyu). Furthermore, LEGO lacks a closed-loop ecosystem. Although it launched the "Replay" recycling program, its low adoption rate has failed to convert secondary users into brand loyalists effectively.

4. Opportunity of LEGO

4.1. Users' willingness to buy increases with economic development

The global toy market is projected to exceed $150 billion by 2027. LEGO stands to benefit from industry-wide expansion as a leader in premium building blocks. This includes the rising middle class in emerging markets and families in regions like China, India, and Southeast Asia that prioritize children's education, driving demand for educational toys that enhance cognitive development. Additionally, the adult collectables market continues to expandThe increasing demographic of adult LEGO enthusiasts, or "AFOLs," has markedly augmented the sales of intricate set designs. The "Phygital" model holds the potential to enrich user engagement and unlock novel revenue streams for LEGO. LEGO There will be more innovation and development in AR/VR, such as the "LEGO Super Mario" series, which can be expanded to more IP.

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4.2. Science and technology education has become a trend in the future

The global STEAM education market will exceed $100 billion by 2030. As an innovative tool, LSP is a facilitated process designed to engage students in creative problem solving. It has increased student engagement, critical thinking, collaboration and communication skills [4].LEGO Education needs to seize this opportunity to develop further and integrate the scene of toys and learning.

5. Threats of LEGO

5.1. The competition for digital entertainment is getting fiercer

Electronic entertainment such as video games, short videos (TikTok), and social media are capturing the attention of children and teenagers, slowing the growth of the traditional toy market. In addition, Mattel's traditional brands are also competing fiercely with many new low-cost toy brands.

5.2. Household disposable income has fallen, and demand for high-end toys has fallen

Corporate competition has intensified significantly amid economic downturn pressures in the new era. For large conglomerates with massive operations and high management costs, profitability has been severely impacted. Therefore, firms must prioritize cost containment and thoroughly implement cost management principles throughout all operations [5]. In Western markets, the toy growth sector experienced a slowdown in 2023 as some parents turned to second-hand toys or budget brands. In China, weak consumer confidence has challenged LEGO's "high premium" strategy. Financial reports indicate declining sales growth in specific markets during LEGO 2023, with the company acknowledging heightened price sensitivity.

5.3. Global environmental policies are getting tougher

For instance, the EU's "Green Deal" mandates a significant reduction in plastic usage by 2030, with non-compliance facing hefty carbon taxes. LEGO risks compliance crises and brand image damage if it fails to develop suitable eco-friendly alternatives. While LEGO needs to accelerate phasing out petroleum-based materials (ABS), alternative solutions remain underdeveloped.

6. Conclusion

Based on the above analysis, innovation and differentiation strategies are urgent and practical strategies that LEGO should adopt. The innovation strategy requires companies to persistently research and develop newer, more eye-catching products with distinctive brand characteristics and environmental sustainability, aligning with contemporary trends. A differentiation strategy necessitates ingenuity through the provision of distinctive goods and services tailored to fulfill consumer demands. To implement these strategies, LEGO can focus on the following approaches: First, continuously develop new models by combining self-created popular IPs with digitalization or creating TV dramas. Second, persistently conduct market segmentation. Companies should follow product segmentation principles and prioritize consumer groups as core targets to enhance product market share. This involves conducting in-depth research on age, gender, and demographic groups to implement targeted development and precise marketing strategies. This study constructs a research model based on life-oriented observations and theoretical learning. Although the analysis strives for comprehensive consideration, practical limitations remain. For instance, the LEGO factory is too far

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away to conduct on-site inspections, making it difficult to assess its strengths and constraints. Future visits to headquarters could provide deeper insights into LEGO's internal and external advantages and potential threats.

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