



Characteristics of Twitter Influencers, Electronic Word of Mouth, and Film Viewership: Focused on the Korean Film Industry

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Received 27 May 2019; revised 17 December 2019; accepted 11 March 2020

Despite the successive increase sales in Korean film industry, film revenues have been concentrated more in commercial films, not in diversity films. In general, diversity films relatively made with low budgets have trouble marketing with a limited budget. As one of the low-cost marketing strategies, it has been studied that using influencers who spread strong messages to other people for maximizing electronic word of mouth (eWOM) effects. Therefore, it is worth that identifying and characterizing each influencer of successful movies to use influencers as a cost-effective and powerful marketing tool in the film industry. This study intends to identify film influencers on the SNS, Twitter. And comparative analysis of influencers between 4 types of high-ranked films is conducted to characterize of each influencer and their influential power. Four films released in June 2013, each representing a Korean or foreign, commercial or diversity film, are chosen and 753 Twitter data are collected. To identify each influencer, centrality indices from social network analysis are measured using Condor 2.6.6. The findings reveal that influencers which have high centrality indices are classified into five types and these have different characteristics by film types. The results will attribute to select potential influencers for targeting and benchmarking strategies of diversity films.

Keywords: Influencer, Social network analysis, eWOM, Centrality indices

Introduction

One of the most cost-effective online marketing methods in the film industry is using social media influencers to spread strong messages to their audiences, maximizing electronic word of mouth (eWOM) effects. In present marketing vernacular, influencers generally refer to people who have significant impact on the consumption patterns of others. Various studies have illustrated the significant impact of the volume or valence of eWOM has on a film's revenues.¹⁻³ However, these studies fail to account for the influencers and actors involved in the spread of eWOM on social networks.⁴⁻⁶ The question for the film industry today is how the impact of such individuals can be utilized across social network platforms, included in their external and internal marketing efforts, and facilitate eWOM for proper product awareness. Therefore, this study intends to identify the Korean film industry influencers on social networking services, specifically Twitter, and compare their influence by film type. This will allow the researchers to identify their characteristics and influential power; these profiles may serve as the means to enhance the attention and viewership of diversity films.

Materials and Methods

Data Collection

Twitter has been a mainstay of social network analysis studies because it produces reliable information—Twitter discloses its user information, reducing the problems of ambiguity related to user anonymity, in turn accentuating influence.¹ The reach of the influencers can then be measured through mutual interaction; this is done by monitoring the retweets rather than conducting a unilateral distribution of data. The records of retweets are expected to reflect users' interests; the link prediction can be improved by incorporating retweet data.

Our data is based on four of 2013 highest ranked films by film types (i.e., Korean commercial film, foreign commercial film, Korean diversity film, and foreign diversity film). The choices were based on the KOFIC box office ranking from June 2013. The selection criteria for the films were that it was widely recognized by the public, released at a similar date, and had no ambiguities related to the title. Four films were chosen using the criteria: "Secretly, Greatly," "Man of Steel," "Mai Latima," and "Poulet aux Prunes".

In the Korean film market and social network

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ecosystem, the amount of tweets rapidly increases shortly before and after a film's release⁷; retweet data regarding the selected films were collected using database management system MySQL from June 10–30, 2013. In total, 753 Twitter data were collected: 310 for “Secretly, Greatly,” 351 for “Man of Steel,” 37 for “Mai Latima,” and 55 for “Poulet aux Prunes.

Social Network Analysis (SNA)

SNAs allow for distinct identification and characterization of influencers on SNSs, with many studies using centrality analyses as their measure of member influence^{8,9}; the present study examines the centrality and influence of specific personae on the Twitter platform. By identifying the links between network nodes as expressed in a matrix, SNAs can define social networks in terms of individuals (nodes) and their Twitter interactions or retweets (links). These visualized matrices provide material for qualitative assessment reflecting attributes of interest.¹⁰

Specifically, the degree and betweenness centrality indices have been the most widely used in SNAs.⁸ Using Freeman's concepts of degree centrality and betweenness centrality¹¹, degree centrality measures how many connections a node has across the total network, whereas betweenness centrality focuses on the mediating role a node plays with regard to other nodes. These centrality analyses are a way to discern the nodes that play important roles in a given network; influencers are nodes with high degree centrality and high betweenness centrality.

Degree centrality defines the agents in each network as nodes and calculates the degree of centrality of each node based on the number of nodes connected to it. The greater the number of connected nodes, the greater the degree centrality is. In other words, for this study, degree centrality becomes higher the more retweets the node has, and this analysis allows the identification of influencers, or those involved in distributing the information about the film to others. The following Eq. (1) was used in degree centrality analysis:

$$\text{degree centrality}(i) = \frac{\text{degree}(i)}{n-1}, \quad i=1,2,3,\dots,n \dots (1)$$

If *degree (i)* is defined as the number of lines connected to node *i*, the value is obtained by dividing it by the number of the total nodes excluding itself.¹¹

Betweenness centrality measures the role of the

node or the broker's mediator within a given network. That is, if *h* and *j* can form a relationship with the mediation of *i*, then *i* is the broker of the relationship. In this respect, it measures the ratio of the total number of routes connecting *h* and *j* together and the number of routes that contain *i* in it. Thus, if a node has a high level of betweenness centrality, the node can then be thought to play the role of an influencer in the distribution of the information.

$$\text{betweenness centrality}(i) = \frac{\sum_{h \neq i} \sum_{j \neq k} \frac{g_{hij}}{g_{hj}}}{(n-1)(n-2)/2}, \dots (2)$$

Where, $i = 1,2,3, \dots, n$

In the Eq. (2) for betweenness centrality, g_{hj} refers to the number of shortest routes from *h* and *j*, while g_{hij} refers to the number of shortest routes from *h* and *j* that pass through *i*.¹¹ The graphical visualizations of the social networks for each film type served as the basis for the study's qualitative analysis of Twitter influencers and their networks. Additionally, using Condor 2.6.6, the degree and betweenness centrality indices identify the influencers.

Results and Discussion

Sociograms of twitter network

The visualization of Twitter influencer networks across the four film types is provided in Fig. 1. In these sociograms, the nodes represent individuals who post or repost messages, whereas the lines (links) represent individual interactions. Commercial films “Secretly, Greatly” and “Man of Steel” were observed to have larger nodes and a denser network of connections than the diversity films. Notably, nodes of “Secretly, Greatly” have their posts diffused across different groups, whereas a node from Hollywood's “Man of Steel” appear more centralized.

Twitter Influencers

To distinguish prominent influencers, the nodes with a high degree and betweenness centrality are derived from each sociogram. Table 1 lists the nodes exceeding 5.0 in degree centrality and 0.2 in betweenness centrality. The nodes with high degree centrality are those whose Twitter profiles are more frequently viewed, and whose posts are actively interacting with neighbors. On the other hand, nodes with high betweenness centrality retweet posts from one group to another. A total of 23 nodes were found to have high centrality indices.

In the case of “Secretly, Greatly”, an overview of influencers with high degree and betweenness centrality reveals that most of the influencers are made up of Hyun-woo Lee, the lead actor of the film, and his fans. “hihyunwoo”, the Twitter account of a leading actor in the film, distributed the actor’s schedules, information about the film, and its teaser videos to the followers. Fan clubs and individual fans of the actor share the information to their own followers, helping to spread the message further. Thus, for the film “Secretly, Greatly,” existing fan networks of the leading actors played a heavy role in sharing the video clips and information about the film. Also, Youtube, a free video-sharing platform, provides video content, such as soundtracks, fan meetings, and stage appearances of the film; and it shows high centralities with its trends of content reposts.

In “Man of Steel,” “loverwlsdud” and “sonymusickr_pop,” influencers with very high levels of degree and betweenness centrality, use their platform to promote the film’s soundtrack and promotional events. On the other hand, Twitter user “high_horselady” and “leesy7258” introduce themselves as fans of cinema in general, promoting many different films alongside “Man of Steel” to their

followers. As the same as Youtube in the case of “Secretly, Greatly”, “now_trend” shares “loverwlsdud’s” posting on their Twitter account; this helps to diffuse the soundtrack promotion event of “Man of Steel” to other groups.

In “Mai Latima,” two prominent influencers were identified: “art_nine9” and “indiespace_kr,” accounts of indie cinemas promoting the newly-released indie film. Despite “Mai Latima” being a diversity film well away from mainstream cinema and not having an extensive marketing network at the level of most commercial films, interest in the film diffused well into other groups. This is likely due to its influencers who have higher betweenness centrality than those who marketed for commercial films. Most notable are the influencers identified as fans or associates of the director; in particular, a Japanese fan of the director shows high degree and betweenness centralities.

“cine_gwangju,” an influencer of “Poulet aux Prunes,” was found to be linked to marketing teams of indie cinemas. However, none of its nodes had a betweenness centrality greater than 0.2, suggesting that there are no intermediary influencers involved. It is shown in Fig. 1 that a postfrom “cine_gwangju” has not expanded to the rest of the network.

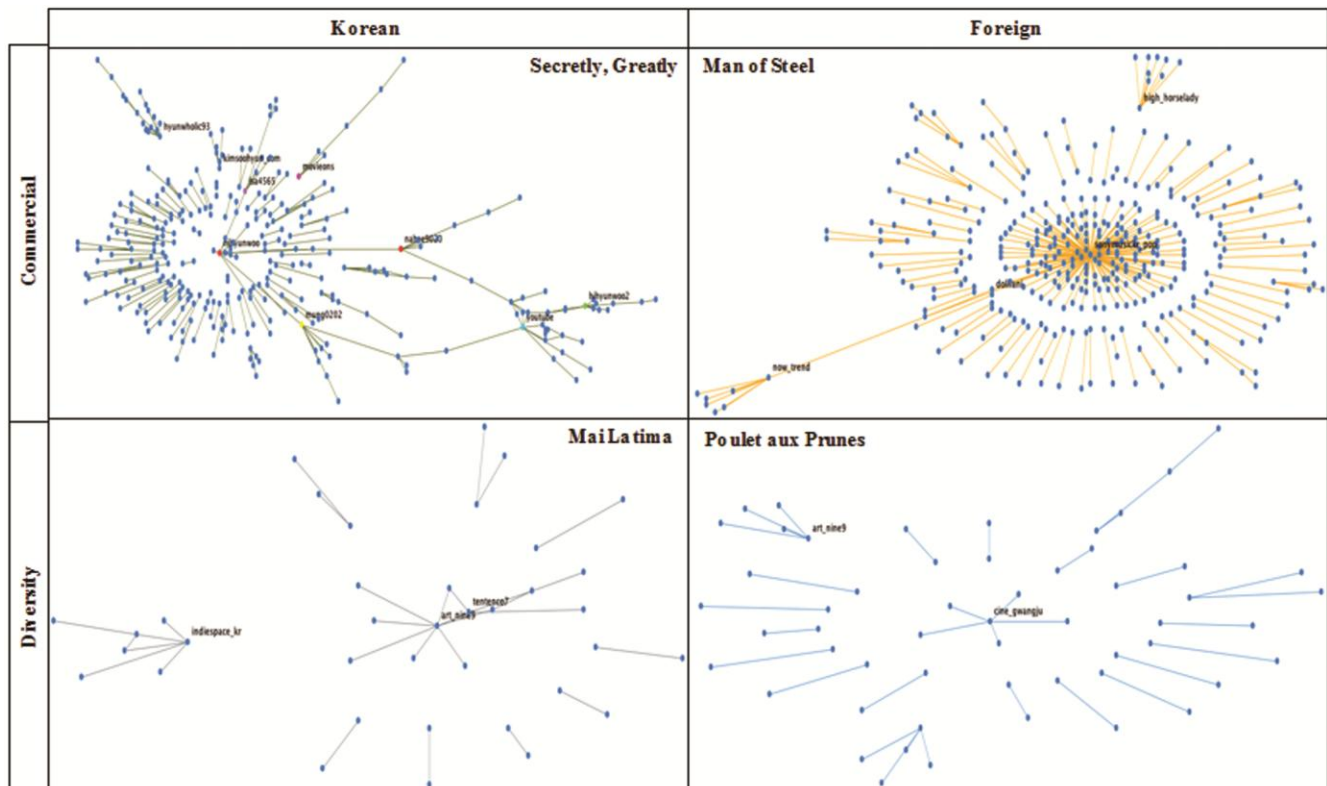


Fig. 1— Visualized Twitter Network by Film Types

Comparison of Influencers per Film Type

To determine the differing characteristics among influencers per film type, characteristics listed in Table 1 are aggregated (Table 2); several differentiations by film types are provided.

Successful commercial movies, “Secretly, Greatly”

and “Man of Steel,” were found to have a greater number of nodes, over 300 (Table 2). Their average degree centrality scores are larger than diversity films; specifically, “Man of Steel” had the most influential node with a degree centrality score of 162.0. The major influencers of “Secretly, Greatly” are one of the

Table 1 — Centrality Analysis Results and Node Characteristics

Film Name	Centrality Index	Nodes (Twitter ID)	Score	Characteristics
Secretly, Greatly	Degree	hihyunwoo	10.0	Lead actor Hyun-woo Lee, distributed schedules and related video clips
		hyunwholic93	8.0	Fan of lead actor Hyun-woo Lee, distributed related video clips
		mung0202	8.0	Fan of lead actor Hyun-woo Lee, promoted the film to others in friend group
		YouTube	8.0	Provided hosting for videos such as OST, fan meeting, and stage appearance
		hihyunwoo2	8.0	Fan of lead actor Hyun-woo Lee, distributed related video clips
	Betweenness	hihyunwoo	0.3	Lead actor Hyun-woo Lee, distributed schedules and related video clips
		mung0202	0.2	Fan of lead actor Hyun-woo Lee, promoted the film to others in friend group
		pshyunwoo	0.2	Official fan cafe of lead actor Hyun-woo Lee
		stevanipang	0.2	Fan of lead actor Hyun-woo Lee
		YouTube	0.2	Provided hosting for videos such as OST, fan meeting, and stage appearance
Man of Steel	Degree	loverwlsdud	162.0	Same individual as sonymusickr_pop, distributed promotion eventsof OST album
		high_horselady	8.0	Fan of the film
	Betweenness	sonymusickr_pop	0.23	Same individual as loverwlsdud, distributed promotion eventsof OST album
		leesy7258	0.2	Fan of the film
Mai Latima	Degree	now_trend	0.2	Provided hosting for the film
		art_nine9	8.0	Marketing account of indie cinema “ARTNINE”
		tentenco7	5.0	Fan of director Ji-taeYoo, Japanese account
		indiespace_kr	5.0	Marketing account of indie cinema “INDIESPACE”
	Betweenness	art_nine9	0.7	Marketing account of indie cinema “ARTNINE”
		tentenco7	0.3	Fan of director Ji-taeYoo, Japanese account
		gotjd2	0.2	Manager account of director Ji-taeYoo promoting Yoo’s film
		indiespace_kr	0.2	Marketing account of indie cinema “INDIESPACE”
Poulet aux Prunes	Degree	cine_gwangju	5.0	Marketing account of indie cinema “Cinema Gwangju”

Table 2 — Characteristics of Influencers per Film Type

Classification		Secretly, Greatly	Man of Steel	Mai Latima	Poulet aux Prunes	
General Characteristics	Film Type	Commercial Film	Commercial Film	Diversity Film	Diversity Film	
	Origin	Korea	International (US)	Korea	International (EU)	
	June 2013 Box Office Ranking (by Film Type)	1st	2nd	2nd	2nd	
	Total Revenue (in KRW 10 million)	48,700	17,092	49	95	
	Total Attendance (by the end of 2013, in 1,000)	6,959	2,182	7	13	
	Total Number of Nodes	310	351	37	55	
	Total Number of Influencers	10	5	7	1	
	Centrality Score of influencer (number of influencers)	Degree Centrality (≥0.5) Average	10.0 (1) 8.0 (4) 8.4 (5)	162.0 (1) 8.0 (1) 85.0 (2)	8.0 (1) 5.0 (2) 6.0 (3)	5.0 (1) 5.0 (1)
	Influencer Characteristics	Betweenness Centrality (≥0.2) Average	0.3 (1) 0.2 (4) 0.22 (5)	0.23 (1) 0.2 (2) 0.21 (3)	0.7 (1) 0.3 (1) 0.2 (2) 0.3 (4)	-
		Type of Influencer (number of influencers)	Fan & Fan Club	6	2	2
Celebrity		2	-	1	-	
Theater (Indie Cinema)		-	-	4	1	
Contents Provider		2	1	-	-	
Other	-	2	-	-		

actors, fans, fan clubs, and a content provider; on the other hand, influencers of “Man of Steel” are found to be a soundtrack producer promoting for an album promotional event, and fans of the movie. Notable, however, is that in spite of “Man of Steel’s” blockbuster status, it has less influencers with high levels of degree and betweenness centrality than the diversity film “Mai Latima.”

A notable characteristic of influencers for Korean films is that they are greater in number than those for international films; particularly, their average scores of betweenness centrality are higher than those of foreign films. These influencers play a connecting role to spread a message to other groups, and that subsequently cascades to the rest of the network. Another characteristic is that celebrities, fans, and fan clubs are the major influencers in Korean films. In contrast, while the foreign movie “Man of Steel” has fans as influencers, they have no relationship with celebrities, and the network cohesion is visibly less interconnected than those of the Korean film.

The common characteristic in diversity films is found that the major influencers are indie cinemas, while there are no cinemas or movie theaters as influencers in commercial films. While indie cinemas actively promote these newly-released indie films, as the overall number of nodes is small, the impact and reach of influencers are limited.

Discussion

Twenty three influencers with high centrality indices are classified into five types. Of the five, majority fall under the category of fan and fan-club type of influencer; they play a leading part in diffusing film information on the SNS. It is their connection with particular celebrities that gives their posts more dispersion power in the SNS. The second largest influencer type is the specialized theater for indie and art-house films—since diversity films have relatively low awareness in film market, they come to viewers’ attention through the use of such theaters. On the other hand, content providers, such as “Youtube”, post information on popular films to attract other users, and they information regarding newly-released commercial movies. Lastly, film soundtrack producers and publishers promote the film regularly by holding promotional events.

When considering these influencers’ characteristics by film types, it was found that commercial films’

eWOM volume and degree centrality of influencers is much higher than diversity films. According to the literature review, the volume of eWOM had a positive effect on the popularity of the film. Similar to previous studies, the present research also shows greater sales figures for commercial films, along with greater node sizes than diversity films. That is, the results of this study seem to indicate that the eWOM is indeed playing a positive role in the sales of the film. The case of the selected Korean commercial film shows that many users follow film trailers of a contents provider which has high degree centrality. To improve the promotion of diversity films, influencers with higher degree centrality are pivotal to drawing an increased audience.

One of factors contributing to the success of Korean movies is likely the number of influencers with high betweenness centrality. This is especially so with the Korean films, as the celebrities and their fans were the most potent influencers; occupying the central point of the network, exchange was facilitated between others through intermediaries. For example, in the case of the Japanese fan, that type of influencer is thought to be capable of affecting purchase intention or information relay with their expansive connection. Therefore, by using influencers as mediators within a given social network, diversity films can improve marketing performances in the global film market.

Conclusions

In the sample of indie Korean and foreign films, prominent influencers were found to be indie cinemas. However, since diversity films and these cinemas generally have minimal budgets for marketing, it is difficult to promote diversity films. Thus, using influencers with high degree and betweenness centrality to maximize eWOM effects on SNS may bolster diversity film marketing.

Despite the pioneering work, this case study covers only four films. To obtain a better grasp of the role influencers have on a film’s commercial success, further research is advised to include more films and utilize platforms outside of Twitter. In addition to guaranteeing a steady stream of data accumulation, there must be deeper research on the effect of influencer endorsement and its movement.

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