

Original Research Article

Digital transformation strategies to combat counterfeiting in luxury brands

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Abstract: Due to the rapid growth of e-commerce, counterfeit transactions have become more common. This article examines Gucci's internal and external environments to understand the impact of counterfeit goods on the brand and explore potential solutions. The analysis highlights significant risks to Gucci's revenue and brand value caused by counterfeits. It further discusses how Gucci's blockchain technology can be utilized to ensure product authenticity and minimize the negative effects of counterfeit goods on its brand value.

Keywords: Digital transformation; Counterfeit goods; Environmental analysis; Blockchain

1. Introduction

Gucci is a famous luxury fashion brand known for its unique designs, high-quality products, and strong reputation. For over 100 years, it has been a symbol of style and exclusivity^[1].

2. Environmental analysis

Gucci operates in a dynamic environment influenced by competitors, suppliers, and customers, which are key elements of an organization's environment^[2]. These factors significantly impact performance, making environmental analysis essential. By analyzing both external and internal factors, Gucci can better understand its current position as well as identify opportunities and threats.

3. External environment

PESTLE analysis is conducted to better understand Gucci's external environment, focusing on external forces that are beyond the company's control.

Table 1. ESTLE analysis of Gucci's external environment.

Political	Some countries have higher import tariffs on luxury goods, making Gucci products more expensive.
Economic	Exchange rates will have a significant impact on Gucci's international trade, impacting revenue. The purchasing power of people is slowly recovering from the pandemic.
Social	People in different regions view counterfeit goods differently, often depending on the strength of local laws protecting brands. Younger customers are becoming very cautious about environmental issues, for instance they will not buy clothing made from mink.
Technological	Technologies like blockchain and QR codes offer opportunities to improve product authentication and traceability. The epidemic has accelerated Gucci's e-commerce growth
Legal	Some countries lack strong laws to protect intellectual property.
Environmental	Some countries have policies to ban the use of mink, crocodile skin, etc.

The Five Forces analysis helps the company to understand whether they are in a competitive market. As **Figure 1** shows, Gucci's strong brand creates high barriers for new competitors because it's hard for them to match Gucci's reputation and resources. The brand allows customers to show off their status with its famous products like clothes and jewelry^[3]. Gucci's double-G logo is a well-known symbol of luxury and exclusivity that's difficult to copy. The company also hires top designers with high salaries to create unique collections, making it even harder for new brands to compete in the luxury market.

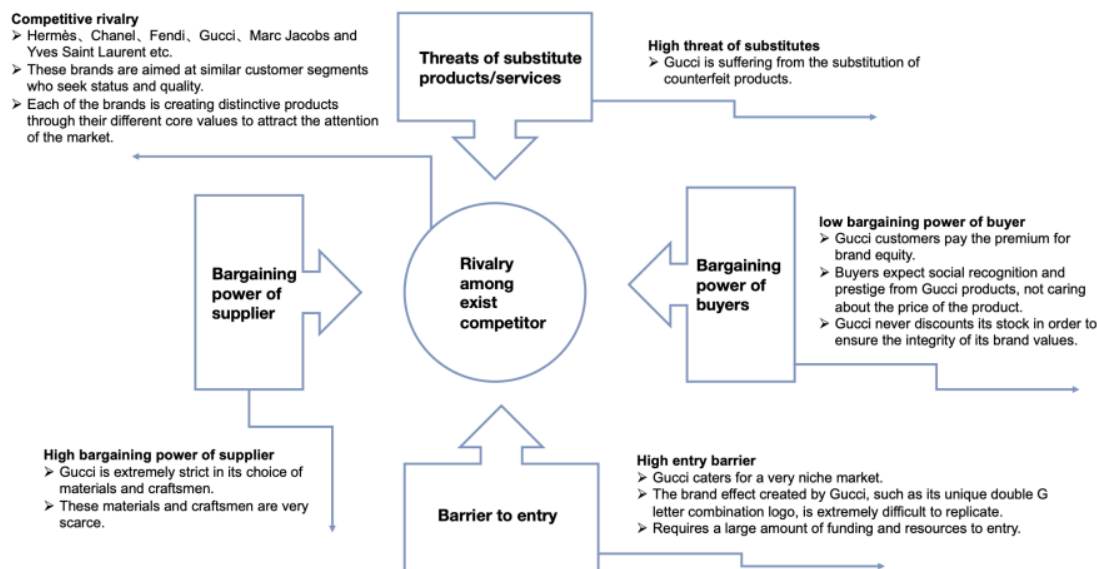


Figure 1. Porter's five forces analysis of Gucci's competitive environment.

Gucci's strong brand makes it hard for customers to negotiate prices. The company sets its prices to keep its products exclusive. People don't just pay for the product—they pay for the status and prestige that come with the Gucci name. Gucci creates luxury items that represent a dream lifestyle^[4], which makes the price non-negotiable. Customers value the social status that owning Gucci products brings. Gucci also avoids offering discounts because lower prices would make the products less special and exclusive.

Gucci competes not only with luxury brands like Hermès, Louis Vuitton, and Fendi but also with fake products, which seriously hurt its revenue. These fake items are usually low quality and sold using Gucci's name without permission. The growth of online shopping, especially during the pandemic, has made it easier for counterfeiters to sell these products. They often use pictures of real Gucci items to make the fakes look genuine. Many buyers can't tell the difference because the fakes look very similar to the real ones.

3.1. Internal environment

According to the VRIO analysis in **Table 2**, Gucci's competitive advantage lies in its strong internal resources, including its brand reputation, innovative design, loyalty program, and skilled craftsmanship. These assets make Gucci an exclusive and distinctive brand, creating significant value for its business and maintaining its position as a leader in the luxury market.

Table 2. VRIO analysis of Gucci's internal resources.

Resource	Value	Rarity	Imitability	Organization
Brand Reputation	Customers are willing to pay premium prices, and attracts customers looking for exclusivity.	Gucci's iconic double-G logo and unique, distinctive designs make its brand rare.	Counterfeiters can copy Gucci's designs superficially, but the brand's rich history, craftsmanship, and exclusivity cannot be imitated.	Gucci actively invests in maintaining its brand value through exclusive, high-end strategies.
Innovative Design	Gucci's unique designs are a key part of its identity, setting it apart from competitors.	Gucci's designs reflect the personal creativity of its talented designers, representing their unique vision and understanding of the brand's heritage.	While Gucci's designs are distinctive, they can be quickly copied by fast fashion brands like H&M and Zara, as well as counterfeiters, making them less exclusive over time.	Gucci supports its innovative designs by employing world-class designers.
Skilled Craftsmanship	The delicate and high-quality craftsmanship directly enhances Gucci's brand value.	The craftsmanship involves specialized expertise that is rare, requiring extensive training and deep knowledge of traditional techniques.	The skills of Gucci's craftsmen are hard to imitate due to the level of precision, expertise, and experience required.	Gucci has preserved these skills through generations, ensuring they are passed down.
Loyalty Program	Gucci's loyalty program builds deeper customer relationships, encourages repeat purchases.	Gucci's loyalty program is tailored to luxury customer expectations	Competitors can imitate a loyalty program.	Gucci implements and manages their loyalty program effectively.

1) Business model

As **Figure 2** shows, Gucci offers exclusive, high-quality products, including handbags, leather goods, clothing, shoes, and jewelry. Its heritage and brand are central to its value proposition, reflecting the innovative and collaborative spirit of the Gucci name^[5]. This heritage enhances the perceived quality and credibility of the brand^[6], encouraging customers to pay premium prices. Additionally, Gucci serves as a symbol of social status. The scarcity and exclusivity of its luxury goods allow customers to showcase their elite status, as owning and wearing Gucci items often signals belonging to a privileged and prestigious social class^[7].

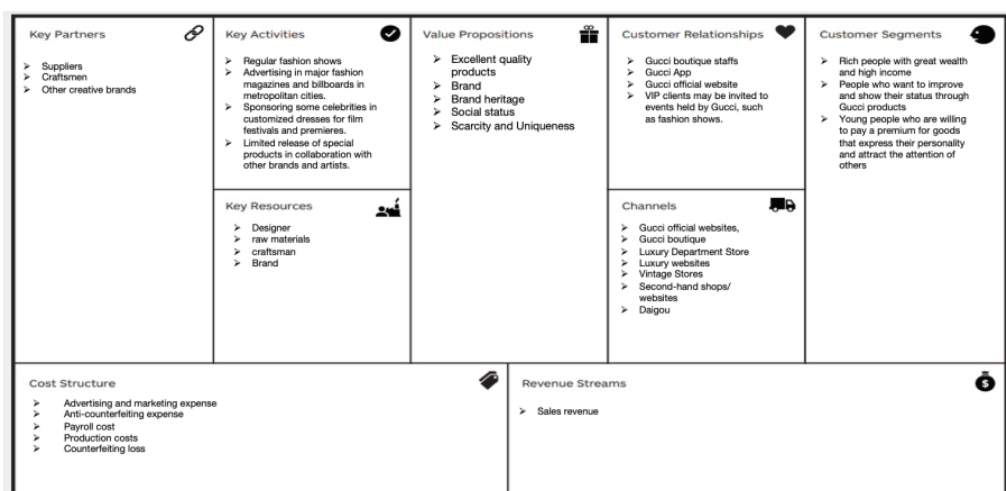


Figure 2. Business model canvas for Gucci.

2) The aura blockchain

According to the internal analysis and business model, Gucci's key strengths lie in its brand exclusivity and skilled craftsmanship, which are central to its luxury identity. However, the external environment analysis highlights that counterfeit goods pose a significant challenge for Gucci. Counterfeits not only threaten Gucci's revenue but also risk damaging its carefully cultivated brand value. To address this issue and safeguard its market position, Gucci must implement effective strategies to combat counterfeiting and protect its exclusivity.

To address the growing threat of counterfeit goods and reinforce its core strengths of brand exclusivity and skilled craftsmanship, Gucci utilizes blockchain technology through the Aura Blockchain Consortium^[8]. This collaborative initiative, launched in 2021 by luxury brands including LVMH, Prada, and Cartier, aims to enhance product authenticity, transparency, and traceability across the luxury industry.

When it comes to product authenticity, each Gucci product is assigned a unique, tamper-proof digital record using blockchain technology. Upon purchasing a Gucci item, customers can access this blockchain record to verify that the product is genuine. This record serves as a digital passport for the item^[9], containing detailed information such as the product's origin, the materials used in its production, and its movement through the supply chain.

Meanwhile, blockchain technology enhances the traceability and transparency of products. Each participant in the blockchain, such as suppliers, is assigned a unique identifier, and every step in the transaction process is recorded on the blockchain (**Figure 3**). This allows for a detailed record of the raw materials used, the producers involved, and the dates of shipping, all of which can be accessed by customers through a digital passport.

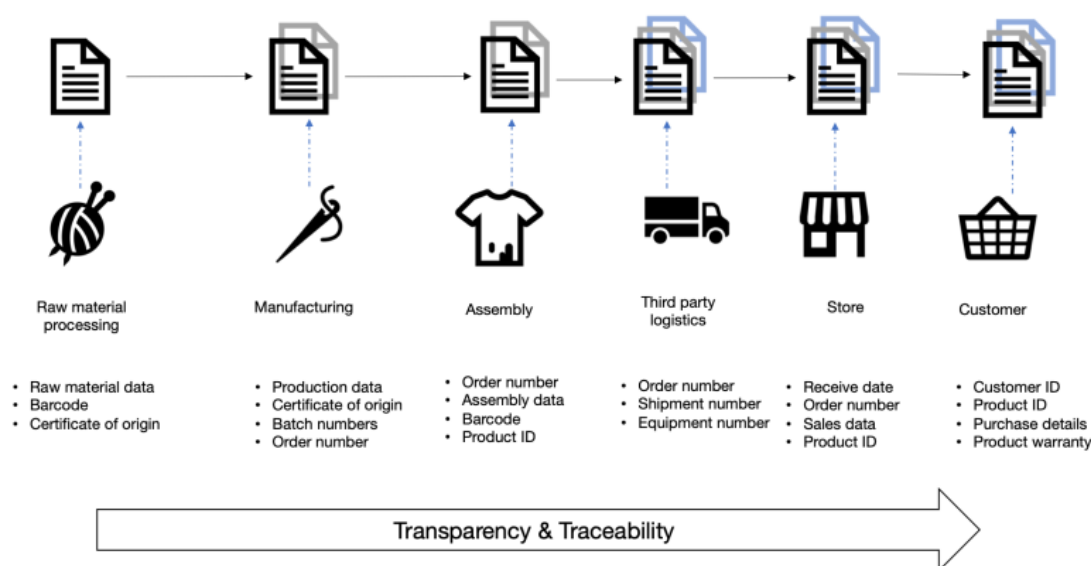


Figure 3. Blockchain-based traceability in Gucci's operations.

Blockchain's decentralized system makes it almost impossible to change or fake data because the same information is stored across the entire network^[10]. This ensures that supply chain data is accurate, transparent, and trustworthy. Gucci uses digital records to make its products more exclusive and unique. When a product's Digital Passport is activated, customers can see its entire journey—from the raw materials used to the manufacturing process and shipping details. This level of transparency allows customers to feel more connected to Gucci's products and enhances exclusivity.

In addition, digital passports can help address the issue of counterfeit goods. When products are resold, the

owner can use the digital passport to prove the product's authenticity and their ownership. The digital passport can also be transferred to the new buyer of second-hand items, ensuring that the authenticity of the goods is maintained throughout the resale process.

4. Conclusions

In conclusion, Gucci's use of blockchain technology through the Aura Blockchain Consortium shows its commitment to protecting its brand's uniqueness, authenticity, and quality in a digital and competitive world. Blockchain fits well with Gucci's business strategy and helps keep it a leader in the luxury market.

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