Research on the Brand Image Perception of Online Literature Websites based on UGC Data: Exemplified by Faloo Fiction Net and Tomato Novel Net

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Abstract

With the widespread dissemination of online literature, it has emerged as a significant cultural and entertainment industry. Understanding how online literature websites are perceived by users is crucial for managing their brand image. This study focuses on the image perception of Faloo Fiction Net and Tomato Novel Net, using their user-generated content as the data source. The study adopts a three-dimensional framework: cognition-emotion-whole, to conduct a systematic analysis of the two websites. To examine the cognitive image, the study employs word frequency analysis to analyze word frequency, word nature, and high-frequency word coding categorization. Additionally, GooSeeker software is used to analyze the affective image. Lastly, the study applies semantic net analysis to assess the overall image of the websites. Based on the findings, management recommendations are provided.

Keywords

Online Literature Websites; UGC Data; Word Frequency Analysis; Brand Image Perception.

1. Introduction

In the 1990s, the Chinese original literature website "RongShuXia" was established, marking the early stages of Chinese online literature. Subsequently, in 2003, the Chinese website "QiDian" introduced the VIP fee model, which led to the commercialization of online literature. [1] After a decade of development, the online literature industry has emerged as a significant sector within the cultural and entertainment industries.Online literature platforms are widely recognized as essential nodes in the digital reading ecosystem and the primary carriers of online literature content. According to the "2022 China Online Literature Development Research Report", the scale of China's online literature industry in 2022 reached 38.93 billion yuan, reflecting an annual growth rate of 8.8%. The number of users has reached 492 million, while the cumulative number of Chinese online literature writers has exceeded 22.78 million. Furthermore, the full copyright operation of online literature intellectual property (IP) has profoundly impacted the digital culture market. In 2022, it contributed to a market scale of 252 billion yuan in areas such as games, film and television, animation, music, and audio. The market is expected to continue growing, with an annual increase of over 10 billion yuan. Among the prominent online novel platforms in China, Faloo Fiction Net and Tomato Fiction Net, though relatively new compared to the industry leader "QiDian", have attracted numerous writers and amassed a substantial user base. In fact, their number of hits even surpassed that of "QiDian" in 2021.

The success of Faloo Fiction Net and Tomato Fiction Net is closely tied to the brand image they have cultivated for their respective websites. In the online literature industry, where user experience and satisfaction play a pivotal role, investigating the brand images of these platforms can assist in effectively managing the overall image of the online literature sector. A

favorable brand image for a novel website can significantly enhance users' identification with, trust in, and satisfaction regarding the brand. This, in turn, can bolster the social influence of online literature and generate substantial social benefits. Further research and analysis are still required to explore how users perceive the brand image of these two platforms.

Currently, there is a greater emphasis on studying user satisfaction with online literature websites, with questionnaire surveys being the predominant research method. However, there is a dearth of existing literature on utilizing user-generated content (UGC) data to analyze the brand image of online literature websites. This study aims to address this gap by employing brand image perception theory and leveraging online reviews from users of Faloo Fiction Net and Tomato Fiction Net as the primary data source. The analysis is conducted within the framework of a three-dimensional model "cognition-emotion-whole". To comprehensively analyze the aggregated textual data, word frequency analysis is employed. High-frequency words are examined from three perspectives: part of speech, association with the novel website, and representation of the brand. Furthermore, a semantic net analysis is conducted on the review texts obtained from the book review platform to explore the interconnectedness of words. Through these analyses, the emotional tendencies within the brand images of the two fiction websites are determined, providing insights into users' perceptions of the brand images of online literature websites. Recommendations for image management are then proposed. Importantly, this research reveals issues such as plagiarism, ghostwriting, and content homogenization present in both Faloo Fiction Net and Tomato Fiction Net.

2. Theoretical Foundations and Research Methods

2.1. Brand Image Theory

The concept of brand image has long been recognized as vital in the field of marketing and has garnered significant attention from scholars both domestically and internationally.

Research on brand image has been more extensive in foreign countries compared to China. Several scholars have defined brand image as "consumers, emotions, attitudes and perceptions towards a brand" [2]. Joseph Reeves introduced the theory of Unique Selling Proposition (USP) in the 1950s. The aim was to create distinctive selling points through advertising to achieve differentiated marketing within the same industry [3]. David Ogilvy, in the 1960s, emphasized that brand image would vary based on consumers' impressions and experiences. He asserted that creating differentiation in product brand images was crucial to highlight product differences from a brand positioning perspective [4]. Subsequently, researchers from both domestic and international backgrounds conducted extensive and profound investigations on brand equity. They made significant breakthroughs and achievements in the study of brand image measurement theory, providing valuable references for subsequent theoretical research.

Over the past three decades, numerous domestic and international researchers have regarded brand image as the association or perception of a brand in consumers' minds. Aaker (1997), in the brand identity system model, considered brand image as a collection of associations organized in a meaningful manner. These associations can take various forms that are linked to brand memory, such as product attributes, customer benefits, or relative prices [6]. According to Keller (1993), brand image encompassed consumers' perceptions of a brand that reflected its meaning and are stored in consumer memory in the form of an associative network [8]. Krishnan (1996), drawing upon the ideal network memory model proposed by psychologists, put forth his own model of brand image, highlighting the prominence of brand associations [9]. Biel (1993) suggested that brand image is formed through a combination of attributes and associations attributed to the brand name as perceived by consumers [7].

Research on brand image in China commenced in the early 21st century. Luo Ziming (2001) identified two components of brand image: image design and consumer behavior. He proposed

a framework of indicators to regulate brand image composition, including brand perception, product attribute perception, brand association, brand value, and brand loyalty [12]. Fan (2002)defined brand image as the expression of customers' overall perception and connotation of a brand. He divided the composition of brand image into four dimensions, each with its own measurement indicators [13].

In summary, domestic research on brand image in China primarily consists of analyzing and refining foreign research. A unified consensus on the definition of brand image concept has not yet been established in China. As such, this paper aims to analyze the brand image perceptions of two websites, namely Faloo Fiction Net and Tomato Fiction Net, using the word frequency analysis method.

2.2. Content Analysis Method

Due to information asymmetry, an increasing number of information collectors are turning to the Internet to gather data on research subjects in order to achieve a balance of information. Prior to reading a novel on a new online novel website, users often resort to the Internet and other channels of information dissemination to obtain online review texts about the website. This allows them to form an initial perception and an objective evaluation of various aspects of the novel website based on a combination of their browsing experience and actual reading. As a form of data obtained through survey research, web review texts assist researchers in capturing users' perceptions of online fiction websites in a simpler and more flexible manner compared to data obtained through traditional questionnaire surveys. Utilizing the data traces left by users, researchers can retrieve, mine, and extract information.

The concept of User-Generated Content (UGC) was introduced in 2005, encompassing textual content, images, videos, and other forms of content published by users on the Internet [15]. Nowadays, consumers have the ability to express their thoughts and feelings about products and brands online at any time, making UGC a valuable data source for measuring brand image. With the advancement of technology, researchers can employ digital research software to analyze textual data, thereby enhancing efficiency.

2.3. The "Cognitive-Emotional-Whole" 3D Model

Researchers from various disciplines and fields concur that image construction involves both perceptual/cognitive and affective evaluations. The "cognition-emotion-whole" three-dimensional model has been extensively employed in conjunction with text analysis and other methodologies to investigate the image perception of tourist destinations [14]. Specifically, this approach involves acquiring relevant user-generated content (UGC) data from social media platforms and analyzing the text content using tools such as Python and POST CM 6 to explore the cognitive image, affective image, and overall image perception. In this study, we apply this three-dimensional model to analyze the image perception of fiction websites.

During the cognitive image analysis process, the evaluation text data from each fiction website is imported into the word-sorting database of GISOC. Initially, a word separation process is conducted to expand words not recognized by the system. Additionally, synonyms are merged, and irrelevant words are filtered, such as merging similar words or considering words commonly used on the internet. Subsequently, the top 20 high-frequency words are filtered out. Next, these extracted high-frequency words are categorized into different dimensions to capture the primary perceptions of consumers towards Tomato Fiction Net and Faloo Fiction Net.

In the process of sentiment image analysis, the selected online review texts were analyzed using natural language processing tools. Positive and negative evaluation semantic networks were then constructed utilizing GooSeeker software to examine the main influencing factors and connections between high-frequency words in positive and negative evaluations.

For the overall image analysis, this study first conducted data pre-processing and analyzed high-frequency words. Using GooSeeker software, evaluation semantic networks were constructed, and the textual content of the network was deconstructed to identify word associations and meanings [16]. Through semantic network analysis, the text was quantified based on the "centrality" and "relatedness" of words, where the distance between words reflects the proximity of their connections. By summarizing words located in the core, middle, and peripheral layers, the overall image of the website was analyzed to understand users' overall perception of Tomato Fiction Net and FaLoo Fiction Net [14].

3. Research Design

3.1. Case Selection

Tomato Fiction Net, a free online literature reading software developed by ByteDance, was officially launched in November 2019. Since its inception, Tomato Novel has strived to fulfill its slogan of "free good books, as much as possible in Tomato", emphasizing on providing users with a high-quality reading experience without any cost [17]. Tomato Fiction Net boasts an extensive collection of genuine novels, encompassing a wide range of genres within the online literature genre. Additionally, it offers a substantial selection of original works and classic publications derived from popular movies and TV shows. By adopting an "ad+free" reading model, Tomato Fiction Net provides contracted authors with the opportunity to earn a significant portion of advertising revenue. Furthermore, the platform offers various rewards and benefits including full attendance awards, copyright derivative development, and multiple avenues to monetize their content. Additionally, outstanding original authors receive support such as packaging, marketing, and promotional assistance.

Founded in May 2005, Faloo Fiction Net is a prominent domestic digital creative reading website that encompasses genuine digital reading, literary creation, and IP incubation. Over the years, it has evolved into a literary portal centered around original novels, showcasing innovative intellectual properties, and simultaneously cultivating a diverse range of topics. This has culminated in the development of a distinctive "Faloo style" that characterizes its works. Guided by the development philosophy of "respecting the value of knowledge", Faloo Fiction Net offers entry guidelines, creative training, manuscript reviews, and round-the-clock online consultation services. In terms of profit sharing, the platform only retains thirty percent, with the remaining seventy percent allocated to the authors, fostering a model that actively safeguards author rights and fosters a healthy ecosystem for mutually beneficial growth and progress between authors and the platform.

It is evident that Tomato Fiction Net and Faloo Fiction Net possess both similarities and differences in various aspects such as content, work review process, profit model, author earnings, and user preferences. Exploring the relationship between these two platforms allows for a comparative analysis of brand images among different online literary websites, as well as an examination of user perceptions of these brand images. Therefore, this paper selects Tomato Fiction Net and FaLoo Fiction Net as case studies to investigate these variations.

3.2. Data Sources and Collection

User reviews represent the subjective evaluations of users regarding their experience with online literary websites, providing valuable insights into their perceptions and sentiments. To ensure the credibility and impact of the study, this research leverages the book lovers' review platform as a reputable source. Specifically, two web pages, Dragon's Sky and Whirlpool Books, are selected as data sources. Employing the Houyi Collector, the study crawled user reviews from the book lovers' review platform within the timeframe of January 2023 until March 1, 2023. Initially, a total of 2160 reviews comprising 32,400 characters were collected for analysis.

3.3. Data Pre-processing Analysis

Review data serves as an effective reflection of user experience, making the accuracy of such data crucial for subsequent image analysis. The acquired reviews from the book review platform contain certain invalid text, including irrelevant data and duplicate reviews. Hence, data pre-processing was conducted to mitigate any adverse impact on the study outcomes.

Firstly, a manual de-duplication process was implemented on the 2160 reviews. This involved copying the web reviews into a Word and utilizing the search and find function to eliminate reviews that were clearly unrelated to the online novel website or reviews with ambiguous semantics, as well as meaningless emoticons, symbols, and characters. Secondly, to ensure data effectiveness, review data from the book review platform spanning from July 2022 to February 2023, was selected for the brand image perception study. Following the pre-processing stage, a total of 1336 valid comments, comprising 20,040 characters, were ultimately obtained. The detailed data are shown in Table 1.

Table 1. Fiction website review entries and character statistics

Fiction sites	Cumulative number of comments	Total characters
Tomato Fiction Net	860	12900
Faloo Fiction Net	476	7140

4. Image Analysis

Before conducting the image analysis, the dataset consisting of 1336 valid comments, totaling 20040 characters, was copied into a TXT file. Subsequently, Gooseeker software was employed to perform word segmentation on the documents. The segmented documents were then subjected to word frequency analysis, sentiment analysis, and semantic net analysis.

4.1. Tomato Fiction Net Cognitive Image Analysis

The collected texts were imported into Gooseeker software for high-frequency word analysis, and the top 20 words in terms of frequency were extracted. Words without practical meaning were excluded, and words with similar meanings, such as "author" and "writer" "boring" and "uninteresting", were consolidated. The refined word list was exported, and the detailed data are shown in Table 2.

Table 2. Tomato Fiction Net High Frequency Word, Frequency and Word Summary Table

Rank	Word	Frequency	Part of speech	Rank	Word	Frequency	Part of speech
1	Fiction	311	noun	11	Doujin	20	noun
2	Signing	75	verb	12	Channels	18	noun
3	Plagiarize	65	verb	13	Media	17	noun
4	Author	58	noun	14	Revenue	16	noun
5	Editor	44	noun	15	Originality	16	noun
6	Update	42	verb	16	Advertising	14	noun
7	Flow	38	noun	17	Fans	10	noun
8	Fee	33	noun	18	Free	7	adjective
9	Review	33	verb	19	Poor	6	adjective
10	Traditional	31	adjective	20	Report	6	verb

Word frequency reflects the frequency of occurrence of a word in web text and is used to determine the number of occurrences of a specific word in the selected text. A higher

occurrence indicates greater significance in the message. The lexical composition of words indirectly reveals users' concerns, attitudes, and experiences.

Regarding the lexical nature, verbs account for five out of the top 20 words, comprising 25%. Among the high-frequency words, namely "plagiarize" "report" and "review", they reflect users' sentiments towards Tomato Fiction Net and their expectations for improvement. The word "plagiarize", ranking third in terms of frequency of occurrence in negative sentiments, appears 65 times in the text, along with related words such as "serious" and "indifferent", directly highlighting website's insufficiency in protecting authors' copyrights and handling plagiarism-related issues. Consequently, dissatisfaction arises among users, including readers, authors, and editors. Moreover, the verbs "report" and "review" mirror users' desires for Tomato Fiction Net to establish a robust review mechanism that can reduce the influx of unauthorized works and eliminate plagiarism, as well as effectively monitor and report such works. The word "signing", ranking second in terms of frequency, pertains to the potential option for authors to apply for a contract provided their work meets specific requirements, allowing them to generate income through novel creation. Finally, the word "update" signifies readers' demand for a consistent flow of novel chapters, prompting authors to maintain innovation and productivity by updating chapters more frequently.

Furthermore, among the high-frequency words, three of them are adjectives, accounting for 15% of the total. This includes two neutral emotion words and one negative emotion word. The occurrence of neutral and negative emotion words is relatively balanced, and these impressions shape the users' perception of Tomato Fiction Net. Notably, the word "traditional" appeared more frequently, representing the preferred style of online fiction among users. Conversely, the word "free" has a lower frequency, appearing only seven times. This suggests that the quality of works in the free reading mode may be compromised due to the influence of utilitarianism and consumerism [19]. Users prioritize content quality in online novels over the mode of payment. On the other hand, the word "poor" ranks 19th in terms of frequency, occurring six times in the text. It reflects users' discontent with the issues in Tomato Fiction Net and their expectation for continuous improvement to enhance the user experience.

The remaining 12 words are all nouns, constituting 60% of the extracted high-frequency words. These nouns are associated with Tomato Fiction Net's profit model, derivative products, and the platform itself.

Among the nouns related to profitability, "advertising" ranked 16th in terms of frequency. It is acknowledged that solely relying on advertising without the support of Headlines Today and Pangolin Advertising Alliance would present challenges for Tomato Fiction Net to generate revenue. This is due to the low conversion rate of advertising, and depending solely on advertising or cash subsidies would not effectively cover the platform's overall operational costs. Consequently, the platform needs to explore alternative strategies to mitigate cash flow risks [19]. The word "fee" ranks fifth in terms of frequency and serves as one of the primary sources of income for authors. Users have the option to purchase virtual coins on the site to show their appreciation for a particular work and reward the author, with the income being shared between the platform and the author. However, this reward system is often associated with negative terms such as "bad" and "disappointing", indicating that it still fails to fully meet users' expectations.

Regarding derivative works, the terms "Originality" and "doujin" rank 11th and 15th respectively in terms of frequency. The term "Originality" refers to works independently created by authors on the fiction net. On the other hand, "doujin" represents a secondary creation based on established characters and attributes derived from an author's original work. The corresponding comments mostly display positivity and demonstrate users' appreciation for Tomato Fiction Net's original content and derivative works.

Of the terms related to the site itself, the term "author" appears most frequently, occurring 58 times. However, comments associated with this term imply that authors are dissatisfied with their earnings and often experience conflicts with "editors", particularly regarding the review process of their work and the signing system. The terms "channels" and "media" rank 12th and 13th respectively in terms of frequency. In addition to novels created by the site's own authors, Tomato Fiction Net also features noteworthy works from various sources. As a product of ByteDance, the platform also adapts high-quality fiction works and explores the transformation of fiction into micro-dramas. Furthermore, the website has established partnerships with several media platforms, film and television companies, and MCN agencies, aiming to create successful web novel IPs.

Based on the aforementioned research, this paper undertakes further coding and categorization of word frequencies. The characteristics of the top 20 word frequencies are combined and initially classified into five dimensions: feelings, site composition, site content, site works, and profit model. The statistics are shown in Table 3.

Table 3. Frequency and percentage of words in each dimension

Dimension	Phrase and word frequency						Percentage
Feelings	Poor (6)						0.7%
Site Composition	Author (58)	Editor (44)	Channel (18)	Fans (10)			15.1%
Site Content	Fiction (311)	Plagiarize (65)	Review (33)	Earnings (16)	Report (6)		50.1%
Site Works	Tradition (31)	Doujin (20)	Media (17)	Originality (16)			9.8%
Profit Model	Signing (75)	Updated (42)	Flow (38)	Fee (33)	Advertising (14)	Free (7)	24.3%

As shown in the table above, the dimension with the highest frequency of words is "site content", accounting for 50.1%, while the lowest is "feeling", accounting for only 0.7%.

In the perception dimension, the word "poor" indicates users' dissatisfaction with the vulgarity, homogeneity, and excessive commercialization of the website's content. This suggests the need for continuous improvement in functions to enhance users' experience.

In the website composition dimension, the terms "author" and "editor" appear frequently, playing crucial roles in the fiction website. Despite authors having a higher representation, they express dissatisfaction with their income and benefits, resulting in predominantly negative sentiments. On the other hand, the terms "channel" and "fans" have less frequent occurrences and similar frequencies, exerting minimal impact on the site's composition.

Regarding the website content dimension, besides the most basic and frequently encountered term "fiction", the next most frequent term is "plagiarize". This is due to the lack of effective government and website supervision over online literary works, leading to some authors pursuing quick profits and creating works with commercialized, vulgar content, and instances of serious plagiarism. This includes plagiarism of plotlines, character designs, and classic story elements [22]. Moreover, the term "report" reflects users' emphasis on addressing the issue of plagiarism with a "zero tolerance" attitude. The presence of the term "review" indicates shortcomings in the website's review mechanism, which directly contributes to the prevalence of plagiarism and pirated novels on the site.

The high frequency of the word "traditional" in the site works dimension of the web site indicates that users have a preference for a specific style of writing. Following that, the terms

"doujin" and "originality" appear with moderate frequency, suggesting that users are also interested in the best works and derivative works available on the site.

In the profit model dimension, the term "signing" has the highest frequency, followed by "update". The term "update" is closely associated with elements such as "advertising", "flow" and "manuscript fee", which are the most frequently mentioned profit-related aspects. Reviews related to these elements are predominantly negative. This reflects the negative impact of Tomato Fiction Net's fast-food operating environment on authors' creativity, and is a significant factor contributing to the excessive commercialization of online literature, convoluted plots, and uninteresting content.

As evident from the above, users' perception of Tomato Fiction Net is primarily shaped by the site content and profit model, while also being influenced by the content of the works available.

4.2. Tomato Fiction Net Sentiment Image Analysis

Sentiment analysis involves analyzing words with emotional content in the text of online reviews left by users after using a novel website, thereby reflecting the users' emotional attitude and overall impression of the website. A total of 860 comments were imported into the software for sentiment analysis, and the number of comments with positive, negative, and neutral sentiment, as well as the corresponding percentages, were calculated and presented in Table 4.

Table 4. Statistics on user sentiment analysis

	Category		Number Of Comments	Percentage
	Positive emotions		259	30.1%
	Neutral emotions		376	43.7%
	Negative emotions		225	26.2%
Positive emotions segment		Fair (0-10)	153	17.8%
		Moderate (10-20)	57	6.6%
		High (20+)	49	5.7%
Negative emotions segment		Fair (-10-0)	107	12.5%
		Moderate (-20-10)	89	10.1%
		High (-20 and above)	29	3.4%

The statistical analysis of sentiment categories reveals that the percentage of positive sentiment reviews is 30.1%, surpassing the percentage of negative sentiment reviews. This indicates that users generally express higher satisfaction with Tomato Fiction Net as a whole. A closer examination of positive emotions reveals a disparity among reviews with average, moderate, and high positive sentiments. Notably, there is a considerable number of reviews with average positive sentiment, totaling 153 and accounting for 17.8% of the overall review data. Therefore, it is crucial to closely consider the viewpoints of users represented by this segment of comments to prevent their emotional attitudes from shifting towards neutral or negative emotions.

A significant proportion of users exhibit a neutral attitude towards Tomato Fiction Net. Hence, it becomes essential to identify and address their core requirements, ensuring their sentiments do not shift towards a positive direction.

Negative comments amount to 225, comprising 26.2% of the total comments. This indicates that there is still room for improvement in satisfying the users of Tomato Fiction Net. An analysis of negative sentiment highlights its concentration in general negativity and moderate negativity. Specifically, general negative comments account for 107, making up 47.6% of negative comments and 12.5% of the overall comments. These comments often provide clear indications of the encountered issues. Therefore, it is advisable to utilize this feedback to progressively enhance the website's content and functionalities, ultimately boosting user satisfaction.

By combining word frequency analysis with user web review texts, it becomes evident that most of the negative sentiment is associated with keywords such as plagiarize, auditing, signing, and advertising. The problem of plagiarism primarily stems from the site's lenient review process and the authors' lack of self-discipline. Unless a substantial number of reports are received, the site is unlikely to remove the plagiarized content, exposing existing loopholes in the review and supervision mechanisms of Tomato Fiction Net. Consequently, it becomes challenging to protect the rights of authors who have fallen victim to plagiarism. The issue of "signing" generally reflects the difficulty authors face when trying to join author groups, and certain requirements outlined in the signing regulations contribute to a decline in the quality and length of content. Lastly, the matter of "advertising" arises when readers encounter frequent pop-up advertisements while reading a novel for an extended period. Although this advertising strategy serves as a revenue source for the site, it does impact the readers' overall reading experience.

In summary, there is a marginal difference between the positive and negative sentiments expressed by users towards Tomato Fiction Net. However, it is crucial to focus on the users corresponding to the general positive and negative sentiments to maintain a strong brand image for the novel website.

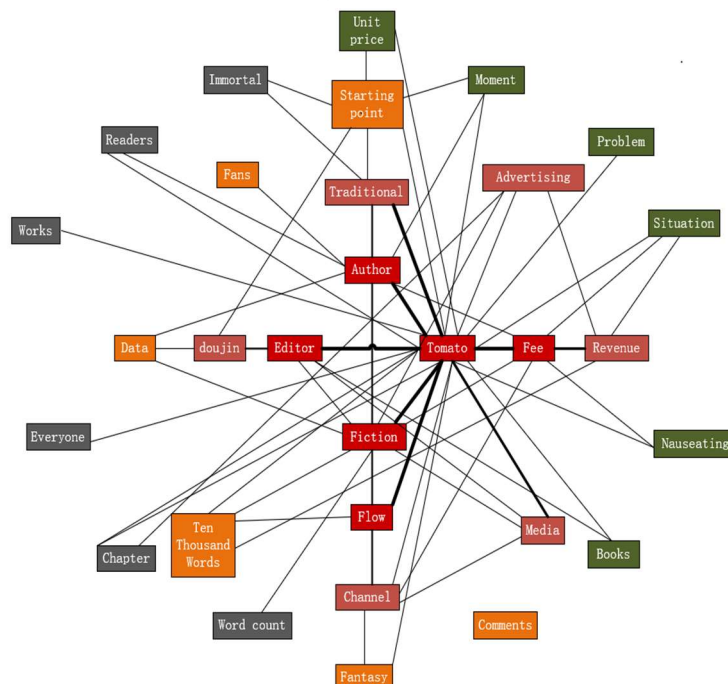### 4.3. Tomato Fiction Net Overall Image Analysis

Figure 1. The semantic network diagram of the brand image of Tomato Fiction Net

In this paper, after performing text feature extraction and word cloud graph analysis, several factors of interest to users were identified. However, the underlying relationship and association between words and their deep structure are not apparent. To gain insight into the

association between high-frequency words, a visual analysis of the semantic network was conducted. The central nodes in the network graph represent more important words, and further insights into the text can be uncovered through central node analysis [23].

To conduct the semantic network analysis, the comments from its readers were first segmented into individual words. Next, high-frequency words were extracted, and irrelevant words were filtered out. The resulting data was then imported into Weiciyun software, which generated a semantic network diagram illustrating the brand image of Tomato Fiction Net, as depicted in Figure 1.

Combined with Figure 1, the overall image of Tomato Fiction Net can be categorized into three levels. The core layer comprises "fiction" "author" "fee" "editor" and "flow", which are essential components. The middle layer consists of "doujin" "traditional" "advertising" "revenue" and "media", which are closely related to the subject matter of the novels and their profitability. The peripheral layer includes "data" "fans" and other elements associated with the content of the works.

4.4. Faloo Fiction Net Cognitive Image Analysis

To achieve the same results, the previous procedure was repeated. The text was imported into the GooSeeker software, where high-frequency word analysis was conducted. Meaningless phrases were then removed, and the word frequency of the top 20 words was exported. The detailed data as shown in Table 5.

Table 5. Faloo Fiction Net High Frequency Word, Frequency and Word Summary Table

Rank	Word	Frequency	Part of speech	Rank	Word	Frequency	Part of speech
1	Books	46	noun	11	Deceive	19	verb
2	Manuscript fee	43	noun	12	Homogenised	18	adjective
3	Expensive	40	adjective	13	Style	16	noun
4	Data	37	noun	14	Doujin	14	noun
5	Trend	34	noun	15	Entertainment	13	noun
6	Subscription	31	noun	16	Flashback	11	verb
7	Bad	29	adjective	17	Studio	10	noun
8	Poor	26	adjective	18	Customer service	9	noun
9	Plagiarize	24	verb	19	Shelve	8	verb
10	Membership	20	noun	20	Boring	6	adjective

In terms of lexical analysis, the top 20 words include 4 verbs, representing 20% of the total. Notably, three high-frequency words, namely "plagiarize" "flashback" and "shelve", reflect negative sentiments expressed by users towards the website. "Plagiarize" ranks 9th in word frequency, with a cumulative total of 24 occurrences and predominantly associated with negative comments. It highlights users' dissatisfaction with the pervasive issue of plagiarism in novels on Faloo Fiction Net and the platform's failure to address it, thus diminishing authors' enthusiasm for writing. The words "deceive" and "flashback" appear with moderate frequency. "Deceive" suggests that the novels possess low quality and numerous loopholes, leading readers to feel deceived after reading them. "Flashback" refers to the frequent occurrence of technical glitches on the fiction net, significantly impacting the reading experience and usability of the website. Additionally, the phrase "shelve" appears a total of 8 times, ranking 19th in the

word frequency ranking. Most comments related to this phrase are linked to the authors, indicating that Faloo Fiction Net is lenient in approving new book submissions. Even works of lower quality or those violating novel-writing guidelines can be published, which exacerbates the plagiarism issue prevalent on the platform.

In addition, there were five adjective words among the top 20, accounting for 25% of the total. Notably, all of these words are associated with negative emotions. Among them, "expensive", "bad", "poor" and "homogenised" reflect users' negative sentiments towards the works they have read. The word "expensive" ranks third in the word frequency ranking, appearing a total of 40 times in the text. From online comments, it is evident that users perceive the subscription points set by Faloo Fiction Net as high, resulting in high costs and low satisfaction levels. The words "bad", "poor" and "homogenised" all pertain to the quality of the works on the website. These include poorly-executed endings, as well as plot structures that lack originality and creativity. These observations reveal the impact of increased competition among online literature websites and the growing commercialization of these platforms. In an effort to maximize profits, some websites provide an unsupportive creative environment that greatly undermines the rights of authors, diminishes their enthusiasm for creation, and prevents them from producing works that balance both social and economic benefits [24].

The remaining 11 words consist exclusively of nouns, accounting for 55% of the extracted high-frequency words. These words are closely related to the profit model, content, and composition structure of Faloo Fiction Net. In the realm of online literature development, three primary profit models have emerged: online revenue, advertising revenue, and copyright revenue [31]. Among the terms associated with the profit model, "manuscript fee", "subscription", and "membership" rank 2nd, 6th, and 10th, respectively, in the word frequency ranking. As mentioned above, the website's primary source of profit stems from user subscriptions, and the user group pays more attention to the fee-based model. Furthermore, the term "studio" ranks 17th in word frequency. Due to the streamlined signing process on the website, studios or some authors engage others in the creation of similar novels, resulting in plot and content homogeneity. However, they manage to entice readers with rapid updates. Unfortunately, this practice has significantly tarnished Faloo Fiction Net's brand image. Regarding content, both Faloo Fiction Net and Tomato Fiction Net prioritize "doujin" works, with the former's users expressing a particular interest in the entertainment genre. In terms of composition structure, the term "customer service" ranks towards the bottom of the list. Numerous associated comments are negative, describing issues such as non-functional customer service phone lines and poor service attitudes.

Based on the attributes of network comment textual content and the characteristics of the top 20 word frequencies, this study initially categorizes textual data into five dimensions: feelings, site composition, site content, site works, and profit model. Table 6 presents the summarized data.

The above table demonstrates that the profitability dimension represents the highest percentage at 32.8%, while the feeling dimension accounts for the lowest percentage at only 5.4%.

Within the feeling dimension, the term "poor" primarily refers to the negative impacts of certain novels on the website's readership. These works often exhibit similarities in structure and contain vulgar content, which leads to dissatisfaction among many users. In order to progress, authors should strive to introduce fresh ideas, diversify creative genres, and uphold traditional literary values.

Table 6. Frequency and percentage of words in each dimension

Dimension	Phrase and word frequency						Percentage
Feelings	Poor (26)						5.4%
Site Composition	Data (37)	Studio (10)	Customer service (9)				11.8%
Site Content	Books (311)	Bad (29)	Plagiarize (24)	Deceive (19)	Homogeneity (18)	Flashback (11)	30.9%
Site Works	Trend (34)	Style (16)	Doujin (14)	Entertainment (13)	Shelve (8)	Boring (6)	19.1%
Profit Model	Manuscript fee (43)	Expensive (42)	Subscription (38)	Membership (33)			32.8%

Apart from "customer service" serving as an essential component, the presence of profit-oriented "studio" is also evident within the website's dimensions. For Faloo Fiction Net to achieve sustained and positive growth, efforts should be made not only to improve its brand image but also to effectively deal with illicit practices carried out by these "studios" within the platform.

In the realm of the feeling dimension, the term "poor" primarily denotes the negative impacts of novels on the website's readers. Many works exhibit homogeneous structures and contain vulgar content, often propagating erroneous values and fabricating historical events. As a consequence, these aspects generate discontent among users. To address this issue, authors of Faloo Fiction Net should endeavor to introduce fresh ideas, enrich creative genres, and restore traditional literary values.

Regarding the site composition dimensions, apart from the essential component of "customer service", there is a profit-driven "studio" element. To ensure the sustained and robust development of Faloo Fiction Net, it is crucial not only to enhance the brand image but also to internally crack down on these profit-oriented "studio".

Within the site content dimension, in addition to the fundamental element of "fiction", the frequently encountered terms are "plagiarize" and "bad". Additionally, the website is plagued by issues such as unsatisfactory endings, deceiving readers, content homogeneity, and website setbacks. These challenges significantly impact the website's brand image. Contributing factors include limitations imposed by literary websites regarding topics and genres, the ease of infringement and the arduous task of protecting online literary works' rights, the concentration of readers' aesthetic demands leading some authors to analyze readers' preferences based on big data and cater to prevailing aesthetic tendencies. Furthermore, the role model effect prompts authors to imitate successful works, even resorting to the mass production facilitated by novel generators. Manifestations of these phenomena include repetitive subject matter, predictable writing patterns, identical fates for main characters, and similar story backgrounds [28].

Among the dimensions of site works, "trend" holds the top position, followed by the "style", indicating users' emphasis on authors' writing styles. The next two genres favored by users are "doujin" and "entertainment".

Within the profit mode dimension, the term "fee" emerges as the most frequently used word, followed by "expensive" and "subscription". Furthermore, negative connotations are predominantly associated with words pertaining to "membership". This suggests that users not only express dissatisfaction with the subscription prices set by Faloo Fiction Net, but also resist the system of requiring membership recharge in order to access lower subscription rates.

In conclusion, users' perception of Faloo Fiction Net's image is shaped by the website's profit model and content, as well as the influence of online works.

4.5. Faloo Fiction Net Emotional Image Analysis

The text data of 508 online comments, processed to remove emphasis, was imported into GooSeeker software for sentiment analysis. The comments were categorized into positive, neutral, and negative emotions, and the corresponding numbers, percentages, and segments were tallied. The statistical results are presented in Table 7.

Table 7. Statistics on user sentiment analysis

	Category		Number Of Comments	Percentage
	Positive emotions		197	38.8%
	Neutral emotions		88	17.3%
	Negative emotions		223	43.9%
Positive emotions segment		Fair (0-10)	134	26.4%
		Moderate (10-20)	46	9.1%
		High (20+)	17	3.3%
Negative emotions segment		Fair (-10-0)	133	26.2%
		Moderate (-20-10)	61	12%
		High (-20 and above)	29	5.7%

Statistical analysis based on emotion categories reveals that out of the total number of comments, there are 197 comments express positive emotions, accounting for 38.8%. Further breakdown of positive emotions, in which the general positive emotions of the comments up to 134, accounting for 26.4%. It can be seen that users generally have a negative evaluation of Faloo Fiction Net. To enhance user satisfaction and increase user engagement, the website should actively implement measures to improve user loyalty.

On the other hand, there are 223 negative comments, constituting 43.9% of the total comments, surpassing the number of positive comments. Subdividing the negative comments, it is evident that the majority of them belong to the general negative category, with 133 comment entries accounting for 57.1% of negative comments and 26.2% of the overall comments. This segment often highlights existing issues on the website and provides insights on areas for improvement. Faloo Fiction Net can leverage user feedback to implement comprehensive improvements across the platform.

Based on the analysis of word frequency and user network evaluation text, the examination of negative emotions reveals that they predominantly stem from factors such as plagiarism, ghostwriting, poor quality, and the presence of studios. These recurring issues significantly impact the brand image of Faloo Fiction Net. Consequently, it is imperative for the website to enhance its internal system infrastructure, strengthen efforts to combat infringements, protect the rights and interests of legitimate authors, and leverage the positive externalities of online

literary works. Simultaneously, authors of online literature should proactively assume social responsibility to ensure the overall quality of their works and remain accountable to their readers.

To sum up, users exhibit a significant negative emotional disposition towards Faloo Fiction Net, necessitating prompt action to address these concerns through effective governance measures.

4.6.   Faloo Fiction Net Overall Image Analysis

In this paper, the comments of readers were pre-processed. After extracting high-frequency words and filtering out irrelevant terms, the generated Excel file was imported into Weiciyun software. This ultimately resulted in the creation of a semantic network diagram representing the brand image of Faloo Fiction Net, as shown in Figure 2.

Figure 2. The semantic network diagram of the brand image of Faloo Fiction Net

Based on the visual analysis of the semantic network diagram, we observed that the user's perception of Faloo Fiction Net can be categorized into three levels: the core layer includes terms such as "books", "fee", "problems", "data", "author", "starting point". The middle layer of "trend", "flow", "records", "stocking", "editor", which is related to the management of the novel website and the author's income. The peripheral layer is related to the novel's subject matter, audience and other factors.

4.7.   Similarities and Differences in Brand Image

By analyzing Tomato Fiction Net and Faloo Fiction Net, significant similarities and differences can be identified in various aspects including content, artwork review, profit model, author's income, and user preferences.

Regarding content, both Tomato Fiction Net and Faloo Fiction Net face challenges of content vulgarization and homogenization, which negatively impact the reading experience for certain readers and tarnish the brand image. Hence, it is imperative for online literature platforms to focus on the ideology, artistic value, and originality of their works. These platforms should not only cater to readers' entertainment needs but also ensure the development and promotion of high-quality literary creations.

In terms of work review, both Tomato Fiction Net and Faloo Fiction Net suffer from serious issues related to plagiarism and low-quality works resulting from lenient review processes. In the era of fast-paced consumption, online literature has evolved into a mature business model, with a growing tendency towards excessive commercialization and entertainment-oriented content. Due to laxity in the review of submitted works, authors often resort to chance and focus on gaining clicks with subpar content. Regrettably, website administrators sometimes prioritize their own interests, further exacerbating the negative impact on brand reputation.

In terms of profitability, Tomato Fiction Net emphasizes the concept of "free" by displaying advertisements only when users turn pages. Users have the option to either watch a 15-second ad every half hour or pay for a membership to avoid ads. The analysis reveals that relying solely on advertising is insufficient for Tomato Fiction Net to generate profit. As a product of ByteDance, with Headlines Today as a traffic endorsement, Tomato Fiction Net adopts this approach to capture the market. In contrast, Faloo Fiction Net adopts a more traditional model by charging for chapters. Users have the choice to pay for subscription points or upgrade their membership to meet their reading requirements.

Regarding author's income, authors on Tomato Fiction Net primarily earn through manuscript fees, which are derived from a share of the advertisement revenue and readers' rewards. The advertisements include those implanted within the novel by the platform as well as independently implanted ones by the author. Additionally, diligent authors receive additional rewards for updating their novels regularly. On the other hand, Faloo Fiction Net operates on a traditional subscription model where readers pay to access the works, and the revenue is divided between the website platform and the author based on a predetermined percentage.

In terms of user preferences, both Tomato Fiction Net and Faloo Fiction Net users have a preference for "doujin", which are secondary novels that utilize characters, storylines, and other elements from the original works. Additionally, Tomato Fiction Net users also show a preference for more traditional online novels, while the other fiction net users lean towards entertainment-oriented online novels.

5. Conclusion and Discussion

5.1. Conclusion

This study reveals that although Tomato Fiction Net and Faloo Fiction Net have different profit models, their common core lies in the element of "fiction". However, both websites face common challenges such as plagiarism, lax auditing procedures, and content homogenization.

Applying cognitive image analysis through word frequency analysis, it becomes evident that the two novel websites are perceived differently by users, with different user groups placing emphasis on distinct aspects. Readers primarily concentrate on novel content, including writing quality, novel genres, and the issue of content homogenization. On the other hand, authors focus on concerns related to plagiarism, difficulties in signing, and other issues concerning their earnings.

Through sentiment image analysis, it is observed that Tomato Fiction Net receives higher evaluations on book review platforms compared to Faloo Fiction Net. Positive emotions towards Tomato Fiction Net exceed negative emotions, while the reverse is true for Faloo Fiction Net. To address this, it is crucial for Faloo Fiction Net to implement appropriate measures to cater to the needs of users with neutral emotional evaluations and strive to convert them into users with positive emotional perceptions.

All in all, both novel websites, Faloo Fiction Net and Tomato Fiction Net, face urgent issues that require solutions. These websites should proactively assume social responsibility, break the status quo of high traffic and low quality of online literature, shape a responsible brand image,

and adjust their strategies based on the divergent perceptions of users. This approach will help enhance users' perceptions and emotional connections with the brand.

5.2. Suggestions

5.2.1. Strengthening the Internal Construction of the Website

Firstly, ensure rigorous auditing processes that prioritize editing and proofreading quality. Websites can either recruit external high-quality editors or develop an internal team of skilled editors. Implementing a real-name editorial system and promoting responsible editorial practices are essential. Encourage horizontal supervision and adopt a governance model that enforces joint and several liability. Additionally, providing appropriate vocational training for editors can enhance their overall competence.

Secondly, combat the proliferation of subpar works by ghostwriters and studios as well as eradicate instances of plagiarism. Websites should strictly enforce penalties for plagiarized works, addressing the issue at its core. Moreover, closely monitor the quality decay of signed works and swiftly take action. Utilize techniques such as big data checking and manual reporting for continuous surveillance of plagiarism occurrences.

Thirdly, prioritize copyright protection. Allow website users to report authors who distort their creative intentions or produce vulgar content. Take necessary measures against individuals involved in copyright infringement or plagiarism. Furthermore, consider offering digital copyright registration services to provide technical support in preventing the proliferation of pirated online literary works [29].

5.2.2. Encourage Reader Interaction and Improve User Stickiness

Firstly, establish a readers' community to foster engagement and interaction. This community will enable readers to connect with like-minded individuals, exchange opinions, and provide feedback. Strengthening the connection between the website and its readers will enhance their active participation.

Secondly, organize regular offline meetups to facilitate face-to-face communication between website representatives and external groups. These meetups allow for valuable insights into external evaluations of the website. Authors and readers can engage in direct communication, enabling authors to gain a deeper understanding of readers' perspectives and further improve their work. Readers can also express their views and share their feelings.

Thirdly, invite renowned authors as guests in live streaming sessions to create a fan effect. In these sessions, star writers can engage with their fans, discussing their creative journey and works. Fans can express their feelings and provide comments and suggestions. Direct interaction between fans and their favorite authors strengthens the bond between them. This initiative not only boosts the loyalty of the author's fan base but also translates the author's popularity into increased traffic and profitability for the website.

5.2.3. Improve the Quality of Authors and Provide a Fully Functional Environment

Firstly, organize regular author exchange symposiums to facilitate the exchange of writing experiences among authors. Additionally, invite renowned writers to share their creative experiences, fostering mutual exchange and reference to enhance progress.

Secondly, provide training courses for authors that systematically offer creative guidance to new authors or those in need of support. These courses should include teaching creative experience and assigning writing tasks to improve writing skills. Importantly, these training courses should also aim to shift authors' perspectives from a profit-oriented approach to a focus on traditional literary values. This shift will help improve the quality of their work content and enable them to contribute to society accordingly.

5.2.4. Optimise Website Functions and Improve Website Popularity

Firstly, enhance the functional system of the novel website to minimize errors and provide users with an optimal reading experience. Based on feedback from authors and readers, improvements should be made to the website's internal functions. Regular server maintenance and updates should be conducted to ensure smooth operations. Furthermore, webpage functions should be enhanced to enhance the reading experience for users.

Secondly, develop reading day activities to establish a strong brand identity for the novel website. These activities can highlight the unique features and advantages of Tomato Novels and Faloo Chinese website and create a brand image that resonates with users.

Thirdly, strengthen the new media marketing strategy. Utilize short video platforms to create promotional videos for popular novels. Take advantage of events, activities, and other marketing opportunities to generate buzz, and collaborate with media outlets to generate external publicity, thereby bolstering the overall image of the novel websites.

5.3. Limitations

Firstly, it is debatable whether it is reasonable to select Tomato Fiction Net and Faloo Fiction Net as the subject of investigation to study the brand image perception of online novel websites by collecting online comment texts. Secondly, the large and complex nature of the collected comments from novel websites, combined with the presence of numerous advertisements and meaningless emotional outputs, may introduce bias and compromise the accuracy of the data. Lastly, this paper overlooks the analysis of picture text data when conducting content analysis on the online texts.

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