

Endorsement Effectiveness :

Golf Industry

Byeonggwon Lee ¹⁾, Changmo Cho²⁾, Hwansuk Choi ^{3,*}

¹⁾ Department of Marketing, Indiana university, Indiana, USA

²⁾ Physical Education, Keimyung university, Daegu, Korea

³⁾ Sport & Leisure Studies, Keimyung university, Daegu, Korea

Abstract. The paper examined the endorsement effectiveness by investigating the relationship between endorsers' performance and the endorsing firms' market share. Using data compiled through Mergent, COMPUSTAT, ESPN, World Golf, and SBR.net, the research gathered 11 years of data (2004-2015) on 6 major golf equipment manufacturers. The research adopted both fixed effects and fixed effect two-stage least square with robust standard-error. The research used endorsers' earning/event as a measure of endorsers' performance and tested the effects of endorsers' performance on the endorsing firm's current and future market share. The research found that the endorsers' performance had a significant and positive effect on the endorsing firm's future market share. However, the research could not find the contemporaneous effect of endorsers' performance.

Keywords; Endorsement; Golf; Industry

1. Introduction

This research selected the golf industry with two reasons. First, golf is one of the most famous individual sports. In the setting of team sports, performance of an endorser cannot be solely contributed to the endorser. For example, in soccer, there are eleven starting players in each team, and it is hard to distinguish whether the endorser's performance (i.e., goal) is solely due to his/her ability since other players may assist the endorser's performance. In individual sports, comparably, the performance can be attributed to the individual. Second, golf has one of the biggest endorsement markets. Each year, Forbes announces a list of the top 25 highest-paid athletes. In 2016, among

* Corresponding author: hit815@daum.net

Received: Jan. 10, 2020; Revised: Feb. 25, 2020, Accepted: Dec. 31, 2020

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

individual sports, golf had the biggest market in terms of salary, endorsement deals, and appearance fees; there were four golfers included in 2016, and tennis followed with three athletes. A celebrity endorser is “an individual who enjoys public recognition and who uses this recognition on behalf of a consumer good by appearing with it in an advertisement” (McCracken, 1989). According to Meaning Transfer Model (McCracken, 1989), when an entity is associated with a firm, consumers project the image of the entity to the firm. Similarly, firms can expect spillover effects. Pope, Voges, & Brown (2009) believe information relevant to the sponsoring firm (i.e., A firm’s endorsement decision or an endorser’s performance) allows consumers to make judgment about the brand. Consequently, marketers have attempted to acquire positive meanings and personality traits associated with the entity using endorsement over the past years (Biswas et al, 2009; Yannopoulos, 2012; Erdogan, 1999; Amos, Holmes, & Strutton, 2008; Choi and Rifon, 2012). As a result, both the number and the size of celebrity endorsement contracts have been increased (Chung, Derdenger, & Srinivasan, 2013). For example, Nike's endorsement spending has increased by more than 10% a year, slightly faster than the company's sales have grown (Isidore, 2015). In turn, Adidas plans to adopt aggressive athlete endorsement deals to regain its market share (Germano, 2015). Therefore, this study looks at the impact of Endorsment Effectivity on the golf industry

2. Methods

The research collected the market share data on the 6 U.S. golf equipment manufacturers from 2004-2015 through SBR: Cobra, Callaway, Cleveland, Nike, Taylormade, and Titleist. The only major company omitted from this research was Ping, which held the market share of 12.6% in 2015 (Mizuno is also omitted but cannot be regarded as a major company since it occupied only .9% of the market share in 2015). Although data from 2000-2003 are also available, the research could not use that data, since the researcher failed to find the data on equipment endorsement. In 2015, those firms held approximately 65% of the market share. The research studied drivers, not balls, since Titleist has occupied more than 40% of the market share from 2002 (SBR.net). Through literature review, the research attempted to control for observable heterogeneity by including known predictors of market share. Data on the number of new models and price were collected through PGA value guide. AVGPRICE is measured as the mean of company *i*'s newly introduced drivers in year *t*. Firm size is measured as the total asset book value of asset using COMPUSTAT and Mergent (measured in million). Although advertisement is one of the known predictors of market share, the research could not obtain the firms' marketing/advertising expenditure. Chung, Derdenger, & Srinivasan (2013) suffered from the same problem but found that omitting

the advertising share would not create endogeneity problem by finding that firms do not spend more advertising expenditure even when their endorsers are performing well. To the extent of my knowledge, data encompassing all the PGA players' endorsement record do not exist. Therefore, the endorsement data is collected using "What's in my bag" published by PGA and major golf magazines, including Golf digest, World Golf, and Golfweek. "What's in my bag" provides information on the equipment that golfers use. However, it only covers players who have won at least one tournament in that year. Although this research has put the best effort on matching players with their endorsing equipment brand, it was impossible to find information regarding the endorsement, especially for years before 2005. Chung, Derdenger, & Srinivasan (2013) encountered the same problem but noted that including only a subset of golfers is not problematic as their data suggest that there is no strong correlation between endorsers who endorse the same brand in terms of ranking. Following their approach, this research matched each PGA Tour winners from 2004 to 2015 to the driver the athletes used. Endorsers' game statistics (i.e., stroke gained putt and par 3 score) are obtained via ESPN.com. Endorsers' performance is measured by earnings/ the number of events participated.

3. Results

We ran three models using: (1) the lagged endorsers' performance (2) non-lagged performance and (3) 1 and 2 together (Table 1). As predicted, endorsers' lagged earning/event (yeart) had a positive and significant effect on the sponsor's market share. Therefore, the data supported H1. The results suggest that if endorsers' average earning/event increases \$100,000, the sponsor's future (yeart+1) market share increases 1%. On the other hand, the data failed to support H2, as endorsers' earning/event in yeart+1 did not show a significant effect on the sponsor's market share of the respective year. This research also used endorsers' winning percentage instead of endorsers' earning/event (\$1,000) to measure endorsers' performance. The model using endorsers' winning percentage produced the same result: H1 was supported ($p=.004$) but H2 was not ($p=.666$).

TABLE I. THE EFFECT OF ENDORSERS' PERFORMANCE ON THE SPONSOR'S MARKET SHARE - FIXED EFFECT

	H1	H2	H1+H2
AVGPRICE	0.006	0.004	0.037
Product_num	0.155	0.138	0.224
Firmsize	-0.000	-0.000	-0.000
Earning/event (\$1,000)		-0.0005	-0.001

L.Earning/event (\$1,000)	0098*		0.010**
Constant	5.91	8.549	8.23

* p<.05; ** p<.01; *** p<.001

The result of the first stage for H1 is shown in Table 2. According to the first stage, all the three instrumental variables had a significant effect on the endogenous variable, with .5561 partial R-squared. If errors are heteroskedastic, Cragg-Donald Wald statistics is no longer valid (Baum, Schaffer, and Stillman, 2007). Consequently, the underidentification test is processed with Kleibergen-Paap LM statistic. The rejection of the null hypothesis implies that the correlations between the endogenous regressors and the instruments are nonzero. However, rejecting the null for the underidentification does not mean the instruments are strong (Baum, Schaffer, and Stillman, 2007). Therefore, the research also conducted weak instruments test. Similar to the underidentification test, Cragg-Donald Wald statistics is no longer valid for the weak instrument test if the i.i.d. condition is violated. Baum, Schaffer, and Stillman (2007) suggested two options for testing weak instruments in that case: (1) referring to the rule of thumb (F-statistics >10) or (2) comparing with the critical values of Stock and Yogo (2005) with caution. According to Stock and Yogo (2002), F statistics greater than the 10% maximal IV relative bias suggests the model does not suffer from weak instrument problem (Stock and Yogo, 2002). The Kleibergen-Paap F-statistics satisfies the two options (F=15.82). Through the underidentification and weak instrument test, the research concludes the instruments are strong. Also, as indicated by Hansen J statistics, we ensure the instruments are not related with the error terms (Baum, 2006).

TABLE II. THE LAGGING EFFECT OF ENDORSERS' PERFORMANCE ON THE SPONSOR'S MARKET SHARE – 2SLS FIRST STAGE

2SLS – First Stage (H1)	Earning/event it (measured in \$1,000)
Avgprice	-.082
Product_num	-1.26
Firmsize	-.000
L. SG_Putt	-128.47*
L. Cuts_only/event	-401.03**
L. Par 3	-1939.95***
Partial R-Squared of excluded instruments	.5561
Kleibergen-Paap Wald F statistic	15.82
Bias 10%	9.08
Kleibergen-Paap LM statistic	9.141*
Hansen J statistics	.6123

* p<.05; ** p<.01; *** p<.001

L denotes lag.

4. Discussion

This research contributes by examining a topic that has been under-researched. Considering the recent 'mega' endorsement deals, this topic deserves much more attention. Although a few research examined this topic, most of the previous articles were limited in scope since they either studied only one athlete or adopted event study methodology and investigated stock price. This study is distinguishable from previous articles in two ways: (1) unlike to previous research that have studied stock price of the endorsing firms, we studied endorsers' performance on the market share (2) this is the first research studying the carryover effect of endorsers' performance by using the lagged performance of the endorsers.

Increase in market share can occur with two reasons: (1) fans' switch to a new brand and (2) primary demand. Consequently, the research finds endorsers' average performance have a significant effect on stealing customers from competitors or on attracting the first-time purchase consumers. Therefore, I conclude endorsers' expertise, which is measured by earning/event, is transferred to the sponsor's product (win/event produced the same result). Also, the paper supports Basking in Reflected Glory (BIRGing).

The research could not support contemporaneous effect of endorsers' expertise. The result is congruent with Chung, Derdenger, & Srinivasan (2013) who used golf ball sales as regressand; however, they did not study the carryover effect. We believe there are several reasons for not supporting the contemporaneous effect of endorsers' performance. First, the sales of the golf equipment show seasonality (Chung, Derdenger, & Srinivasan, 2013). Callaway notes that the company is always in a loss position in the second half of the year due to seasonality. Although most of the sales usually occur in the first half of the year, the PGA season is still ongoing; there are more than 10 events scheduled from July to October, including the two major events: The Open and PGA Championships. Therefore, consumers cannot fully judge the quality of sponsors' product through the endorsers' performance. Consequently, consumers may rely on the last year's performance. Also, as Tellis (2003) noted, consumers either need to take time to think about the ad. Similarly, in this case, consumers cannot fully think about the endorsers' performance in the middle of the season.

References

- [1] Amos, Clinton, Gary Holmes, and David Strutton. "Exploring the relationship between celebrity endorser effects and advertising effectiveness: A quantitative synthesis of effect size." *International Journal of Advertising*, vol. 27, 2008, pp. 209-234.
- [2] Baum, Christopher F. *An introduction to modern econometrics using Stata*. Stata press, 2006.
- [3] Baum, Christopher F., Mark E. Schaffer, and Steven Stillman. "Enhanced routines for instrumental variables/GMM estimation and testing." *Stata Journal*, vol. 7, 2007, pp.465-506.
- [4] Biswas, Somdutta, Mahmood Hussain, and Kathleen O'Donnell. "Celebrity endorsements in advertisements and consumer perceptions: A cross-cultural study." *Journal of global marketing*, vol. 22, 2009, pp.121-137.
- [5] Choi, Sejung Marina, and Nora J. Rifon. "It is a match: The impact of congruence between celebrity image and consumer ideal self on endorsement effectiveness." *Psychology & Marketing*, vol. 29, 2012, pp.639-650.
- [6] Chung, Kevin YC, Timothy P. Derdenger, and Kannan Srinivasan. "Economic value of celebrity endorsements: Tiger Woods' impact on sales of Nike golf balls." *Marketing Science*, vol. 32, 2013, pp.271-293.
- [7] Erdogan, B. Zafer. "Celebrity endorsement: A literature review." *Journal of marketing management*, vol. 15, 1999, pp.291-314.
- [8] Germano, Sara. "Adidas to Sign Up to 500 Athletes for Endorsements." *The Wall Street Journal*. Dow Jones & Company, 13 Jan, 2015, Web, 26, Jan 2017.
- [9] Isidore, Chris. "How Nike became king of endorsements." *CNNMoney*. Cable News Network, 5 June, 2015, Web, 26 Jan 2017.
- [10] McCracken, Grant. "Who is the celebrity endorser? Cultural foundations of the endorsement process." *Journal of consumer research*, vol. 16, 1989, pp.310-321.
- [11] Pope, Devin G., and Maurice E. Schweitzer. "Is Tiger Woods loss averse? Persistent bias in the face of experience, competition, and high stakes." *The American Economic Review*, vol. 101, 2011, pp.129-157.
- [12] Stock, James H., and Motohiro Yogo. "Testing for weak instruments in linear IV regression.", 2002.
- [13] Tellis, Gerard J. *Effective advertising: Understanding when, how, and why advertising works*. Sage, 2003.
- [14] Yannopoulos, Peter. "Celebrity advertising: Literature review and propositions." *World Review of Business Research*, vol. 2, 2012, pp. 24-36.