

Korean-popular Facebook fan page analytics in Thailand

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Article Info

Article history:

Received Jul 30, 2021

Revised Feb 18, 2022

Accepted Mar 16, 2022

Keywords:

Korean-popular
Social media
Facebook fan page
Data analytics
Thailand

ABSTRACT

The purpose of this study was to gather, analyze, and elaborate big data on Facebook's essential information, with a specific focus on the information obtained from Korean-popular (K-Pop) fan pages on the social networking site. For this analysis, a total of 3,531,736 comments by Korean-pop fans were gathered from various K-pop Facebook pages. In order to interpret how 11 extremely popular Facebook pages shape Thai fans' enthusiasm for the South Korean music industry, descriptive statistics and visualization analysis were employed. Finally, data analytics and correlation analysis were used to evaluate the essential understanding of the Facebook pages. The research revealed three key findings: i) K-pop fan pages provide more opportunities for Thai fans to express their support for K-pop artists and advocate for causes, ii) K-pop fan pages provide more opportunities for Thai fans to communicate with K-pop artists, and iii) K-pop fan pages build opportunities for Thai fans to establish a more glamorous online presence despite limitations concerning financial resources, foreign language skills, and opportunities. In the future, the research outcomes may be valuable for academic studies and practice.

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1. INTRODUCTION

Among the many products that bring economic prosperity to South Korea, Korean popular (K-pop) music is an important export product that generates enormous South Korea income. It has become one of the significant strengths of countries recognized by the world since the beginning of the 21st century. Among the many cultural products (movies, dramas, fashion, and cosmetics) with the birth of the "Korean wave" or "*한류* --- *Hallyu*," K-pop music is yet another important cultural product of South Korea. This has brought economic prosperity and acceptance by many people in many countries around the world. Both K-pop music (as in a South Korean economic and cultural commodity) and the music industry (as in a South Korean producer) have more or less interaction and connection with countries that cross the border of South Korea [1].

In the 2010s, K-pop rekindled global scholarly exposure to Hallyu, which was perceived to be a fading popular culture sector at one point. Among many customers in Asia, Europe, and North America, Korean pop singers such as TVQX, SNSD, Wonder Girls, and Psy were prominent. The idea of cultural hybridity or Pop Asianism was the prevailing explanation behind these distinctive cultural phenomena (i.e., continuation and expansion of Japanese, Chinese, and Indian subcultures in the global cultural market) [2].

Several studies have explored the association between online social networks and people's well-being, considering the extensive usage of social networking platforms in general, and Facebook in particular. To date, researchers do not seem to have reached a consensus about whether the use of Facebook

is positively or negatively linked to well-being. Possibly because either result is equally probable, depending on various factors related to user features or Facebook features, among others. However, there appears to be a consensus that having optimistic Facebook feelings enhances well-being while negatively damaging it [3], [4]. While this agreement makes intuitive sense, we question it by discussing the position of culture, a subject that has been generally overlooked in previous studies on the relationship between well-being and Facebook use.

In recent years, not only in media but also in a wide range of scholarly fields, social network sites (SNSs) such as Facebook and Twitter have gained tremendous interest. There were nearly two billion social network users worldwide in 2016, according to an online data site, Statista. By September 2016, the world's most common SNS was Facebook, with 1.71 billion monthly active users [5]. Because of the SNSs' worldwide success, they offer valuable reflections on current social engagement processes and their effect on society [6]. Therefore, one of the key research topics in the study of SNSs is the relationship between SNSs and online social resources [6]–[9]. Although early research mainly investigated whether the extent of bridging and bonding social capital is likely to increase overall Facebook usage [8], emerging research has explored how users use unique Facebook-enabled contact techniques [10], [11] or technological characteristics [12] to communicate with their partners.

SNSs, like Facebook, have potential alternative means and units of maintenance for this [13], [14]. Three types of social behaviors on SNSs (directed contact, passive intake, and broadcasting) are differentiated by [15]. This paper focuses on guided contact, which applies to things such as sending and receiving likes or feedback, leaving posts and notes on the wall, and tagging, as seen in the number of times one tags others in photos as well as the number of times one is tagged in photos [15]. These guided communicative activities indicate visible signs of interest required to activate and sustain a social network [13].

It is important to remember that official exchange-routed company announcements are usually used by firms as a primary communication source, followed by other platforms, including newspapers and social media. Besides, it is optional to share information via social media, although specific business announcement releases are mandatory. In comparison, Jung, Naughton, Tahoun, and Wang [16] demonstrate that businesses disseminate strategically, i.e., businesses are less likely to disseminate information in tweets when the news is negative. In this regard, we would like to determine how the investment decisions of, among other investor groups, less knowledgeable and experienced investors, for example, relate with potentially influenced Facebook content. We note that the relationship between Facebook data and trading can also be linked to the way investors, especially household investors, and attract attention.

Social networking platforms are widely used in consumer participation marketing, and this trend is expected to continue [17]. The number of social media users globally grew by 9% annually and now accounts for half of all internet users [18]. Social media has seen dramatic growth in advertising spending from 73.8 billion US dollars worldwide in 2018 to a projected 187.6 billion US dollars by 2023 [19]. Since B2B social media content and salespeople are no longer the only ways to build trust with consumers, social media's rapid growth has affected real B2B buying processes. However, although companies in the B2B sector have raised questions about how social media can benefit their businesses, its use is not widespread in B2B markets [20]. Other sectors of the maritime industry, such as container shipping, have a long way to meet the demands of its customers (shippers) through emerging technology. As Maersk has shown, there are many ways to gain the trust of consumers and build confidence in today's digital era [21]. In using social media to create brand recognition and understanding, this company is a trailblazer. Branding in the liner industry is seen as a symbol of efficiency and is appreciated by customers [22]. In 2011, Maersk Line, a shipping company, initiated a social media initiative on Facebook. The social media campaign reached more than 400,000 Facebook users in less than 11 months [23]. Furthermore, social networking helps friends connect, effectively enhancing information gathering [24]. There are various social networking platforms, including business networking sites, video sharing sites, photo sharing sites, microblogging sites, and business communities (Amazon.com). These platforms provide companies with the opportunity to communicate with customers and stakeholders and to receive feedback. In some cases, debates can become public and affect hundreds of thousands of people outside the company's control [25]. This argument, therefore, suggests that social media expands word-of-mouth advertisements [26].

Well-planned communications will empower people to engage with brands and create word of mouth (WOM) [27]. However, the role of social media in business marketing has not been sufficiently addressed, given its growing prominence, increasing relevance, and perceived significance, as well as the fact that the research on its use is still in its infancy [28], [29]. This study describes how social media is used in music industries, particularly in K-pop music.

Social networking should be used to maintain healthy artists-fans relationships. Businesses need to assess which social media channels are more appropriate for their target audiences and select what social media tactics they can employ. We need to research the variables that could affect Thai K-pop fans' social media interactions.

An idol group, wherein members sing and dance together, aims to stir excitement among the world's youth in Korean pop culture [30]. The image of K-pop artists is an integral part of the visual presentation, dance, or dress. This image influences Thai fans, especially teenagers, to engage in behaviors that reflect their adoration, excitement, and liking towards Korean singers. These behaviors include searching for information and keeping up with news about favorite Korean singers. Normally, fans receive information from friends who like the same Korean group as they do or from a quick search on the Internet, which is a convenient way to follow updates related to their favorite Korean popstars. Moreover, the most popular social media platforms that fans use to follow artists are Twitter and Instagram. Artists use these mediums to post pictures, videos, or messages to provide updates and share their feelings or activities with their fans whether it be through live broadcasts on Instagram or through tweets on Twitter. After one starts to develop a liking towards an artist or a group of artists, the behaviors that usually ensue are purchasing corporate collectibles and memorabilia, albums, and other merchandise related to the artist or group, as well as listening to their songs via online channels such as YouTube [31].

The Korean Wave's third generation has also displayed its ability to create reliably robust cultural goods to be marketed even to mainstream entertainment nations, such as the United States and European countries. Due to this accomplishment, the third generation of Korean Wave media goods has played a diplomatic role, providing low-cost Korean culture internationally [32].

As Boyd and Ellison define, a social network allows users i) to share their information and viewpoints on the system and ii) to show interaction with other consumers to illustrate their friendships. A customer links to other network consumers and thus contributes to social networks' rise [7]. As the Internet has expanded exponentially, many social networks have been created, including Facebook, Twitter, Weibo, and MySpace. People can build and interact with their websites using these networks. As one of the Internet tools, social networks have intrigued young people. A social network is where new friends meet, and the newest knowledge, photos, films, and events are shared [33]. For three primary purposes, people use social networks: i) to make new friends, ii) to keep in touch with friends, and (iii) to organize social activities [34]. People are intensely engrossed in social networks since they allow people to become friends.

Facebook was created in 2004 by Mark Zuckerberg [35] and has over 1.3 billion users, making it the most popular social networking site on the planet. Many people use Facebook to catch up with friends in real-time. According to Cheung *et al.* [36], participants of a group may create a sense of identity and have more vigorous plans to use Facebook if they have shared views with other group members. Results from Mouakket [37] suggest that satisfaction for users to continue to use social networks is the most relevant. In addition, Facebook improves consumer loyalty by consistently providing new functions that enhance users' experience and allows users the ability to conveniently access social networks on a daily basis. The use of social networks is the base and form of [37].

On Facebook, people connect with others, keeping real friends in touch [38]. Currently, Facebook is a social network that can be accessed anywhere. Facebook can be used at home, at school, and in cafés and restaurants. According to Bicen and Cavus' report, most student's average over two hours a day on Facebook, sixteen percent spend over three hours on Facebook, and thirty-two percent spend over four hours on Facebook. Students also use Facebook to chat or strengthen relations with peers and family members through links and photos [39].

User personalities often influence the use of Facebook; for example, extroverted individuals may be part of a wider variety of communities and use Facebook as a networking platform, rather than replacing it with their social events. Outgoing users are more likely to use modern Facebook features and even swap new features for old features [40]. Moreover, the most critical reason for women to use gender-related social networks is to entertain themselves and kill time. While women are most likely to meet friends through groups, men seek individual compensation through social networks and affirmation [41].

The use of social media is positively correlated with extraversion and reactivity to stimuli. Gender analysis reveals that mental well-being is adversely related to men's social media and is not connected to the social media of women [42]. In addition, SNSs analyzed emotional disclosure and found no gender influences on either positive or negative emotional exposure [43].

Another study found that female consumers are more likely than male consumers to express deeper and longer thoughts so as to reveal themselves [44]. Women appear to be more willing than males to disclose (negative) feelings connected to insecurity [45]. The overall gender differences in the representation of emotions vary depending on social background and emotion type.

In addition, White [46] developed a Facebook community and exposed students to the impact of Facebook on their academic performance. He posted questions for the students and asked them to answer these questions weekly. The findings revealed that teaching aided by Facebook has helped increase students' success [46]. According to Mazer's research [47], the self-disclosure on Facebook has a beneficial impact on learner motivation, effectiveness, and the classroom environment.

The study results of Arquero and Romero-Frías [48] showed that most respondents agreed that social networks were a learning aid and were able to support university education. For various courses, separate learning groups could be created. Even beginners can easily adapt to the usage of virtual classrooms on social networking sites to encourage learning [48].

Facebook is a social media site that can be an effective platform for improving the public image of a profession as well as human career advancement. It helps musicians interact with millions of people worldwide with a just few simple taps and clicks on a computer or device such as a smartphone or tablet. Such superfast connectivity has also opened up many opportunities for successful communication, consultation, and preparation. In the current study, we address the ramifications of social media sites in modern two-way communication, as well as their benefits and drawbacks, in order to provide suggestions for their successful use, particularly on Facebook. Interestingly, Korean wave topics and keywords related to Korean cultural items, including music, drama, and movies, are among Google and Facebook's most widely searched and posted topics and content [49].

Specifically, for different reasons, Facebook was chosen as the context for the present analysis. The most probable explanation is that, with a user base that significantly exceeds all SNSs, Facebook is the most ubiquitous SNS. Facebook is the largest social networking site at the time of publication, based on the worldwide presence and the overall number of daily users. Moreover, Facebook is a less specialized site, which is another reason Facebook was subjected to analysis in the present study [50].

Facebook analytics (FA) reflects on the framework of relations between various fan pages players, such as individuals, associations, organizations, and countries, or human activity favorites. FA has been widely used in many research disciplines (e.g., health [51], e-commerce [52], learning [53], communication [54], news [55], advertising and marketing [56], libraries [57], and airways [58]). However, the issue as to whether FA can be suited for analyzing Korean popular culture has yet to be addressed in depth. The present research employs FA methodology to examine patterns, relations, and evaluate user interactions in Facebook platforms. In this context, fan pages owner needs to understand how they can use Facebook to reach key targets fandom and follow both attendance and engagement.

In this paper, we present and briefly examine our conceptual methodology for studying Facebook pages associated with Korean pop culture, thereby contributing to studies on the usage of social media sites and online visual communication by non-profit individuals or organizations. We hope that our analytical approach will be used and modified by the readers of the present work to promote further analyses of Facebook or other social media platforms. The main emphasis is basically on the variables' applicability (share, comment, reactions-like, love, haha, wow, sad, and angry) and not on their theoretical framework and ontology.

2. RESEARCH METHOD

In this study, we investigated the effect of the K-pop music industry on eleven K-pop Facebook pages that were created by Thai fans. We first started by collecting data through an examination of K-pop music pages. We used full posts obtained from eleven Facebook pages, as well as search results from across the world. In doing so, we exploited Facepager [59], which is a tool that saves data in several different formats from Twitter, Facebook, and other websites using APIs. During the investigation, we found K-pop fan pages on Facebook and, by using the Facepager tool, we conducted social network analysis [59]. Specifically, Facepager, a business and academic research tool, employs a batch process to collect data from social media networks, perform text mining, and create matrix data. This kind of process is decisive for the curation and production of Big Data, which are the main facets of Big Data use; however, the technique also has an advantage in data mining.

Facepager's crawling of the K-pop fan pages was able to extract relevant posts concerning the K-pop music industry, artist, or groups of artists uploaded by Thai Facebook users for analysis. The data set of 3,531,736 user posts was cleaned by removing messages that were irrelevant to the analysis. Altogether, there were 38,158,498 reactions, 229,816 comments, and 2,484,587 Facebook shares on the popular K-pop pages. The queries included the posts, reactions, comments, shares, and references to the survey, which guided the investigation (reactions on Facebook include like, love, haha, wow, sad, and angry). The simulation of dynamic structures helps to shed light on the flow of information. For this investigation, 28 weeks' worth of data obtained from the Facebook pages were imported via Facepager V.4.2, which transfers a question (in this case, the name of popular K-pop pages) to the Facebook Graph API while focusing on importance, not completeness.

We gathered regular numbers of posts, related reactions, comments, and shares on the Facebook wall over a period spanning from January 1 to July 31, 2020. The shares, comments, and reactions are all linked to the original post. Therefore, we assigned degrees to the date a post was posted—that is, not when

the Comments or Shares were made. By counting the reactions, comments, and shares over a specific timeframe, we were able to determine the total number for each type of action on each post. It is necessary to distinguish the terms ‘action’ and ‘reaction’ here. While the term ‘reactions’ only pertain to like, love, haha, wow, angry, and sad reactions, the term ‘actions’ covers all types of reactions, comments, likes, as well as shares a post on Facebook receives. Therefore, in this paper, ‘Reactions’ is a subset of ‘actions’.

By summing the number of posts, reactions, comments, and shares within a month, we aggregated the daily Facebook data into monthly data. The month begins on the first day of the month and ends on the last day of the month because there is no action at the end of the month. By doing so, we discovered that administrators (admins) of K-pop fan pages were better able to influence the decision of fans to react to a post when they posted content on the weekend rather than any other day of the week. Our sample contains seven monthly findings for number of posts, reactions, comments, and shares in general. Descriptive statistics of these time series are presented in Table 1. As seen in Table 1, more than one post was made per day on average and each post earned 5,555 reactions, 34 posts, and 378 shares on average.

We ranked K-pop Facebook fan pages based on the type of action a post received. Then, we performed two separate analyses. Next, we conducted a comprehensive evaluation. Using pairwise comparisons [60], we measured the Spearman’s rank correlation coefficient among all fan pages ($n=3,531,736$) to determine whether different variables produced an identical ranking of fan pages. A positive value implies a positive correlation, while a negative value indicates an inverse correlation [61]. Since the actions and social phenomena associated with web-based social spaces typically fulfill the power law distribution [62], we used Spearman’s coefficient as it is a nonparametric indicator of rank correlation.

Table 1. Demographic information of Thai K-Pop fans’ actions on posts

Fan Page Name	Reactions	Comments	Share	Like	Love	Haha	Wow	Sad	Angry
BLACKPINK YG Thailand	9,933,506	54,862	458,309	7,165,504	2,591,334	44,300	27,422	4,432	514
LISA Blackpink Thai Fans	9,529,400	59,792	385,282	6,876,648	2,536,565	83,180	30,346	2,390	271
BLACKPINK Thailand	7,699,232	43,821	450,589	5,564,836	2,078,850	18,599	24,118	2,033	796
วงบมกัฒน (Bangtan Sonyeondan: BTS)	3,501,215	32,051	401,749	1,765,445	1,561,936	63,107	6,603	4,042	82
BTS Thailand	2,065,447	11,576	243,079	1,368,305	685,594	5,263	5,680	586	19
NCT Thailand Fanclub	1,821,337	12,595	337,125	1,038,401	753,274	27,624	1,401	584	53
Blackpink Thailand News	1,727,146	6,794	46,433	1,329,767	369,142	19,955	6,579	1,614	89
EXO Thailand	1,242,959	4,696	93,849	949,596	278,347	9,937	2,343	2,723	13
EXO 엑소 Thailand	591,212	2,955	61,194	400,860	182,175	6,208	728	1,219	22
Jaehyun NCT Thailand	52,955	709	7,337	31,207	21,505	134	72	37	-
EXO Thailand Club	1,382	2	132	1,104	208	-	10	60	-
Total	38,165,791	229,853	2,485,078	26,491,673	11,058,930	478,307	105,302	29,720	1,859

3. RESULTS

In this section, the research results are presented, and, at the same time, a comprehensive discussion is provided. Findings are displayed in the form of figures, graphs, tables and other visuals for ease of understanding while discussions take place in several sub-sections [14], [15]. This research was conducted by Python and the group of Python libraries, including Pandas, Matplotlib, NLTK, ImageAI, WordCloud, Correlation, and more. The analysis was carried out on a Jupyter Notebook. Thai K-pop fans’ actions on posts in eleven Facebook pages were investigated, and the findings are presented below.

Figure 1 shows that there are three Facebook pages with more than 500k fans (or followers), and these are LISA Blackpink Thai Fans (750,000), BLACKPINK YG Thailand (690,000), and BLACKPINK Thailand (630,000), respectively. Also, all of these three Facebook pages are associated with the Blackpink girl group. The types of media content used for communicating with fans on these pages are photos (3,931), videos (993), links (283), and text-only statuses (164), respectively.

Table 1 shows that, among the top three K-pop Facebook pages with the highest number of Reactions, BLACKPINK YG Thailand received the highest number of Reactions (9,933,506) on its posts, followed by LISA Blackpink Thai Fans (9,529,400 Reactions) and BLACKPINK Thailand (7,699,232 reactions). With regard to the number of comments, the order is as follows: LISA Blackpink Thai Fans (59,792 comments), BLACKPINK YG Thailand (54,862 comments), and BLACKPINK Thailand (43,821 comments). Furthermore, BLACKPINK YG Thailand generated the highest number of Shares (458,309) on its posts, followed by

BLACKPINK Thailand (450,589 Shares), and War Bang Ton (401,749 Shares). On the whole, the number of Likes added up to a total of 26,491,673, followed by love reactions (11,058,930), wow reactions (105,302), haha reactions (478,307), sad reactions (29,720), and angry reactions (1,859), respectively.

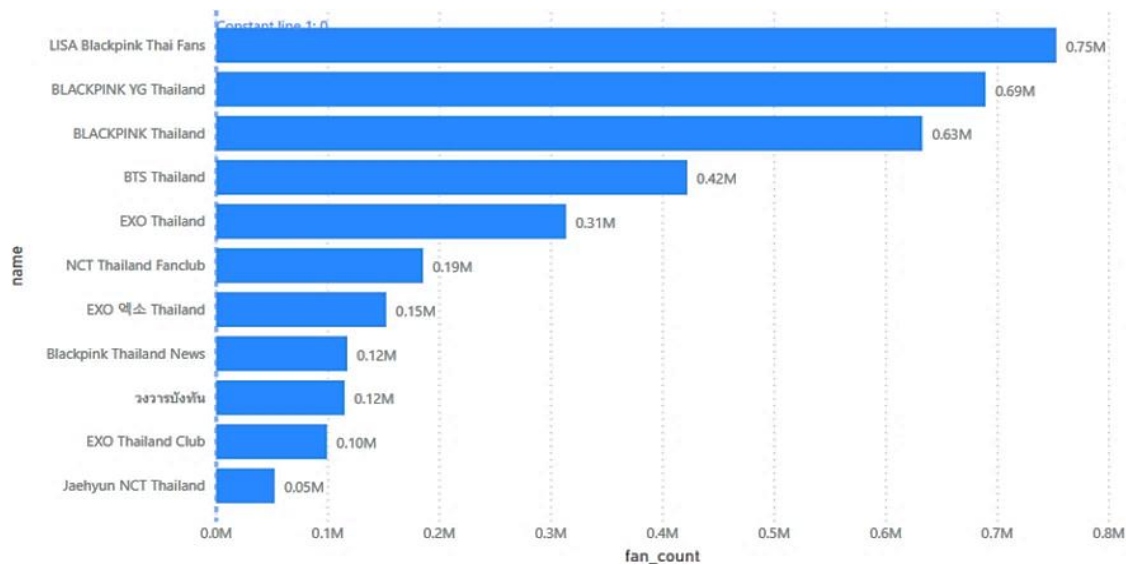


Figure 1. The number of Thai K-pop fans per page

Figure 2 displays the proportion of actions received from fans per Facebook page. Firstly, it was found that BLACKPINK YG Thailand received the highest percentage of Likes (27.05%), followed by LISA Blackpink Thai Fans (25.96%), and BLACKPINK Thailand (21.01%), and so on. Next, in relation to the proportion of comments, it was found that LISA Blackpink Thai Fans received the highest percentage (26.01%), followed by BLACKPINK YG Thailand (23.87%), and BLACKPINK Thailand (19.06%), and so on. As for the percentage of Shares by fans, BLACKPINK YG Thailand generated the highest number of Shares (18.44%), followed by BLACKPINK Thailand (19.06%), BTS (16.17%), and so on. The pages with the highest proportion of Love Reactions given by fans were BLACKPINK YG Thailand (23.43%), LISA Blackpink Thai Fans (22.94%), and BLACKPINK Thailand (18.8%), and so on. The pages with the highest proportion of Haha Reactions received from fans were BTS (34.1%), BLACKPINK YG Thailand (30.17%), LISA Blackpink Thai Fans (17.39%), and so on. The pages with the highest proportion of Wows were LISA Blackpink Thai Fans (28.82%), BLACKPINK YG Thailand (26.04%), and BLACKPINK Thailand (22.9%), and so on. The pages with the highest proportion of Sad Reactions were BLACKPINK Thailand (40.49%), BLACKPINK YG Thailand (14.91%), BTS (13.6%), and so on. The pages with the highest proportion of Angry Reactions were BLACKPINK Thailand (42.82%), BLACKPINK YG Thailand (27.65%), LISA Blackpink Thai Fans (14.58%), and so on. Figure 3 shows the overall percentages of reactions, comments, and shares on posts. The page with the highest overall proportions of reactions, comments, and shares is LISA Blackpink Thai Fans. Generally, it was found that the majority of fans mostly used reactions (93.36%) to interact with a Facebook post concerning K-pop artists, followed by shares (6.08%), and comments (0.56%), respectively. Figure 4 shows a line graph of the trend of reactions, share, and comments by members of the Thai K-pop fandom, which reveals their behavior on the Facebook fan page.

As illustrated in Figure 5, which compares the percentage of reactions, shares, and comments by fans among all eleven pages, it was found that the minimum percentage of reactions each page received was 83.89% (38,158,498 Reactions), followed by that of shares (6.07%, $n=2,484,587$), and comments (0.56%, $n=229,816$). According to the trend in Figure 4, the number of reactions went up in May (4,654,402) through July (11,671,446). Meanwhile, shares and comments remained constant throughout the seven-month study.

Figure 6 shows the most common words found in the comments sections of posts related to K-pop artists. It was found that the majority of words were actually linked to the name of the artist or group. In descending order, the words that appeared most frequently in comments were 'BLACKPINK' (8,438 occurrences), 'BTS' (7,527 occurrences), 'NCTThailandFanclub' (5,929 occurrences), 'LISA' (4,200 occurrences), 'NCT127' (3,195 occurrences), and 'แอดพี่จิง' (3,140 occurrences). Additionally, most comments were from teenagers.

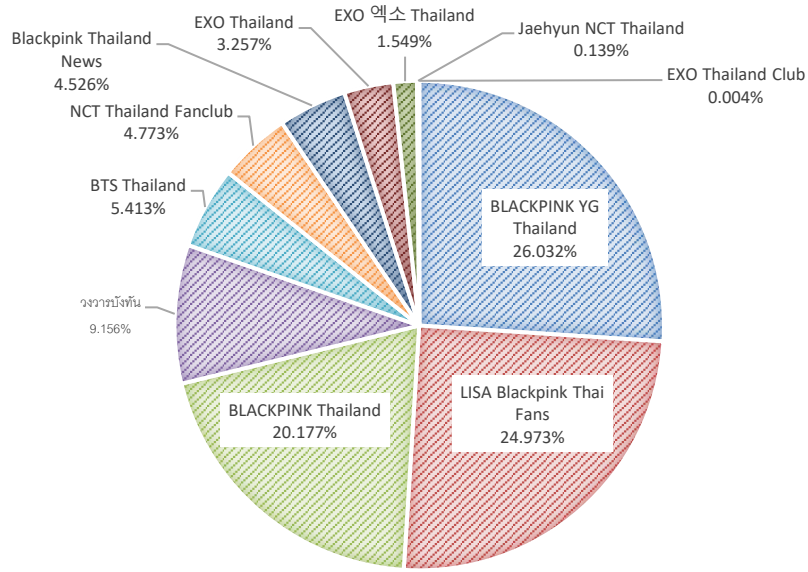


Figure 2. The proportion of reactions per Facebook page

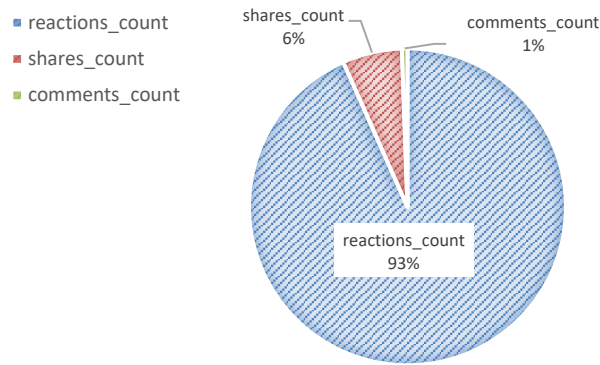


Figure 3. The overall proportion of reactions, share, and comments

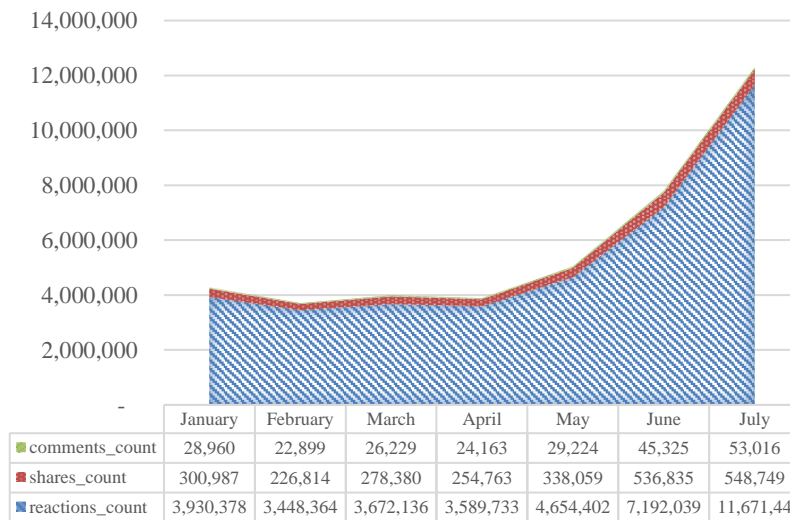


Figure 4. The trend of reactions, share, and comments

The correlation matrix in Figure 7, which displays the correlation of actions on posts in K-pop Facebook pages, shows that Shares and Comments are strongly correlated. Lighter shades show a higher positive correlation in this heat map, and darker shades suggest a weaker positive correlation. The highest positive correlation possible is 1, and the highest negative correlation (the lowest positive correlation) is -1.

We can see that the correlation (0.99) between reactions and likes is strongly positive. This means that they begin to rise in interaction together. A robust positive correlation can also be shown (0.94) between the number of Likes and the number of love reactions. Likewise, a strong positive correlation was found between the number of Likes and the number of love reactions (0.89). There are also positive correlations between shares and comments, between shares and reactions, and between comments and reactions.

These results will confirm the observations of [63]–[65] as well as [66]. The researchers reviewed the significance of connectivity and the density of social networks. After evaluating how data were associated between the dimensions, we conducted a content analysis to analyze the rankings of user responses from each dimension.

Table 2. K-pop Facebook fan page statistics

Facebook Page Name	Action per Post				Maximum count		Share per Fan
	Reactions	Comments	Shares	Shares	Reactions	Comments	
BLACKPINK Thailand	11,595	66	679.00	18,658	65,970	1,549	678.60
Blackpink Thailand News	4,152	16	112.00	2,274	60,847	244	111.62
BLACKPINK YG Thailand	13,497	75	623.00	11,408	89,228	1,757	622.70
BTS Thailand	3,033	17	357.00	5,114	13,413	301	357.47
EXO Thailand	2,110	8	159.00	4,589	13,842	447	159.34
EXO Thailand Club	346	1	33.00	65	472	1	33.00
EXO 엑소 Thailand	2,423	12	251.00	1,587	10,836	127	250.80
Jaehyun NCT Thailand	1,261	17	175.00	1,081	3,571	244	174.69
LISA Blackpink Thai Fans	13,517	85	547.00	16,836	151,959	1,358	547.28
NCT Thailand Fanclub	2,338	16	433.00	6,440	12,788	283	432.77
วงบร๊วงกัน (Bangtan Sonyeondan: BTS)	6,837	63	785.00	6,807	28,051	1,414	785.24
Average	5,555	34	378	6,805	40,998	702	378

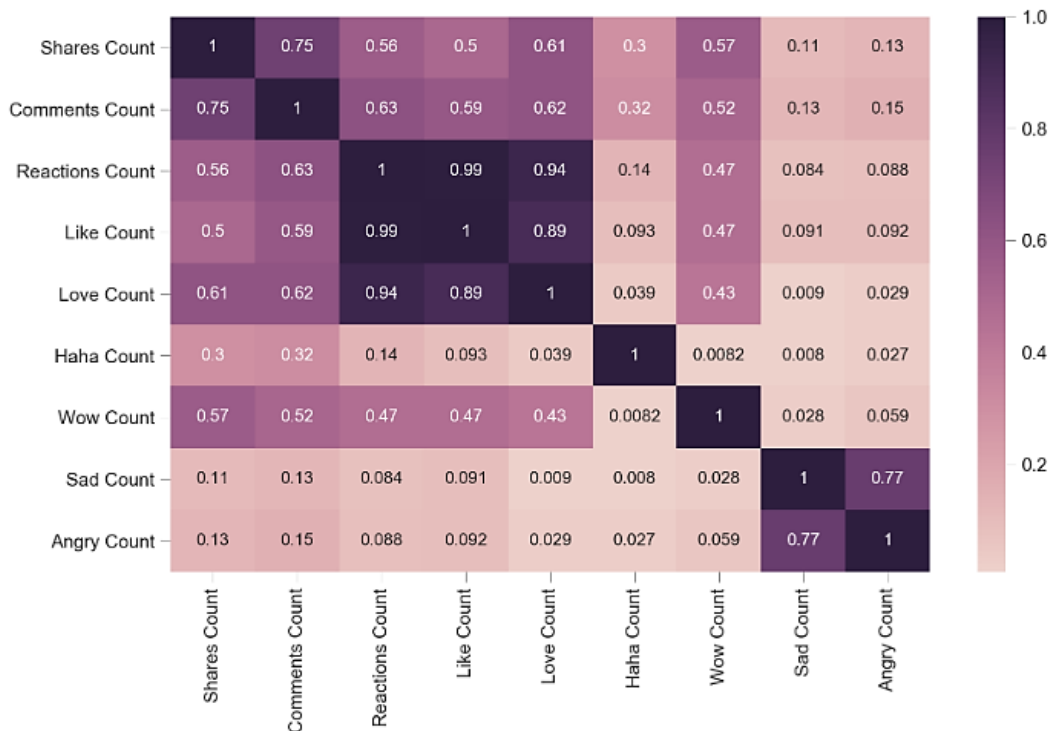


Figure 7. The Facebook page’s reactions correlation matrix

4. DISCUSSION

Considering the number of followers on the fan pages related to the Blackpink girl group, it is apparent that a large number of Thai fans admire and follow the popular South Korean group. This may also be due to the fact that a member of Blackpink is a Thai national among other possible reasons. Moreover, the highest numbers of reactions (like, love, haha, wow, sad, and angry), comments, and shares also belong to Thai K-pop fan pages related to the Blackpink girl group. However, the วงว๊าวบังทัน (Bangtan Sonyeondan: BTS) Facebook page can be placed in the top 3 in terms of number of Shares probably because its posts were genuinely able to resonate with a vast number of Facebook users. As a consequence of having such relatable or likeable content, the fan page was able to induce cooperative reactions from fans, which then prompts the fans to share a certain post on their Facebook wall. The findings also reveal that fans generally tend to press reaction buttons (like, love, haha, wow, sad, and angry) than leave a comment or share the post on their wall. In order to attract reactions from fans, the content must be provoking in some manner (e.g., it could be humorous or sad or interesting). Then, fans will tend to share content they deem worthy of sharing and leave comments if they desire to do so.

The results of text mining revealed that discussions were mostly about Blackpink and Lisa, a Thai member of Blackpink. In addition, other K-pop artists or groups are mentioned as well, such as BTS NCT, and EXO. There are similar findings in terms of the number of fan pages created for a specific artist or group and the number of reactions on posts concerning those artists or groups-most were all related to Blackpink. Furthermore, Blackpink fan pages held the highest average of all actions combined.-The correlation analysis revealed that shares and comments were strongly correlated because these are two reactions that show a higher concentration of fan page post concentrations than conventional engagement. As regards reactions, like and love displayed a strong positive correlation, which indicates a continuous expression of positive emotion towards a post.

Finally, some special interaction combinations are described. According to [67], the "share" interaction's correlations should be considered in light of its particular influence on fan pages reach. Fan pages reach, and the pace of fan-specific interactions may be affected due to "share" interactions. This impact of "share" can explain the substantial positive correlations with "comment" interactions. When we looked at our data, we discovered that the significant positive connection between "click" and negative interactions was also a thought-provoking combination interaction, which might help to explain why unfavorable Facebook interactions could improve organic reach.

5. CONCLUSION

K-pop has created new markets for industries and presented benefits to businesses that would have had few or no means for public relations and promotion otherwise. Social media tools used in various industries has resulted in growth. The awakening of the Korean wave is something to observe. According to the results of the present study, it can be observed that the popularity of K-pop is widespread and has become normalized, and that its products and services have an impact on people's daily lives. The concept of awareness explains the process of cognition. If being open to the trends of Korean culture and having a good understanding of the Korean movement result in a change in consumption behavior, then exposure to Korean entertainment media can possibly explain the culturally influenced behaviors of Thai teenagers. Thai teenagers' exposure to Korean entertainment media and internet media is linked to Korean cultural values. Their fascination towards K-pop have encouraged them to learn and imitate the behaviors of their favorite K-pop idols. Furthermore, this mass fascination has led to the creation of fan pages on Facebook for the purpose of posting news and updates related to certain K-pop groups and for the purpose of facilitating communication between K-pop artists and their Thai fans. What makes K-pop so successful and popular is that it recognizes and caters to the requirements of its fans, both in terms of concept and image. Besides creating regional idols with the same style and vision of K-pop, K-pop styles will also be produced repeatedly by regional idol groups. The use of the Internet to spread information is yet another factor that has made K-pop popular. The spreading popularity can be divided into 4 phases: i) fan base phase, ii) fan base building period, iii) fan base expansion period, and iv) K-pop success model. The researcher also found that bringing members from other countries to join a K-pop group is a form of adaptation to each country's culture.

Our analysis discovered that there were diverse usage patterns in terms of non-profit advocacy among Thai K-pop fans in Facebook fan pages created and managed by fans and not businesses. When compared to other Facebook sites managed by entertainment companies and corporations, K-pop fan pages that were earlier dismissed as being "nonsensical" have shown equivalent rates of advocacy. The results from the qualitative content analysis in this study suggest that these informal organizations or non-profits are not just attempting to exchange and share information with the local fans via Facebook, but they are also

advocating for causes and voicing their concerns on issues they would like to pursue. To illustrate this diversity, a K-pop Facebook page member commented on the newsfeed to encourage the wider public to show more interest in their activity. In another case, the admin of one K-pop Facebook page encouraged their followers to engage more in politics. Our findings suggest that social networking services, such as Facebook via Facebook pages, can provide K-pop fans with more opportunities to support or promote causes involving their favorite K-pop artists and the K-pop industry, as well as more opportunities to connect with South Korean K-pop artists. Last but not least, social networking platforms like Facebook enable K-pop fans to establish a more glamorous online presence despite financial constraints, limited foreign language knowledge, and overall lack of opportunities. Future research expects to add more data sources and variables, such as YouTube, Instagram, and Twitter. And qualitative and quantitative methods, and social network analysis (SNA) methodology to provide a more detailed and cover study in Korean popular culture.

ACKNOWLEDGEMENTS

This research is financially supported by the Faculty of Humanities and Social Sciences, Khon Kaen University, Thailand (grant number: HUSO2563).

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