

# **Film Critics: Influencers or Predictors?**

by

**Jehoshua Eliashberg<sup>†</sup>**

and

**Steven M. Shugan<sup>‡</sup>**

† Professor of Marketing, Operations and Information Management, University of Pennsylvania

‡ Russell Berrie Foundation Eminent Scholar and Professor, University of Florida

July 20, 1999

***BOTH AUTHORS CONTRIBUTED EQUALLY TO THIS PAPER.***

# **Film Critics:**

## ***Influencers or Predictors?***

### **Abstract**

Critics and their reviews pervade many industries. Judges, experts, analysts, and professional reviewers, occur in product and service categories such as books, music, high technology product, universities and many consumer durables. Critics and their reviews are particularly important in the entertainment industry. Few papers, however, have considered the relationship between the market performance of entertainment services and the role of critics. We explore that relationship in this paper. We show empirically that critical reviews correlate with late and cumulative box office receipts, but do not have a significant correlation with early box office receipts. While still far from any definitive conclusion, this finding suggests that critics, at least from an aggregate level perspective, appear to act more as leading indicators than opinion leaders.

**KEY WORDS:** Entertainment, Opinion Leaders, Motion Pictures, Critic's Reviews



## Introduction

Critics and their reviews pervade many industries. Judges, experts, cognoscenti, evaluators, analysts, and professional reviewers, occur in various product and service categories such as books, music, high technology products, universities, and many consumer durables. Critics and their reviews are particularly important in the entertainment industry (Handel 1950). Few papers, however, have considered the relationship between the market performance of entertainment services and the potential role of critics. We explore that relationship here. To do that, we examine data from the motion picture industry where reviews are common and film performance is easily measured. Although we limit our conclusions to our data, we hope our analyses extend beyond that industry.

Shifting to a service economy (Shugan 1994), we find enormous growth in the entertainment industry including movies, theaters, music, cable TV, home videos and other recreational services. The result is a dynamic and growing market. Consider, for example, the Time-Warner merger, Seagram's acquiring MCA, Sony's purchasing CBS records, and Disney's establishment of theme parks in Japan and Paris. New technologies (interactive media, CD-ROM, HDTV), digitalization and miniaturization, will dramatically change markets and present various research challenges.

Academic research in marketing has generally neglected these developments as well as the escalating costs associated with production and marketing of entertainment services. The American motion picture industry, for example, produces over 450 feature films exhibited at 25,000 theater screens (including multi-screen or multiplex theaters) in the U.S. and Canada. Few films continue to break the record for top box office. In 1993, Jurassic Park, in 23 weeks, grossed \$ 330 million, domestically, and \$ 525 million, internationally. In that same year, the average production and marketing costs of a movie were \$ 30 million and \$ 14 million, respectively.

Despite their profit potential, many films continue to fail to meet studio expectations the box office (e.g., Waterworld). Moreover, given the short life cycle of most films, the risk in new product development is very high (Shugan 1995). Studios must seek ways both to enhance the likelihood of success and predict failure. Studios are gradually becoming aware of the importance of marketing research. However, few papers have examined these issues and attempted to question and improve upon existing industry wisdom.

This paper considers one important factor -- the critics. The objective of this paper is to examine the potential role that critics may play in predicting and influencing the commercial box office performance of motion pictures. Rather than examining individual behavior, we focus on the aggregate influence on box office where other factors may overwhelm the effect of critical reviews. Consistent with industry wisdom, we would generally expect critics to have their greatest influence, on box office, early in the life cycle of a motion picture (Burzynski and Bayer 1977), because during that time period, other information, such as word-of-mouth, is less available. Although critics may continue to have an impact late in the life cycle of a motion picture, we would expect word-of-mouth information to outweigh that effect.

Our analyses of actual box office data suggests that the opposite is true. We provide some analysis-based evidence suggesting that the aggregate impact of the critic reviews on actual box office, at the beginning of the movie's life, is statistically insignificant. However, our evidence suggests that critic reviews significantly correlate with the late box office, as well as cumulative receipts. We thus argue that this evidence casts some doubt on the prevailing industry wisdom. Our analyses suggest that critics may be

less prominent than other factors in motivating movie-goers to attend movies. The critical reviews may provide, however, a useful forecasting tool for estimating the ultimate potential of a motion picture.

## **Some Relevant Literature**

Despite ongoing movies-related research in several disciplines, including consumer behavior, communication research, and marketing science, little has been done to improve our understanding of the role that critics may play in determining or predicting the commercial box office performance of motion pictures. The following literature highlights this point.

### ***On Consumer Behavior And Movies***

The traditional information-seeking framework is patently unsuitable for studying movie-going behavior. Movies are intangible objects consumed for pleasure rather than for the maximization of an economic benefit. Holbrook and Hirschman, recognizing this fact, propose an *experiential* view of consumption (Holbrook and Hirschman 1982; Hirschman and Holbrook 1982). This view regards consumption as “a primarily subjective state of consciousness with a variety of symbolic meanings, hedonic responses, and aesthetic criteria.” The experiential perspective studies the consequences of consumption in terms of the fun, enjoyment and pleasure obtained from the experience. A central concept in the experiential view is the *hedonic response* of consumers. This response is the configuration of emotional effects such as fantasies, images and arousal obtained from using the products. The resulting framework seems particularly suited for movie consumption, where the essence of the consumption experience is the interaction between the movie and the viewer, known as the *immediate experience* (Austin 1989). Hirschman and Holbrook (1982) develop some interesting propositions on the role of the “mental-imagery” effort expended by consumers in hedonic consumption experiences and in determining consumption preferences. They propose that consumers may choose or avoid experiences because they wish to either invest or conserve their mental-imaginal resources on any consumption occasion.

Eliashberg and Sawhney (1994) develop a model of the moviegoing experience that allows the researcher to predict an individual movie-goer’s enjoyment level for a movie prior to watching it. The model relies on “matching” personality characteristics (such as the desire to seek sensational stimulation) with the emotional content of the movie, which they analyze on a scene-by-scene basis. Their model also takes into account an individual’s tendency to undergo mood changes, which influence the desire for excitement and arousal at any point in time, during the movie experience. Despite the model’s ability to predict the individual movie-goer’s enjoyment *prior* to watching the movie, the model was only tested in a laboratory setting. It requires certain refinements and improvements before it can become a reliable predictive tool in field settings.

### ***On Empirical Studies on Performance of Movies***

Given the enormous amount of investment entailed in producing and marketing movies, it is not surprising that some researchers’ have attempted to predict the box office performance of movies. One approach to predicting the performance of movies is to find movie characteristics that covary with attendance. Anast (1967) examines differential movie appeals as correlates of attendance, and finds that eroticism and violence correlate positively with attendance, while adventure correlates negatively. Dodds and Holbrook (1988) evaluate the impact of Academy Awards on film revenues, and find significant effects

of best picture, best actor, and best actress awards on post-award revenues. A study by Smith and Smith (1986) highlights the difficulty involved in conducting longitudinal studies for predicting box office performance of movies. This study found varying signs for the effects of different Academy Award types across different time periods, indicating that the relative importance of this explanatory variable may change over time. Austin (1984) and Austin and Gordon (1987) discuss the impact of MPAA ratings on movie attendance, and fail to find any significant relationship. In summary, there is limited evidence suggesting that Academy Awards and movie genre have some impact on film performance, but the predictive power of these variables may be poor, and appears to be unstable over time.

Another approach, to forecasting the ultimate success (e.g., box office performance) of motion pictures, is based on early (one to three) data points. Sawhney and Eliashberg (1996) developed a forecasting model (BOXMOD) based on the premise that the amount of time it takes for a movie-goer to watch a movie is the sum of two components: (1) time-to-decide, and (2) time-to-act. The time-to-decide component may be related to the nature of the movie's reviews among other possible factors. This theory is not explored in that paper, however. The model is tested mainly for its predictive performance. The model shows accurate results.

Pursuing a related issue, Radas and Shugan (1995) develop a model of seasonality that they apply to the motion picture industry. Their model is able to capture the strong effect of seasonality on motion picture grosses. They estimate the actual seasonal pattern for the US motion picture industry using data for 673 films. After capturing seasonality, they are able to make specific recommendations for the timing of the release of motion pictures. They apply their model to the launching of thirty-one motion pictures. Krider and Weinberg (1996) also discuss issues related to the timing of motion pictures.

### **Research on Movie “Experts” and Critic’s Reviews**

An old but classic study by Katz and Lazarsfeld (1955) attempted to explore the relationship and the flow of influence between movie “experts” and their advisees. While the study does not focus explicitly on the role of *professional* critics, it is still germane to this paper. Its data suggest, for example, that: “While the movie “experts” of the youngest group are still people like themselves, older women groups substituted younger women as experts in far greater proportion than they name such people as specific influentials.” Katz and Lazarsfeld conclude, based on their study, that “both younger and older women seek out movie experts among the young, although the final decision may often be modified by primary influentials in the movie-going groups who are more likely to be in the same age bracket as their groups” (p.308).

Litman (1983) studies, through a multiple regression model, the impact of the following variables upon the cumulative performance of films: adjusted production costs, (professional) critics’ ratings, story type (science fiction/horror or otherwise), presence of a major distributor, Christmas release, presence of Academy Award nominee, and presence of Academy Award winner. His data set consists of movies released theatrically in 1972-1978, and his dependent variable is the adjusted rentals accruing to the distributors. (Rental income refers to that portion of the box office receipts that is returned to the film’s distributor once the exhibitor’s portion is deducted.) His results indicate that the use of major distributors, Christmas release, and the critics’ ratings are the three most important predictors of the cumulative market performance of a movies’ theatrical release. Being interested solely in cumulative box office, Litman did not address the influence of critics at different points in the life cycle of the film.

Levene (1992) focuses on the University of Pennsylvania’s student population. Her findings are based on 250 distributed surveys, of which 208 were usable. Her questionnaire does incorporate explicitly *critics’*

reviews as potential opinion leaders. The findings, once broken down to students interested versus uninterested in art-films, show that for both groups, acting, plot, subject, and word-of-mouth from a friend are the most important movie attributes in deciding to see a film (*positive critics' reviews* was ranked tenth in terms of its importance). In response to the question concerning the relative influence of various sources of information on the decision whether to see a movie at the theater, both groups ranked theater trailers and TV ads as the two most important sources of information.

Wyatt and Badger (1984) report a study attempting to measure the influence of film reviews on potential and actual audiences. The study was designed as a controlled laboratory experiment: (1) to investigate the effect of the review *direction* (positive, mixed, negative) on *interest* in a film, and (2) to examine the effect of the review direction on *post-viewing* evaluation of a film. As stated by the authors: "The major conclusions of this study are:

- (1) Review direction has a significant effect on film interest compatible with the direction of the review, but the effect is relative.
- (2) Review direction has a significant effect on film evaluation compatible with the direction of the review, but that effect, too, is relative.
- (3) Subjects can significantly identify review direction, but identification is improved when direction is clearly distinguished."

These findings cast doubt, in the authors' opinions, "on the ability of negative reviews — which may contain some mixed or positive information — to decrease interest significantly over no review or a mixed review. It also casts doubt on the ability of positive reviews — which may contain some mixed or negative information — to increase interest significantly over a mixed review or no review." In related research Wyatt and Badger (1987) find that non-reviews (containing no evaluative adjectives) and positive reviews are considered significantly more interesting than mixed and negative reviews but not significantly more credible. In another related research, Bour (1990) found good or acceptable agreement between critics' ratings of motion pictures reported in two Video Guides for 93.7% out of the 3,144 movies examined. The overall correlation between these ratings is 0.67 suggesting that "the critics" evaluations showed sufficient agreement to be of substantial value to viewers of movies.

Faber and O'Guinn (1984) find that previews and movie excerpts are information sources that are more important than mass media advertising, friends' comments and critics' reviews. Wyatt and Badger (1990) find that high information content in a review raises interest in film more than a positive review. Chang (1975) factor analyzes critic ratings and finds three types: elites, auteurs & entertainers. Wanderer (1987) finds that critics' tastes are similar to consumer tastes as reported in Consumer Union magazine.

Wallace, Seigerman and Holbrook (1993) report an interesting relationship between critics' ratings and rental income based on a sample consisting of 1687 motion pictures released between 1956 and 1988. The relationship is U-shaped, suggesting that at the lowest rating level, an extra rating point actually detracts from the market success of a film. At higher levels of quality, the market success of a movie increases with the critics' ratings. Wallace et al. (1993) conclude that "It appears that a bad movie has something to gain from being as trashy as possible . . . . [For] a good movie, it apparently pays to strive for even greater excellence."

In sum, research evidence on critics' reviews and their effect seems inconclusive. It suggests that the role critics (or movie experts) play may be interpreted as influential, in shaping movie-goers' interest in attending movies (e.g., Katz and Lazarsfeld 1958, Buor1990). It also suggests a moderate, and possibly

different, impact for positive and negative reviews (Wyatt and Badger 1984). Finally, it suggests that the reviews may only indicate movie-goer tastes (e.g., Litman 1983, Wanderer 1987).

### ***The Industry's Views of Critics' Reviews***

According to the industry jargon, the term “critics” refers to “persons usually employed by newspapers, television stations or other media who screen newly released movies and provide their subjective views and comments on the movie for the public’s information” (Cones 1992). Litwak (1986) notes, on the relationship between movies’ critics and the studios that:

“As a courtesy, and to ensure that reviews are ready by the time a film is released, studios arrange advance screenings for critics. However, if negative reviews are expected, the studio may decide not to screen a picture, hoping to delay the bad news. This annoys critics and may produce particularly harsh reviews when the movies ultimately appear.”

This observation suggests that movie critics have the potential to shape, to some extent, the box office success of a motion picture. It is consistent with the *Wall Street Journal*'s viewpoint proclaiming that: “A ‘Thumbs Up’ Pulls in the Audience.” It cites a survey showing that many people see movies because of favorable reviews by critics<sup>1</sup>. The *Wall Street Journal* concludes that one third of movie-goers surveyed chose films because of a favorable review. It appears critics have some influence over some movie-goers (Palmgreen, Cook, Harvill and Helm 1988).

The “powerful critic theory” belief is also prevalent in other industries. Reviews are often thought to make or break events such as Broadway Plays and fiction books. Travel guides and books about business schools, although often based on actual data, also convey subjective opinions that can create significant concerns among those being evaluated. Many firms believe that critics may be as important to a service’s success as the quality of the service itself.

Acceptance of the “powerful critic theory” suggests that the marketing efforts of motion picture studios should target critics. There are many possible strategies. For examples, studios might wine and dine critics at previews. Studios can bring out the stars to meet the critics and allow interviews. The studios can quote critics -- that improves the critic’s reputation and encourages critics to make favorable comments to get their name in film advertisements. Finally, studios can avoid inviting uncooperative critics to previews or avoiding previews entirely. Perhaps, it is more important to target critics than actual movie-goers. The development of the correct marketing strategy, however, depends on the validity of this theory.

This viewpoint has been expressed by one movie marketing executive stating that: “Critics...I think we’ve made them important to us. We quote them all the time. We use excerpts from their reviews in our advertising. But we’re probably doing that because we don’t have enough confidence in our own good work to *not* use them (Brouwer and Wright, 1990, p. 520)”.

While this viewpoint appears to be the prevailing one in the industry, Jowett and Linton (1989, p. 70) present a different conventional wisdom, stating that:

“While the producer-distributors would prefer to have good critical reviews than bad ones, even the latter will be accepted if the audience has good things to tell its peers about the movie. Such a discrepancy simply adds support to movie-makers’ contention that critics are cultural eunuchs who know nothing about the business—let alone the art of making movies.”

These arguments occur in every other industry, beyond motion pictures, where critical reviews are present.



## Two Possible Critics' Effects

Considering the evidence reviewed in the previous section, we now identify two possible perspectives on the role of critics. First, critics may be opinion leaders who influence their audience and, consequently, the commercial box office performance of motion pictures. Second, critics may be predictors of their respective audiences. We call the two views the “influencer” and “predictor” perspectives, respectively.

We present these as extreme viewpoints to emphasize their difference. Critics may be some of both. Our empirical analyses investigate which viewpoint better corresponds to reality.

### ***The Critic as Influencer***

A critic could be an opinion leader or *influencer* (Weiman 1991). An opinion leader or influencer is an individual who is regarded by a group, or by other individuals, as having expertise and knowledge on a particular subject. The group considers the opinion leader an appropriate source for information and advice on the subject (Assael 1984, p. 418). Webster (1991) has studied for example the following possible influences on consumers' expectations of quality for medical, legal, dental, auto-related, laundry and travel services: past personal experience, opinion leadership, advertising, and sales promotion. Her findings indicate that the expected service is significantly influenced by the four sources of information. In movies, the critic plays a leadership role on their subscribers and consequently on box office. Critics review a sneak preview, i.e., an early screening of the movie, and convey their opinion of the motion picture. Next, audiences, influenced by the critics' opinions, either attend or miss the motion picture. Finally, audience attendance determines final box office.

The influencer perspective is very popular. Under this perspective, early critics' reviews can make or break a motion picture opening. Eventually, however, word-of-mouth among movie-goers might counterbalance early reviews.

Movie critics themselves often believe they are influencers. Some critics state that their reviews reflect a greater understanding of the motion picture because they have many years of viewing movies. These critics state that someone with less experience, either by training or less exposure, would be unable to write perceptive reviews. The conclusion is that uninformed movie-goers should follow critic picks.

Many studios and distributors assume critics are influencers. Given that assumption, they attempt to persuade critics to be favorable. They treat critics as opinion leaders, and they only attempt to influence the review itself. Getting a favorable review is, itself, the objective. Presenting a new movie to critics is normally done very close to its commercial release date.

### ***The Critic as Predictor***

An alternate view is that the critic is merely a leading indicator with no significant influence on actual box office. We call this view the *predictor* perspective. Critics may merely represent their audiences. In this perspective, critics predict ultimate success but have little influence. Although reviews, themselves, may influence some movie-goers, the reviews primarily produce (valuable) predictive information.

The “predictor” view suggests that critics' influence on initial box office is insignificant. The critics' reviews, however, may predict whether their readers or viewers would like the film. Here, critic reviews are predictions about whether audiences will ultimately like the film. Although the review may have some influence, audiences choose films primarily based on other factors such as trailers, advertising, word-of-

mouth from a familiar and credible source, general publicity and so on.

Note that there are two conceivable, but probably indistinguishable realities associated with this “predictor” perspective. Media critics may either learn to express opinions that are representative of their media subscribers or be hired because their opinions already represent media subscribers. For example, on one of NBC’s Tonight Shows, a guest was the former Mayor of New York City, Ed Koch. Along with other activities, he noted that he is a movie critic as well. When challenged to state his qualifications for being a movie critic, Mr. Koch replied that “he didn’t have any special qualifications other than his ability to best represent the preferences of his readers”.

In the first reality, media hire critics to review movies. For example, Cosmopolitan Magazine might hire a critic. This critic, over time, might learn to write reviews corresponding to the taste of Cosmopolitan Magazine subscribers. If so, the critic survives, becoming an asset for the magazine. If not, the critic becomes less popular, less widely read and, eventually, replaced. Critics that learn may change their opinions after a change in employment.

The second interpretation of critics, as predictors, presents a more honest critic. Here, Cosmopolitan, for example, hires critics whose tastes, it believes, are similar to those of Cosmopolitan Magazine readers. Eventually, surviving critics are actually perfectly representative of the average Cosmopolitan reader. Motion pictures liked by Cosmopolitan Magazine critics are also liked by Cosmopolitan Magazine readers. Critics, who have consistent opinions, could only review for newspapers or magazines whose readers share those opinions.

We might ask what role do reviews play if they have little influence on motion picture performance. The answer is that the review itself may have value. Reviews can provide entertainment as many critics write interesting and witty reviews. Reviews can also provide news. Reviews can act as new product announcements informing readers of the recent endeavors of actors, directors and studios. Finally, reviews can provide information about the film that directly influences some movie-goers, but not always as the critic recommends. A critic, for example, may love a film. Despite a glowing review, the information in the review such as the cast, the plot, the genre and the rating may dissuade some movie-goers.

## **Distinguishing Between the Two Perspectives**

Both perspectives have some validity. Some critics may represent viewers’ preferences. Some people may consider critic reviews when deciding whether to see a film. On the average, we expect critics to have some impact on movie-goers. However, we wonder whether that impact translates to actual box office sales or whether other factors overwhelm it. In other words, we wonder whether reviews have a discernible impact on actual box office receipts. We can provide some insights into the critics’ role by better understanding the dynamics of box office sales patterns.

The dynamic pattern, of the movie’s box office receipts, provides some evidence for potentially distinguishing between the two perspectives. Were critics to actually influence box office, we would expect that influence to govern the dynamics of the process and to be greatest on early box office, i.e., at the opening of the film. At the opening, reviewers may have their greatest potential for influence because little or no word-of-mouth information is available. Early box office depends only on reviews, distribution and advertising. Moreover, for most people, the memory of the review is greatest when they first see it.

As more people see the motion picture, the potential influence of the critic should diminish. It should

diminish because information from other sources becomes available. For example, movie-goers who have already seen the motion picture may convey their opinions. As more people see the film, the relative impact of reviews may diminish, because word-of-mouth becomes more prevalent. The reviews may still play a role because people either remember the reviews or seek them out. However, those who decided to see the movie based on the reviews, but have not yet had the opportunity, may now be dissuaded from seeing the movie by word-of-mouth information. Similarly, information from friends may persuade some people to see the movie, who had, based on early reviewers, decided not to see the movie<sup>2</sup>.

It is very difficult and, perhaps, impossible to completely disentangle causality from correlation. Many factors can influence the success or failure of a movie, measured via its box office performance. However, a time path does provide some suggestive evidence. Here, if critics have a significant relative influence on movie-goers, their reviews should be correlated with early, rather than late, box office revenue.

## Empirical Analyses

### **Anecdotal Evidence**

Entertainment publications provide mixed anecdotal evidence. Sometimes reviews are uncorrelated with eventual performance. Some movies received negative reviews yet performed very well in the box office (e.g., *Hook*). Some movies had poor performance despite positive reviews (e.g., *Gettysburg*).

More interesting, is the anecdotal evidence on the dynamics of the process. Sometimes, reviews are correlated with cumulative performance but uncorrelated with the opening box office. Some movies (e.g., *Thelma and Louise*) had mediocre (\$4 million) openings despite excellent reviews (e.g., Jay Carr said it breathes new life into an old genre). However, the reviews correctly foretold eventual success (\$43 million). Some movies had impressive openings despite negative reviews. However, the reviews correctly foretold a rapid decline in box office. *Blown Away*, for example, had terrible reviews (only 9% positive) followed by an impressive opening (*Kindergarten Cop* had a similar opening and eventually grossed over \$88 million). The reviews correctly foretold a short life as well as a rapid decline in the box office. A systematic and rigorous analysis may determine which case is more typical.

### **Predictors versus Influencers**

Although it is often impossible to completely disentangle causality and correlation, we can estimate the correlation between critics reviews and box office performance for each week of a movie's life. Our analyses, therefore, measure the potential impact of the reviews on actual box office for each week in the movie's life cycle. We have already suggested that prevailing industry wisdom predicts that the greatest impact is during the first few weeks, directly after the review appears. We show empirically, however, that the impact is greater during the latter weeks. After providing our analyses, we suggest possible interpretations of our findings.

### **Box Office Data**

We collected a database consisting of a sample of box office sales. Our data included box office grosses and number of screens data from Baseline, Inc. and some missing movie data from EDI. Our data were weekly. To minimize the effect of intertemporal factors (e.g., changing economic conditions, changing reviewer tastes or changing subscriber bases), we concentrated our data collection during a short time. Most

of our films were released in 1991 and early 1992. In our final analysis, we only included films for which we had the complete box office life.

TABLE 1 provides an illustrative sample of our motion pictures, their respective distributors, their primary genres, the total cumulative domestic box office in thousands of dollars, the percent of total box office enjoyed during the first two weeks, and the number of negative and positive reviews. We coded all movies' genres consistent with classifications provide by *Baseline* (Monaco 1992), a data reporting service, and *Variety* magazine, the industry's major trade journal. Most movies had multiple genres.

<b>TABLE 1— about here</b> <b>Selected Motion Pictures</b>
---

### ***Critics' Review Data***

We obtained movie reviews from the industry trade journal, *Variety*. *Variety* classifies reviews into three categories “PRO,” “CON” and “MIXED.” We call these categories positive, negative and mixed. The actual classification of a review is usually straightforward because many critics make explicit recommendations, including an evaluative score (e.g., two stars out of five stars) for the motion picture.

For each motion picture, we collected reviewer summaries reported by *Variety* during the December 1990-December 1993 time period. The reviews included reports of 181 different critics. Matching reviews to movies, and including only movies with *at least* one review, we found 2104 reviews by the 181 critics for 172 movies. All 181 critics, of course, did not review all 172 movies.

### ***Summary Statistics***

Our data analysis consisted of several sets of analyses. All of these analyses suggested similar conclusions. In this paper, however, we present only one set of analyses for motion pictures with lives lasting *at least* eight weeks. For our sample of 172 movies, 56 movies had lives lasting *at least* eight weeks. TABLE 2 provides summary statistics for these 56 motion pictures.

<b>TABLE 2 — about here</b> <b>Motion Pictures and Critic Summary Statistics</b>
---

TABLE 2 reveals several interesting statistics. For example, most critical reviews were positive. Percentage-wise, forty-five percent of the reviews were positive, twenty-nine percent were negative and the remaining reviews were mixed. This finding may surprise some people who may perceive critics as generally negative and critical. This is probably because studios blame critics for bad reviews, but seldom attribute success to good reviews. For example, consider the movie “Robin Hood: Prince of Thieves.” This movie is most notable because the distributor, Warner Brothers, complained that harsh reviews (only 34% positive) severely hurt box office. Warner Brothers felt that reviewers, which disapproved of casting

decisions, discouraged movie-goers. Warner Brothers, in this case, believed that critics unjustifiably type-cast the star, Mr. Kevin Costner, as growing tiresome.

### ***Findings***

To better understand the impact of critic reviews on motion picture box office performance, we regressed different aggregate measures of reviewers' evaluations (e.g., percent of positive reviews, number of positive reviews, percent of negative reviews, etc.) on box office performance during different time periods (e.g., box office during the first week, box office during the second week, etc.). Recall that these results are for the 56 movies described earlier.

TABLE 3 illustrates that the percentages of positive and negative reviews are highly correlated. Therefore, to avoid severe multi-collinearity, we regressed the percentage of positive and percentage of negative reviews, separately, on the box office for each week. We control for both the number of reviews and marketing effort (e.g., distribution and advertising) by the studio (distributor) by including the total number of reviews (i.e., the sum of the positive, negative and mixed reviews written about the movie) and number of screens as independent variables. Note that our critical reviews appeared before the release of the motion picture but after the number of screens was determined.

**TABLE 3— about here**

**Pearson Correlation Matrix**

TABLE 4 and TABLE 5 contain our regression results for movies with lives of *at least* eight weeks. We obtained similar results for movies with different lives (e.g., movies lasting at least nine weeks).

Error! Not a valid result for table. — **about here**  
**Results for the Percentage for Positive Reviews**

**TABLE 5 — about here**  
**Results for the Percentage for Negative Reviews**

**TABLE 4** shows the results of regressing the percentage of positive reviews and the total number of reviews on the box office by week. The table shows that the percentage of positive reviews is statistically *insignificant* (at the .05 level) for early weeks (1 through 4), but are statistically *significant* predictors of performance for latter weeks. The percentage of positive reviews is also statistically significant predictors for the overall performance of the motion picture, measure via its cumulative box office for all weeks.

TABLE 4 also shows that, although the total number of reviews written and published about a movie is, in general, not very predictive of its early performance, the total number of reviews is a significant predictor of the first week performance. The data also suggest that the total number of screens is a significant predictor throughout the movie's life cycle.

TABLE 5 shows that, for week one, the percentage of negative reviews is less significant (i.e., .111) than for the percentage of positive reviews, (i.e., .074) for the first week. Again, the table shows that the percentage of negative reviews is a statistically *insignificant* (at the .05 level) predictor for early weeks (1 through 4), but are statistically significant predictors of the performance for latter weeks. The percentage of negative reviews is also statistically significant predictors for the overall performance of the motion picture. For example, they are statistically significant for predicting the cumulative box office for all weeks.

## Discussion and Managerial Implications

The influencer perspective suggests that critics' influence the box office. Positive reviews encourage a higher early box office while negative reviews encourage a lower early box office. They may. Our empirical findings, however, suggest a statistically insignificant relationship between critical reviews (i.e., the percentage of positive or negative reviews) and box office during the four weeks following the review. Our empirical findings, therefore, are inconsistent with the influencer perspective. That perspective predicts that the greatest influence, of the review, should be during the time immediately following the review.

The predictor perspective suggests that critics' reviews should be predictive of performance, but not necessarily cause it. We find some support for this perspective. Although we find that critic reviews are uncorrelated with early box office results, critic reviews tend to correlate with the total cumulative box office for motion pictures as well as the staying power or legs of the motion picture. Our results are not entirely conclusive, but they do provide a new empirical insight.

Many studio executives believe the influencer perspective. Some studios sponsor television shows hoping to influence reviews. Other studios make direct contact with critics and attempt to influence them.

“Auteur Robert Altman is known as the master of critic manipulation. The helmer has been known to show rough cuts of his films to reviewers, ostensibly seeking advice. The critics would then feel that they were part of the creative process, which would influence their opinion of the film,” says one observer (Evans and Young 1995).

The conventional wisdom in TV programming is similar. One report states: “Head of programming Rod Webb affirmed the power of critics, saying movies achieved a 27% better rating if reviewed by critics before their TV screening, and 40% better if the pic had an Oz theatrical release.” Perhaps, Rod Webb is confusing influence with predictability.

Indeed, filmmakers tell horror stories about movies dropped after bad reviews. A source near last year's production of MGM/UA's “Sleep With Me” says the campaign crumbled because of dismal ink. “The bad reviews of ‘Sleep With Me’ definitely scared the hell out of MGM,” he says. “They simply stopped running the ads, and they had promised the filmmakers much more support than what was given.” (Woods 1995).

The two perspectives studied here have very different marketing implications for the motion picture industry as well as for other industries. The distinction between influence and predictor is akin to the recognition made by some companies (e.g., IBM) that their salesforce selling ability may be quite different from their forecasting ability (Gonik 1978). Our analyses also raise some interesting issues regarding



opinion leaders. For example, one of the problems, with trying to sway opinion leaders, is that some apparent opinion leaders may actually be leading indicators. In that case, marketing efforts may be incorrectly using methods of persuasion rather than methods of observation. Searching for opinion leaders may be counterproductive, and miss the opportunity of finding leading indicators.

If critics are influencers, a studio should use them as part of the marketing program. For example, studios expect some films to get positive reviews (known as critics films) and others to get negative reviews. Films in the latter category include: “Undercover Blues,” “Cabin Boy,” “Son of the Pink Panther,” “Madhouse,” “Bebe’s Kid,” “Problem Child,” “Next of Kin,” “Back to the Beach,” “Born in East L.A.,” “Problem Child,” “Exorcist III,” “My Blue Heaven,” “The Lemon Sisters,” and “Shrimp on the Barbie.” For these films, invoking an influencer perspective suggests avoiding previews (Sherman 1987) or not inviting some critics to the preview. For films with expected positive reviews, studios should preview them close to their release date to maximize impact.

In contrast, the predictor perspective encourages previews far in advance, before the release date with possible product (i.e., movie) enhancement implications. Although critic reviews may be negative, they may help avoid a disastrous release by predicting it, rather than causing it. In the same way that external experts are recruited to assess the market demand for a “truly new product” (Kotler 1991), movie critics may help determine the appropriate marketing budget and positioning strategies for the film. They may also predict the eventual potential for the film. For example, Warner Brothers declined to allow critics to preview “On Deadly Ground” for fear of negative reviews. The strategy did not work and the movie was unsuccessful at the box office. The movie may not have flopped so badly had Warner obtained more market research information from, among other possible sources, movies critics. Perhaps, additional editing or significant revisions could have improved the film.

The influencer perspective also suggests using quotations from critics in the advertising films for three reasons. First, the quotations persuade movie goers to see the film. Second, the quotations help publicists gain favor, with critics, because each quote helps boost the critic’s reputation. Finally, quoting encourages critics to make favorable comments to get their name in film advertisements. Some critics reportedly send out a series of favorable quotations on a newly released movie hoping one will show up in the movie’s ad and result in more name recognition for the critic (Cones 1992).

The predictor perspective suggests that quotations may be desirable, but that advertising should focus on other information. It suggests that trying to influence critics provides only small benefits. Reviews can provide, however, valuable predictive diagnostics.

“When Mel Brooks made *High Anxiety*, he held a screening three days after he finished shooting,” remembers Cowan. “To that screening he invited important writers, producers, directors, and actors, kind of an elitist-recruited sneak preview. When the film ended, there was applause. Brooks went to the front of the room. He said, ‘Thank you for your applause. Now tell me, what do you think is wrong with the movie?’ He made notes. Later, in the editing, he made changes.”

The predictor perspective suggests that Mel Brooks, perhaps, may have listened to the critics for the valuable information they provide. It is possible that critics who broadcast or write to a particular demographic group might accurately predict the success or failure within that group. Correlating subscriber demographics to critic reviews, may enable prediction of which demographic groups will like the film, which parts of the country will like the film, and the likely ultimate performance of the film. Hence, the

predictor perspective suggests that trying to improve a review is ineffective. It is analogous to changing a correct weather forecast that, of course, has no impact on future weather.

This paper studies the aggregate influence of critics rather than examining individual behavior. We conclude that our box office data provides support for the theory that critics are predictors rather than influencers at the aggregate box office level. Other factors such as theatrical trailers, release timing and advertising seem to overwhelm the critics effect at the aggregate level. Our conclusions are, of course, preliminary. However, they suggest several clear managerial implications. First, trying to persuade film critics is merely a distraction. It may be far better to focus on the film itself. Second, pre-screenings should focus on critics who represent particular demographic groups. A focus on such critics may allow studios to use much smaller samples in order to make more accurate predictions of motion picture performance. With accurate predictive tools, it becomes possible to re-edit movies to particular needs. Shooting multiple scenes during production may provide additional editing capabilities.

Our findings suggest considerable room for future research. We only examine the aggregate effect of critics. Although their aggregate influence may be difficult to observe, influence on specific individuals may be considerable. Only experimental research can address that issue. Moreover, in addition to studying the role of critics, future research might address genre-specific predictions and predictions during early production. It might also examine the influence of the property (i.e., the basis for the screenplay predictions such as a Broadway play or a best-selling novel) on the box office.

## References

- Anast, P. (1967), "Differential Movie Appeals as Correlates of Attendance," *Journalism Quarterly*, 44, 86-90.
- Assael, H. (1984), "Consumer Behavior and Marketing Action," (2<sup>nd</sup> Edition) Boston, MA: Kent Publishing Company.
- Austin, B. A. (1984), "Portrait of an Art Film Audience," *Journal of Communication*, Winter, 74-87.
- Austin, B. A. (1989), *Immediate Seating: A Look at Movie Audiences*, Belmont, CA: Wadsworth Publishing Co.
- Austin, B. A. and T. F. Gordon (1987), "Movie Genres: Toward a Conceptualized Model and Standardized Definition," in B. A. Austin, ed., *Current Research in Film: Audiences, Economics and the Law*, Vol. 3, Norwood, NJ: Ablex Publishing Co.
- Buor, M. (1990), "Reliability of Ratings of Movies by Professional Movie Critics," *Psychological Reports*, 67, 243-257.
- Brouwer, A. and T. L. Wright (1990), *Working in Hollywood*, Crown Publishing, Inc.
- Burzynski, M. H. and D. J. Bayer (1977), "The Effect of Positive and Negative Prior Information on Motion Picture Appreciation," *Journal of Social Psychology*, 101, 215-218.
- Chang, W. (1975), "A Typology Study of Movie Critics," *Journalism Quarterly*, 52, No. 4, Winter, 721-725.
- Cones, J. W. (1992), *Film Finance and Distribution: A Dictionary of Terms*, Hollywood, CA: Silman-James Press.
- Dodds, J. C. and M. B. Holbrook (1988), "What's An Oscar Worth? An Empirical Estimation of the Effect of Nominations and Awards on Movie Distribution and Revenues," in B. A. Austin, ed., *Current Research in Film: Audiences, Economics, and Law*, Vol. 4, Norwood, NJ: Ablex Publishing Co., 72-88.
- Eliashberg, J. and M. S. Sawhney (1994), "Modeling Goes to Hollywood: Predicting Individual Differences in Movie Enjoyment," *Management Science*, 40, 9 (September) 1151-1173.
- Evans, G. and P. F. Young (1995), "Can Critic Fix Niche Pix?; 'Batman' is critic-proof, but not today's

- highbrow fare," *Variety*, (May 22)
- Faber, R. and T. O'Guinn (1984), "Effect of Media Advertising and Other Sources on Movie Selection," *Journalism Quarterly*, 61, No. 2, Summer, 371-377.
- Gonik, J. (1978) "Tie Salesmen's Bonuses to Their Forecasts," *Harvard Business Review*, 56 (May-June), 116-123.
- Handel, L. A. (1950), *Hollywood Looks At Its Audience*, Urbana, IL: University of Illinois Press.
- Hirschman, E. C. and M. B. Holbrook (1982), "Hedonic Consumption: Emerging Concepts, Methods and Propositions," *Journal of Marketing*, 46 (Summer), 92-101.
- Holbrook, M. B. and E. C. Hirschman (1982), "The Experiential Aspects of Consumption: Consumer Fantasies, Feelings and Fun," *Journal of Consumer Research*, 9 (September), 132-140.
- Jowett, G. and J. M. Linton (1989), *Movies as Mass Communication*, The Sage CommText Series, Newbury Park, CA: Sage Publications.
- Katz, E. and P.F. Lazarsfeld (1955), *Personal Influence*, Part 2, Chapter 13, Glencoe, IL: The Free Press.
- Kotler, P. (1991) *Marketing Management* (7<sup>th</sup> Edition) Prentice-Hall, Englewood, NJ.
- Krider, R.E. and Weinberg, C.B. (1996), "Competitive Dynamics and the Introduction of New Products: The Motion Picture Timing Game ", UBC working paper (May).
- Levene, C. (1992), "Marketing Art-Films to College Students," Working paper, The Wharton School, University of Pennsylvania.
- Litman, B. R. (1983), "Predicting Success of Theatrical Movies: An Empirical Study," *Journal of Popular Culture*, 16 (Spring), 159-175.
- Litwak, M. (1986), *Reel Power: The Struggle for Influence and Success in the New Hollywood*, New York: William Morrow and Co., Inc.
- Monaco, J. and the editors of BASELINE (1992), *The Movie Guide*, New York: Perigee Book Inc.
- Palmgreen, P., P. L. Cook, J. G. Harvill and D. M. Helm (1988), "The Motivational Framework for Moviegoing," in B. A. Austin, ed., *Current Research in Film*, Vol. 4, Norwood, NJ: Ablex Publishing Co., pp. 1-23.
- Radas, S. and S.M. Shugan (1995), "Seasonal Marketing and Timing Introductions," University of Florida Working Paper.
- Sawhney, M. S. and J. Eliashberg (1996), "A Parsimonious Model for Forecasting Gross Box office Revenues of Motion Pictures," *Marketing Science*, Vol. 15, No. 2, pp. 113-131.
- Sherman, Jean (1987), "Opening Credits," *Public Relations Journal*, (November), p.26.
- Shugan, S.M. (1994), "Explanations for Service Growth," in *Service Quality*, Richard Oliver and Roland Rust, Ed., Sage Publications.
- Shugan, S. M. (1995), *Marketing and Managing Services: A Context Specific Approach*, Homewood, IL: Richard D. Irwin, Inc., forthcoming.
- Smith, S. P. and V. K. Smith (1986), "Successful Movies: A Preliminary Empirical Analysis," *Applied Economics*, 18, 501-507.
- Wallace, W. T., A Seigerman, and M. B. Holbrook (1993), "The Role of Actors and Actresses in the Success of Films: How Much Is a Movie Star Worth?" *Journal of Cultural Economics*, 17 (1), 1-27.
- Wanderer, J. (1987), "In Defense of Popular Taste: Film Ratings among Professionals and Lay Audiences," *American Journal of Sociology*, 262-272.
- Webster, C. (1991), "Influences Upon Consumer Expectations of Services," *Journal of Services Marketing*, 5, 1 (Winter), 5-17.
- Weiman, G. (1991), "The Influentials: Back to the Concept of Opinion Leaders," *Public Opinion Quarterly*, 55, 2 (Summer), 267-279.
- Woods, Mark (1995), "Freedom, Twist on SBS slate," *Variety*, (May), p.31.
- Wyatt, R. O. and D. P. Badger (1984), "How Reviews Affect Interest In and Evaluation of Films," *Journalism Quarterly*, 61, No.4, Winter, 874-878.
- \_\_\_\_\_, R. O. and D. P. Badger (1987), "To Toast, Pan or Waffle: How Film Reviews Affect Reader Interest and Credibility Perception," *Newspaper Research Journal*, 8 (4, Summer), 19-30.

\_\_\_\_\_, R. O. and D. P. Badger (1990), "Effects of Information and Evaluation in Film Criticism,"  
*Journalism Quarterly*, 67 (summer) 359-368.

**TABLE 1**  
**Selected Motion Pictures**

Film	Distributor	Genre	Cumulative Box Office \$ 1000's	% Box Office 1 <sup>st</sup> two Weeks	No. Negative Reviews	No. Positive Reviews
Terminator 2	TriStar	Action	203347	44.47	5	29
Robin Hood: Prince Of Thieves	Warner Bros.	Drama	165114	34.81	18	18
Wayne's World	Paramount	Comedy	120119	27.90	6	17
Hook	TriStar	Fantasy	116347	26.41	6	4
Kindergarten Cop	Universal	Action	88590	36.66	4	10
The Prince Of Tides	Columbia	Drama	72020	43.44	8	21
JFK	Warner Bros.	Political	69741	25.27	1	6
My Cousin Vinny	Fox	Comedy	50898	34.22	1	31
The Rocketeer	Buena Vista	Fantasy	46544	46.46	7	20
Wayne's World 2	Paramount	Comedy	46157	49.87	2	12
Addams Family Values	Paramount	Comedy	45703	79.31	2	25
Mermaids	Orion	Comedy	34874	23.94	10	16
White Fang	Buena Vista	Adventure	34390	32.81	2	4
Little Man Tate	Orion	Drama	25010	13.13	4	6
The Russia House	MGM/UA	Spy	22583	51.19	9	15
An American Tail-Fievel Goes...	Universal	Animated	20206	41.68	1	4
Only The Lonely	Fox	Comedy	19931	72.42	14	13
House Party 2	New Line	Comedy	19421	61.43	6	6
Hudson Hawk	TriStar	Action	16355	87.89	35	7
A Kiss Before Dying	Universal	Crime	14743	59.79	8	0
Not Without My Daughter	MGM/ Pathe	Drama	13993	57.62	16	5
All I Want For Christmas	Paramount	Romance	13936	58.94	10	4
American Me	Universal	Drama	11318	61.36	4	19
Shattered	MGM	Drama	11087	57.05	2	4
The Butcher's Wife	Paramount	Romance	8946	52.97	12	11
Havana	Universal	Drama	8790	54.20	17	5
Guilty By Suspicion	Warner Bros.	Drama	8424	58.84	2	8
Black Robe	Goldwyn	Historical	8201	21.03	3	8
Strictly Business	Warner Bros	Romance	7367	64.12	10	3
Wild Hearts Can't Be Broken	Buena Vista	Romance	7255	75.52	5	19
Madame Bovary	Goldwyn	Drama	1936	39.77	5	6
The Rapture	New Line	Drama	1269	24.82	5	7
At Play In The Fields Of...	Universal	Drama	1269	23.24	14	14
Come See The Paradise	Fox	Romance	850	23.88	9	9
The Inner Circle	Columbia	Romance	544	23.89	3	12

**TABLE 2****Motion Pictures and Critic Summary Statistics**

Variable	Median	Mean	Standard Deviation
Film Life in Weeks	15.0	13.8	2.6
Screens (first week)	1122.5	929.0	870.2
Box Office (first week)	3659366.5	7052148.0	9689897.0
Cumulative Box Office	28467405.5	41300989.1	4422290.3
Total Reviews per Film	24.0	29.6	19.7
Percent Positive Reviews	.473	0.470	0.237
Percent Negative Reviews	.200	0.249	0.196
Percent Mixed Reviews	.271	0.281	0.138

Number of Observations = 56

**TABLE 3**  
**Pearson Correlation Matrix**

	Percent Positive Reviews	Percent Negative Reviews	Percent Mixed Reviews	Total Reviews
Percent Positive Reviews	1.000 (0.000)			Pearson Correlations (Significance Level)
Percent Negative Reviews	-0.814 (0.000)	1.000 (0.000)		
Percent Mixed Reviews	-0.559 (0.000)	-0.027 (0.845)	1.000 (0.000)	
Total Reviews	0.025 (0.855)	-0.020 (0.886)	-0.015 (0.912)	1.000 (0.000)

BARTLETT CHI-SQUARE STATISTIC: 1622.262

Degrees of Freedom = 6 (.000)

Number of Observations = 56

**TABLE 4**  
**Results for the Percentage of Positive Reviews**

Week	Multiple R <sup>2</sup> (Adjusted Multiple R <sup>2</sup> )	Percent Positive Standardized Coefficient	t-statistic (p-value)	Total Number of Reviews Standardized Coefficient	t-statistic (p-value)	Total Number of Screens Standardized Coefficient	t-statistic (p-value)	F-Ratio (p-value)
1	0.642 (0.621)	.188	1.823 (0.074)	.181	2.139 (0.037)	.820	8.155 (0.000)	31.022 (0.000)
2	0.537 (0.511)	.195	1.579 (0.120)	.041	0.404 (0.688)	.855	7.090 (0.000)	20.120 (0.000)
3	0.537 (0.510)	.163	1.343 (0.185)	.123	1.235 (0.222)	.800	6.744 (0.000)	20.110 (0.000)
4	0.413 (0.379)	.248	1.844 (0.071)	.201	1.809 (0.076)	.656	4.980 (0.000)	12.187 (0.000)
5	0.399 (0.365)	.418	3.101 (0.003)	.196	1.770 (0.083)	.625	4.745 (0.000)	11.519 (0.000)
6	0.387 (0.351)	.420	3.096 (0.003)	.113	1.014 (0.315)	.667	5.024 (0.000)	10.931 (0.000)
7	0.333 (0.295)	.443	3.122 (0.003)	.058	0.493 (0.624)	.635	4.578 (0.000)	8.656 (0.000)
8	0.295 (0.254)	.404	2.791 (0.007)	.129	1.086 (0.282)	.549	3.875 (0.000)	7.250 (0.000)
All	0.547 (0.521)	.306	2.584 (0.013)	.148	1.518 (0.135)	.808	6.972 (0.000)	20.911 (0.000)

**TABLE 5**  
**Results for the Percentage for Negative Reviews**

Week	Multiple R <sup>2</sup> (Adjusted Multiple R <sup>2</sup> )	Percent Negative Standardized Coefficient	t-statistic (p-value)	Total Number of Reviews Standardized Coefficient	t-statistic (p-value)	Total Number of Screens Standardized Coefficient	t-statistic (p-value)	F-Ratio (p-value)
1	0.637 (0.616)	-0.183	-1.621 (0.111)	0.190	2.241 (0.029)	0.789	8.249 (0.000)	30.412 (0.000)
2	0.537 (0.510)	-0.211	-1.563 (0.124)	0.048	0.478 (0.635)	0.829	7.268 (0.000)	20.085 (0.000)
3	0.524 (0.497)	-0.081	-0.604 (0.548)	0.138	1.366 (0.178)	0.750	6.600 (0.000)	19.109 (0.000)
4	0.389 (0.354)	-0.168	-1.117 (0.269)	0.218	1.942 (0.058)	0.592	4.668 (0.000)	11.041 (0.000)
5	0.360 (0.324)	-0.368	-2.424 (0.019)	0.219	1.926 (0.060)	0.544	4.236 (0.000)	9.768 (0.000)
6	0.378 (0.343)	-0.442	-2.960 (0.005)	0.130	1.164 (0.250)	0.606	4.802 (0.000)	10.554 (0.000)
7	0.355 (0.317)	-0.524	-3.437 (0.001)	0.070	0.617 (0.540)	0.588	4.562 (0.000)	9.525 (0.000)
8	0.282 (0.240)	-0.413	-2.587 (0.013)	0.147	1.226 (0.226)	0.487	3.605 (0.001)	6.799 (0.001)
All	0.547 (0.513)	-0.313	-2.398 (0.020)	0.161	1.649 (0.105)	0.761	6.895 (0.000)	20.306 (0.000)



## Footnotes

1. We thank Subrata Sen for the Wall Street Journal article (3/25/94).
2. We assume that word-of-mouth concerns the movie rather than the critics review. Future research should investigate this issue.