

## Bibliometric Analysis of Advertising Endorser Research in Marketing

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**Abstract**—This study aims to identify the essential themes of advertising endorser research. By analyzing 1,801 citations of 39 advertising endorser articles published in marketing and advertising journals which listed in Social Sciences Citation Index (SSCI) in a twenty years period between 1990 and 2009, this study maps the intellectual structure of the research area. The results provide important insights on the development of advertising endorser research.

**Keywords**—advertising endorser, literature review, bibliometrics, citation analysis, co-citation analysis, social network analysis

### I. INTRODUCTION

Advertising is a form of communication intended to persuade audience to take purchase action [1]. As one of the most popular way for enterprises to introduce their product to consumers, advertising aims to persuade potential customers to purchase or to consume product of particular brand. To effectively persuade consumers, advertisers have to design attractive advertisements.

Marketers usually adopt a variety of approaches to enhance advertising effectiveness. Advertising endorser is one frequently used method in advertising to influence consumers' attitudes and purchase intentions [2], which plays an important role of message passing in advertisements to catch consumers' attention [3].

Celebrity endorsers are often a useful method to personify a brand since the characteristics and meanings of the celebrity can be transferred to the brand [4]. Celebrity endorser help to make advertisements believable, enhance advertisement recall, increase brand recognition, and ultimately influence consumers to choose the endorsed brand. Companies are also convinced that endorsers may give confidence to products and brand, reduce the sense of consumers' uncertain, and improve product sales and market share [5]. Therefore, the endorsers usually serve as the spokespersons for enterprises to convey messages to consumers.

The purpose of this paper is to deepen the understanding of advertising endorser and to provide academics and practice an updated and comprehensive view of the research trend in the area. To accomplish this goal, this study makes a review of the previous advertising endorser literature which listed in Social Science Citation Index in the past

twenty-year period between 1990 and 2009. The current study also figured out the most cited literature that made by and to advertising endorser research by analyzing the citation records. This study hopes to obtain a general picture of advertising endorser research by bibliometric methods and serves as a roadmap for future advertising endorser research.

The novel contribution of the article is the application of bibliometric methods to characterize the advertising endorser research discipline. The results of the current study are complementary to those obtained by other researchers using an experimental design or empirical survey approach.

The remaining of the article is divided into three parts. The research methodology utilized is described in details in the next part. In the third part, the results of the literature review and bibliometric analysis are presented and discussed. Finally, the conclusions and limitations of the study are summarized, together with a proposal for future research opportunity.

### II. METHODOLOGY

The general objective of this article is to analyze the intellectual structure of advertising endorser research in marketing. To determine the current state and future directions for advertising endorser research, this study conducted comprehensive literature review and bibliometric analysis.

This study started the literature search with a wide systematic scan of Social Science Citation Index (SSCI) database. We chose SSCI database since it earned a reputation as the leader among electronic database of social science literature. This study chosen articles published in SSCI indexed journals since that these journals were considered as source of "certified knowledge." The literature search was based on following descriptors: "endorser", "celebrity endorsement", "spokesperson" that were to be found in the titles, abstracts and keywords of the papers. The full text of each article was reviewed in order to eliminate those articles that were not really related to advertising endorser in marketing. The search resulted in 39 papers published between 1990 and 2009. Though this search was not exhaustive, it serves as an overall base for an understanding of advertising endorser research. Figure 1 shows literature collection procedure.

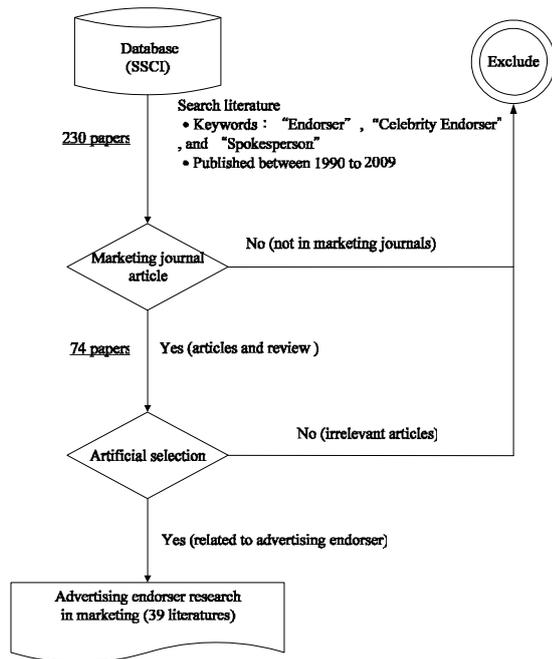


Figure 1. Literature collection procedure diagram

This study used literature review, bibliographic information, and bibliometric analysis to explore the knowledge structure of advertising endorser research, as figure 2 revealed. Literature review applied to review the important viewpoints of current knowledge including substantive findings as well as methodological and theoretical contributions to a particular subject. This study comprehensively reviewed the 39 articles of advertising endorser research to reveal the influence factors of advertising endorsement effectiveness and to classify the frequently used research methodology and theories.

To explore the author and journal networks between each article, the study used the bibliometric techniques (i.e., citation and co-citation analysis) to analyze influential literatures. Bibliometric analysis is a research method used in library and information science to describe distribution patterns of articles with a given topic [6]. Citation and co-citation analysis are the main methods for bibliometric analysis. With citation and co-citation analysis, we can examine the knowledge and the evolution of advertising endorser research. The current study employed citation analysis to determine which journals that share substantial information with core journals. Then, this study applied co-citation analysis to explore the co-occurrence of literatures, which presented the knowledge structure of the advertising endorser research.

Citation and co-citation analysis typically rely on factor analysis, cluster analysis, and multidimensional scaling analysis to map the intellectual structure of research fields [7,8]. In addition the aforementioned multivariate statistical analysis techniques, some bibliometric researches also rely on social network analysis [9,10]. When combined with graph models of social network analysis, citation and co-

citation studies enhance the ability to map the intellectual structure of an academic discipline [10]. Visualizing a co-citation network is valuable in depicting the intellectual structure of a knowledge domain [11].

This research used Bibexcel program developed by Persson(2006) to count frequencies and co-occurrences, and generate the co-citation matrix [12]. Besides, this study adopted UCINET program developed by Borgatti, Everett,&Freeman(2002) to obtain the correlation matrix and graphical representations [13]. The literature review and bibliometric method can complement each other. Hopefully, this research will provide a source for academics as well as advertisers who interested in advertising endorser research and help simulate further interest.

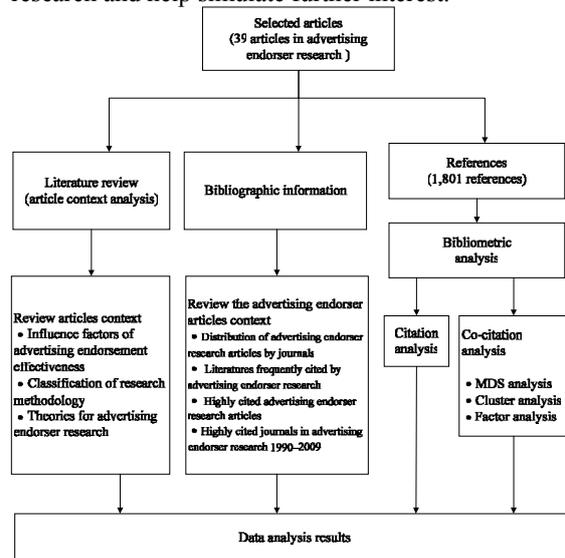


Figure 2. Research analysis procedure diagram

### III. DATA ANALYSIS

The current study obtained 39 articles of advertising endorser research. *Journal of Advertising* contributed 17 articles (44%). Besides, both *Journal of Advertising Research* and *Psychology & Marketing* contributed 5 articles (13%). *Journal of Consumer Psychology* is the fourth largest contributors which contributed 4 articles. The *Journal of Marketing* and the *International Journal of Advertising* published two articles, while the *Advances in Consumer Research*, the *Journal of Business Research*, the *Journal of Marketing Research*, and the *African Journal of Business Management* published one advertising endorser article in the twenty-year period between 1990 and 2009.

Table 1 presents 12 articles which were cited by more than ten advertising endorser articles. These articles may be regarded as the major knowledge source of advertising endorser articles. The majority of these knowledge source articles are from three disciplines: advertising, marketing and consumer psychology. Kamins (1990) received 20 citations (51.28% of the 39 advertising endorser articles) [14]. Kahle (1985), McCracken (1989), and Ohanian (1990)

received 16 citations [15,4,16]. The *Journal of Advertising*, the *Journal of Advertising Research*, and the *Journal of Consumer Research* contributed three articles each to the twelve major knowledge source articles. The remaining three articles were published in the *Psychology and Marketing* (two articles) and the *Journal of Marketing* (one article). These five journals could be regarded as major knowledge source journals for the advertising endorser research field.

TABLE I.  
LITERATURES FREQUENTLY CITED BY ADVERTISING  
ENDORSER RESEARCH

Referred literature (leading author, journal, year)	Cited times
Kamins, M. A., <i>Journal of Advertising</i> , 1990	20
Kahle, L. R., <i>Journal of Consumer Research</i> , 1985	16
McCracken, G., <i>Journal of Consumer Research</i> , 1989	16
Ohanian, R., <i>Journal of Advertising</i> , 1990	16
Agrawal, J., <i>Journal of Marketing</i> , 1995	13
Friedman, H. H., <i>Journal of Advertising Research</i> , 1979	13
Lynch, J., <i>Psychology and Marketing</i> , 1994	13
Petty, R. E., <i>Journal of Consumer Research</i> , 1983	12
Kamins, M. A., <i>Psychology and Marketing</i> , 1994	11
Ohanian, R., <i>Journal of Advertising Research</i> , 1991	11
Baker, M. J., <i>Journal of Marketing Research</i> , 1997	10
Till, B. D., <i>Journal of Advertising</i> , 1998	10

Note: The above literatures were cited by 10 or more advertising endorser research articles published in 1990-2009.

To figure out the highly influence advertising endorser articles, the current study checked the number of citation made on the 39 articles published in 1990-2009. Table 2 revealed the advertising endorser articles which were cited by 30 or more other SSCI indexed articles at the date of August 10, 2010. As table 2 indicated, Kamins (1990) was in the top one rank which was cited by 95 articles, following by Ohanian (1990), Agrawal & Kamakura (1995), Deshpande & Stayman (1994), Lafferty & Goldsmith (1999) [14,16,5,17,2].

TABLE II. HIGHLY CITED ADVERTISING  
ENDORSER RESEARCH ARTICLES

Advertising endorser research (authors, journal, year)	Cited times
Kamins, M. A., <i>Journal of Advertising</i> , 1990	95
Ohanian, R., <i>Journal of Advertising</i> , 1990	85
Agrawal, J., & Kamakura, W. A., <i>Journal of Marketing</i> , 1995	78
Deshpande, R., & Stayman, D. M., <i>Journal of Marketing Research</i> , 1994	67
Lafferty, B. A., & Goldsmith, R. E., <i>Journal of Business Research</i> , 1999	39
Goldsmith, R. E., Lafferty, B. A., & Newell, S. J., <i>Journal of Advertising</i> , 2000	37
Till, B. D., & Busler, M., <i>Journal of Advertising</i> , 2000	36
Lynch, J., & Schuler, D., <i>Psychology &amp; Marketing</i> , 1994	34
Till, B. D., & Shimp, T. A., <i>Journal of Advertising</i> , 1998	32
Kamins, M. A., & Gupta, K., <i>Psychology &amp; Marketing</i> , 1994	32
Solomon, M. R., Ashmore, R. D., & Longo, L. C., <i>Journal of Advertising</i> , 1992	32
Feick, L., & Higie, R. A., <i>Journal of Advertising</i> , 1992	30

Note:

1. The above highly influence advertising endorser research article were published in 1990-2009 and received at least 30 citation.

2. This table was calculated to citations on August 10, 2010. The cited times will increase with time.

To get an understanding for the knowledge structure of advertising endorser, this research adopted co-citation analysis from 39 advertising endorser articles to group the most influential advertising endorser articles.

Co-citation references are any two references that are commonly referenced together by an advertising endorser article. If some references are frequently co-cited, then these references are grouped together. These grouped co-cited references constitute the intellectual structure of a field [20]. Co-citation networks help to gain an extensive understanding to advertising endorser research.

Figure 3 shows the co-citation network map of literature with at least 5 citations. The Co-citation network illustrates the articles as nodes and co-citation links as edges. The width of lines between articles represents the strength of co-citation links. According to figure 3, five highest widths articles (i.e., Kahle, 1985; Friedman, 1979; Kamins, 1990; McCracken, 1989; Petty, 1983) play critical bridging roles among documents [15,18,14,4,19].

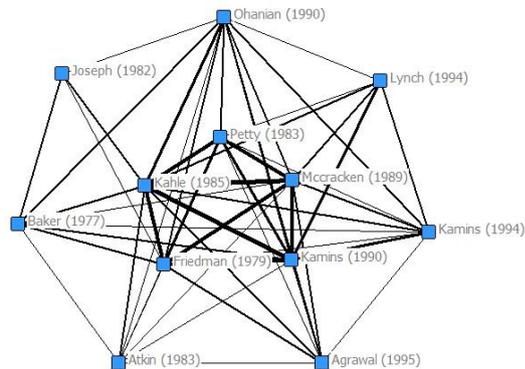


Figure 3. Co-citation network map of literature with at least 5 citations

Note: this figure includes only the leading author.

Three methods have typically been used in co-citation analysis: multidimensional scaling (MDS), cluster analysis, and factor analysis [7]. The study applies the three methods in an attempt to discover underlying groups within the advertising endorser field.

The non-metric multidimensional scaling technique commonly draws on Kruskal's stress fit index to determine how well a map represents the data [21]. MDS uses relative proximity information about observations to create a map of appropriate dimensionality such that distances accurately reflect the original proximities. The current study employed multidimensional scaling analysis to the geometric representation of the data.

Figure 4 illustrates the multidimensional scaling map of the co-citation correlation matrix of 12 articles over the 20-year period. Mapping the data along two dimensions allows us to visualize the correspondence between articles in terms of their relative distances based on the co-citing preferences of citing articles. The more closely the two articles were represented on the map, the more frequently they were cited jointly by the 39 citing articles.

The resulting clusters can be drawn on the MDS map to obtain a visual representation. According to figure 4, we grouped these co-citation articles into three groups. The group of match-up hypothesis and source credibility contained six articles (i.e., Kamins, 1990; Ohanian, 1990; Kamins, & Gupta, 1994; McCracken, 1989; Lynch, & Schuler, 1994; Petty, Cacioppo, & Schumann, 1983) [14,16,4,19]. These articles focused on the match-up hypothesis.

The group of physical attractiveness contained four articles (i.e., Joseph, 1982; Friedman, & Friedman, 1979; Kahle, & Homer, 1985; Baker, & Churchill, 1977). These articles focused on the positive effect on the attitude to the advertisement of physical attractiveness [22, 23].

The last group contained two articles (i.e., Agrawal, & Kamakura, 1995; Atkin, & Block, 1983) which focused on the effectiveness of celebrity endorsers [5,24].

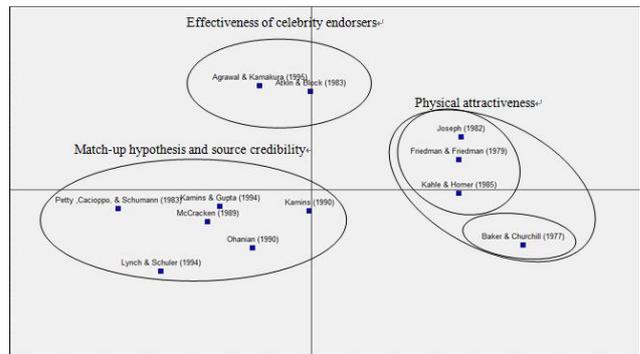


Figure 4. MDS map of literature with at least 5 citations

Cluster analysis can also be used to discover underlying groups or clusters of observations so that observations within groups are relatively similar and observations between groups are relatively dissimilar. Following the procedure of previous bibliometric analysis [7, 25], the current study uses the hierarchical cluster analysis with Ward's method. The clusters remained stable by the complete-linkage clustering method.

The cluster analysis results are similar to that of MDS. When we clustered the cited reference into three clusters, Agrawal, & Kamakura (1995) and Atkin, & Block (1983) are grouped as a cluster, which is the same to the MDS group of effectiveness of celebrity endorsers [5,24]. The second cluster contained Baker & Churchill(1977), Friedman & Friedman (1979), Kahle & Homer, (1985), and Joseph(1982), which is the same to the MDS group of physical attractiveness[23,18,15,22]. The last cluster is similar to the MDS group of match-up hypothesis and source credibility, which contained Kamins & Gupta (1994), Kamins (1990), McCracken (1989), Ohanian (1990), Petty, Cacioppo, & Schumann (1983) and Lynch & Schuler (1994) [26,14,4,16,19].

When two clusters are selected, the cluster of effectiveness of advertising endorsers (i. e. Agrawal, & Kamakura, 1995; Atkin, & Block, 1983) [5,24] should be merged into the cluster of physical attractiveness. Nevertheless, when four clusters are selected, Baker & Churchill (1977) should depart from the cluster of physical attractiveness [23].

Factor analysis can also be used to identify groups sharing underlying latent elements. The factor loadings and communalities reveal additional information regarding the breadth of certain articles, or if an article does not integrate well with the other factors [7].

The current study performed the principal components factor analysis. The results of the factor analysis generate information about the main areas the discipline has been focusing; these allow us to identify how the most-cited studies have contributed to the construction of advertising endorser research.

Four factors were extracted from factor analysis according to the rule of eigenvalue is greater than 1.00.

#### IV. CONCLUSIONS AND LIMITATIONS

In this paper, we have presented a literature review and bibliometric study of advertising endorser field. After searching the SSCI database, the current study found 39 advertising endorser articles in the twenty years period of 1990 to 2009.

This study found that Journal of Advertising was published most advertising endorser articles. By these citation and co-citation analysis, researchers could figure out the highly influence advertising endorser articles as well as the theoretical base of advertising endorser articles.

Our results illustrate the intellectual structure of advertising endorser research. These articles could be classified into three disciplines (advertising, marketing, and consumer psychology) have influenced the progress of advertising endorser research.

Even though this body of research has the undeniable value of offering informative insights into the knowledge structure of advertising endorser, it has some limitations. First, our search keywords may be incomplete, and many valuable papers may not have been included. Second, the sample articles were chosen from 1990 to 2009, which might influence the generalization of this paper.

Finally, we still trust this paper provides a valuable integration and different perspective on advertising endorser. Believe this paper will provide a useful briefing for newcomers.

#### REFERENCES

- [1] William, D. W., Sandra, M., & John, B. (2006). *Advertising: Principles & Practice*. New Jersey: Prentice Hall.
- [2] Lafferty, B. A., & Goldsmith, R. E. (1999). Corporate Credibility's Role in Consumers' Attitudes and Purchase Intentions When a High versus a Low Credibility Endorser is Used in the Ad. *Journal of Business Research*, 44, 109-116.
- [3] McGuire, W. J. (1969). The Nature of Attitude and Attitude Change, In *The Handbook of Social Psychology* (Vol. 3, pp. 136-314). MA: Addison-Wesley.
- [4] McCracken, G. (1989). Who Is the Celebrity Endorser? Cultural Foundations of the Endorsement Process. *Journal of Consumer Research*, 16, 310-321.
- [5] Agrawal, J., & Kamakura, W. A. (1995). The Economic Worth of Celebrity Endorsers: An Event Study Analysis. *Journal of Marketing*, 59, 56-62.
- [6] Almind, T.C., & Ingwersen, P. (1997). Informetric analyses on the World Wide Web: methodological approaches to webometrics. *Journal of Documentation*, 53 (4), 404-426.
- [7] McCain, K. W. (1990). Mapping Authors in Intellectual Space: A Technical Overview. *Journal of the American Society for Information Science*, 41(6), 433-443.
- [8] Leydesdorff, L. (1987). Various Methods for the Mapping of Science. *Scientometrics*, 11(5-6), 295-324.
- [9] Lee, Y. D., McLee, Y., & Chen, C. F. P. (2008). Contemporary Policing Studies: Domain, Theme and Relationships. *Journal of Information Technology and Society*, 2, 43-52.
- [10] Pilkington, A. (2008). Engineering Management or Management of Technology? A Bibliometric Study of IEEE TEM. *International Journal of Management Science and Engineering Management*, 3(1), 63-70.
- [11] Chen, T. T., & Hsieh, L. C. (2007). On Visualization of Cocitation Network. In *11th International Conference Information Visualization*, Zurich, Switzerland ,4-6 July 2007 (pp. 470-475). Los Alamitos, CA: IEEE Computer Society.
- [12] Persson, O. (2006). *Bibexcel: A Tool for Bibliometricians*. Retrieved August 20, 2010 from <http://www.umu.se/inforsk>.
- [13] Borgatti, S. P., Everett, M. G., & Freeman, L. C. (2002). *UCINET 6 for Windows: Software for Social Network Analysis*. Harvard: Analytic Technologies.
- [14] Kamins, M. A. (1990). An Investigation into the "Match-Up" Hypothesis in Celebrity Advertising: When Beauty May be Only Skin Deep. *Journal of Advertising*, 19(1), 4-13.
- [15] Kahle, L. R., & Homer, P. M. (1985). Physical Attractiveness of the Celebrity Endorser: A Social Adaptation Perspective. *Journal of Consumer Research*, 11, 954-961.
- [16] Ohanian, R. (1990). Construction and Validation of a Scale to Measure Celebrity Endorsers' Perceived Expertise, Trustworthiness, and Attractiveness. *Journal of Advertising*, 19(3), 39-52.
- [17] Deshpande, R., & Stayman, D. M. (1994). A Tale of Two Cities: Distinctiveness Theory and Advertising Effectiveness. *Journal of Marketing Research*, 31, 57-64.
- [18] Friedman, H. H., & Friedman, L. (1979). Endorser Effectiveness by Product Type. *Journal of Advertising Research*, 19, 63-71.
- [19] Petty, R. E., Cacioppo, J. T., & Schumann, D. (1983). Central and Peripheral Routes to Advertising Effectiveness: The Moderating Role of Involvement. *Journal of Consumer Research*, 10, 135-146.
- [20] Leydesdorff, L., & Vaughan, L. (2006). Co-occurrence matrices and their applications in information science: extending ACA to the web environment. *Journal of the American Society for Information Science & Technology*, 57, 1616-1628.
- [21] Kruskal, J. B. (1964). Multidimensional Scaling by Optimizing Goodness of Fit to a Nonmetric Hypothesis. *Psychometrika*, 29, 1-27.
- [22] Joseph, W. B. (1982). The Credibility of Physically Attractive Communicators: A Review. *Journal of Advertising*, 11(3), 15-24.
- [23] Baker, M. J., & Churchill, G. A. (1977). The Impact of Physically Attractive Models on Advertising Evaluations. *Journal of Marketing Research*, 14, 538-555.
- [24] Atkin, C., & Block, M. (1983). Effectiveness of Celebrity Endorsers. *Journal of Advertising Research*, 23, 57-61.
- [25] Acedo, F. J., & Casillas, J. C. (2005). Current Paradigms in the International Management Field: An Author Co-citation Analysis. *International Business Review*, 14(5), 619-639.
- [26] Kamins, M. A., & Gupta, K. (1994). Congruence between Spokesperson and Product Type: A Matchup Hypothesis Perspective. *Psychology & Marketing*, 11(6), 569-586.