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How Could Investors in Financial Market Respond to Entertainers' Romance Rumor?

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ABSTRACT

Entertainers could be easily involved in gossip like romance rumor because the media and public are very interested in their privacy. As such news is reported, it could affect damage to both entertainment agencies and entertainers in terms of profits. In financial market, investors could consider such news as an important information to decide whether to invest or not. Therefore, those news could affect the stock prices of the listed companies. Using the event study method, this study analyzed how romance rumor impacts on the stock price of entertainment agencies. As a result, romance rumor generally has a negative effect on stock price from one day before the event day to the event day. In detail, the 'accept' case has an adverse impact on stock price one day before the event day whereas the 'deny' case has no effect on stock price. It can be said that the 'accept' case is no longer rumor.

Keywords: Entertainers, Entertainment Agencies, Romance rumor, Event Study, Stock Price.

1. INTRODUCTION

Entertainment industry has been accomplished rapid growth as a future-oriented culture business. Since 2000s, there have been a large number of mergers and acquisition among small entertainment agencies and they have become bigger with the growth of the entertainment industry. The situation is that comprehensive companies discovering and training entertainers as a business and employment participated in such industry have been increased as well.

Those entertainment agencies invest a large number of resource and time to discover and train previous and new entertainers [3]. They mainly obtains huge profits through the activities such as TV, dramas,

movies, concerts and advertising of belonged entertainers. Hence, those agencies recognize an entertainer as one of 'contents' to generate revenues and can maximize economic value depending on how to promote and manage such entertainers. In terms of profits, they play an important role because their revenues are directly related to those of companies.

Companies perform a wide range of activities such as discovering, promotion and management of entertainers [8]. One of the most essential tasks of entertainment agencies is to manage entertainers' image. They are acting based on the popularity and reputation of masses and are required to be commercialized their images due to the nature of the job. And then, their market price such broadcast salary and advertising contract could be established by their images [9], [14] and [15]. This means that the report of news related to privacy is more likely to affect the image of entertainers as income of entertainers is directly related to that of companies. In particular, it is to control their privacy not to be involved in gossip. By rising the popularity and awareness of entertainer as a job, the media and public are very interested in the privacy of famous entertainers. As entertainers are involved in gossip, it could damage their image and then ultimately affect a negative effect on firm value. For example, in September 14, 2012, due to a scandal article of 'Seoungri', a member of 'Big Bang', the stock price of YG entertainment was down 1.6% compared to the previous day. Furthermore, owing to the news about drug in relation to 'Park Bom', a member of '2ne1', the stock price of YG entertainment was declined by 2.36% after news was released. Entertainers cannot escape from the public gaze and interest both the duration of the period of external activities and without external activities [7]. In fact, news regarding privacy can have a negative effect on stock price in the short term.

As a result, the more large scale and approval ratings of the fans are, it is more likely to be involved in a variety of gossip. Entertainment companies play an important role how to manage and control entertainers in order to maintain and express their value as a commodity. Namely, the purpose of this paper is to analyze the effect on the stock price of the entertainment companies according to the romance rumor.

In financial market, investors could consider news like romance rumor as an important information to decide whether to invest or not. With event study method, this paper investigates how to evaluate the impact on the stock price of the entertainment agencies according to the romance rumor. The remainder of this research is organized as follows. Section 2 introduced previous studies and Section 3 explained the event study method. Section 4 discusses the result of empirical analysis. In last section, conclusions are discussed.

2. THEORETICAL BACKGROUND

From 2005 to 2015, there are a various type of studies regarding entertainment industry. Most studies are concerning the general characteristics and status of the entertainment industry and exclusive contract of entertainers. These days, there are some researches as follows.

Chang explained four different motives of cooperation in the entertainment industry based on the case study of SM entertainment. The entertainment company uses a cooperation strategy to supplement the lack of experience, to minimize the risk of failure and to maximize the efficiency of resource use [4].

Hwang examined factors directly influencing on the reputation of 20's entertainers based on the contingency theory of accommodation [5].

Im scrutinized the relationships between middle and high school students' self-esteem and Korean celebrity idols. To explain idolization phenomenon about idol stars, this paper analyzed how factors such as self-esteem, relationship with friends and group bullying have affected the idolization and what is the correlation between those factors [6].

Rho presented that entertainment agencies have contributed to the development of the drama production industry. This brings about the expansion of actors market and securing A-list actors as tipping effect. To resolve the tipping effect, entertainment agencies are required to certain strategies such as the expansion of sales volume, diversification of profit resource and secured copyright [11].

Song & Kim investigated the activities of the planning-type entertainers recognized as a brand. When they differentiate brand image compared to other entertainers, brand value could be increased and will be able to be maintained and extended [12].

Yim & Jung suggest to explain the conflicts between entertainment agencies and entertainers through a game-theoretic model regarding how to share profits after become a star. In an one-shot game, entertainers hesitates law suits against their agencies whereas, in a finitely repeated game framework, they are more likely to sue if the opportunity and sunk costs are minor and if the chance to win is positive [13].

As described above, there is no study about stock price on entertainment agencies until now.

3. EVENT STUDY

Event study is to measure abnormal return caused by the event. Abnormal return is the discrepancy between actual stock return and index return for the identical period [1], [2]. This method is appropriate in accounting and finance research to evaluate the impact of security prices by the specific event [10].

3.1. Window of the Event Study

The estimation window is used to determine the normal behavior of the stock market factors. The event window often starts a few trading days before the actual event day [10]. As shown in Figure 2, the estimation window is from -171 to -6 days and the event window is from -5 to +5 days.

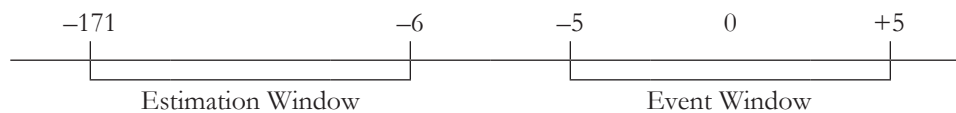


Figure 1: Window of Event Study

3.2. Data

This study found that how news regarding the romance rumor impacts on the stock price of entertainment companies. To analyze it, we conduct to search for the specific events and stock prices. The search methods are as follows:

At first, romance rumors could be gained by Korean portal site, 'NAVER'. To seek out each news, condition including 'name of entertainer' and 'event date' should be established. After collecting a large number of news, its related news is arranged from old date. And then, data is recognized as one event.

Moreover, the event date depends on the closing time of stock market. As can be seen in Table 1, the total number of samples is 48 from January 1, 2014 to April 30, 2016. Its stock price is gained from Kis-Value and its market index (KOSDAQ) is acquired from KRX, separately. As divided these data into ‘accept’ and ‘deny’, the number of samples of ‘accept’ case and ‘deny’ case is 24 and 24, respectively.

Table 1
The number of sample

Year	Accept	Deny	Total
2013	3	11	14
2014	11	2	13
2015	7	6	13
2016*	3	5	8
Total	24	24	48

* as of April 30, 2016

3.3. Estimation of the Market Models

This study uses a regular market model regression to estimate the link between stock returns and market returns. Using the regression method, this study assesses α_i and β_i as following equation (1) during the estimation window. Given these parameter estimates, abnormal stock returns are extracted during the event window.

$$R_{i,t} = \alpha_i + \beta_i R_m + \varepsilon_{i,t} \text{ s.t. } E[\varepsilon_{i,t}] = 0, \text{Var}[\varepsilon_{i,t}] = \sigma_{i,t}^2 \quad (1)$$

3.4. Aggregating Abnormal Returns and Statistical Properties

To examine effects on stock price by romance rumor, this study uses the mean average abnormal returns (AARs) and cumulative abnormal returns (CARs). For stock i in the event window, AARs and CARs of samples are measured as following:

$$AAR_{i,t} = R_{i,t} - \alpha_i - \beta_i R_m \quad (2)$$

$$AAR_t = \frac{1}{n} \sum_{i=1}^n AAR_{i,t} \quad (3)$$

$$CAR_{t_1,t_2} = \sum_{t=t_1}^{t_2} AAR_t \quad (4)$$

To test significance of AARs or CARs, t -statistics are used during the event window as following:

$$t_{AAR_t} = \sqrt{n} \sum_{i=1}^n AAR_{i,t} / \hat{\sigma}(AR_{i,t}) \quad (5)$$

$$t_{CAR_{t_1,t_2}} = \sum_{i=t_1}^{t_2} AAR_{i,t} / \sqrt{t_2 - t_1 + 1} \hat{\sigma}(AR_{i,t}) \quad (6)$$

4. RESULTS

Table 2 and Figure 2 suggest AAR, CAR, and t -value of total sample. As can be seen in Table 2, AAR indicates a positive (+) direction from D-5 to D-2. However, it indicates a negative (-) direction from D-1

to D-0. At that time, AAR is -0.734% at D-1 and -0.857% at D-0, respectively. Also, t -value is -2.002 and -2.338 and both are statistically significant at 5% level. This result means that the news related to the romance rumor has a negative effect on the entertainment agencies before news is released.

Table 2
AAR, CAR and t -value of total sample

Day	AAR	t -value	CAR	t -value
-5	0.463%	1.264	0.463%	1.264
-4	0.147%	0.400	0.610%	1.177
-3	0.227%	0.619	0.837%	1.318
-2	0.591%	1.611	1.428%	1.947
-1	-0.734%	-2.002^{**}	0.694%	0.846
0	-0.857%	-2.338^{**}	-0.163%	-0.182
1	0.187%	0.509	0.024%	0.024
2	0.099%	0.271	0.123%	0.119
3	-0.032%	-0.087	0.091%	0.083
4	-0.078%	-0.214	0.013%	0.011
5	-0.332%	-0.906	-0.319%	-0.263

$^{**}p < 0.05$

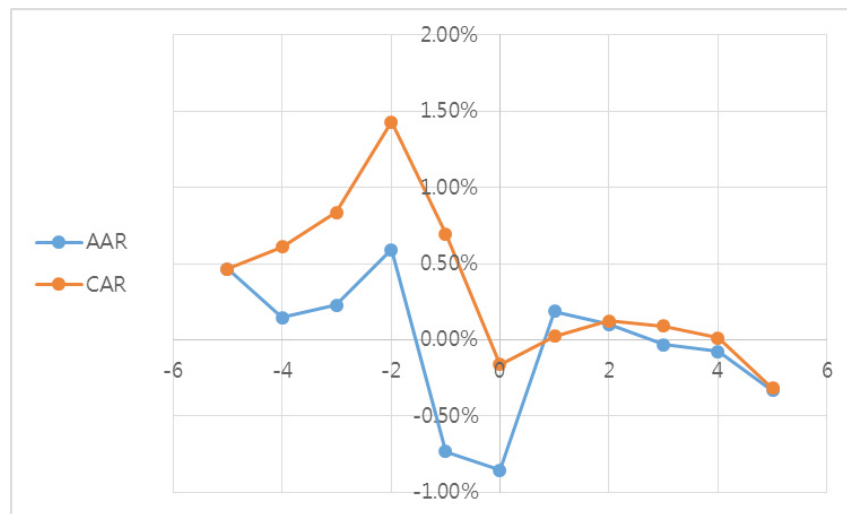


Figure 2: AAR and CAR of Total sample

In conjunction with this result, this study divided samples into two groups by coping methods, 'accept' and 'deny' case. On the one hand, Figure 3 describes AAR and CAR in case of 'accept' and Table 3 also presents AAR, CAR and its individual t -value. AAR indicates a positive (+) direction from D-5 to D-2. However, it suddenly changes a negative (-) direction from D-1 to D-0. AAR is -1.194% and its t -value is -2.515 at D-1. Hence, it is significant at 5% level at D-1. However, it is -0.737% and its t -value -1.553 at D-0, it is not statistically significant. This result proposes that the case that the agency or entertainer approves has a negative effect on the stock price one day before the news is released.

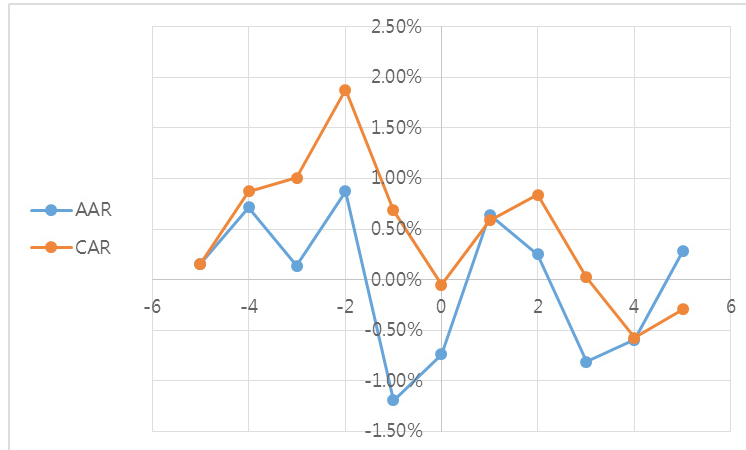


Figure 3: AAR and CAR of 'Accept' case

Table 3
AAR, CAR and t-value of 'Accept' case

Day	AAR	t-value	CAR	t-value
-5	0.155%	0.326	0.115%	0.326
-4	0.717%	1.510	0.872%	1.298
-3	0.136%	0.286	1.008%	1.225
-2	0.872%	1.837	1.880%	1.979
-1	-1.194%	-2.515**	0.686%	0.646
0	-0.737%	-1.553	-0.052%	-0.045
1	0.640%	1.348	0.588%	0.468
2	0.249%	0.525	0.838%	0.624
3	-0.814%	-1.713	0.024%	0.017
4	-0.598%	-1.260	-0.574%	-0.382
5	0.282%	0.593	-0.292%	-0.185

** $p < 0.05$

On the other hand, Figure 4 describes AAR and CAR in case of 'deny'. Table 4 also represents AAR, CAR and its individual t -value. In case of 'deny', AAR also indicates a negative (-) direction from D-1 to D-0 like the case of 'accept'. AARs at D-1 and D-0 are -0.120% and -0.703% , respectively, but both are not statistically at the significance level. This result proposes that the case that the agency or entertainer denies has no effect on the stock price according to the romance rumor.

Table 4
AAR, CAR and t-value of 'Deny' case

Day	AAR	t-value	CAR	t-value
-5	0.774%	1.226	0.774%	1.226
-4	-0.201%	-0.319	0.573%	0.642
-3	0.498%	0.789	1.071%	0.980
-2	0.280%	0.443	1.350%	1.070

Day	AAR	t-value	CAR	t-value
-1	-0.120%	-0.190	1.231%	0.872
0	-0.703%	-1.113	0.528%	0.342
1	-0.234 %	-0.371	0.294%	0.176
2	0.293%	0.465	0.587%	0.329
3	0.397%	0.630	0.985%	0.520
4	0.236%	0.373	1.220%	0.612
5	-0.870%	-1.378	0.351%	0.168

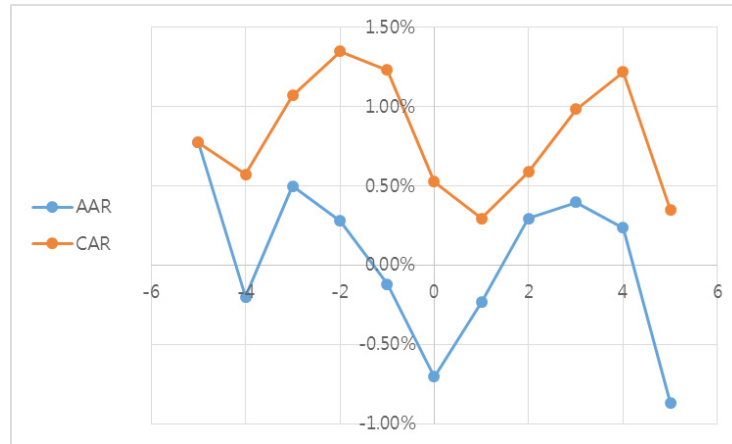


Figure 4: AAR and CAR of 'Deny' case

5. CONCLUSIONS

Entertainment industry is an industry which produces contents based on the entertainers and provides the general public and fans. It is a high value-added industry as a single product which produce a wide range of revenue sources like drama and soundtrack. With high growth of this industry, comprehensive companies discovering and nurturing artists have been increased.

Currently, the entertainment companies are generating huge profits by utilizing a variety of content through the business diversification. Part of those revenues is directly related to the market price of well-known entertainers such as broadcasting salary and advertising contract. As the image of the entertainers is a commodity, the income of the entertainers could be determined according to the image formed to the public. In other words, the image recognized on the public could be the revenues of the entertainment company soon. Consequently, entertainment company is very sensitive to news about the privacy of entertainers and will inevitably be reluctant to become increasingly socially complex.

In terms of listed companies, romance rumor is a bad news affecting a negative effect on the stock price. Indeed, this study investigated that investors in financial market could consider such news as an important information to decide whether to invest or not. With the event study methodology, this study analyzed how the news related to entertainers' romance rumor impacts on the stock price of the entertainment agencies. This paper find a result that such romance rumor generally influenced a negative effect on the stock price. In particular, in case of 'accept', it has a negative (-) effect on the stock price one day before the news is announced whereas, it has no effect on the stock price in case of 'deny'. Namely, it can be said that the 'accept' case is no longer rumor.

Despite of the fact above, this paper has following limitations. The entertainment industry had been grown constantly since 2010, but such studies reflecting the characteristics of this sector are not achieved. This study is focused and conducted on this part, but the number of samples is not enough. In future studies, it is necessary to acquire more samples for a wider period and analyze in more detailed according to company, gender and job.

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