

Analyzing Customer Sentiments in Genshin Impact: A Business Intelligence Perspective on Player Perception

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Abstract— Customer perception plays a pivotal role in determining the success of a game in the competitive market landscape. It encompasses how players perceive various aspects of the game, including its mechanics, visuals, story, character design, and overall experiential quality. In data analysis, sentiment analysis has emerged as a powerful tool for gaining valuable insights into customer perception. This research aims to employ sophisticated sentiment analysis techniques to understand customer perception in the context of Genshin Impact comprehensively. Through sentiment analysis, this study explores the intricate relationship between customer perception and player sentiments expressed concerning Genshin Impact. An analysis of categorized tweets reveals significant sentiment patterns associated with using specific words. Negative sentiment is observed in tweets containing words such as "lazy," "retired," "uninstalled," and "sad," indicating the presence of unfavorable content. Conversely, positive sentiment is associated with words like "play," which holds the highest frequency in positive keywords. Genshin Impact players use this term to express their enjoyment and satisfaction from engaging with the game. Additional positive keywords include "interesting," "funny," "gacha" (a term related to acquiring characters in the game), "lore," and "characters." By leveraging sentiment analysis techniques, this research contributes to a comprehensive understanding of customer perception in Genshin Impact. The findings shed light on the prevailing sentiments of players and provide insights into the factors contributing to positive and negative perceptions of the game.

Keywords—sentiment analysis, Genshin Impact, gameplay experience, customer insight, business intelligence.

I. INTRODUCTION

Nowadays, video games cannot be separated from the daily activities of the players. A game has various conditions that will push players to make decisions based on different goals and outcomes [1]. Players' decisions in solving certain situations are based on the player's thoughts and dreams. Since various circumstances require thinking-based settlements, cognitive function is enhanced by video games [2].

Video games result from technological developments that players can experience when playing devices. Mental health, a hot issue today, is often associated with the invention of video games. Higher well-being was found for players who

spent more time playing as a recreational activity [3]. These findings may be influenced by other factors impacting the relationship between gameplay and play duration.

The gaming industry has witnessed a remarkable surge in popularity and profitability. With the advent of powerful gaming consoles, the widespread of smartphones, and the rise of online gaming platforms, the gaming market has become lucrative, attracting millions of players worldwide. As a result, game developers and publishers continuously strive to create captivating experiences that entertain, engage, and retain their customer base.

Genshin Impact is famous among game players at the moment. Genshin Impact is an action game with an endless variety of content to explore. With characters' special abilities, players can determine unique strategies for solving difficult obstacles or set up an outstanding team to have fun with. Difficulties continue to appear and grow in Genshin Impact alongside patch updates. With this difficulty, players can view content in the community to help progress in completing existing obstacles to get limited available prizes or limited-time prizes. Genshin Impact is classified as an action game with fun situations that sometimes frustrate players [4].

As a game that is constantly updating, Genshin Impact presents various obstacles with varying levels of difficulty based on the map in the game. There are four regions in Genshin Impact with unique obstacles in each area: Mondstadt, Liyue, Inazuma, and Sumeru. Players who join the Genshin Impact community have some favourite maps. Game developers should understand the unique reasons players want to play their games, considering the importance of user reviews of released products to develop better games in the future. This game development is based on the merits of user reviews of a product obtained from experience [5].

Negative emotions arising from disapproval of content can last for a long time. The negative emotions emitted by some groups of players have been seen in the chat feature provided by the game developer and in the comments developer's official account. With this digital trail evidence, data are obtained to identify player behaviour in online game services [6]. Based on the data, the final interpretation will be received by processing the data using sentiment analysis.

Customer perception plays a vital role in shaping the success of a game in the market. It encompasses how players

perceive various aspects of the game, including its mechanics, visuals, story, character design, and overall experience. Sentiment analysis has emerged as a powerful tool in data analysis to gain insights into customer perception. Sentiment analysis enables the extraction and interpretation of subjective information, such as emotions, opinions, and attitudes, expressed by customers through various channels, including social media, reviews, forums, and player feedback.

In the context of Genshin Impact, conducting sentiment analysis to understand customer perception holds significant implications for business development. The game has cultivated a dedicated player community, fostering active engagement and generating abundant user-generated content. The sentiments players express through their reviews, discussions, and interactions on social media platforms provide invaluable insights into their satisfaction, concerns, and preferences.

Therefore, this research aims to employ sentiment analysis techniques to understand customer perception in Genshin Impact comprehensively. By analyzing player feedback across diverse platforms, we seek to uncover the prevailing sentiments and opinions regarding different aspects of the game.

II. SENTIMENT ANALYSIS

Sentiment analysis, often known as opinion mining, is a computational method for obtaining and examining subjective data from text data [7], [8]. This analysis process involves natural language processing (NLP) techniques to identify and classify the sentiments reflected in the text and classify them as positive, negative, or neutral [9]. Researchers' interest in sentiment analysis has grown significantly in recent years. Researchers' interest in sentiment analysis has grown significantly in recent years. The application of this analysis has been carried out in various fields. Sentiment analysis can be used to monitor social media, analyze customer feedback, conduct market research, and even analyze politics.

TABLE I. GENSHIN IMPACT COMMUNITY SENTIMENT TABLE

| Negative | Neutral | Positive | Total |
|----------|---------|----------|-------|
| 635 | 1850 | 770 | 3255 |

Researchers have used a variety of methodologies to perform sentiment analysis, ranging from traditional machine learning algorithms to more sophisticated deep learning techniques. Traditional approaches often rely on feature engineering and classification. In the traditional approach, researchers utilize Support Vector Machines (SVM), Naive Bayes, and Decision Trees to predict sentiment [10]. However, this method is considered less able to capture semantic and contextual information. With the emergence of deep learning, recurrent neural networks (RNN), convolutional neural networks (CNN), and long short-term memory (LSTM) networks, sentiment analysis has become easier to do [8]. These models are considered effective in capturing the order and contextuality of a text to improve the performance of sentiment classification.

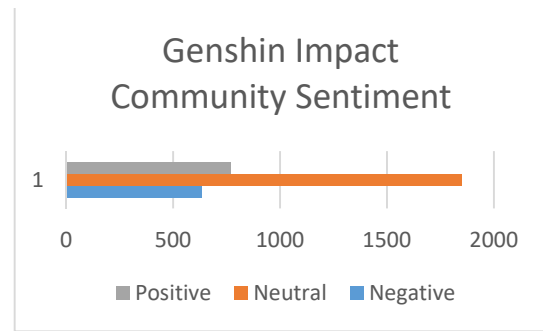


Fig1 Genshin Impact Community Sentiment Chart

Sentiment analysis faces several challenges. One of the main challenges is the satire and irony text [11]. This kind of text may cause errors in classification. Another challenge relates to the text domain. Sentiment classifications trained in one particular domain cannot be used in other domains [12]. Researchers are trying to create domain adaptation techniques, such as transfer learning and domain adaptation models, to overcome domain problems. Multilingualism also poses challenges for sentiment analysis [13]. Differences in language nuances, cultural differences, and lack of data are susceptible to errors in classification. To overcome this problem, the researchers explored cross-language transfer learning and multilingual embedding to improve the performance of sentiment analysis.

TABLE II. NEGATIVE WORDS

| Word (Indonesian) | Word (English) | Total |
|-------------------|----------------|-------|
| main | Play | 145 |
| login | Login | 36 |
| males | Lazy | 35 |
| pensi | Retire | 35 |
| event | Event | 32 |
| buka | Open | 30 |
| suka | Like | 27 |
| akun | Account | 25 |
| pity | Pity | 19 |
| uninstall | Uninstall | 18 |
| quest | Quest | 18 |
| update | Update | 18 |
| gacha | Gacha | 17 |
| gede | Big | 17 |
| banner | Banner | 17 |
| hapus | Erase | 16 |
| bener | Right | 15 |
| abis | Run out | 14 |
| kazuha | Kazuha | 13 |
| sedih | Sad | 13 |

Sentiment analysis has been widely used in various fields. Social media sentiment analysis can help entrepreneurs monitor and understand public opinion about specific topics, certain brands, or certain events [14]. This analysis allows

companies to analyze customer feedback and sentiment on their products or services. This analysis can also assist companies in making decisions and managing their reputation [15], [16]. Sentiment analysis is also essential in politics because it can measure public sentiment toward political figures and political policies [17], [18]. This analysis also contributes to campaign strategy and policy formulation. In the health sector, sentiment analysis is used to analyze patient reviews and patient experiences to improve healthcare services [19], [20]. In addition, sentiment analysis can be applied in financial markets, where sentiment signals from news articles and social media can predict stock market movements [21].

III. RESEARCH METHODS

The method used in this study begins with data collection via the RapidMiner application. RapidMiner is a system in the data mining process designed as a tool for the documentation process [22]. This system has been used to collect related data that is useful as a basis for analysis so that the results and research objectives are relevant. Data was collected from social media Twitter to provide insight into community reactions to Genshin Impact, including story plots, characters, songs, and other related matters.

TABLE III. NEUTRAL WORDS

| Word (Indonesian) | Word (English) | Total |
|-------------------|----------------|-------|
| main | Play | 332 |
| akun | Account | 124 |
| game | Game | 68 |
| event | event | 57 |
| suka | Like | 52 |
| daily | Daily | 37 |
| karakter | Character | 34 |
| temen | Friend | 33 |
| kazuha | Kazuha | 31 |
| player | Player | 29 |
| temenan | Befriend | 28 |
| bikin | Make | 27 |
| anime | Anime | 23 |
| update | Update | 23 |
| nanya | Asking | 23 |
| pengen | Want | 21 |
| coba | Try | 21 |
| salah | Wrong | 20 |
| coop | Coop | 20 |
| quest | Quest | 19 |

The data obtained in the research process use keywords related to “Genshin Impact” on the Twitter platform. The data acquired will be classified into negative, neutral, and positive comments. The reviews given by the players play a significant role in seeing the sentiments of the player community towards

the game Genshin Impact. The opinion issued by the community towards Genshin Impact tends to reflect the situations and conditions contained in each content.

Data classification is reviewed directly without using any machine learning assistance. This review was carried out directly, considering the wide variety of comments. As the data has gone through the cleaning stage, researchers can more easily determine the positive, negative, and neutral classifications of all the data that are being reviewed. With this method, research can run more optimally, considering that some phrases and clauses tend to be known only by players who join the Genshin Impact community.

TABLE IV. POSITIVE WORDS

| Word (Indonesian) | Word (English) | Total |
|-------------------|----------------|-------|
| main | Play | 255 |
| event | Event | 38 |
| login | Login | 36 |
| kangen | Miss | 35 |
| suka | Like | 32 |
| pengen | Want | 31 |
| impact | Impact | 22 |
| gacha | Gacha | 19 |
| lucu | Funny | 19 |
| chara | Character | 17 |
| seru | Interesting | 15 |
| temen | Friend | 13 |
| dapet | Get | 13 |
| player | Player | 13 |
| quest | Quest | 11 |
| kazuha | Kazuha | 10 |
| fokus | Focus | 9 |
| lore | Lore | 9 |
| star | Star | 9 |
| coop | Coop | 8 |

IV. RESULTS AND CONCLUSION

The data obtained in extracting the keywords “Genshin Impact” and “Genshin” is 10 thousand. As the data is filtered to remove irrelevant word content such as retweets, use of symbols, and numbers that are not related, it turns out to be 3255 data. The data set is classified into three categories: positive, negative, and neutral, to gain insight into community sentiment towards the game Genshin Impact. The data obtained will be sorted based on the 20-word order that appears the most in each category to determine what words are often spoken in tweets in the Genshin Impact community.

Table 1 provides information regarding each classification in this sentiment analysis. There were 3255 comments classified into 635 negative comments, 1850 neutral comments, and 770 positive comments. These comments were made by various account users drawn with the keywords

“Genshin Impact” and “Genshin.” Three positive, neutral, and negative classifications were selected and analyzed manually based on the intent and purpose of the tweets uploaded. A graphical visualization of Genshin Impact community sentiment can be seen in Figure 1, displayed with a horizontal chart.

The classification of each division will undergo further data processing to find out the keywords that appeared the most. It becomes helpful to know the main focus in selecting and categorizing each classification so that it becomes valid and relevant data. Considering that Genshin Impact has a large community, the topics of discussion circulating among the community are varied. Game content varieties also contribute to the endless topic discussion.

In Table 2, the word “play” is the most often used in negatively classified tweets. Words such as lazy, retired, uninstalled, and sad support the presence of negative content in each categorized tweet. These words describe the players’ disappointment or the negative emotions in every tweet. The relatively large size of the Genshin Impact application is also found in the keywords “big,” “run out,” and “uninstall.” These words tend to be said considering that the devices used to play are increasingly unable to operate the Genshin Impact game. With the lack of storage on their devices increasing over time, players were forced to leave their accounts and unable to participate in ongoing events and quests.

Table 3 provides information on the 20 most mentioned keywords in meaningfully neutral tweets. No specific keywords are contained as the community sentiment in this table is described by not leaning towards the positive or negative side. Players tend to make friends with other players who gather in a community on Twitter to play together and get the excitement of an adventure with other players with the help of the “coop” feature. With this feature, players can also carry out daily quests to get double rewards in friendship points.

Table 4 illustrates the 20 keywords most frequently mentioned in positive tweets. “Play” still holds the highest position for the most keywords as Genshin Impact players use the word to play to get fun in the game. Words that are positively categorized are interesting, funny, “gacha” (a term for getting a character in the game), lore, and characters that describe players’ excitement. An interesting game with exciting, spectacular lore (story plot) and engaging the player’s desire to feel the excitement is an added value raised by players in the tweets that become the reviewer’s data. The fun in the game is only found after an adventure in the game to get individual excitement.

In conclusion, the sentiment analysis conducted in this research provides valuable insights into the customer perception of Genshin Impact. The findings demonstrate the range of sentiments expressed within the Genshin Impact community, including negative, neutral, and positive sentiments. These insights highlight players’ concerns, disappointments, enjoyment, and excitement related to various aspects of the game. Such information can be invaluable for game developers and publishers in understanding player preferences, identifying areas for improvement, and enhancing the overall gaming experience in Genshin Impact.

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