

Secondary Analysis of Interviews About the Factors Driving the Membership Growth of Chess.com

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Received: 1 March 2024; Revised: 2 May 2024; Accepted: 2 May 2024

Published online: 26 December 2024

Abstract

Online gaming companies focus on flashiness and continuous updates, operating more like casinos offering addictive loot boxes, but the recent rise of online chess puts that model into question. This qualitative research study investigates the question of what are the factors that increase or decrease the global number of chess players. Using reflexive thematic analysis on secondary data of interviews with global chess industry experts Erik Allebest, Viswanathan Anand, and Magnus Carlsen revealed 11 themes that affect the growth of Chess.com membership. Factors that increase chess growth were good management, passionate stakeholders, global digital culture, social media marketing, competitive events, game improvements, and India market. Factors that decrease chess growth were cheating, technical difficulties, unsustainable career, and restricted markets. Supported by passionate fans, the free, open-source, 1,500-year-old game of chess can still compete in today's online gaming industry which suggests that previous assumptions about game design and marketing should be revised.

Keywords: Global business, Growth factors, Online chess, Online gaming, Secondary analysis



I. INTRODUCTION

The global online gaming industry is currently one of the fastest growing markets. The global online gaming market size was estimated to be worth 190 billion USD in 2021 and projected to be worth 880 billion USD by 2031 (Business Research Insights, 2024a). Online gaming refers to playing video games on the Internet, whether individually or in multiplayer mode. By connecting with other players around the world via online platforms, online gamers experience interactive gameplay and social interactions. Online gaming has become extremely popular in recent years serving as valuable and time-consuming entertainment for millions of people worldwide. There is a wide range of genres in online gaming, ranging from multiplayer online battle arena (MOBA), first-person shooters (FPS), role-playing games (RPG), and massively multiplayer online games (MMO), with online board games filling a niche market. Online gaming market refers to the industry that develops and provides online gaming platforms, software, and services to serve the growing demand for digital gaming experiences and entertainment. Included in this market are online gaming platforms, service providers, game developers and publishers. There is a diverse range of gaming options offered which ranges from free-to-play games supported by in-game purchases to subscription-based models and digital distribution platforms.

The global online gaming market is experiencing significant growth due to many factors. The increasing accessibility of affordable high-speed Internet as well as the widespread usage of smartphones and other mobile devices are the main driving factors. In fact, just over half of all platforms used for online gaming are done on smartphones (Market.us, 2024). With Internet connections readily available, players with ever more powerful and affordable mobile electronic devices can engage in online gaming practically anytime and

anywhere. By connecting and interacting with other players in real-time, online gaming platforms also create valuable social experiences by providing opportunities to join communities and clans, to cooperate or to compete with others. This additional social aspect of online gaming increases player engagement and retention to generate more loyalty and spending. New technologies such as virtual reality and augmented reality are also changing the online gaming market by bringing more realism to upgrade the gaming experience while cloud gaming allows players to stream games without investing too much into hardware. The e-sports industry also has a significant influence on the online gaming market because when the best players or teams in any game compete at the professional level via real-time livestream, valuable experiences and memories are generated for the overwhelming majority of non-professional players to follow and enjoy, not unlike any other real sport.

Chess is an ancient board game for two players that is still being played today and surprisingly is growing in popularity. It is a turn-based strategy game where one side plays as White and the other side plays as Black. Unlike some other games such as Monopoly or Poker where there is some luck involved, chess actually contains no hidden information and no elements of chance. A chess board contains 64 squares arranged in an 8 by 8 grid, with a checkered pattern divided into light squares and dark squares. At the start of each chess game, each side controls sixteen pieces: One king, one queen, two rooks, two bishops, two knights, and eight pawns. Each piece has its own specific way of moving and should be used efficiently in combination with other pieces in order to try to win the game. The goal of each side is to checkmate the other's side king by attacking it while it cannot escape. If checkmate cannot be achieved, there are several ways a game can end in a draw, which means there is no winner.

Nobody owns chess. In fact, it is one of the truly free, open-source games that is still being played today unlike the many thousands of patented digital games that are sold for profit by gaming companies. The first version of chess originated from India in the 7th century before the game spread to Persia and was later brought over to medieval Europe via trade routes. Other variants of chess also existed depending on where it traveled to, such as Xiangqi or Chinese chess in China and Makruk or Thai chess in Thailand. The most popular variant of chess, sometimes known as international chess or Western chess, had its latest update in Europe in 1475 which greatly empowered the queen piece, and this final version continues to be played globally by millions of players today. For over 1,500 years, chess was played on a physical chessboard with physical pieces made of various materials such as wood or ivory. At first, chess was only played by members of the royal court or nobles but over time as the standard of living improved in the past millennium, chess became more affordable to the general public although physical chess sets still need to be purchased or shared. However, with the recent digital transformation of the global economy, online chess has become more popular due to its convenience and accessibility by anybody's mobile electronic device. Online chess can be played literally for free now anywhere and anytime as long as the player has Internet access on his electronic device. It is interesting how the game of chess that was originally created to educate ancient kings about governance is now readily available for free to billions of people worldwide.

The global online chess instruction and play market size was valued at over 150 million USD in 2021 (Business Research Insights, 2024b). When compared to the global online gaming industry, the chess industry represents a very tiny less than only 0.01% of the entire online gaming market, serving as a niche market that is

more appealing to older gamers. Chess.com is the largest online platform for playing chess with currently over 160 million members in February 2024. Chess.com was first founded in May 2007 when the global chess industry was still relatively fragmented but over time became more popular and reached a milestone of over a billion live games played in 2014. During this period, the amount of Internet users worldwide grew from about 1 billion in 2005 to over 5 billion in 2022 (Statista, 2024) which greatly expanded the market potential for online chess. Statistics provided by Chess.com revealed that in 2018, they had about 25 million members but in 2022, that number jumped four times to 100 million members within a period of four years. Chess.com added a further 60 million more members in 2024. In December 2022, Chess.com further consolidated its market share by purchasing its largest competitor, Play Magnus Group, which included various popular chess brands and businesses that include professional chess tournaments and educational content. This merger led to accusations of Chess.com becoming a monopoly in the chess industry with only the comparatively small, free, open-source Lichess as its only realistic competitor. In January 2023, Chess.com became suddenly so popular that its databases crashed, requiring emergency purchases of new server equipment to maintain user experience.

Chess.com uses a freemium business model, in which some features, particularly being able to play unlimited online chess, are free but others such as detailed game analyses are either unavailable or limited until a subscription is paid. Similar to other freemium websites, advertisements are shown regularly unless removed by a paid subscription. Subscription fees range from 30 USD per year to 120 USD per year with higher tier subscriptions unlocking more features. The main feature offered by Chess.com is its online chess gameplay with various time controls. Chess



players can choose to play online chess with their preferred time control that is organized into Bullet, Blitz, Rapid, Daily, and Monthly. For example, under a type of Rapid time control, each player has 10 minutes to make all their moves in each game or automatically lose the game on time when the timer reaches 0 seconds. Other chess variants are also available to players who are bored of normal chess as well as the option to play against computer bots that vary from very easy to unbeatable. Besides gameplay, other Chess.com features consist of puzzles, lessons, and events where players can watch live tournaments with the world's best chess players competing in real time.

Two events in the year 2020 turned out to have great impact on the growth of the online chess industry which can be shown by the fact that the number of Chess.com members effectively doubled from 25 million to over 50 million between the years 2019 to 2020. The first impactful event was the COVID-19 pandemic that spread across the world, triggering widespread lockdowns that resulted in billions of people staying inside their homes and being forced to do everything online. With massive amounts of people being forced to stay at home and avoid unnecessary travel, the extra amounts of free time led to more consumption of digital entertainment such as video streaming services or online gaming that also includes chess. The second impactful event was the release of *The Queen's Gambit* miniseries about a female chess prodigy on Netflix on October 23, 2020. Within four weeks of release, *The Queen's Gambit* show became Netflix's most watched program in over 50 countries which greatly increased public interest in chess and contributed to existing chess streamers and Chess.com receiving a sudden, massive increase in the number of following subscribers within this boom period.

Interestingly, the ancient board game of chess has a relationship with the field of computer science. Chess

was used by computer scientists to develop their artificial intelligence programs to be tested against the world's best human chess players also known as grandmasters. In 1997, an IBM supercomputer called Deep Blue finally won a match under tournament conditions against the reigning world champion Garry Kasparov, which was a significant milestone in proving that artificial intelligence has caught up to human intelligence in making chess calculations. Ever since then, chess engines such as Stockfish have kept improving and became unbeatable to the best human grandmasters. Nevertheless, millions of people around the world still play chess competitively or as a hobby even though chess has literally already been solved by computers.

Besides human dignity, another huge downside of chess engines being unbeatable to human chess players is that it can lead to accusations of cheating against opponents in professional chess tournaments since any grandmaster secretly using a chess engine would gain an unfair advantage versus any human opponent and win significant prize money if not caught. This paranoia towards cheating amongst grandmasters in tournaments has infected the professional chess scene to the point that it is considered an existential threat to the chess industry. This is why Chess.com management has made significant investments to detect and discourage any forms of cheating by hiring a specialized team of anti-cheating experts and enforcing their Fair Play policy. In fact, many videos uploaded on YouTube by chess.com are specifically dedicated to addressing the issue of cheating by having transparent discussions of their actions and policies to counter cheating. As an example, during the Champions Chess Tour Finals in 2023 that contained a 500,000 USD prize pool, Chess.com posted a video that openly displayed how they prevent cheating with fair play screening, using a hi-tech detector to detect possible

electronic devices that can be used for cheating, many cameras covering every angle, and strict movement restrictions for competing grandmasters. Despite this, cheating continues to be a constantly discussed issue during tournaments which damages the reputation of the chess industry and threatens to limit its growth.

A knowledge gap exists in understanding the relationship between the online gaming industry and the online chess industry. Most of previous research literature about chess focuses on chess for educational purposes rather than on the business applications or marketing of chess, which is understandable because online chess only just became popular recently in the past five years as well as online chess making up only a tiny percentage of the global online gaming industry. The key factors behind the successful growth and marketing of the online chess board game by Chess.com as well as the factors that threaten to limit the growth of chess should be investigated. The benefit of filling this knowledge gap about the factors contributing to the growth of online chess is this research finding can demonstrate the possibility that gaming businesses do not have to fixate on hiring video game programmers to constantly develop new games with continuous updates when a free, open-source game like chess can still compete in the online gaming industry.

The purpose of this study was to examine the factors driving the membership growth of Chess.com. Since Chess.com is such an overwhelmingly dominant player in the chess industry with monopoly-like power, the number of accounts created on its website in any given year should be a representative indicator of how many people worldwide are interested to play online chess though with varying levels of activity ranging from monthly to daily. This study not only examines factors that increase the growth of online chess but also includes factors that limit the growth of online chess as

well. With this in mind, the following conceptual framework is created to demonstrate the relationship between the two main types of factors that can either positively increase or negatively decrease the membership growth of Chess.com.

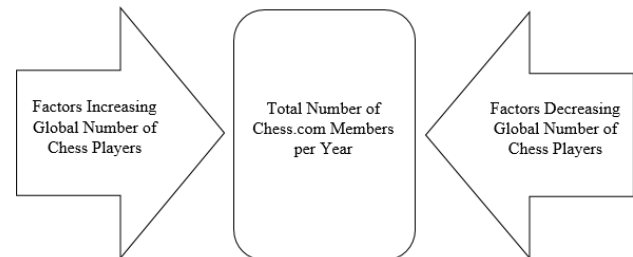


Figure 1: Chess growth conceptual framework

The two independent variables to be studied are factors increasing global number of chess players and factors decreasing global number of chess players. The dependent variable is the total number of Chess.com members and its yearly growth is dependent on the forceful effect of the two independent variables. Based on previous background information, there are already four factors that can be assumed to contribute to the increase in the global number of chess players, which are the global increase in the accessibility of affordable high-speed Internet that favors online chess, the relatively low cost of online chess compared to other online games, COVID-19 lockdowns increasing the consumption of digital entertainment such as online chess, and Queen's Gambit show on Netflix triggering worldwide interest in online chess. One very important factor that can be assumed to decrease the global number of chess players is the possibility of secretly using chess engines to cheat in tournaments which negatively affects the reputation and integrity of professional chess, leading to a decrease in the number of players in online chess due to lack of trust.

However, there are still other various unknown factors that can either positively increase or negatively



decrease the number of global chess players, which can be revealed by interviews with chess industry experts. This research study is therefore an exploratory research to investigate the research question of what are the various factors that can increase or decrease the global number of chess players.

II. LITERATURE REVIEW

A review about recent research literature about the online gaming industry with several sample studies in Asian countries is first provided before narrowing down to the online chess industry and its effects on chess players.

A study by Meagher and Teo (2005) confirmed a model of the gaming industry being determined by creative destruction where game makers experienced market power within a genre until replaced by a new game. Additionally, existence of opponents increases the attractiveness of playing an online game while technical and reputational problems eventually reduces online gaming attractiveness. Another study that explores the factors affecting consumers' loyalty toward online games (Huang & Hsieh, 2011) revealed that players' sense of control, perceived entertainment, and challenge affected their loyalty toward an online game while sociality and interactivity had negligible effects on loyalty. A study by Mariano and Koo (2015) about cloud gaming, which is a system that allows video games to be played on almost any client regardless of system requirements, has the potential to remove costs from consumers by not requiring expensive gaming hardware while revolutionizing future game design. Another study about the role of mobile and video games within the media industry and IT sector (Simon, 2018) revealed that video games are now clearly a vital part of digital content production and distribution in emerging economies.

Various studies have been conducted about the online gaming industry in several countries in Asia. South Korea was one of the pioneers in growing the online gaming industry. In another study (Peichi, 2008) about the historical context of cultural policy in South Korea and Singapore, it was discovered that state and local companies in South Korea shaped the dynamics of the local industry while in Singapore, state and multinational companies play key roles in development, which demonstrated the significance of localization in determining the global online gaming industry. In another particular study (Jin, 2011) about the global spread of the digital Korean wave, a process is mapped out where local online games in South Korea are appropriated for Western gamers through content hybridization and glocalization. In a case study (Chi, 2009) about the value chain in the Asian online gaming industry in Taiwan, it was revealed that Taiwan is the biggest export market for China's gaming industry with its unique wuxia genre and acts as a stepping stone for Chinese game firms wishing to expand into wider regional and global markets. Another related study by Liou and Gao (2011) about competitive advantage in the online gaming industry in Taiwan determined that firms leading with two dimensions of intellectual property and relationship assets performed better than other firms. In China, a study by Kshetri (2009) indicated that innovative business models of Chinese companies led to rapid growth in the Chinese online gaming industry involving new technologies, which resulted in domestic players replacing the previous dominance of foreign players. Later in India, a study (Amin, Griffiths, & Dsouza, 2022) about online gaming during the COVID-19 pandemic in India, revealed that while the online gaming industry is one of the few global industries unaffected by COVID-19, minorities who have used gaming as an unhealthy coping mechanism may suffer from mental health

issues and other negative consequences requiring help from mental health experts.

There are other research studies about factors contributing to the growth of the global online gaming industry. In a study by Zackariasson and Wilson (2010) about paradigm shifts in the video game industry, the findings showed clear shifts in the fast-growing industry, switching from gaming in the arcade sector to the development of home-based gaming consoles before further shifting to the development of massively multiplayer online role-playing games (MMORPGs) to change the way games are played. In another study (Davidovici-Nora, 2013) about innovation in business models in the video game industry, the evolution of the video game industry has changed from physical to digital platforms which transformed entertainment from a commodity into a service, leading to a new business model of Free-To-Play (F2P) showing that the new value chain is structured around gaming experience as a service with potential managerial consequences. In India, the gaming industry used to face challenges such as high tax rates, lack of support and awareness, but with Internet being more accessible and smartphones becoming more affordable, the rise of mobile gaming became a popular source of entertainment. A related study (Kumar, 2021) about growth trends in India's gaming industry revealed that localized games based on a sense of familiarity and the development of Online Fantasy Sports Platforms for India's huge sports fan base along with an increasing user base, emerging technologies, and government support are among the numerous factors behind growing investment in India's gaming industry. In another study (Palma-Ruiz, Torres-Toukoumidis, González-Moreno, & Valles-Baca, 2022) about the gaming industry across nations, the results showed that the industry's growth can be explained by possible key influencers such as the games' market revenues, total

number of players, Google trends data, GDP per capita and online population, while a positive correlation existed between GDP per capita and market revenues and players in Western countries but in Asia, it was the opposite. Finally, in a study by Wallinheimo et al. (2023) about how online gaming enhances career prospects, the results showed that IT professionals who played puzzle games enhanced their spatial skills, managers who played action role-playing games improved organizational and planning skills, and engineers were associated with strategy games that required problem-solving and spatial skills. Online gaming behavior was found to vary between different job categories, allowing participants to gain different soft skills which could assist gamers with training that leads to a particular career path. If online gaming can develop soft skills that are used in jobs across various professions, it would also be a factor contributing to growth in the global online gaming industry because both employers and employees have the incentive to encourage certain types of productive or educational online gaming.

Chess is only one of millions of games around the world that is being played more online and therefore is a part of the online gaming industry. Previous literature about chess mainly focused on using chess for educational purposes instead of the business or marketing applications of chess. Chess is traditionally a board game that was played with physical pieces for centuries but in recent years has been played digitally online due to more convenience and beginner-friendliness. However, a study (Fang, Chen, & Huang, 2016) that compared digital and traditional board games revealed significant differences that include lower degrees of satisfactions in visceral, behavioral, and reflexive levels for digital games while traditional games evoked stronger emotional reactions. Playing chess also makes kids smarter, which was confirmed by a study (Poston & Vandenkieboom, 2019) that



compared child chess players to other child non-chess peers and the results confirmed that playing chess increased academic performance. In a further multidisciplinary review of recent research about examining board gameplay and learning (Bayeck, 2020), the results revealed that board games are educational and help to simplify complex issues and systems to learn concepts such as motivation and computational thinking in formal and informal settings. Another study about intervention effectiveness with board games (Noda, Shiotsuki, & Nakao, 2019) showed that board games can be used as tools to improve understanding of knowledge, enhance interpersonal interactions and motivations. In addition, other educational benefit of chess training is the reduction of risk aversion for primary school students which was mentioned by another study (Islam, Lee, & Nicholas, 2021). Finally, in a study about the relationship between chess and management (Senthil, & Ravindran, 2023), it was discovered that chess helps to improve decision making and situational analysis which not only links chess with management but also to real life as well.

Additional literature about online chess and its related benefits to players is provided. A study by van Harreveld, Wagenmakers, & van der Maas (2007) about the effects of time pressure on chess skill discovered that skill differences between players become less predictive of game outcome as the time controls are tightened while slow processes are at least as important for strong players as they are for weak players compared to fast processes of pattern recognition. Another study (Redding, 2007) discusses that international business competition is often compared to the game of chess with one clear set of rules, but there are also similarities to poker due to more complexity that involves reading of others' minds, characters, behavior patterns and interactions. Another study by Miric, Lu, and Teodoridis (2020) about

decision-making skills in an AI world using lessons from online chess where decision-making skills are critical to winning, the results showed that AI advancements not only increase the importance of decision-making skills as complements, but also provide a new benchmark against which organizations can evaluate talent instead of relying on automation. Even though machines have already surpassed humans in chess skill, a study by Kulikov (2020) showed that people still prefer to play online chess against other people due to psychological affordances and psychological interplay that make human to human interaction more meaningful. Another study (Holdaway & Vul, 2021) about risk-taking in competitive games revealed that according to data from over 1 billion online chess games, players exhibit state-dependent risk preferences and change their risk-taking strategy depending on opponents with differing effects depending on skill level. Finally, in a study by Majhi (2023) about the implications of online chess after the COVID-19 pandemic, the findings had important implications for sports management, leading to the need to balance entertainment and tradition to pursue popularity to market the unconventional sport of chess.

Previous literature suggests that the global online gaming industry is still rapidly growing due to various mentioned factors. However, existing literature about online chess was more focused on education or behavioral effects rather than the business aspects. The current knowledge gap in the business potential of chess presents an opportunity for new research such as this one to fill in the void for future similar studies.

III. RESEARCH METHODOLOGY

This research study is an exploratory research to investigate the research question of what are the various factors that can increase or decrease the global number of chess players. The methodology used to

answer the research question was qualitative research, which involves collecting non-numerical data and identifying patterns in language, theme, and structure in order to understand human experiences. The reasons qualitative research was used for this particular research study was due to a lack of research literature about the niche market of chess in the overall online gaming industry as well as there being a near limitless amount of available and easily accessible data on YouTube provided by chess content creators including Chess.com that are waiting to be analyzed by online gaming researchers. Quantitative research was not suitable for this exploratory research because numerical responses give lesser details and much fewer context than what is required for answering the research question. The instrument that was used to collect the qualitative data was semi-structured interview.

The secondary data collected for this research came from a sample of publically available interviews of chess industry experts on YouTube. Chess industry experts such as the CEO of Chess.com and former Chess World Champions would obviously have far more knowledge and insights about the global chess industry. With their many years of business management or competitive experience, these chess industry experts are therefore more likely to provide the most relevant and accurate answers to the research question. The small sample was conveniently selected based on meeting two conditions of having relevance to answering the research question and having YouTube popularity based on at least 1,000 views to indicate that the interview was impactful online. The secondary data for each of the four interviews was recorded by professional interviewers and uploaded onto the YouTube social media platform. Secondary data was used instead of primary data because of cost considerations, lack of accessibility to busy

interviewees, and possible answers already being available from previous interviews on YouTube. Since the interviewees are public figures and the videos are uploaded onto YouTube for public dissemination, there should be no ethical concerns or expectations of privacy when using this secondary data for research purposes and not for profit. Due to the data being secondary, there was no control over the interview type and questions asked, but by examining and targeting specific, interesting segments of each interview, possible answers to the research question can be gathered, collected, and analyzed.

Secondary data from four interviews on YouTube were selected for this research study. The first YouTube interview with over 31,000 views was Chess.com CEO Erik Allebest and Chief Chess Officer (which functions as a chess ambassador) Danny Rensch being interviewed by VP of Content Sam Copeland where they discussed about the history of Chess.com to celebrate 100 million members back in December 2022. The second YouTube interview with over 3,000 views was between Chess.com CEO Erik Allebest and Russian chess YouTuber Ilya Levitov where they discussed about Chess.com's success story, future plans, and the threat of cheating in January 2024. The third YouTube interview with over 29,000 views was between former five-time Chess World Champion Viswanathan Anand and his interviewer, chess commentator Tania Sachdev about India's past, present, and bright future in chess. The fourth YouTube interview with over 390,000 views was between another former five-time Chess World Champion Magnus Carlsen and a Chess.com interviewer about his motivation and vision for chess. Four interviews were considered to be enough data and no other interviews are needed because the previous list already includes Erik Allebest, Viswanathan Anand, and Magnus Carlsen who are among the top three most influential and knowledgeable people in the global



chess industry with significant impact on Chess.com's growth. Transcripts of these interviews are auto-generated by YouTube with some errors which required additional proofreading to remove typos, filler words, and grammar mistakes.

The qualitative research method of thematic analysis was selected to investigate the factors driving the growth of Chess.com members. Thematic analysis is a data analysis process that involves examining through a data set to identify patterns, systematically coding and deriving themes to create a narrative. In this exploratory research study, a particular type of thematic analysis called reflexive thematic analysis was used in which an inductive approach was selected to derive meanings and themes without any preconceptions, allowing any codes or themes to emerge from the data. Reflexive thematic analysis was first developed by Braun and Clarke (2006) for psychology research and this research method soon became popularized in other fields of social science due to its flexibility. There are six steps in thematic analysis. The first step is to familiarize with the data by transcribing audio data into transcripts which are read through to look for meanings and patterns. The second step is to create a set of initial codes that represent the meanings and patterns from the data. The third step is to decide what to code after reading through the data again to identify any interesting excerpts to apply appropriate codes to them where excerpts with similar meanings have the same code applied while new codes can be added as needed. The fourth step is when codes are collated with supporting excerpts so all the excerpts can be organized by code to gain better understanding. The fifth step is when codes are grouped into themes with each theme going beyond just describing a topic area by adding nuance, increasing complexity, and giving meaningful answers to the research question. The sixth step is when the themes are evaluated and revised. Thematic analysis is

an iterative process where each step and each theme is repeatedly reviewed and revised. Each theme needs to have enough data to support it, is distinct, and the boundaries of each theme are clear. Data analysis was analyzed manually by hand using reflexive thematic analysis. After the themes are developed, the research question of what are the various factors that can increase or decrease the global number of chess players can be answered with a chronological narrative about the growth of Chess.com.

IV. RESULTS AND DISCUSSION

Quotes from the interview transcripts that are most relevant to answering the research question are selected, paraphrased without losing meaning, and then converted into various codes for further analysis. Quotes with similar codes that were already mentioned by previous interviews are removed to avoid being repetitious.

The first YouTube interview to be coded was Chess.com CEO Erik Allebest and Chief Chess Officer Danny Rensch's interview by VP of Content Sam Copeland where they discussed about the history of Chess.com to celebrate 100 million members back in December 2022.

The second YouTube interview was between Chess.com CEO Erik Allebest and Russian chess YouTuber Ilya Levitov where they discussed about Chess.com's success story, future plans, and the threat of cheating in January 2024.

The third YouTube interview was between former five-time Chess World Champion Viswanathan Anand and his interviewer, chess commentator Tania Sachdev about India's past, present, and bright future in chess. Viswanathan Anand's country of origin is India and his interview gave many insights about the India's chess industry which is currently the fastest growing chess market.

Table 1: First coded transcript of Erik Allebest (Allebest, 2022)

Transcript Excerpts	Codes
<p>"I was in business school and I ended up buying the domain name chess.com so we started building like the Myspace of Chess we were building a chess community it was doing with Jay the guy who kicked my butt at freshman year and that's kind of how chess.com got born at the very beginning and that's kind of my interest in chess was like as a business as an e-commerce as a fan as a community member as someone who was playing on other sites like Yahoo chess and stuff and was very unhappy with it I wanted a place that felt like home for me and that's my relationship with chess and chess.com in a nutshell."</p>	<ul style="list-style-type: none"> - CEO is passionate about chess - CEO has previous experience managing chess businesses - Vision to build a community - Online chess provided by earlier competitors was inconvenient and difficult to use
<p>"We couldn't afford a place for people to work couldn't afford to hire people in Silicon Valley so what did we do in basically 2006 was started a totally remote totally global company where we hired from our fans and people who were already coming in and using the site and that's kind of how we started it was like a minimal burn that I was paying out of pocket and from this loan from my friend's mom and we were just like working literally till like 3 A.M every day just like working building and it was very small and so we built a sustainable business where we weren't like just spending tons and tons of money we were doing it in a sustainable way and just out of like passion and with the group the totally distributed thing."</p>	<ul style="list-style-type: none"> - Low budget start-up that is sustainable - Remote workplace hired from global fans - Employees are passionate about chess working all night
<p>"When all the other chess companies out there at the time and there were more than there are now back then they all had logos of you know Kings where they had Knights or whatever and we were like we're doing the pawn and the reason we're doing the pawn is because we're doing chess for everyone we're not doing chess just for professionals we're not doing chess like just for beginners we're doing chess for everyone starting with the pawns and on up and that's why you know people like well that's not that's not the strongest piece it's not the most commanding piece I'm like no but it's the piece of everyone the piece of everybody and that's why we started that way."</p>	<ul style="list-style-type: none"> - Reason behind green pawn logo of Chess.com is that pawn represents everyone in community
<p>"I want to say one of the thing is like we've thought about this and the journey of a chess player and typically in the past a journey of a chess player has been your journey toward mastery or you know your journey from a beginner to a thing. I have a different definition of what the journey of a chess player is first you like kind of get interested then you learn the rules and then you like play chess that okay I play chess at some point you transition to I'm a chess player which is different from I play chess you self-identify I'm a chess player but instead of the next step from chess player being chess master I like it being chess fan because then you enjoy the game at any level whether you're rated 400 or 1400 or 2400 you can enjoy and appreciate the game and that's the journey that Chess.com is trying to help you on."</p>	<ul style="list-style-type: none"> - Chess experience should focus on becoming a fan rather than a master - Enjoying chess is more important than becoming better at chess
<p>"I'm like oh my gosh we're gonna be down a whole day no way this we're gonna die one day turned into two days turned into three days turned into four days. I'm like we should just close down like no one's gonna ever come back we're gonna turn the site back on everyone's like oh chess.com never came back online that was one of the most terrifying you can imagine I literally was like awake every hour for four days wondering when we were coming back on."</p>	<ul style="list-style-type: none"> - Growing membership requires more investment in hardware - Chess.com being offline for too long is existential threat

Table 1: First coded transcript of Erik Allebest (Allebest, 2022) (Cont.)

Transcript Excerpts	Codes
“We built an amazing team around this and we’ve invested so much time and money and resources just to protect this game that we love but you know I immediately knew how dangerous this could be and remember that very first cheater it was such a painful experience to see so it’s been at the core of what we’ve done and it’s challenging because it’s not preventable in that we can’t stop somebody from opening their browser and pulling out their phone at the same time like we just you can’t stop it you can only catch it after and so there is some damage and loss as you go through and I apologize to the community because I know the feeling.”	<ul style="list-style-type: none"> - Cheating threatens the enjoyment of online chess - Cheating is not preventable because of easy access to chess engines
“I think we immediately started investing in the technology that would go on to power what is the best cheat detection system in the world. Our ability to grow as a company to improve our reputation and to invest in what would become the future ecosystem of events which allowed the future ecosystem of streaming and content it’s based on people wanting to follow and understand and get entertained by chess that matters and you can’t have just that if at the core of that product it doesn’t have any integrity the chess doesn’t matter if it’s cheated.”	<ul style="list-style-type: none"> - Investment in cheat detection system to protect online chess
I remember where I was in my basement when we covered the first world championship we ever did on chess.com which was 2010 Anand vs. Topalov I covered it with David and we saw a bump that November. I remember we were getting like 13,000 new members a day and 8,000 of them were directly attributed to India and so we started to see that events done right were not just a service to the chess community because we always knew they were kind of a money loser and but they were great for entertainment made us all love the game but they also were bringing in new interest in chess enthusiasts and so I think that it just became its own self-fulfilling thing and over time we naturally became the chess events company because of that process.	<ul style="list-style-type: none"> - Coverage of professional chess tournaments creates more value for chess fans - Attractive events can create sudden increase in membership count especially from India

Table 2: Second coded transcript of Erik Allebest (Allebest, 2024)

Transcript Excerpts	Codes
“Everybody who works at chess.com knows it’s not their highest paying job like they could all go out and work somewhere else and make more money doing something else that’s the facts like chess is not you know the most lucrative of uh business opportunities or careers that said we do exist we do want to be self-sustaining and to make money and you know create value and you know be able to give raises and hire people.”	<ul style="list-style-type: none"> - Passionate employees who don’t just work for money - Vision to become economically sustainable
“We have three missions which is to serve our audience and the community to grow the game and then to be the best partner to work with whether you’re a team member and an employee whether you’re a title player whether you’re another company whether you’re a content creator we want to be the best possible partner for you. Grow the game means the number of people who love chess so when we first started chess.com our mission was just to serve the community and then we actually realized oh we don’t have to just serve the existing audience we can make the audience bigger and so we’ve started to do a lot of things to try to grow the game so that more people can enjoy chess.”	<ul style="list-style-type: none"> - Vision to grow the game by making more people love chess - Vision to be the best partner to work with

Table 2: Second coded transcript of Erik Allebest (Allebest, 2024) (Cont.)

Transcript Excerpts	Codes
“Frankly we’re 10 times bigger in terms of revenue now than we were in say like 2018. COVID was the first boom, Queens Gambit was another PogChamps was another, media cycle was another, Mittens was another, creators and short form content was another school boom in the US where suddenly when you’re in high school in the US you know 10 years ago chess was for nerds now everybody plays chess and so there’s been some big changes and things that happened um that and that have all contributed to the really changing perspective and generational change of how people you know perceive and enjoy chess.”	<ul style="list-style-type: none"> - Social media marketing of chess - Mittens computer bot feature - Short-form content of chess - Cultural acceptance of chess
“Massive great growth in India as well absolutely I mean we’re seeing growth everywhere um but the two to highlight are yes American schools changed a lot and then secondly India uh significant growth there those where else I mean it’s all of it has risen but those are primarily two of the biggest areas but you know again most of our user base has become more geographically diverse meaning it used to be at the beginning much more American Centric over 50% was America now you know us is you know 30% or something like that and massive growth elsewhere India is obviously number two uh but you know there’s so many countries where chess is thriving you know turkey and Brazil and Philippines and you know in so many so many places so places it’s not thriving surprisingly China uh is interestingly uh two world champions from China now men and women but uh I have tried very hard to reach through to China and it’s been extremely difficult I mean you know they are it’s not easy to work through to their market.”	<ul style="list-style-type: none"> - Massive growth in India market - Initially American-centric to more global-centric - China is a difficult to access market
“We don’t have any Russian subscribers so no one can pay from Russia. We also have an official stance toward the Ukraine war that is pretty clear and because of that stance you know the Russian government has decided to you know block the service which I heard really they just wanted to block one web page that we posted but they ended up blocking the whole site because of it.”	<ul style="list-style-type: none"> - Russia market is blocked due to international politics about Ukraine war
“I do think people don’t give us enough credit in some ways for the capabilities and the investment that we have made that said they’re focusing on things that are particularly painful to them a particular loss and so sometimes that clouds out the overall view of what we’re doing and the thing that does bother me a little bit is that it can sometimes then create a cycle of paranoia where it doesn’t need to be there so and I don’t think that’s particularly healthy for the game.”	<ul style="list-style-type: none"> - Losses in competitive events may lead to cheating accusations that harm the reputation of online chess - Despite investment in anti-cheating measures, cheating paranoia still exists

Table 3: Third coded transcript of Viswanathan Anand (Anand, 2023)

Transcript Excerpts	Codes
“The speed of chess it’s both good and bad it’s good they have so many more opportunities so many more tournaments at the same time I don’t know that necessarily um that their careers can be as long as the previous generation, the retirement age is beginning to drop. I think their careers will be faster but they are also burning out fast I don’t know fully how that will shape up but we will see it’s hard to believe that and talent is emerging much faster as well and new countries much younger they pop up and how long are you going to eventually all this takes a toll so I think the replacement rate will be much faster.”	<ul style="list-style-type: none"> - Chess is becoming faster with lower time controls allowing for more tournaments - Shorter career cycles and earlier retirements due to speed chess

Table 3: Third coded transcript of Viswanathan Anand (Anand, 2023) (Cont.)

Transcript Excerpts	Codes
<p>“Mostly in the very competitive environment, we have so many people trying for so few seats that they're already shaped by this competition and parents have this ability to dedicate a lot of energy and time not that other cultures don't do it, but the way we come to chess tournaments or cricket events and you bring your kid along and you try to do this our way of approaching this itself tends to produce this sort of and you see Indian youngsters very often the parents will arrange coaches with them very quickly and very seriously and the second thing is the ecosystem is very good. There was already a previous generation of grand masters who start an academy. They help the youngsters along and then some of these youngsters start academies of their own by now we have a very good setup we don't even need to go outside for much maybe at the final stages you want to compete against you travel but otherwise most of the training coaching all this stuff it's pretty good right here.”</p>	<ul style="list-style-type: none"> - Indians treat chess like other serious, competitive sports - Previous generations of Indian grandmasters train promising youngsters in a continuous cycle

Table 4: Fourth coded transcript of Magnus Carlsen (Carlsen, 2024)

Transcript Excerpts	Codes
<p>“I do get the chance in February to do something that I've never done before and that really hasn't been done before in chess either which is to play Fischer random chess or freestyle chess as it's called in this tournament at the classical time control I'm really looking forward to do that because Fischer random chess I think it's always been played in rapid time control which never made a lot of sense to me since you have to think for move one then you lead then you need more time to think and for classical chess there's a lot of theory so you would need less time so it's better to play rapid and blitz there um instead and that's one of the visions that I have for the future that there will be more um Fischer random chess or other variants for classical and that regular chess will be more rapid and blitz which I think it's better suited for.”</p>	<ul style="list-style-type: none"> - Future chess tournaments should include more variants such as Fischer random
<p>“I do want to have events as well that look more like chess boxing where there are a lot of fans maybe the players can play with um noise cancelling headphones so that uh you know people around can make as much noise as they want so I do think that that's something that could be exciting for chess as well yeah I still think most of um the chess fan experience is going to be online.”</p>	<ul style="list-style-type: none"> - Chess events such as chess boxing create valuable online fan experiences
<p>“Chess.com has been a really good partner last year it's made my life a bit easier since things are um sort of more centralized they definitely have lot of ideas and visions for the future and many of them correspond um pretty well with uh with mine in what ways is chess.com sort of helping to evolve the game do you think I think chess.com has a great reach obviously and they're also making the game faster and more fun.”</p>	<ul style="list-style-type: none"> - Merger and partnership with Chess.com was beneficial

The fourth YouTube interview was between another former five-time Chess World Champion Magnus Carlsen and a Chess.com interviewer about his motivation and vision for chess. Magnus Carlsen is still currently considered to be the world's best chess player with a FIDE rating that is consistently over 2820

even though he voluntarily gave up his chess world championship title in 2023. He maintains immense influence on the chess world due to his unmatched skill, popularity, and charisma

The codes created from the interview transcripts are first grouped under a variety of diverse themes which

are then divided into two tables in order to continue the process of answering the research question about factors that increase or decrease the global number of chess players. The first group of themes are considered to be factors that help to increase the global number of chess players and the second group of themes are

considered to be factors that can limit or decrease the global number of chess players. The codes of each themes are then combined and reorganized to provide a more coherent explanation of each theme. Each theme represents an important factor that affects the global number of chess players.

Table 5: Definitions and labels for themes that increase global number of chess players (Braun & Clarke, 2006)

List of Themes That Increase Chess Growth
1) Good management: Chess.com was well-managed by Erik Allebest since the beginning. It began as a low budget start-up which continued growing at a sustainable pace. He believed that chess experience should focus on becoming a fan rather than a master, and had a vision to build a global chess community which was symbolized by the Chess.com's logo of the pawn that represents everyone. Chess.com provided a better online experience compared to earlier competitors but the discovery of cheaters required substantial investment in cheat detection to protect online chess. He also wanted to make Chess.com the best partner to work with. Even though Play Magnus Group, previously Chess.com biggest competitor, was acquired by Chess.com, Magnus Carlsen still considered it beneficial to merge and partner with Chess.com. All of these actions were indications of good management.
2) Passionate stakeholders: Everyone working in Chess.com is passionate about chess. Chess.com started as a remote workplace hired from global fans who were willing to work all night. All employees knew that working at Chess.com is not their highest paying job but they do it because they love the game and they want to grow the game by making more people love chess. The goal of enjoying chess is more important than becoming better at chess.
3) Global digital culture: As the Internet became more accessible and smartphones became more affordable, a growing number of people worldwide has the opportunity to play online chess. Online chess is currently played more on mobile phones than computers. With the digital infrastructure available, significant booms happened during COVID lockdown, PogChamps tournament between Twitch streamers, and Queen's Gambit Netflix show. As online chess became more popular worldwide, it became culturally acceptable to play chess.
4) Social media marketing: Online chess content became popular on a variety of social media marketing platforms such as YouTube and Twitch. Chess.com encouraged popular grandmasters such as Hikaru Nakamura to live stream online chess. Short-form content of chess also became more popular with the rise of TikTok. Scheduled online chess events such as chess boxing also create valuable online fan experiences.
5) Competitive events: Coverage of professional chess tournaments creates more value for chess fans. Attractive events can create sudden increases in membership count especially from India. Classical chess tournaments can take up to six hours which is boring for viewers so competitive chess is now becoming faster with lower time controls to allow for more tournaments. Future chess tournaments should include more variants such as Fischer random to keep the game fresh.
6) Game improvements: Online chess on Chess.com is not only free-to-play and available 24 hours every day but also offers growing features as well. Chess.com features include being able to play different variants of online chess under different time controls, puzzles, learn how play chess better, and watch events online. Puzzle rush was an especially fun game feature for live streaming. There are also dozens of computer bots of various difficulties to play against with the Mittens cat bot becoming a popular meme. Fantasy chess may be introduced soon to make chess more similar to real sports to create additional value.
7) India market: The global chess market transitioned from initially American-centric to become more global-centric with recent massive growth in the India market. Indians treat chess like other serious, competitive sports and previous generations of Indian grandmasters train promising youngsters who will grow up to teach future generations in a continuous cycle.



Table 6: Definitions and labels for themes that decrease global number of chess players (Braun & Clarke, 2006)

List of Themes That Decrease Chess Growth
8) Cheating: Cheating is considered by all chess industry experts to be an existential threat to online chess. Cheating threatens the enjoyment of online chess and is unfortunately not preventable because of easy access to chess engines. Whenever grandmasters experience tough losses in competitive online events, there is always the possibility of instinctively making cheating accusations that harm the reputation of online chess. Despite investment in anti-cheating measures, cheating paranoia still exists.
9) Technical difficulties: Previous sudden, unexpected booms in the number of Chess.com members have created technical difficulties. Growing membership requires more investment in hardware because Chess.com being offline or unavailable for too long is an existential threat.
10) Unsustainable career: With chess become faster with lower time controls where each player has less than half an hour to make all their moves, older grandmasters can no longer keep up. This era of speed chess leads to faster career cycles and earlier retirements which can make the career of chess even more unsustainable. The tournament for classical world championship is also too long and boring so that's why the world's best chess player Magnus Carlsen even gave up his title because it was not enjoyable for him.
11) Restricted markets: Despite online chess being free-to-play, some countries are still difficult to access. China has unfriendly restrictions against American companies like Chess.com and Russia market is blocked due to international politics about Ukraine War.

A chronological narrative is provided based on the development of the 11 themes. The protagonist of the story behind the growth of Chess.com is Erik Allebest along with key supporting characters, Viswanathan Anand and Magnus Carlsen. Erik Allebest first bought the domain name of Chess.com in 2005 and relaunched the website in 2007. Built upon his previous experiences of managing other chess businesses and motivated by his passion, he established a low budget startup working with remote fans and employees who were willing to work all night based on their love for the game. His vision of building a community for global chess fans is symbolized by his choice of the pawn as Chess.com's logo to represent everyone. He wanted chess players to become chess fans rather than chess masters because the ultimate goal is to enjoy the game of chess. He personally considers himself to be the guardian or steward of chess. This combination of good management and passionate stakeholders are the first two significant factors that contribute to the increase of global chess players.

Meanwhile, between the years 2010 to 2020, the world economy became more digitalized with ever more accessible Internet and more affordable smartphones. As more work, entertainment, and social activities are done on smartphones, it became culturally and socially acceptable to play online games such as chess, which was formerly considered a game for nerds. Social media marketing of chess and live streaming of competitive events also create enjoyable content and memorable experiences for chess fans which lead to more loyalty and increased player base. All of these digital cultural factors laid the foundation for further booms in the number of chess players afterwards. There were initial booms in chess such as when Chess.com convinced grandmaster Hikaru Nakamura to start live streaming on Chess.com back in 2017 and the introduction of puzzle rush feature where players solve as many chess problems as they can in a short time in 2018. At first, Erik Allebest was worried that online chess already peaked back in 2018 but it was not until 2020 when chess experienced even bigger booms. In the eventful year of 2020, when COVID

lockdowns happened worldwide and millions of people were forced online, the digital infrastructure for online chess already existed for new players to join easily. Starting in May 2020, Chess.com invited internet personalities and Twitch streamers to participate in the PogChamps tournament for two weeks to create valuable experiences for chess fans as part of social media marketing. In October 2020, Netflix released the Queen's Gambit show which became immensely popular, won many awards and triggered massive interest in chess. However, the suddenly explosion in the number of online chess players overloaded Chess.com servers requiring sudden, substantial investment in new hardware to maintain player base and user experience. This experience served as a warning that even during booming phases, the threat of technical difficulties can still be a factor to decrease number of global chess players.

In September 2022, Magnus Carlsen accused Hans Niemann of cheating during the 2022 Sinquefeld Cup which led to a scandal that was widely covered and shed some light on the threat of cheating in online chess. Cheating is an existential threat to the game of chess and is a factor that can decrease number of global chess players. Consequently, Chess.com management had already invested in cheat detection systems with a public education campaign about the transparent steps and actions they take to discourage cheating. In December 2022, Play Magnus Group, previously Chess.com biggest competitor, was acquired by Chess.com and two years later, Magnus Carlsen still considered it beneficial to merge and partner with Chess.com which are further examples of good management.

Coverage of professional chess tournaments in the past decade also creates more value for chess fans. Examples of popular livestreams of tournaments covered by Chess.com with over 500,000 views each

were the Speed Chess Championship Final in 2023 and Champions Chess Tour in 2023. Attractive events can also result in sudden increases in membership count. Future chess tournaments might include more chess variants such as Fischer random where the backrow pieces of each color are randomly shuffled at the start of each game to avoid importance of memorization to make the game fresh. Introducing fantasy chess as a new game feature will also make chess more similar to real sports to create value for fans. Introduction of new game features can sometimes lead to sudden growth when covered by social media like in the case of what happened with the introduction of the Mittens cat bot that was almost unbeatable. The combination of competitive events and continuous game improvements makes the game of chess more enjoyable and therefore serve as two more significant factors that contribute to the increase of global chess players. However, due to viewership boredom with classical chess where each game can take up to six hours and with chess becoming faster with lower time controls allowing for more tournaments, it will lead to faster career cycles and earlier retirements. This makes a career in chess more unsustainable and is a factor that decreases global number of chess players.

Chess experienced massive growth in the India market over the past decade owing to Viswanathan Anand's promotion of Indian chess and the ever increasing digitization of global economy. Indians treat chess like other serious, competitive sports and previous generations of Indian grandmasters train promising youngsters in a continuous cycle. Just to show how strong Indian chess players have become, in February 2024, 5 out of the top 20 grandmasters according to FIDE rating are from India. While the promising India market serves as a factor that increases the global number of chess players, other countries are not as welcoming to chess. Even though both the male



and female world champions of chess are currently from China, the Chinese market is difficult to access for an American company like Chess.com. The Russia market is also blocked to Chess.com due to Chess.com's vocal support of Ukraine. Restricted markets, namely China and Russia serve as another factor that limits the global number of chess players because their populations do not have easy access to Chess.com's services without using a VPN. If Chess.com can become more persuasive with the Chinese and Russia governments, then unrestricted access to both the China and Russia market would substantially increase Chess.com's player base.

A summary of the research findings from all interviews is provided. The first video revealed factors about good management, passionate stakeholders, global digital culture, social media marketing, competitive events, game improvements, cheating, and technical difficulties. The second video revealed factors about good management, global digital culture, India market, restricted markets, and cheating. The third video revealed factors about competitive events, India market, and unsustainable career. The fourth video revealed factors about game improvements and cheating. Overall, the factors that increase global number of chess players are good management, passionate stakeholders, global digital culture, social media marketing, competitive events, game improvements, and India market. Factors that decrease global number of chess players are cheating, technical difficulties, unsustainable career, and restricted markets. The qualitative research data results provided these answers to the research question about what are the various factors that can increase or decrease the global number of chess players.

A further explanation of the findings is provided. Knowledge about these factors that affect the global number of chess players can provide a guideline and

point of reference to Chess.com and other businesses affiliated with the global chess industry about management actions that should be taken in order to maintain chess growth as well as respond to threats that limit chess growth. In order to continue increasing the global number of chess players, good management must be maintained and an enjoyable environment should be provided to all stakeholders in the chess industry to sustain their passion. Attractive content and daily updates about chess should be continuously posted on social media for fans to enjoy to continue growing chess under the reality of the current global digital culture. New ways of playing chess should be explored to improve the game so that both old and new players can maintain their interest. Competitive events should be maintained to allow fans to follow and watch professional chess like other sports but should also be kept sustainable so competing grandmasters can still make a viable living without burnout. The largest recent growth in the global number of chess players came from the India market so Chess.com can learn from this experience and attempt to grow the number of chess players from restricted markets such as Russia and China. Cheating is the most serious threat to the growth of chess so anti-cheating measures must be constantly updated and announced to the public to protect the game and maintain players' trust while technical difficulties should be kept to a minimum.

V. CONCLUSION

Chess is an ancient board game that can still compete with other flashy games in the online gaming industry. Perhaps the only upgrade chess had was the evolution to its digital form of online chess that can be played on touchscreen or a computer with a mouse and only requiring any electronic device with Internet connection. The gameplay is essentially the same,

although probably more convenient due to not requiring a physical board and pieces. Not many games have the same resiliency as chess except for similar ancient board games like Go or Xiangqi.

One main reason why Chess.com currently has over 160 million members is passion. Passion for the game is the reason why the CEO of Chess.com did not choose to work in another more profitable career in Silicon Valley and why Chess.com employees were willing to work overtime for less pay. Obviously passion alone is not the sole reason for the growth of chess. Other important factors such as good management, global digital culture, social media marketing, and competitive events work together to grow the game of chess but ultimately they are fueled by passion. This passion of chess along with the rich chess history and global communities of older chess players is not something that can be replicated by online gaming companies that focus more on trying to make their players addicted to their casino-like games with loot boxes that encourage gambling behavior. These companies view their customers more as cash cows to be milked to the limit rather than as passionate fans, which is not sustainable.

There are threats to the growth of chess as well, particularly on the issue of cheating which is being addressed by Chess.com's ever improving cheat detection system. Technical difficulties must be quickly responded to and resolved while the unsustainability of a career in chess should be responded to with the creation of viable jobs in chess. Ideally, online chess should be available in every country but there is restricted access in China and Russia so hopefully, the international politic situation may improve in the future.

At first glance, chess might seem like a boring game compared to other online games. However, the social media marketing efforts of Chess.com and other chess content creators create memorable experiences to drive up the value of chess and convert chess players

or viewers into passionate chess fans. The growth of online chess demonstrates that gaming businesses do not have to fixate on hiring video game programmers to constantly develop new games with continuous updates. If the 1,500-year-old game of chess can continue to survive and even compete in today's online gaming industry that prioritizes hi-tech animations and flashy explosions, then previous assumptions about game design and marketing should be revised.

It is important to acknowledge the limitations of this study. First of all, the sample size was small and conveniently selected based on popularity so they might not represent global chess industry experts. Secondly, while this qualitative research study provided a lot of detailed context, there is a lack of generalizability and scientific evidence based on numerical values. Thirdly, the data was secondary so there was no control over the interview questions and answers. Future studies can go in more details about specific factors contributing to chess growth. A quantitative research version of this study is recommended in the future if the numerical data becomes available.

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