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Are Sports Endorsements Beneficial to the Sponsoring Firm?

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ABSTRACT: This review paper aims to determine whether sports endorsements are truly beneficial to the sponsoring firm by comparing and contrasting various prior studies. Relevant literature was identified to examine sponsorships at three levels—athlete, team, and event—and the findings are consolidated. The results show that the value of sports endorsements is based on multiple factors, including the athlete's reputation, how connected the sponsor is to the particular sport (congruence), the characteristics of the sponsoring firm, and the expectations of potential winners. Congruence is determined to be the most important factor, with congruent firms facing more extreme effects. Winning is proven to positively affect the returns for the sponsor, while the size and type of sporting event seem to differ significantly in sponsorship value. This synthesis highlights that the return on investment on these sponsorships can be high, but they are case-specific.

KEYWORDS: Behavioral and Social Sciences, Economics, Sports Economics, Marketing, Endorsements.

Introduction

As of 2023, the value of the sports sponsorship market worldwide exceeded $100 billion, and this figure is projected to double by 2030, making it a highly significant aspect of marketing. These sponsorships have become a pervasive strategy for firms that aim to use them to improve their brand image, credibility, and visibility.[1] This recent gain in popularity can be attributed to sports having a captive audience and needing to be consumed live, meaning that viewers cannot skip advertisements.[2] Moreover, the emotional investment in sports is high, and athletes are influential, making the audience more receptive to on-screen endorsements.[3] Hence, the volume of sports sponsorships is increasing, causing economists to question their true value to endorsers.

This question resonates with me, and I have chosen to explore it in this paper. My motivation to write on this topic stems from my personal on-court experiences in sports. I've been a competitive tennis player in South India for the last 5 years, and I am a multiple-time awardee at All India Tennis Association (AITA) tournaments, which improved my national ranking. While I had continued exposure to viewing it from an athlete's perspective, I had never considered sponsorships from a firm's point of view. As a result, I became curious about these effects as I traveled for tournaments. This curiosity, coupled with my ever-growing interest in economics, led me toward the aim of determining whether endorsements in sports are truly beneficial to the sponsor.

To determine this, I review and summarize various papers, answering similar questions and consolidating my findings. Through this, it explores varying levels of sports sponsorships - including athlete, team, and event- to better understand the impacts at each stage. These results are then tied together to form a holistic view, helping emphasize the similarities and differences across the three levels. Results indicate that many factors affect the value of sports endorsements. Of these, the one that makes the most significant difference is the connectedness (congruence) between the sponsor and the event, with more congruent firms tending to receive greater returns on their sponsorships. Another important factor is winning, with successful athletes and teams being more valued by the market than unsuccessful ones. Meanwhile, an element of contrast highlighted across the papers is the impact on the market of the expected winner winning an event differing based on the sport. Thus, we can conclude that determining the value of sports endorsement is complex.

Discussion

The paper's organization is as follows: This section contains the literature review, which describes six papers studying the impacts on various sponsorship levels, followed by the conclusion.

Athlete Endorsements:

This subsection explores the financial partnership, not just ambassadorship, between an athlete and a brand by examining three cases focused on Tiger Woods.

A study by Farrell *et al*. uses analysis of athlete performance and the value of endorsing firms following the endorsement to find the economic impact of sports sponsorships, focusing on Tiger Woods.[4] Firms often regard celebrity endorsements as efficient marketing methods due to celebrities having high influence, credibility, and attention. The celebrity's association with the firm leads to the hypothesis that it will positively impact its value. This then ties into the idea of exploring how these celebrity endorsements affect consumer behavior.

Tiger Woods was an immediate sensation in the world of golf, creating a legacy that set him apart. He became an endorser of major firms, including Nike, Titleist, American Express, etc. Hence, he became the prime candidate for performing this analysis. Golf is also an individual sport, minimizing the effect of any confounding variables. Moreover, the nature of the sport is such that if the athlete is in contention to win, they receive

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increased media coverage. This helped establish a clear relationship (or lack thereof) between athlete performance and the endorsing firms' value. This study primarily focuses on Nike's endorsement of Woods, aiming to analyze whether there is a direct correlation between Woods' performance and Nike golf ball sales and to determine whether the sponsorship is economically beneficial to Nike.

An event study method is employed to show the effect of certain events, in this case, Woods' tournament performance and sponsorship announcements, on stock prices. This is done by measuring the excess/abnormal returns, which is the deviation from the expected returns that a firm would receive based on prior stock price trends. These abnormal returns serve as the metric to quantify the net benefit for endorsing firms, varying based on how an event is perceived by the market. That is, if the market views Woods' tournament performance favorably, the abnormal returns will be positive, and vice versa.

Meanwhile, the impact of Woods' tournament performance is also estimated by regressing excess returns against it. Data on the excess returns was collected for the three main sponsoring firms — Nike, American Express, and Fortune Brands (parent of Titleist), as well as for the main TV networks that broadcast golf tournaments. The excess returns of the latter were used to analyze whether they had any positive economic effects during tournaments in which Woods participated. The regression also takes into account other variables that might affect the sponsors' sales, including performance measured by a dummy variable based on whether Woods finished in the top 10 at the tournament or the negative of his end-of-day finish. The other variable in the regression is the industry average excess returns, which accounts for any abnormal effects in the market on that particular day. It must also be noted that on weekdays, excess returns are calculated on the same day as tournament play, but there is a one-day lag after Sunday's results.

Firstly, there seems to have been a positive reception by the market on the date of announcing each of the endorsements, with the cumulative excess returns of Nike and American Express crossing 2% on the day of and the day after the announcement. This event study method shows that celebrity endorsements are often looked upon positively by the market. Meanwhile, three of the four golf majors' broadcasting firms showed small positive excess returns after the major's conclusion, which could potentially be attributed to the increased viewership due to Tiger Woods.

Running the regression for the three main sponsors yields very similar results for American Express and Fortune Brands in comparison to Nike. For Fortune Brands, the p-values of the performance variables were found to be statistically insignificant, taking values below 0.05. This result has been attributed to the fact that Fortune Brands' golf division made up only 15% of its total revenue, and hence, the performance of other divisions likely superseded Tiger Woods' impact. American Express also has insignificant results for the performance variables, with the correlation coefficient for a top-10 finish being 0.04, which could have occurred for two reasons. Firstly, in 1997-98, when American Express signed Tiger Woods, his performance had dropped considerably. Hence, this may have led shareholders to believe that the endorsement was a mistake. Second, it has previously been proven that the market prefers endorsements by experts in that field.[5] American Express services have no relation to golf, therefore making the market skeptical of whether Woods is an appropriate choice. This suggests that news about Tiger Woods' tournament finishes does not affect their excess returns for both firms, causing them to show no relationship.

However, Nike's results show that they gained from choosing to endorse Woods. The performance variables - "finish" and "top ten" are both statistically significant (coefficients 0.0001 and 0.0065, respectively), indicating that the market views Woods' performance favorably if he is in the top 10 and in contention to win the tournament. This is because the publicity for Nike is greater if Woods is in contention to win, as there is more media exposure for their products. The result that is obtained from regressing Woods' performance against the standard excess returns in Nike's industry further proves the hypothesis that only Nike reaps the benefits of sponsoring Tiger Woods.

In conclusion, the study provides convincing evidence on the nature of celebrity endorsements and their value through the case study of Tiger Woods. It indicates that only the most relevant firms to the industry the celebrity belongs to will face positive economic benefits, but that these benefits are significant and worth the sponsorship deal.

Chung *et al*. continue to explore the case of Tiger Woods, this time using his deal with Nike to quantify the worth of celebrity endorsements for the endorsing firm and to determine whether these endorsements lead to increased product sales.[6] A significant increase in the number of athlete endorsements over the last 30 years inspired this research. It is often suggested that celebrity sponsorships benefit firms, but this study uses empirical proof to indicate the extent to which this is true.[7] This is done by looking at how much a product's sales and other financial outcomes, like profitability and market share, are influenced by a single athlete's endorsement deal.

Unlike prior studies in this field, this paper analyzes the product, accounting for the quality and credibility of Tiger Woods, the athlete. By adopting a long-term analysis approach with data on Nike golf ball sales from 1997 to 2010, there is more precision in the analysis of one specific product. This shows the sustainability of these returns for Nike, years after the date of the agreement. The paper further explores how the public perception of Woods affected Nike's sales following his marital scandal to test the hypothesis that the endorsed athlete's personal life directly plays a role in the utility of a consumer.

Initially, background research on celebrity endorsements in the golf industry and an overall analysis of golf ball sales are presented. It is noted that the two major factors in selecting golf endorsers are the influence the celebrity commands and their credibility in endorsing the product. The structures of golf balls are also deemed important as they are the differentiating factor among brands. Meanwhile, the sales of golf balls are established to be seasonal, consistently peaking during the summer and hitting a trough during the winter months.

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Hence, in constructing a model to estimate golf ball sales, a seasonal indicator is used. A comparison is also made between the market share of 15 golf ball manufacturing firms in 1997 and that in 2010, with Nike showing a very significant increase from 1.59% to 10% beginning immediately after Woods' endorsement announcement in June 2000. The firm also benefited from a clear jump in golf ball sales at the same time.

This study makes use of a dual-methodological approach to analysis, making use of both "reduced form analysis" and a "structural model". The reduced form analysis uses a model that includes five golfers - Tiger Woods, Phil Mickelson, Ernie Els, Vijay Singh, and David Duval. Each golfer is assigned a variable attributed to their skill at a particular point in time, corresponding to their PGA ranking. To improve the statistical power of the test, rankings are instead grouped into three bins, which are then used in the model. A variable that is identified to affect the estimation of the endorsement is the exposure that the endorsing brand receives in the media. This exposure can be divided into two types: planned, which accounts for spending from firms' marketing budgets, and unplanned, which refers to the TV exposure the golfer receives due to his performance in a particular tournament. To check whether there is a difference in spending on marketing based on the endorser's ranking, the planned advertising on the endorsement variable (ranking) is regressed against the endorsement variable and the unplanned advertisement variable. The endorsement variable was found to be insignificant, suggesting that planned advertising wouldn't be likely to alter the estimation. A dummy variable was defined for unplanned exposure, taking different values based on whether the golfer won the tournament and the significance of the tournament. In the case of Tiger Woods, this unplanned exposure is concluded to have made a significant impact on Nike sales due to the frequency of his victories during the timeframe.

The sales of the three major golf ball manufacturers — Nike, Callaway, and Titleist are then regressed against the endorsement variables (bins). This yields results that indicate that the model fits the data well and shows that 3 out of 5 endorsers have significant estimates for ranking variables. For Tiger Woods and David Duval in particular, there is a downward trend in estimated effect on sales as world ranking falls, indicating decreasing effects through the rankings. Meanwhile, for Vijay Singh, there is a statistically insignificant inverse relationship, while the other two golfers have significant inverse relationships among the variables. To check whether the loss of statistical power in the bin method was too great, another regression was taken without grouping of rankings. Very similar results are attained, indicating that the marginal effect for Tiger Woods was the greatest of the three golfers with statistically significant results.

Specifically for Woods, another regression is taken that estimates the additional sales of Nike golf balls as a result of the endorsement deal. It indicates a significant effect on sales from the ranking variable, suggesting that for every month Woods is ranked world number 1, he contributes an additional 1,416,000 golf ball sales per month. This analysis provides near-accurate estimations of the effect of golfers' rankings on golf ball sales across firms, not specific to Nike.

In addition to the reduced form analysis, the structural model is used to show the deeper effects of Woods' endorsement on Nike sales by analyzing how it affects other sections of the market, including consumer preferences, market share, profits, etc. It considers factors like how much more consumers were willing to pay for Nike golf balls because they were endorsed by Tiger Woods and how this endorsement impacted Nike's market share and profitability. The model helps to figure out if the increase in sales was mainly due to the endorsement or other factors like price changes or competitors' actions. Further steps were also taken to establish a total market size of 40 million, and rough calculations were used to determine the average rate of consumption of golf balls to better understand human preferences in choosing to buy/not buy the product. Similarly, price analysis is also done to conclude how much customers would be willing to pay for a dozen Nike golf balls. In creating a variable for the time trends as a control and for the scandal, which captures the impact of sales from the scandal while taking into account seasonality, the model can estimate the effects on Nike following Tiger Woods' publicly accepted misdemeanors.

The results show statistically significant results for Woods' endorsement effects on both Nike and Titleist products, suggesting that he contributed to the satisfaction associated with consuming both of those products. The quantitative results to prove these conclusions are the following. Nike gained over $103 million in profits from Woods' endorsement effect while getting a price premium of around 2.5%. This reiterates the conclusions from the reduced form analysis. Woods' competitors, though, had slightly differing results, with Duval's marginal impact falling steeply once he switched to Nike, but both he and Ernie Els contributed a greater marginal impact for Titleist than Tiger Woods. Meanwhile, analysis of the effects of Woods' marital scandal shows delays in negatively affecting Nike, happening only three months after the lead-up to April 2010. While the variable attributed to time trends accounts for this, it is reasoned that the delay is due to the time taken for all details of the accident and related infidelities to get released to the public, happening only in December 2009. As a result of this scandal, Tiger Woods seems to have lost approximately $1.4 million in profit for Nike. As a consolidation of the findings illustrated above, Table 1 below (taken from Chung *et al.*) provides the correlation coefficients for the major factors analysed

Table 1: Endorsement Effects

Random Coefficient Model				
	(Supply and Demand)		(Demand)	
Linear Parameters	**Estimate**	**SE**	**Estimate**	**SE**
Winning of Tournaments (unplanned exposure)	0.023	0.015	0.021	0.014
Woods Scandal on Nike products (12.2009-01.2010)	-0.037	0.090	-0.044	0.089
Woods Scandal on Nike products (02.2010-04.2010)	-0.169 **	0.094	-0.180 **	0.093
Woods Nike Endorsement	0.301 ***	0.079	0.302 ***	0.079
Duval Nike Endorsement	-0.364	0.247	-0.387	0.244
Mickelson Callaway Endorsement	1.284 ***	0.207	1.299 ***	0.206
Els Callaway Endorsement	1.289 ***	0.311	1.357 ***	0.311
Woods Titleist Endorsement	0.271 ***	0.076	0.291 ***	0.074
Mickelson Titleist Endorsement	-0.329 **	0.194	-0.340 **	0.192
Duval Titleist Endorsement	0.484 ***	0.108	0.488 ***	0.106

Singh Titleist Endorsement	-0.117	0.094	-0.121	0.093
Els Titleist Endorse	0.664 ***	0.138	0.668 ***	0.136
Non Linear Parameters	**Estimate**	**SD**	**Estimate**	**SD**
Price	-0.088 ***	0.021 ***	-0.089 ***	1.71E-08 ***
	(0.003)	(0.008)	(0.008)	(9.984)
Layers		-4.362e-08		-2.17E-07
		(547.839)		(1438.543)

Note: Signif. codes: 0 < *** < 0.05 < ** <0.1

All in all, research by Chung *et al*. provides a thorough picture of the true value of celebrity endorsements for a firm by making use of a dual-methodological style of analysis. It can be concluded that, especially when the congruence between the endorser and the product is high, it is extremely beneficial for the firm to endorse the athlete to reap long-term benefits. The paper further suggests that a fall in an athlete's reputation, like Woods' scandal, has severe effects on the endorsing firm. This very situation is explored further below by Knittel *et al*.[8]

That paper analyzes the potential negative effects that endorsements could have on corporate sponsors as a result of negative events concerning the athlete by examining Tiger Woods' marital scandal in 2009. It explores the reputation risk that firms take when choosing to attach themselves to an athlete while also examining the effect of the negative perception on competing firms. As a result, the paper aims to conclude whether endorsements are worth the potential damages, particularly in a risk-laden scenario.

In 2009, Tiger Woods was at the height of his popularity and was deemed one of the most influential people in the world. However, late in the year, several pieces of information regarding Woods' car accident and marital infidelities came to public light, resulting in the athlete taking an indefinite break from competitive golf on December 10. The data focuses on the 10-15 following the scandal's emergence, aiming to conclude how much celebrity endorsements affect the value of the firms, which in this case are primarily Accenture, Gillette, EA (Electronic Arts), Nike, and PepsiCo/Gatorade. This situation is deemed a good case study due to the surprise effect related to it, meaning that the market could not preempt the scandal and adjust accordingly before the event, thus giving more accurate conclusions.

An event study methodology is employed, along with an examination of Google Search intensity analytics to research the claim. The 5 major endorsing firms listed above are first divided into two categories: those who have developed product lines based on Tiger Woods and hence belong under the "Tiger Brand"- like Gatorade, EA, and Nike- and those who have not. Each of these 5 companies reacted differently to Woods' scandal, with some dropping him altogether and others limiting his role as a brand ambassador. For each of these firms, upon looking into the average Google Search intensity in 2009, the highest interest was recorded to be during the week of the scandal. Meanwhile, the metric used to measure the impact on stock prices is abnormal returns, the deviations from the expected returns. A regression model is formed to estimate these abnormal returns, taking into account the return on shares, the return on the total market index, the return on competitor firms, and the number of days after November 30th, when the data is being measured. Similarly, cumulative abnormal returns are also calculated to indicate the rate of change in these abnormal returns in the days following the scandal.

The results of the cumulative abnormal returns show substantial negative impacts for all endorsing firms in the market, particularly 8 days after the accident. The eighth day refers to the first day a sponsor took action against Woods, with Gatorade dropping him, proving that the market reacts to endorsement-related news. These return estimates are larger for the "Tiger Brand" groups and are statistically significant. The average daily abnormal returns for each group of firms also provide statistically significant results that help provide strong evidence that abnormal returns are consistently negative.

To link the findings from the abnormal returns to the pattern of search intensity, the two are plotted against each other, showing a high correlation between the two variables. To further confirm these results, abnormal returns are regressed against a measure of news intensity, which themselves have been divided into three different measures. The results prove the hypothesis true, with every day having a higher search intensity on days when there are more negative abnormal returns shown. It is also vital to note that these effects are significantly greater for firms under the "Tiger Brand" than for the overall sample. Upon testing the regression for non-endorsement-related but scandal-related search data, we establish that the above findings are specific to endorsement deals.

Competitors of sponsoring firms are also carefully examined, with each of the 7 sponsors compared with 10 corresponding competitors in their respective industry. Two potential results are theorized - either the competitors are successful in stealing business after a fall in the endorser's abnormal returns, or they are unaffected by the change. Another question that's addressed is whether endorsement-intensive (those who have at least one endorsement) competitors showed different trends from those who do not endorse. A regression model is then developed, consisting of the return on portfolio and the abnormal returns of the competitor along with time after the accident to yield the return on shares for the competing firm.

The results of the initial competitor model yield that their Cumulative Abnormal Returns (CARs) are positive while having an inverse relationship with the abnormal returns of sponsor firms. This confirms the hypothesis that the competitor firms received the business lost by the sponsors. However, there was a difference detected between endorsement-intensive and non-intensive competitors, with the returns of the latter turning negative from day 2 onwards. Relative to non-endorsement-intensive competitors, endorsement-intensive competitors lost 2 to 3% more value. This difference was statistically significant, indicating that across the market, the scandal sent a signal that doubted the decision to engage in celebrity endorsements. That is to say, the estimated 2% lost by sponsoring firms 10 days and onwards after the event was gained by their non-endorsement-intensive competitors on the same day.

Another regression is run, where a dummy variable that represents whether a firm is endorsement intensive and a measure of news intensity is added to the original equation. These results support the prior ones, showing a strong positive re-

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lationship between search intensity and abnormal returns for non-endorsement-intensive competitors and a less positive relationship with endorsement-intensive ones.

Overall, the findings of this study are such that endorsing firms are quite vulnerable to reputation risk due to the negative publicity of the endorsed athlete, supporting the surface analysis conducted by Chung *et al*. Furthermore, it concludes that the benefit of this negative publicity is significant for competitor firms, particularly those that are not endorsement-intensive. Besides providing the quantitative values for this relationship, the paper questions the reasoning behind certain trends, making it extremely helpful in researching the shortcomings of celebrity endorsements.

This section explored the case study of Tiger Woods, with particular emphasis on his relationship with Nike and on the outcomes of his marital scandal for sponsor shareholders. It is concluded that performance is highly beneficial to sponsors and that the expectation of victory, based on PGA rankings, improved sponsor returns. The importance of congruence is also emphasized, with sponsors like Gatorade and Titleist feeling a greater impact than non-Tiger Brand firms. The analysis of the scandal introduced a new angle to the question, where despite positive returns from the endorsement being common, there would always be a high level of risk associated with it.

Team Endorsements:

Moving away from Tiger Woods' case, Cornwell *et al*. choose to find out whether sponsoring a winning team is more beneficial than sponsoring a participating one.[9] This is done by assessing the true value of winning a motorsports event for the endorsing firm. The sport itself is quite conducive to advertising, with sponsor banners very easily visible to viewers, increasing the exposure for sponsoring firms. The Lone-standing Indianapolis 500 is selected as the primary event for its international presence, viewership, and ease of data collection.

The study looked at all 268 sponsoring firms (including winners) for all cars between 1962 and 1997, ignoring the firms that did not have stock price data available. Stock prices are the best metric to take qualitative changes, like winning, into account. Hence, similar to prior papers, an event study method with abnormal returns is employed. The method includes evaluating the time series for each of the sponsoring firms to measure the impact of the events 20 days before and after the event.

Next, cross-sectional regressions were taken. While regressing the sponsorship winners against abnormal returns, it is noted that motorsports are designed in a way that, more often than not, the expected winner ends up winning the race. Therefore, to be precise in estimating the regression, the following parameters are included - the relative value of the sponsor, the ratio of the eventual winner's qualifying speed to that of the fastest qualifier, the winner's margin of victory, and dummy variables to establish congruence between the sponsor and the sport, and to identify whether the athlete is a first-time race winner. The margin of victory is specifically included to account for the fact that sponsors with wins at a greater margin of victory have more exposure. Meanwhile, as mentioned in an earlier paper, congruence establishes how closely linked the effect of the race would be on the sponsor. For example, Valvoline would be impacted far more significantly than Domino's Pizza.

The initial results show that there is no reason to suggest that winning the Indy 500 resulted in statistically significant abnormal returns for sponsoring firms, with no notable change in the abnormal returns in the days immediately following the race. Even over a month of analysis, the cumulative abnormal returns were deemed to be negative and insignificant. Similarly, for analysis on the other 232 non-winning sponsors, barring two days post the race, there are no notable changes in the abnormal returns, and they remain statistically insignificant for the most part. The positive returns two days after the event (1.04%) indicate that the firms do receive some, however small, benefit from sponsoring the race.

The results of the regression show that of the 6 major variables, 3 are recorded to be statistically significant. With the "new winner" variable showing positive returns, the paper concludes that the surprise aspect attributed to a new winner results in gained returns for the sponsors. For qualifying speed, the negative returns show that when a car is considered less likely to win, there is a fall in the abnormal returns of their main sponsors. As for congruence, the results are similar to the study on title sponsorships, with the positive and significant relationship between the variables indicating that firms with greater congruence to the sport yield greater abnormal returns. The regression line itself is deemed significant as it passes at the 10% significance level. Meanwhile, upon regressing the non-winning sponsors, it is made clear that winning is important to shareholder wealth, as none of the seven variables are deemed significant. The qualifying speed and "new winner" variables are positive and negative, respectively, opposite to the results of the winning title sponsors. Table 2 below summarises the regression analysis by providing the coefficient of correlation for each of the primary variables

Table 2:

multiple regression analysis of the mean abnormal returns (registered over event days t = -2....2) by winning sponsors of the indianapolis 500

Variable	Variable Coefficient	Variable t-statistic	t-statistic p-value
INTERCEPT	1.0343	1.3728	0.1843
NEW WINNER	0.0422*	2.3474	0.0144
MATCH	0.0281*	1.4226	0.0848
QUALIFYING SPEED	-1.1553*	-1.4395	0.0824
MARGIN	-4.85E05	-0.4905	0.6288
TELEVISION	0.0059	0.2549	0.4006
FIRM SIZE	-0.1528	-0.2866	0.3886
Multiple R	0.6118		
R^2	0.3742		
Adjusted R^2	0.1955		
df/Regression	6		
df/Residual	21		
df/Total	27		
F-value	2.0932		
F-probability	0.0975		

* The indicated variable coefficient t-statistic is significant at the 10% level, one-tailed test.

One particular sponsor, Scientifically Tested Products (STP), had unique results for two major reasons. One was that the firm had been the winning sponsor 4 times in the period, and the other was that STP was especially congruent with the motorsports industry, being the only one of the winning sponsors that produced a product that would improve race performance. Hence, the abnormal returns of every winning title sponsor are regressed and compared to STP's, resulting in the conclusion that the results attained by STP were far greater in magnitude than any of the other firms due to its extremely high congruence levels. The mean CAR of STP was 8.2439%,

roughly translating to a $134 million increase in market valuation purely due to race results.

This goes in tandem with results from previous papers that emphasize the importance of congruence, stating that if there's alignment between the sponsor and the sport, the returns are very high. Hence, for the right firm (like STP), there is an extremely high value to motorsports sponsorships. But even otherwise, no harm is done to sponsoring firms if the sponsored team wins, as they receive no explicit benefit or loss. In motorsports, this lack of benefit is usually attributed to the winner often being expected, contradicting the results from the athlete-specific level.

Event Endorsements:

Now, Clark *et al.* shift the focus of this literature review from the impact of sponsoring individual athletes to that of sponsoring events.[10] They conducted a study that analyzed the worth of title sponsorships by measuring their impact on the stock prices of sponsoring firms across industries and sports. While there have been qualitative arguments for and against endorsements, this paper aimed to use abnormal returns to identify whether these sponsorships create value for the endorsers. The primary hypothesis formed was that announcements of title sponsorships have a positive relationship with stock returns across sports, regardless of whether the announcement is a renewal agreement or a new deal. It is also predicted that if a sponsor is congruent with the sport, meaning that their products align with the sport, they will receive healthier abnormal returns.

This is done by selecting 114 title sponsorship announcements between January 1990 and January 2005 from the following sports - golf, tennis, college football, and motor racing- and using an event study methodology to observe the impacts of these announcements on the respective endorsers' share prices. The method relies on the idea that the market reacts to newly disclosed information on the firm or economy and hence varies the stock price accordingly. As for the regression model, a precision-oriented Scholes-Williams market model is used.

First, the mean CARs for the 114 events are calculated for certain time intervals, 20 days before to 20 days after the event, with data from the CRSP (Center for Research in Security Prices). The 114 sports events are then broken down sport-wise, and the same calculations are done with them. The abnormal returns are also studied after splitting the endorsements into "new" and "renewing" categories to test the hypothesis that there would be no difference. Then, cross-sectional regression was conducted, which investigated each of the above variables' correlation with the abnormal returns of the endorsing firms. These included the market value of the firm's equity, the firm's cash flow (movement of money), as well as dummy variables denoting congruence, whether the endorser belongs to an industry that's considered "high-tech", and which of the 4 sports it sponsors.

Each of the hypotheses listed above generates unique results. Firstly, from the broad standpoint of all 114 events, there seems to be no net value generated from title sponsorships. That is to say, what the endorsing firm gains from title sponsorships is merely worth the same as what they invested in it. However, while splitting the 114 events by sport, it can be concluded that title sponsorships do not have an equal effect across sports. NASCAR race sponsorships yield positive abnormal returns of roughly 2% in the 10 days following the announcement of the deal, while the returns of NCAA title sponsorships are negative 2% in the same duration. With golf, across both the men's and women's tours, there seems to be no consistent evidence to suggest that the returns from title sponsorships are not zero. Tennis follows a similar trend to the NCAA, with abnormal returns being significantly negative. Hence, there's a clear difference in the market's reactions to sponsorships in different sports. For the study on "new" vs "renewing" sponsorships, there are differences between the two in the case of golf and NCAA bowl games. For the former, renewals were looked upon negatively by investors (-3%), whereas for the bowl games, they were looked upon favorably. This difference is attributed to the fact that PGA sponsorship fees continued to rise, while NCAA sponsorship fees remained more or less the same.

The regression shows three of the included 8 variables to be significant - congruence, "high-tech", and market value. The significance of market value indicates that a larger firm, with more market value, is more likely to reap benefits from title sponsorships than a small firm. For congruence, the significance suggests that a firm more closely tied to the sport it's sponsoring is, on average, likely to receive 3.4% greater abnormal returns than a firm that isn't. This supports evidence from previous research, which shows that for congruent firms (like Nike to Woods' golf), the impact on abnormal returns is greater. As for the relationship of the sponsoring firm to technology, the regression suggests that high-tech firms receive 2.6% more shareholder wealth from other firms. Cash flow is the only non-dummy variable to show no significant result. The four sports follow similar trends as when they were analyzed individually, with NCAA bowl events and PGA Tour events negative and of similar magnitude to the earlier analysis.

Overall, this study provides convincing evidence as to the worth of title sponsorships for firms, taking into account a wide sample of sporting events across four sports. Overall, the results show that title sponsorships can be viewed as indifferent to firms that are willing to invest, as abnormal returns tend to have little to no value. However, the paper breaks this analysis down into sports and groups of sponsoring firms to conclude that under apt conditions (like congruence), and for the right firm (high-tech or not), title sponsorships can be extremely useful as a market strategy. By isolating these factors, the paper can generalize its findings for the sporting industry as a whole.

Farrell *et al*. also aim to find the value of corporate sponsorships in sporting events, by focusing on just one event- the 1996 Summer Olympic Games in Atlanta.11 In the lead-up to the Olympics, the costs of sponsorships rose significantly from previous editions, causing firms to question their true financial value. This paper aims to answer that question, determining whether or not Olympic sponsors receive net benefits. Other considered aspects include whether these sponsorships

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are due to agency costs (choices made by firm managers for personal gain) and whether their values vary based on the type of sponsor. Further, the paper aims to examine other variables that influence the market perception of Olympic sponsorships to show the benefits of such an investment.

Data is collected on the stock returns for all firms that announced sponsorship agreements before the Atlanta Games. Those that were not publicly traded were excluded from the analysis, resulting in a sample size of 26 firms. Analysis was done by measuring the impact of sponsorships on shareholder wealth through an event study methodology. To test the hypothesis that Olympic sponsorship announcements do not affect shareholder returns, mean abnormal returns for the sample were taken within the interval of announcement day 5 days. The CAR is then calculated for a 3-day interval, the day of the announcement, and the two subsequent days. To explore differences across sponsor groups, the firms are divided into two categories—"new sponsors" and "repeat sponsors".

Next, a cross-sectional regression of abnormal returns was conducted. The independent determinants included the total value of the sponsors' assets, whether the firm is a repeat sponsor, the percentage of its insider and outsider ownership, and a dummy variable for the sponsorship category. The sponsorship categories are based on the value-adding potential of the sponsors, with Group 1 containing the most lucrative sponsors and Group 3 containing the least. It's hypothesized that there will be positive relationships for both the asset value and "repeat" variables. It's also suggested that the lower the value-enhancing potential of the sponsorship group, the more negative the abnormal returns would be. Hence, Group 1 is predicted to have a positive correlation, but Group 2 is said to have a negative one.

Meanwhile, the reason for including insider and outsider ownership is to examine the role that agency costs play in Olympic sponsorships. In more insider-owned firms, managers can make decisions for personal gain easily, as they are not bound by the wishes of shareholders who want to maximize value. The opposite is true for primarily outsider-owned firms. The level of insider ownership is then split into three categories based on percentage ownership.

Primary results showed that 4 days before the announcement, returns were positive and significant, with an associated coefficient of 0.425. Whereas, two days following the announcements, the market viewed the event as unfavorable, leaving significant negative returns of approximately the same value. Conducting a t-test also produces the same results, supporting the notion that a lack of specific information to the market about the endorsements is the reason for the negative returns. As for the 3-day CAR, the sample mean showed a 4.3% decrease in returns, making for statistically significant results. Meanwhile, the categorical analysis showed negative mean abnormal returns for both groups, but there was a statistically proven difference.

The coefficients of the cross-sectional regressions support the results from the 3-day CAR calculation, showing a negative and statistically significant constant coefficient despite accounting for various endorser-related variables. The model itself has a low coefficient of determination that isn't statistically significant. However, of the eight other variables included in the analysis, six have positive relationships with abnormal returns (per the hypothesis), but only one is deemed significant - the one on outsider ownership. This shows that for outsider firms, the effect of agency costs is less as they are prone to greater shareholder pressure. Hence, they follow the expected result of having a positive relationship with abnormal returns.

Overall, the findings suggest that Olympic sponsorships as a marketing strategy are not value-adding to the endorser. The study finds that around the time of announcing the sponsorships, the abnormal returns for firms turn negative, implying the negative perception of these sponsorships by the market. The impact of agency costs is also prevalent, corroborated by the cross-sectional regression showing a positive relationship between outside ownership and abnormal returns.

At first glance, endorsing sporting events, whether mega-events or smaller ones, does not provide value to firms. However, upon closer examination, it is suggested that the returns for a sponsor depend heavily on the type of event, dependent on various factors, including the sport, the type of firm sponsoring it, and whether it was a renewed sponsorship. Meanwhile, the Olympics are proven not to be value-adding for the sponsor, but agency costs are the reason attributed to sustained high investment in them, proven by analysis of insider vs outsider ownership. It can therefore be concluded that sponsoring sporting events is only beneficial to a firm if the conditions are tailor-made for them.

The results of each of the three levels provide significant insight into the impact of sports sponsorships on endorsing firms. Across these levels, several similarities and differences can be identified. Congruence is established to be a key factor that affects the endorsers' returns, with more congruent firms facing more significant impacts, whether the endorsed team or athlete wins or suffers damages to their reputation. Some level-specific factors, like the type of endorsing firm, its ownership, and other characteristics, are also proven to alter their returns. A factor that differed between the team and athlete endorsements was the "expected winner". In golf, it was determined that sponsors of higher-ranked players, who had a higher expected likelihood of winning, received higher returns, while in motorsport, there is no apparent benefit to sponsoring a winner who is expected to win. Hence, this literature review concludes that sports endorsements can have high benefits associated with them, but these are claimed only by the right firm at the right time.

Conclusion

In recent years, sports endorsements' popularity has been on a steep rise, with the market projected to grow by over 8.39% every year. Therefore, questions have arisen as to whether these high levels of investment are worth it. Through a holistic literature review, this paper has aimed to answer these questions by determining whether sports sponsorships are economically beneficial for the sponsoring firm. Papers on various aspects of sports sponsorships have been analyzed, of which most employed an event study methodology to conclude that multiple factors, such as congruence, the type of endorsing firm,

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and athlete performance, help determine the impact of sports sponsorships.

The most important factor was congruence, the level of connection between the sponsor and the sport, which can be seen when examining the case of reputation risk, with more congruent firms facing greater negative effects when the reputation of the athlete they sponsor falls. Another common factor was that better performance by the sponsored athlete or team significantly improves the returns for the sponsor, proving that winning is quite financially beneficial. Major differences are found across results at the event endorsement level, such as the difference in the expected winner metric and events having inconsistent returns based on their type. Besides this, other factors' relationship with shareholder returns are examined, showing that characteristics of the sponsoring firm- including ownership, industry, and size- also play a role in determining returns. Hence, these consolidated results go to show that for a firm to receive positive benefits, it must satisfy certain conditions. First, it must be in the right industry, typically one that is connected to the sport. It must also sponsor an event that is lucrative but also unpredictable, unlike the motorsports example described above. Lastly, it should sponsor the right teams and athletes–those with healthy reputations and worldwide influence. These three factors, when taken together, make for healthy returns for a firm investing in sports sponsorships.

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