

Duolingo's Digital Marketing Strategy Based on Gamified Consumer Psychology and Its Effectiveness

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Abstract:

This paper goes through Duolingo's digital marketing strategy from the perspective of gamification. This track is chosen because user retention and engagement have become key challenges for many online learning apps. Therefore, this study aims to analyze how Duolingo has become a leading case under this background. The research is based on a case study approach and secondary data analysis. Through the above method, the paper goes through Duolingo's core strategies, including gamified design, brand identity, and social media marketing. Moreover, this study especially focuses on Duolingo's gamification system and users' needs. Lastly, this research points out several existing limitations of Duolingo's current strategy. Based on these findings, the paper proposes optimization strategies such as deepening practical learning materials and introducing official test preparation content. Overall, this research demonstrates how integrating product design with consumer psychology and digital marketing can create a sustainable cycle of user attraction and retention, offering valuable insights for other mobile learning platforms.

Keywords: User engagement; digital marketing; consumer psychology; mobile learning.

1. Introduction

In recent years, as technology has developed, the online education market has also emerged and rapidly expanded. This totally reshaped people's ways of learning because online platforms have made it more accessible and flexible for most people. Also, as more

online learning platforms emerge in today's market, competition becomes more intense at the same time. Hence, the main issues for each digital platform have become attracting new users, ensuring user retention, and sustaining engagement to become more competitive in the market.

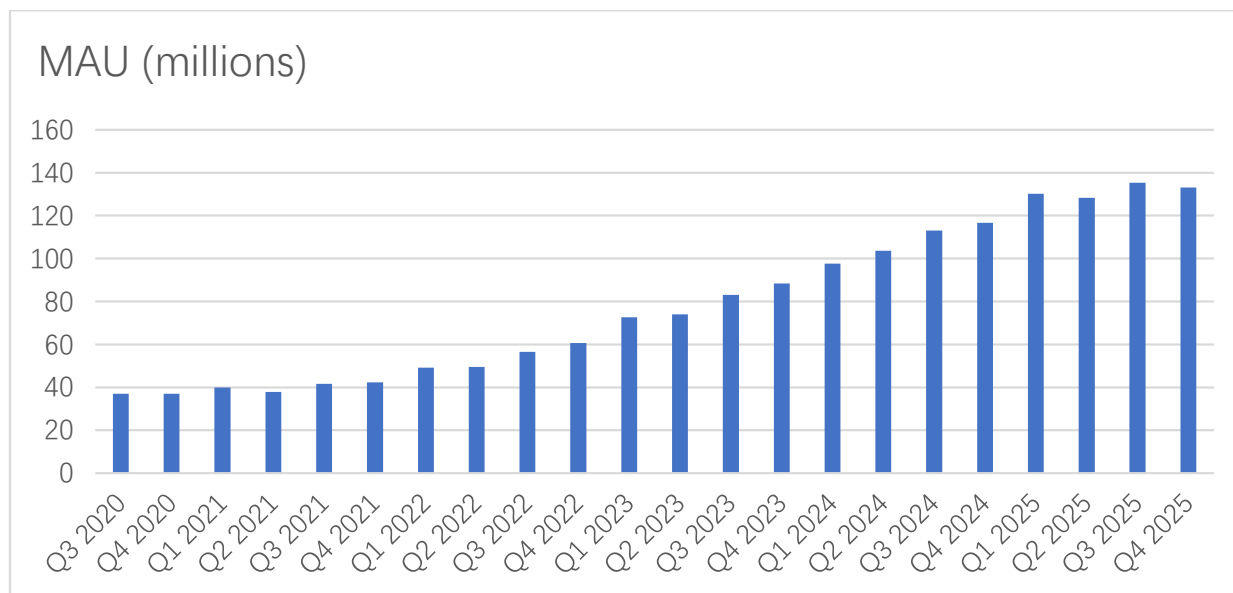


Fig. 1 Monthly Active Users From Q3 2020 to Q4 2025

There is a common phenomenon across educational applications, the “download-abandonment” pattern, which users initially join an app but quickly discontinue use due to declining motivation, lack of engagement, or insufficient perceived value. Yet, Duolingo has become a leading case in the online learning market and has had great achievements in overcoming those difficulties. This claim can be supported by the data shown in Figure 1. Duolingo’s active users have grown significantly over the last five years. The monthly active users have increased from 40 million in 2020 to about 130 million in 2025. The bar chart also shows that there is a constant increasing trend over the last five years. These indicate that the platform has a strong user retention capability. It raises a question of what is the strategies that Duolingo has used to boost its market?

The answer to the question is that Duolingo has a gamified learning process design, which means the learning system is highly game-like and can effectively enhance user engagement. Furthermore, its marketing strategies incentivize the growth of the company.

The Analysis of this will use research methods of case study, data analysis, and theoretical frameworks, such as consumer psychology, gamification, and digital marketing. Through these approaches, overall, this study will analyze the effectiveness of Duolingo’s strategies [1,2]. Additionally, the research will discuss in detail how the gamifica-

tion designs can satisfy users’ psychology and collaborate with digital marketing. At last, the research will reflect the limitations of Duolingo’s current approaches, and it will also make several proposals for improving its current strategies.

Furthermore, this study will provide some new and comprehensive perspectives on Duolingo’s gamification mechanism and market strategies. This will be achieved through combining of examines Duolingo from a digital marketing perspective and integrating consumer psychology, gamification theory, and branding strategies. These will also provide a more comprehensive understanding of how gamified design contributes not only to learning engagement.

2. Brand Overview

Duolingo has emerged as a digital education organization with a specific focus on language learning. Its objective is to make education “free and accessible to everyone”. The profit pattern of the company fits a freemium business model, which means that all users are able to access the core function for free, and the revenue is sourced from subscription service, in-app advertising, and the official Duolingo English Test. The advantage of this pattern is that there are no entry barriers, which allows them to have more users.

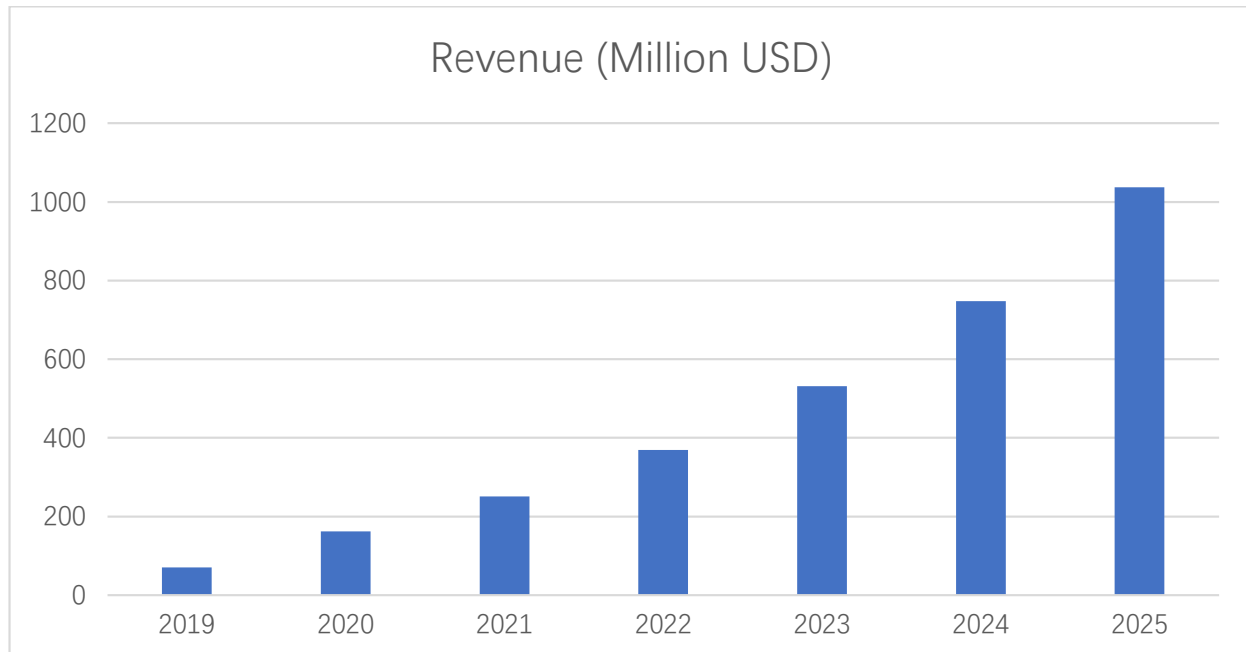


Fig. 2 Yearly Revenue from 2019 to 2025

Duolingo is also a very successful company in the market, which can be observed from both Figure 1 and 2. From Figure 1, the data of active users shows a consistent upward trend. Moving on to Figure 2, it is clear that the platform's revenue has also grown significantly. The total revenue in 2019 was only 70.76, and the revenue grew to 1037.59 by 2025. The increase in revenue is mainly driven by the rise in subscription revenue and the expansion of its test service. The Duolingo has outperform other companies in the market by having one of the largest market shares. This makes Duolingo a leading case in the market. It brings up questions of what the comparative advantage of Duolingo is and how comparative advantages lead to success.

Duolingo positions itself as a gamified learning platform and takes advantage of this feature. It designed the learning process very interactively and entertainingly. The platform uses game mechanics such as points, streaks, and leagues to make learning more entertaining. Game elements are very effective in maintaining the users' motivation and encouraging users' daily engagement. Moreover, the learning mode of Duolingo is highly flexible and personalized, so that each task can be completed in minutes. This pattern can help users to utilize their fragmented time, which perfectly fits in fast phase lifestyle nowadays [3]. As a result, these advantages have made the app a lot more competitive.

Furthermore, the strong brand identity is also a very competitive advantage of Duolingo. To shape its identity, the brand design has a likable, anime-inspired green owl mascot as their logo. The owl has become a widely recognized

character on the internet. Also, its cute visual designs reinforce the brand's self-positioning as a gamified learning platform.

Finally, Duolingo has been very active on social media platforms such as Instagram and TikTok. It has posts very frequently, and all posts have playful and humorous content. This contributes to build up likeable brand identity and make more connections with users. For more, this expands its influence and initiates curious new users to download the app [4]. As a result, the app becomes a cultural and digital brand with significant influence in addition to being a learning app.

3. Market Positioning and Consumer Needs Analysis

To better understand the effectiveness of Duolingo's gamified strategy, it is essential to analyze the market positioning and needs of its target users.

Duolingo positions itself as a highly accessible and engaging substitute to traditional language learning. It sees the rapidly expanding online education and mobile learning market nowadays, and will use its advantages well. Even though it positions itself as a substitute, it still differentiates itself from structural and serious classes and learning platforms. Specifically, it emphasizes users' experiences and convenience [5].

The target customers of Duolingo are young users, self-directed learners, and individuals with fragmented schedules, such as students and full-time working people. These users have issues with not enough time or resources to

fully engage in traditional language education. Now, as mobile technologies allow people to study with their devices anywhere and anytime, these flexible and accessible learning apps fit into users' preferences, and this is the reason that online learning platforms like Duolingo have become increasingly popular [6].

From a functional perspective, the consumer's main need is very simple: learning new languages. However, for most target consumers, self-learners, they automatically struggle with maintaining long-term motivation, since they are learning without external supervision. Different from traditional offline classes, self-learning has issues of a lack of feedback and supervision, which leads to high dropout rates. High dropout rate leads to a low number of active users, and eventually causes low revenue, so user retention is one of the most significant challenges for digital learning platforms. Hence, platforms need to consider consumers' emotional and behavioral needs in their systems [4].

Moreover, the framework of "Job to Be Done" can be used to interpret users' needs and wants [7]. They use it to achieve deeper goals, such as self-improvement, productivity, or a sense of accomplishment than simply "hiring" the app to help learn languages. Therefore, users are actually looking for an approach that is easy to start and continue, and rewarding in the short term [8]. What Duolingo has done is to see these demands and meet them.

Overall, Duolingo's market positioning reflects a deep understanding of contemporary users' needs.

4. Marketing Strategies

Duolingo's marketing strategy is deeply linked to its product design. The characteristics of the platform have become a marketing strategy, which blurs the boundary between product and marketing. Furthermore, Duolingo has done external marketing through social media that enhances its brand identity. Therefore, the user experience itself becomes a primary driver of growth.

4.1 Gamification as a Behavioral and Marketing Mechanism

It is important to fully understand the gamification system for analyzing Duolingo's strategy. First, the gamification brought entertainment value to the app, which helps promote the platform, which further expands the user base. Second, the gamification is important for both its entertaining value and increased user retention and performance [1].

User-wise, gamification works both in the short run and long run. In the short run, the gamification can efficiently attract new users through game designs that include elements like rewards, rules, competition, and progression.

These elements make learning less serious that psychological barrier for new users to enter the platform is lower [2]. Hence, their market share is enlarged by continuing to have new users. In the longer term, Duolingo has several ways to meet users' psychological needs, both emotionally and behavior-wise. The app satisfies emotional needs by providing a great sense of achievement through earning rewards, having streaks, and following progress indicators. Moreover, Duolingo fulfills users' behavioral needs by providing some external motivators, such as daily goals and encouraging notifications. These functions can remind users and prevent them from dropping out. As a result, the app creates a structured environment, which is helpful for some users who are struggling with self-discipline and a lack of motivation. After sustaining users' learning progress, gamification can transfer their Duolingo usage into a daily habit [1]. Eventually, user retention rises.

The entertaining characteristic of gamification also gives it advantages in marketing for sustainable user growth. Fun game-like learning experience makes the app more shareable among users [8]. Moreover, playful design and environment are an outstanding selling point that are helpful in further marketing on social media [9].

To conclude, gamification is a critical sector of Duolingo's marketing strategies. It is also an innovation in the online educational market that redefines learning as more engaging and interactive. In reality, Duolingo has successfully used a gamified strategy to encourage users to stay curious and engaged. Eventually, the growth potential could be obtained.

4.2 Brand Identity and Visual Design

The visual design is a critical factor in helping support its gamified system and building a likeable, joyful identity.

First and foremost, the green owl mascot is the most successful example of Duolingo's visual design. It is a highly recognizable element of the app. What Duolingo has done is differentiate the owl from other logos as it has become a lively figure and interact with customers. For instance, sometimes, the owl icon in the mobile home screen shows unhappy if some users skip practice. This acts as a reminder for users. At the same time, it is also an emotional connection that the owl became a real friend or tutor to the user [10]. Indeed, the emotional owl becomes one of the funniest selling points and provides the brand with a very lively identity.

Other than the owl, Duolingo also has many other well-designed visual effects. For example, they have designed other animated human characters. Each of the characters has its unique characteristics, and these characters would interact with users while learning, for example, they will make different reactions based on their characteristics after users complete a question. This helps users feel more dynamic while learning. Moreover, Duolingo has its inter-

face design with bright color, but all designs are cute and cartoon-like. Hence, they are more visually pleasant but not overwhelming. Therefore, these visual impacts reduce cognitive load by making the user experience much more pleasant [4].

Visual design is a significant contributor to the platform for it to become fun, friendly, and approachable. Today, the owl mascot has become a very strong symbol on this platform that other users can easily recognize and remember. This consistent and distinctive image builds the brand identity and helps it spread more easily on the internet, which will be discussed further below.

4.3 Social Media and Viral Growth

Duolingo's digital marketing strategy is highly effective, mainly focusing on the market of social media.

What Duolingo has done is create humorous and culturally relevant content. This approach not only increases its visibility but also reinforces the brand's identity. More specifically, Duolingo has targeted the short-video market that it made many fun, short videos that follow internet trends on platforms like TikTok. They often use the lovely owl as the main character of those videos. The humorous style and its trendy content increase the chance for videos to go viral. These videos ended up as the most effective advertisement for Duolingo. For more, Duolingo collaborates with celebrities and influencers to further increase its exposure on the internet. The approach on social networks has turned out to have been very effective, with some of the most popular videos achieving more than 10 million views and more than 2 million likes. The reason for its effectiveness is that social media can generate a large amount of exposure, and social media users largely overlap with Duolingo's target customers, people who have fragmented free time. Therefore, this approach gives Duolingo strong popularity on the internet and has gained a stronger potential.

Overall, Duolingo's social media strategy further helps position itself as an entertainment-driven brand. It has adapted to the current internet environment both by gamification and by creating trendy content on popular social platforms.

5. Strategy Optimization

Duolingo has indeed achieved significant growth over the last five years, but future limits and challenges cannot be ignored. Looking back at Figure 1, it shows that the growing trend slows down in 2025, and some even start to decline. This situation is mainly caused by the saturation of the target market and some shortcomings in learning content. For instance, many users have complained that the learning material is not useful in real-life conversations. These issues can influence the app negatively, so it is very

urgent for the company to refine its strategy. Several plans will be proposed in the upcoming paragraphs.

The first proposal is about improving learning materials because, like the discussion above, many users argue that Duolingo's study material is not fit for real-life situations, and it is important to respond to customers' worries and suggestions. To solve this issue, Duolingo should include more practical content, such as more high-frequency vocabulary, grammar training, and real-life situations. This improvement would also bring more positive reflections from real-life conversations and gain a greater sense of achievement for users. Eventually, learners are more willing to use the app in the long run.

Furthermore, the app should introduce more content related to the official Duolingo English Test to attract more varied users. This test is an official English language test owned by the Duolingo company. It is becoming more widely accepted because it is convenient and authoritative. Hence, adding more test-related content, such as exam preparation and a daily training plan, can be a valuable opportunity for the platform to increase active learners. Adding test-related content enlarges its market and attracts more kinds of users, including exam takers. These users are highly valuable because they are more professional and will be more likely to persist in learning. Also, they are more likely to pay for premium features, since they are under exam pressure. However, Duolingo should maintain its gamified features even in test preparation, otherwise it loses its core comparative advantage. Hence, it is best to develop a featured but practical learning approach.

6. Conclusion

In conclusion, this paper provides an analysis of the role that gamification and digital marketing strategies play in supporting and maintaining the continual growth of user engagement with Duolingo to date. More specifically, it makes them the most interactive and rewarding experience of language learning. Consequently, Duolingo effectively minimizes the learning curve and keeps the user experience as joyful as possible. The market share gained by its large brand image and active social media has helped to further broaden the scope of its social influence with new users. These strategies combine and become an organic cycle of "attracting users and then sustaining users".

However, the company is still facing some limitations. They are facing a saturated market and have concerns about their choice of learning materials. Therefore, they need to make improvements to their strategies in order to achieve further growth. The study made several refining proposals, including content improvement, encouraging user communication, and adding more functions.

Overall, Duolingo is still a successful case. It has shown how a digital platform can combine product design, con-

sumer psychology, and marketing strategies to achieve growth. The success of Duolingo can provide valuable suggestions for other online learning platforms.

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