

Evaluation of Duolingo: A SWOT Analysis

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Abstract. With the development of technology, Duolingo has become an important trend in global education. The software Duolingo is a good example of mobile-assisted language learning. Therefore, this study takes Duolingo, a language learning application, as the research object. Through the SWOT analysis model, the four directions of internal strengths and weaknesses, external opportunities and threats are explored in depth. The study analyses Duolingo through secondary data, including academic literature, company reports and industry information. The study finds that Duolingo's strengths are the availability of multiple languages for learning, a large user base and an impressive brand image. However, it also suffers from a lack of life-like dialogue teaching, poor results for speaking enhancement skills and AI difficulties for speech recognition. In the external environment, the development of online testing and personalised learning brings new opportunities, but also faces the challenge of being replaced by translation tools and customers will lose interest in Duolingo. The study concludes that Duolingo has a solid competitive position in the overall field of mobile-assisted language learning, but will need to continue to innovate and optimise its product strategy in order to achieve long-term sustainability.

Keywords: Duolingo, SWOT, marketing analysis.

1. Introduction

Technology now plays a very important role in how people learn and access knowledge. One clear example of this change is the fast growth of language learning apps. Among them, Duolingo has become a leading platform in mobile-assisted language learning (MALL). This shows the trend happening in the education technology (EdTech) market. In the past, learning a language was mostly done in classrooms, using textbooks, or through expensive private tutors. But now, with smartphones, better internet access, and the growing need for flexible study, people are using platforms like Duolingo to learn languages.

This research focuses on how Duolingo positions itself in this fast-changing environment. By examining Duolingo's strengths, weaknesses, opportunities, and threats, people can better understand how modern learning platforms work and where they still face problems. This topic becomes even more important now, as AI and market competition keep changing how people learn new things. This study aims to understand how Duolingo became successful, what problems it faces now, and how it can continue to grow in the future.

2. Brand Introduction

2.1. Historical Development

Duolingo started with language learning because it can really change people's lives and also has a big market. Later, the company added more than just the language learning app. In 2016, Duolingo introduced the Duolingo English Test. It is an online English test that people can take anytime, and it is easier to access than the usual test centres. Duolingo has expanded its business from teaching English to other subjects. In 2022, the company went further and launched a maths course. Then in 2023, they added a music course too. Also in 2023, Duolingo released Duolingo Max, which is a premium subscription. Duolingo uses generative AI technology. This shows Duolingo is working hard to use the newest tech in education [1].

2.2. Current Market Status

By 31 December 2024, Duolingo has become the most popular way in the world to learn languages. Every month, over 100 million people use it to study more than 40 languages. It is also the top-grossing app in the Education category on both Google Play and the Apple App Store. The company has around 830 employees. Among them, over 380 are engineers who mainly work on creating advanced EdTech. About 9% of Duolingo's monthly users are paying subscribers. The Duolingo English Test is now widely accepted by many institutions. More than 5,600 education programmes around the world accept its results as proof of English ability. This includes 24 of the top 25 undergraduate programmes in the United States with the highest number of international students [1].

2.3. Competitive Environment

Duolingo is in a very competitive online language learning market. They predict that people will spend around \$123 billion on language learning, both online and offline, by 2027. Duolingo faces competition from many areas. It competes with other online or app-based platforms, as well as with traditional offline learning, language test providers and literacy tools. Some competitors possess greater financial resources or distinct strategic advantages. For example, some offer both online lessons and face-to-face classes. There are also thousands of free mobile apps for learning languages [1]. Because of this, Duolingo must keep improving and bringing new ideas in order to stay ahead in the market.

3. Analysis Based on SWOT Model

3.1. Literature Review

The rapid spread of smartphones and internet access has greatly boosted the MALL market. This growth has increased the need for accessible educational technology [2]. Duolingo started with the goal of reducing educational inequality by providing free language learning [3]. It uses a freemium model, offering free access to everyone, with paid and ad-free options for premium users.

A major feature of Duolingo is its use of gamification, which has been a key subject of research. Gamification means using game-like features in non-game situations. In Duolingo, this includes points, levels, streaks, leaderboards, virtual currency ("gems" or "lingots"), and achievement badges. These features are designed to keep users engaged and motivated. Studies suggest they can help users feel more confident and improve accuracy [4]. Shortt et al. searched the literature on Duolingo from its public release in 2012 to the early 2020's, focusing on mobile-assisted language learning (MALL) [4]. Among the findings were that gamification elements can correlate learner confidence and accuracy with improved performance on vocabulary and grammar tasks. However, the use of gamification varies across MALL platforms. Duolingo is considered one of the most gamified, more so than competitors like Babbel [2]. While gamification can increase motivation, it also has drawbacks. For example, users might focus more on game elements than real learning, such as by repeating easy lessons [3]. For example, if a student is looking for a better ranking, then he will repeatedly choose courses that are familiar and easy for him to get a higher ranking.

Research on Duolingo's effectiveness shows mixed results. Some studies find it helpful for improving certain language skills, especially receptive ones like vocabulary, grammar, and reading [5]. Smith et al. also observed progress in speaking and writing among Spanish learners after three months, especially when learners had high completion rates, good accuracy, and a positive experience [5]. The positive experience is the user's satisfaction with Duolingo, and the fun and motivation brought by the gamification elements. Many studies agree Duolingo is effective for building basic vocabulary and grammar, especially for beginners and intermediate users. Pratasik found it helpful for young learners, particularly in learning vocabulary for reading [6].

However, some researchers are concerned about its limitations for advanced learning and speaking fluency [7]. A common issue is the lack of real conversation practice. In addition, while some studies

report positive outcomes, many lack strong research design. They often use non-random samples and do not control well for variables like prior knowledge [4]. In general, how much time learners spend on the app strongly affects their progress.

Duolingo's strategic success comes from several factors. These include its early use of crowdsourcing for content (later stopped), strong branding through social media and humour, and its large user data, which supports A/B testing and adaptive learning. The platform has also expanded into new areas, such as the Duolingo English Test and Duolingo for Schools. [2, 3]. However, it also faces challenges. The market is experiencing increasing saturation. Tech giants like Google may enter the space. In addition, AI translation tools are improving fast and could reduce the need for traditional language learning. Still, AI faces problems with language nuances, accents, and limited data for some languages, which could affect the quality of future AI features in language apps like Duolingo [8].

3.2. Strengths

Duolingo is well-known for offering many different languages. By February 2022, the app supported 40 languages. These include popular ones like English, French, and Spanish, and also some special ones such as endangered languages like Hawaiian and Navajo. Even fictional languages like High Valyrian and Klingon are available. This wide selection attracts many types of users and helps them stay interested [3].

The Duolingo English Test has become a reliable choice for testing English level, similar to TOEFL. A study in 2014 showed there was a strong link between Duolingo English Test (DET) and TOEFL iBT scores. By 2022, more than 3,000 institutions had started accepting DET results, including famous universities Yale, Cornell, and Columbia. This shows the growing trust and recognition for the test [3]. This has further increased brand awareness and user loyalty for Duolingo. Duolingo is also effective for learning languages. A study in 2024 found that people learning Spanish made significant improvements in their listening and speaking skills. They only needed to practice for a few minutes each day over three months. Independent evaluations confirmed this progress. This assessment is not influenced by Duolingo's internal metrics or marketing; to ensure objectivity and validity, this is conducted by external researchers. [5].

With hundreds of millions of users around the world, Duolingo is a leading app in the language-learning market. It collects a large amount of user data. This data helps Duolingo do advanced A/B testing and create AI-powered personalised learning using patented algorithms [3]. Duolingo's brand is also very impressive, with its owl mascot and fun social media help people remember it. Duolingo for Schools is another version that lets teachers use the platform in classrooms [3].

3.3. Weaknesses

Duolingo is helpful for learning basic language skills, but it is not very good for improving speaking ability. Many studies have found that users often get better at reading and writing, but their speaking does not improve much [9]. This is because the app does not give enough chances to practise real conversations. Many users also mention this problem in their feedback [9].

Duolingo's artificial intelligence, especially its voice recognition, also causes some issues. It frequently fails to accurately recognize accents spoken by non-native speakers, which makes speaking practice difficult and frustrating [6]. Sometimes the app also has bugs or technical problems, which can interrupt learning. This can make the customer's experience worse and their satisfaction lower.

Most of the content is made for beginners or intermediate learners. There are not many materials for advanced users [3, 6]. The exercises are also very similar. They often use translation and multiple-choice questions. After some time, this can feel boring and reduce motivation to continue [4].

Also, the grammar explanations are quite simple. For learners who want to understand grammar more deeply, this may not be enough [6]. The app also does not include much culture or real-life language, such as idioms or how people speak in daily life. These things are important for becoming fluent.

There are also some problems with usability. The app needs a stable internet connection. Offline learning is only available for users who pay for the premium version [7]. The free version shows a lot of ads, which can interrupt the learning process. The game-style design is fun, but sometimes it makes people care more about keeping streaks or getting points than really learning the language. Lastly, Duolingo's cute and funny style is attractive for some people, but some consumers think it makes the app look less serious as a learning tool [3].

3.4. Opportunities

Duolingo can keep using user feedback to enhance the quality and effectiveness its courses. Initially, users could only see what language courses were coming soon. But later, Duolingo realised it was useful to include active users in the process of creating courses. This method, called crowdsourcing, means giving tasks to a big group of people, usually volunteers [2].

The EdTech and MALL market is growing fast, and this brings many chances for Duolingo to expand. Around the world, more people want digital tools for learning languages. At the same time, Duolingo can keep improving its AI to give better features, like smart chatbots, personalised feedback, and adaptive tutors such as Duolingo Max [3, 8].

Another good chance is in developing language proficiency assessments. The Duolingo English Test is becoming more popular. If Duolingo also makes official tests for other languages, it could generate substantial revenue. Also, the platform can help users stay longer by offering more difficult content for advanced learners, which is something it does not have enough of right now. Better speaking practice is also critical area for improvement. If Duolingo adds more natural conversations and role-plays, it can help users who want to speak fluently [3].

There is also room to grow in the B2B market. Duolingo can create tailored programmes for companies, like Duolingo for Business, which can bring in more income [3]; Jaatela, 2023). Working together with schools and universities can also make Duolingo more trustworthy and help it reach more learners [6].

Lastly, after the pandemic, more people prefer studying online. Duolingo can take advantage of this change by staying useful as a flexible and easy-to-access learning tool [3].

3.5. Threats

Duolingo is encountering intensified competition, both from traditional language learning methods and from new technology that is developing very fast. The company has made significant investments in conversational AI to make language learning feel more natural and useful. Their goal is to help users improve their language skills and maybe even increase their chances of finding better jobs [10]. However, the tech world around them is changing quickly, and this brings many challenges.

Real-time translation tools are getting better and are now being added into common communication apps like Microsoft Teams, Google Meet, and Zoom. These tools help people talk across languages without needing to actually learn another language. For example, Zoom can now translate speech in real time during meetings and also translate messages in 12 different languages [8]. Because the real-time translation tool can then translate in real time, there is no need for Duolingo to learn the language.

The language learning market is also getting more crowded. In addition to Duolingo having to compete with other apps, it also has to compete with classroom-based teaching and AI-powered tools. Big tech companies like Google, Apple, and Amazon have strong resources. Their potential entry into the language learning market could lead to market consolidation, marginalizing smaller players. If they decide to put more focus on education, they could change the whole market [3].

Inside the company, Duolingo has its own problems too. It is difficult to keep users interested over a long time. Many users stop using the app after a short period [4, 9]. Pratasik also pointed out this problem, although initially learners may feel interested because of the fun aspect of learning in multi-neighbouring countries, over time learners will not find it interesting and the motivation to learn tends to go down, leading to less frequent use of the software or even customers eventually choosing not to

use the software [6]. Also, more people are starting to follow digital minimalism. They are moving away from FOMO (fear of missing out) to JOMO (joy of missing out). This means some users may just want to stop using apps like Duolingo altogether [3].

Despite its heavy investment in artificial intelligence, Duolingo still has some technical problems. The system still finds it hard to fully understand language details, different accents, and less common languages. This could slow down Duolingo's growth and improvement [8].

4. Suggestions

4.1. Strategic Improvements

Duolingo currently lacks sufficient content tailored for advanced learners.” To keep these users, Duolingo should create more advanced courses. These courses can include idioms, culture background, professional vocabulary, and complex grammar. At the same time, the course should have speaking practice and role-play to simulate real-life language use. Also, Duolingo can use the success of the Duolingo English Test and offer similar tests in other languages, such as Spanish, French, or Mandarin. These tests should be official, not expensive, and easy to take. Many people need certificates for jobs or immigration, thereby attracting a broader user base and generating additional revenue streams.

Duolingo is a well-established brand with a high level of user trust. The company should work with businesses, NGOs, and schools. It can create special packages for companies under a Duolingo for Business service. This may include job language training, employee skills improvement, and vocabulary for different industries. It can also work closer with schools by improving Duolingo for Schools and creating language tests for universities. This will help Duolingo project a more professional image and reach more learners.

4.2. Operational Improvements

Many users and research say Duolingo is not good enough for speaking practice. To fix this, Duolingo should put more money into AI conversations. These should be real-time, with guided conversations that change depending on what the user says. This can make practice feel more natural. It is also important to improve the AI so it understands different accents and non-native speakers better. If the AI cannot understand the user, it can frustrate the user and they may quit it. Duolingo can also provide services that allow users to practice speaking with each other or with native speakers. If it is inside the app and safe to use, it can give learners a real chance to talk in a friendly way.

Gamification is one of Duolingo's strong points, but too much of the same kind of questions, like multiple choice and translations, can make users tired or bored. Duolingo should try new types of lessons like stories, real-life tasks, grammar games, cultural lessons, and media such as videos or podcasts. These new formats can be unlocked step by step as users improve. In this way, beginners do not feel too much pressure, and advanced learners stay interested.

4.3. Marketing and Positioning

Duolingo has a fun style that many people like. But for some adults or professionals, it may look not serious enough. Duolingo can think about having two styles: one is the normal fun version, and the other is a Pro version. The Pro version is for people who need certificates, job skills, or immigration help. The design can still be friendly, but with more focus on quality and academic support.

Duolingo cares about fair education. It should share more real stories about how it helps people around the world. For example, refugees using Duolingo to pass English exams, or students in poor areas using it to get better jobs. These stories can make people feel connected to the brand and trust it more.

4.4. Risk Management

Duolingo may be replaced by AI tools. Many AI tools can now translate languages fast, so some people may stop learning languages. Duolingo needs to show why learning a language is still important. It is not just about words and it includes culture, thinking, and confidence. This message should be part of the marketing. Inside the company, Duolingo should continue to lead in AI. It has access to AI that can help with mistakes and can also know when the user is tired or frustrated, and gives support or encouragement.

Many users stop using the app after some time, and more people want less screen time. Duolingo can create short lessons that also work offline. This helps people study in a more flexible way and gives free users more options. Also, adding features that help users set goals, take breaks, and check their progress can help them build better habits and keep learning longer.

5. Conclusion

Duolingo is now at an important point in the fast-changing EdTech industry. Its success comes from combining accessibility, gamification, data-driven design, and a strong social mission. By giving users free, fun, and scalable learning tools, it is now a well-known name in language education. However, there are still some problems, such as not enough speaking practice, limited advanced content, and challenges in keeping users long-term.

As more competitors appear and technology keeps changing fast, Duolingo needs to keep innovating while fixing its weaknesses. It should grow its certified testing services, improve AI-driven speaking tools, and provide more varied content. Also, making its brand more attractive to both casual users and professionals can help its market reach. With strategic planning and effective implementation, Duolingo is well-positioned to maintain its influential role in global education.

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