
Evaluating the Role of **On-line Review for Bollywood films** on box office performance

Patel Naresh

Professor and Head
Center for Management
Studies
Dharmsinh Desai University
Nadiad, Gujarat.
Mobile: 094266 99665
nareshpatell3@yahoo.com

Frince Thomas

Assistant Professor
Center for Management
Studies
Dharmsinh Desai University
Nadiad, Gujaat.
frince@rediffmail.com

The study is designed to know role of On-line rating of a Bollywood films on box office collection. Response was got from 1165 people in different age group and gender through questionnaire. A simple questionnaire using five point rating scale was administered by using convenience sampling approach. Secondly, secondary research also carried out in order to find out on-line rating of a Top 10 film which has highest box office collection in 2013. Data were analyzed by bi-variate data analysis techniques. The study helped to explore the impact of on-line rating on box office collection of a movie/film and also comes into logical conclusion that on-line rating does not have much significant impact on box office collection of a movie/film.

Key words: Film, Box Office, On-line rating, Bollywood.

INTRODUCTION

India, a population of 1200 million and still counting, having diversified the cinematic culture of Andhra Pradesh, Gujarat, Karnataka, Kerala, Mumbai, Punjab, Tamil Nadu, Uttar Pradesh and West Bengal in languages especially Telugu, Gujarati, Kannada, Malayalam, Hindi, Punjabi, Tamil, Bhojpuri and Bengali respectively. The Motion Picture or Film Industry is a key and perhaps the most vibrant industry of the Indian economy. The number of films produced annually is higher than that produced in any other country including Hollywood, USA. While Hollywood produces around 550 movies a year, the Indian film (movie) industry produces more than 1000 movies every year (Krishnan & Sakkthivel, 2010). The Hindi film making industry in India that is based out of Mumbai, referred to as ‘Bollywood’ by the media, is largest film producing centre in the country (Sarkar & Nayak, 2009).

LITERATURE REVIEW

Films or movies are cultural goods defined as ‘non material good directed at public consumers for whom they generally serve an aesthetic or expressive, rather than clearly utilitarian function (Hirsch, 1972). Cultural goods derive value from the subjective experiences, perceptions and emotions of consumers, all of which are idiosyncratic and do not have predictable patterns such as utility curve. Moreover, consumer not only judge cultural goods from their own experience but are also influenced by what others perceive about these goods (Ramchandran & Mukherji, 2010). As a result, Movies are classified as ‘credence goods’ as opposed to search goods, where quality can be assessed before purchase, or experience goods where quality can be learnt after use. For credence goods, quality can only be partially assessed during experience because the perception of quality is significantly influenced by what other people think about it (Kretschmer, Kimis & Choi, 1999).

Another studies involves to examine that what metrics of online ratings for informative indicators of a product’s future sales and how the explanatory power of such metrics compares to that of other variables that have traditionally been used for similar purposes in the past (Dellarocas, Farag & Zhang, 2004). The Bass new product diffusion model, the authors explore how media publicity and word of mouth (WOM) about a to-be-released new movie drive movie going behavior in emerging markets in country like China (Wang, Zhang, Li & Zhu, 2010).

NEED FOR THE STUDY

Literature concludes that there is a lack of research in the Indian context specifically relationship between On-line review and box office collection. In such scenario, systematic research aimed at measuring the relationship between box office collection and On-line review of film. Moreover, new trends emerge like On-line review of films which may influence the movie goes to watch the film. However due to intensity of large number of films produced in a year especially country like India, shelf life of films are becoming shorter and shorter. Henceforth, it is need of hour, to know what is the role of On-line review due to rise of internet user, will have impact on box office collection, will it contribute for hit or flop and whether it will act as influencer or predictor for the movie. In order to understand if any difference among gender is exist or not in regard to On-line review of a film. Accordingly key research objectives this study are: 1) To examine impact of On-line review of Bollywood films on box office performance. 2) To find out if any difference among gender exists in respect to On-line review of a film.

RESEARCH METHODOLOGY

To explore the first objective “to examine impact of On-line review of Bollywood films on box office performance”, is carried out from the secondary data and to explore the second objective “to find out if any difference among gender exists in regard to On-line review of a film”, Researcher has carried out primary survey and formulated the hypothesis to test the whether relationship exist or not.

Hypothesis

H0(a) There is no significant impact on box office collection from on-line rating of films

H0(b) There is no significance difference among gender for on-line rating of films

Films selection

2013 marked the completion of 100 years of Bollywood. It saw many big-budget films in Bollywood releasing, as well as a number of sequels and quasi-sequels lined up. Some of these sequels were: Dhoom 3, Krrish 3, Murder 3, Race 2, Once Upon a Time in Mumbai 2, Aashiqui 2, Shootout at Wadala, Saheb, Biwi Aur Gangster Returns, Grand Masti, Satya 2 and Yamla Pagla Deewana 2. The Researcher took top ten grossing Bollywood films at the Indian box office in 2013. Films are ranked here according to the domestic net gross in India only. Bollywood net

gross given here also includes net gross of Tamil and Telugu-dubbed versions of Bollywood films, as the table is for only Bollywood films. The sample for the study was selected from the population by convenience sampling method. The population for this study consisted of 10 films which has highest box office collection in 2013. In order to explore the role of On-line rating for Bollywood films on box office performance. Here, the Researcher took online rating from The Internet Movie Database (*IMDb*).

On line rating: The Internet Movie Database (IMDb). On line rating means that recent advances in information technology has enabled the creation of a diverse mosaic of technology mediated word-of-mouth communities where individuals exchange experiences and opinions about films (Dellarocas, Farag and Zhang, 2004). The Internet Movie Database (*IMDb*) is an online database of information related to movies, television shows, actors, production crew personnel, video games and fictional characters featured in visual entertainment media. It is one of the most popular online entertainment destinations, with over 100 million unique users each month and a solid and rapidly growing mobile presence. *IMDb* was launched on October 17, 1990, and in 1998 was acquired by Amazon.com. The researcher has taken on line rating from internet movie database (*IMDb*). As a result Box office collection in Opening weekend is taken as dependent variable and on-line rating as an independent variables. Data were collected and analyzed through correlation, regression and ANOVAs by using the SPSS software.

DATA ANALYSIS

Table 1: List of Bollywood Movies with online rating

Sr. No	Films	Month of Release in 2003	Domestic net gross (Rs.)	On Line Rating (out of 10)
1	Dhoom 3	Dec	259	6.2
2	Chennai Express	Aug	208	6.0
3	Krrish 3	Nov	188	6.2
4	Yeh Jawaani Hai Deewani	May	179	6.6
5	Goliyon Ki Raasleela Ram-Leela	Nov	113	6.3
6	Bhaag Milkha Bhaag	July	109	8.4
7	Grand Masti	Sept	101	4.3
8	Race 2	Jan	100	5.3
9	Aashiqui 2	April	79	7.1
10	Special 26	Feb	67	7.8

(Source: <http://en.wikipedia.org>)

Table 2 Correlations

		Domestic Net Gross in Crores	On Line Rating
Domestic Net Gross in Crores	Pearson Correlation	1	-.195
	Sig. (1-tailed)		.294
	N	10	10
On Line Rating	Pearson Correlation	-.195	1
	Sig. (1-tailed)	.294	
	N	10	10

Form Table 2 it is found that Pearson correlation coefficient is -0.195 which indicates that on line rating and gross domestic collection on box office is negatively and poorly correlated with each other. It means movies with relatively high on-line rating fails to collect good collection on movies.

Table 3 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin- Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.195 ^a	.038	-.082	66.21728	.038	.318	1	8	.589	.315

- a. Predictors: (Constant), On Line Rating
- b. Dependent Variable: Domestic Net Gross in Crores

To empirically test whether any fall or rise in the ratings given to the film, implying an increase or decrease in box office collection where correlation and regression analysis is performed. For that on line rating is taken as an independent variable and domestic net gross box office collection as a dependent variable.

The Durbin-Watson statistics is used to test for the presence of serial correlation among the residuals. The value of Durbin-Watson statistics ranges from 0 to 4. As a general rule of thumb, the residuals are uncorrelated if the Durbin-Watson statistics is approximately 2. A value close to zero indicates strong positive correlation, while a value of 4 indicates strong negative correlation. Here the DW value is 0.315 as shown in Table 3 indicates weak positive correlation.

So, equation works out to be: Gross Domestic Collection = 208.449 -10.615 On-Line Rating .

So, 1 percent increases in 'On line rating' leads to -10.615 percent decreases in 'Gross Domestic Collection'.

Table 4 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1392.275	1	1392.275	.318	.589 ^a
	Residual	35077.825	8	4384.728		
	Total	36470.100	9			

a. Predictors: (Constant), On Line Rating

b. Dependent Variable: Domestic Net Gross in Crores

Table 5 Correlation

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	208.449	122.739		1.698	.128
	On Line Rating	-10.615	18.838	-.195	-.563	.589

a. Dependent Variable: Domestic Net Gross in Crores

The sixth column of Table 5 indicates the p-level to be 0.589. This indicates that the model is not statistically significant at all. The p-value indicates the insignificance of the F-value. The R^2 value is 0.038. Again, looking at the individual variable t- test, it has been found that the coefficient of variables for gross domestic collection and on- line rating is statistically not significant as their respective p-values are 1.698 and -0.563.

In order to explore second and final objective, Researcher took primary research and got response from 1165 respondents through questionnaire to find out if any difference among gender exist in regard to On-line review of a film. The sample for the study was selected from the population by convenience sampling method. The structured questionnaire was prepared with help of likert scale. The Researcher has kept five point scales. The number indicates the value to be assigned to each possible answer, with 1 Not at all important and 5 the Very Important. The questionnaire was prepared and kept it on online to fill it. Finally, the researcher got 1165 responses that filled questionnaire and that also from different demographic segment. Data were collected and analyzed through Independent Samples t test.

Researcher has conducted independent sample t test to find out any difference exist among gender in regard for on-line rating. Moreover, if the 'p' value is less than the significance level set by us for the test, one can reject null hypothesis. Otherwise, one will accept the null hypothesis. In this case, Researcher found that the 'p' value for 't' test is 0.244 assuming unequal

Table 6 Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
On-line review	Female	560	3.8839	.95466	.04034
	Male	605	3.7504	.99278	.04036

Table 7 Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
On-line review	Equal variances assumed	1.356	.244	2.336	1163	.020	.13352	.05715	.02138	.24565
	Equal variances not assumed			2.340	1.161	.019	.13352	.05707	.02155	.24548

variance in two population. This value of 0.244 being more than our significance level of 0.05, So Researcher cannot statistically reject the null hypothesis.

CONCLUSION

The study helped to explore the impact of on-line rating on box office collection of a movie/film and also comes into logical conclusion that on-line rating does not have significant impact on box office collection of a movie/film. Moreover finding of other objective also claimed that there is no difference among gender in regard to on-line rating of film. In other words statistically, the both the null hypothesis cannot reject it. The finding also suggest that those films whose rating or review are average or below has actually performed well in box office collection. As a result research indicates that, this finding suggest that on-line rating, at least from an aggregate-level perspective, appear to act more as predictor rather than influencer.

LIMITATION AND RECOMMENDATION

Like virtually any study in the tradition form which the present research emerges, our findings are subject to various limitations and caveats. For example, our results pertain to the Top 10 Bollywood films which are highest box office collection in 2013. Even in the case of motion

pictures, they might well differ in other countries or at other times. Future research should address the generalizability of our findings across time periods and geographical settings. Similarly, the present study, the researcher has taken consideration of On-line rating as a role of reviewer, even though there are also other sources that could possibly has its own limitation. Future research can benefit from further by including some other sources like expert review, newspaper review etc. In sum, all the caveats and limitations just enumerated support needed for future investigations of using data from multiple time periods, multiple countries and multiple reviewers. Refreshingly, we note that availability of movie and entertainment related data on the Internet and elsewhere has grown by leaps and bounds in recent years. This progress augur well for the potential feasibility of future studies aimed at addressing the issues just raised. Though it is proposed that further research needs to be done for the validation of findings of this study, finding of on-line rating at least from an aggregate-level perspective, appear to act more as predicator rather than influencer.

REFERENCES

- Anand, B. (2007). The effectiveness of pre-release advertising for motion pictures: an empirical investigation using a simulated market, *Journal of Information Economics and Policy*, 19(4), 319-343.
- Anita, E. (2007). The power of stars: Do star actors drive the success of movies? *Journal of Marketing*, 71(10), 102-120.
- Barry, L. (1983). Predicting success of theatrical movies: An empirical study, *Journal of Popular Culture*, 16(3), 159-175.
- Basuroy, S; Chatterjee S. and Ravid, S. (2003). How critical are critical reviews? The box office effect of film critics, star power, and budgets, *Journal of Marketing*, 67(10), 103-117.
- Boatwright, P; Basuroy, S. and Kamakura, W. (2007). Reviewing the reviewers: The impact of individual film critics on box office performance, *Journal of Quant Market Econ*, 5(2), 401-425.
- Eliashberg, J. & Shugan, S. (1997). Film critic: Influencer or Predictor?, *Journal of Marketing*, 61(2), 68-78.
- Eliashberg, J., Jonker, J., Sawhney, M. and Wierenga, B. (2000). MOVIEMOD: An implementable decision- support system for prerelease market evaluation of motion pictures, *Journal of Marketing Science*, 19(3), 226-243.
- Desai, K K & Basuroy, S (2005). Interactive influence of genre familiarity, star power, and critics' reviews in the cultural goods industry: the case of motion pictures, *Journal of Psychology & Marketing*, 22(3), 203-223.

- Drake, P. (2008) Distribution and marketing in contemporary Hollywood, *The Contemporary Hollywood Film Industry* edited by Wasko, J and McDonald, P (63-82) Oxford and New York: Blackwell.
- Desai, K. and Talukdar D. (2006). An empirical investigation of signaling in the motion picture industry *Journal of Marketing Research*, 43(4), 287-295.
- Dellarocas, C., Farag, N., and Zhang, X. (2007). Exploring the value of online product reviews in forecasting sales: The case of motion pictures, *Journal of Interactive Marketing*, 21(4), 23-45.
- Don, M., Hillebrand, E. and Hilliard, J. (2008). Pricing an option on revenue from an innovation: an application to movie box office revenue, *Journal of Management Science*, 54(4), 1015-1028.
- Eliashberg, J. (2003). Demand and supply dynamics for sequentially released products in international markets: the case of motion pictures, *Journal of Marketing Science*, 22(3), 329-354.
- Eliashberg, J., Elberse A., and Leender, A. (2006). The motion picture industry: Critical issues in practice, current research, and new research directions, *Journal of Marketing Science*, 25(6), 638-661.
- Eliashberg, J., and Sawhney, M. (1996). A parsimonious model for forecasting gross box-office revenues of motion pictures, *Journal of Marketing Science*, 15(2), 113-131.
- Krishnan, T. V. and Sakkthivel, A. M. (2010). To push for stardom or not: A rookie's dilemma in the Tamil movie industry, *IIMB Management Review*, 22(3), 80-92.
- Morris, H. (1999). Popular appeal versus expert judgments of motion pictures, *Journal of Consumer Research*, 26(2), 144-155.
- Sarkar, S. and Nayak, A. (2009). Film merchandising in India, *GMJ*, 3(1), 1-10.
- Sawhney, M. S. (1994). Modeling goes to Hollywood: predicting individual differences in movie enjoyment, *Journal of Management Science*, 40(9), 1151-1173.
- Wang, F; Zhang, Y; Li, X and Zhu, H. (2010). Why do moviegoers go to the theater? The role of prerelease media publicity and online word of mouth in driving moviegoing behavior, *Journal of Interactive Advertising*, 11(1), 45-63.
- Wenjing, D., Gu, B., and Whinston, A. B. (2008). The dynamics of online word-of-mouth and product sales-an empirical investigation of the movie industry, *Journal of Retailing*, 84(2), 233-242.
- Yong, L. (2006). Word of mouth for movies: its dynamics and impact on box office revenue, *Journal of Marketing*, 70(7), 74-89.
- Zufryden, F. S. (1996). Linking advertising to box office performance of new film releases: a marketing planning model, *Journal of Advertising Research*, 36(4), 29-41.