

Advertisement Effectiveness for Print Media: A Conceptual Model

Prateek Maheshwari, Nitin Seth, Anoop Kumar Gupta

Abstract—The objective of present research paper is to highlight the importance of measuring advertisement effectiveness in print media and to develop a conceptual model for advertisement effectiveness. The developed model is based on dimensions on which advertisement effectiveness depends and on the dimensions which are used to measure the effectiveness. An in-depth and extensive literature review is carried out to understand the concept of advertisement effectiveness and its various determinants in context of print media. Based on the insights gained, a conceptual framework for advertisement effectiveness is presented. The model is an attempt to uncover the relatively less explored area of advertisement effectiveness in Indian advertising scenario. It is believed that present work will encourage scholars and academicians to further explore the area and will offer conceptual assistance and a fresh direction in the domain of advertisement effectiveness.

Keywords—Advertisement Effectiveness, Conceptual Model, Effectiveness Dimensions, Print Media.

I. INTRODUCTION

IN today's aggressive and quickly changing business landscape, advertising symbolizes an imperative mode by which organizations keep in touch with their existing and prospective customers [1]. Constantly upgrading technology has forced modern marketers to look for inventive and latest media channels to lure customers. It has also led to rapid proliferation of internet, mobile phones, movies and video games as emerging media alternatives. Despite of all this, traditional media option such as print is as effective as it used to be in earlier days. An important element of promotional mix for any company, print advertisements have their own prominent share in a company's marketing budget.

Consumers are more engaged while reading printed material, unlike websites, which are often skimmed in as little as a 15 second visit [2]. The Indian newspaper industry is expected to grow strongly for another decade due to mounting literacy [3]. *Aam Aadmi* in India is neither a global citizen nor a *netizen* who has easy access to information that empowers him. Thus, print in India is an uncomplicated means of individual empowerment [4]. Print is local and a tangible means of common man's empowerment. It is evident that print

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media has its own significant role to play in context of Indian advertising scenario and therefore measuring its effectiveness is essential. An understanding of advertising effectiveness would contribute significantly to the productivity of advertisers in terms of effective allocation of their marketing budgets [1].

Thus, the present research study is an attempt to understand the concept of advertisement effectiveness and to identify its various dimensions in context of different media in order to develop a conceptual model of advertisement effectiveness in print media context. The next section of the paper discusses detailed review of literature which is carried out for present research work. Subsequent sections deals with the development of conceptual framework of advertisement effectiveness, concluding remarks and some directions for future research.

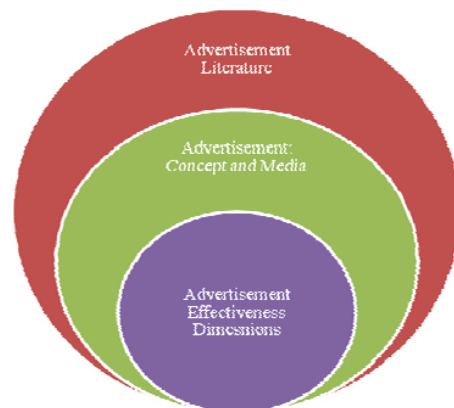


Fig. 1 Classification of Advertisement Literature

II. REVIEW OF LITERATURE

Numerous scholars have explored the area of advertisement and measuring its effectiveness with different perspectives. A review of available literature suggests that research on advertising and its effectiveness measures can be widely categorized in two broad categories as shown in Fig. 1.

For the present study, literature on advertising is studied under two broad categories *viz.* Advertising: Concept and Media and Dimensions of Advertisement Effectiveness as discussed below.

A. Advertising: Concept and Media

Many of the scholars who have researched on advertising focused on theoretical considerations and have developed

conceptual frameworks to understand the concept of advertising and measuring its effectiveness [5], [6].

Starch [5] suggested a conceptual framework to measure the probable effectiveness of a series of proposed advertisements before they are used and a considerable amount of money for space is expended. Study found relative ranking of various advertisements with simple tests and then correlated it with the firm's returns. Sheth [6] examined three different aspects of effectiveness of advertising communication. It discussed two mechanisms called reminder and precipitation and also explored the underlying processes of influence and tactics while [1] developed an advertising effectiveness model and some practical sets of propositions that relates to long-term consumer behavior and have profound practical implications for the management of the advertising function. Study found that products and services with high consumer involvement in the purchase decision will be characterized by current advertising effects while those with low consumer involvement will be characterized by brand loyalty effects.

Researchers have explored the research domain of advertising with varied media options in context. The early researchers focused on advertising in context of traditional media such as *print* and *television* while with the advent of technology the focal point of research shifted to modern media forms. Modern marketers have many media choices available to them to advertise their products or services viz. *internet*, *films*, *video games* and *mobile phones* [7]-[16]. Table I summarizes the select research studies examined for the present work.

TABLE I
SELECTED STUDIES ON ADVERTISING CONCEPT AND MEDIA

S.No.	Study/Media Type	Reference
1.	Conceptual Framework	[5], [6]
2.	Television	[7]-[9]
3.	Internet	[10], [11]
4.	Films and Video Games	[12], [13]
5.	Print	[14]-[16]

B. Advertisement Effectiveness Dimensions

Measuring advertisement effectiveness and identifying its dimensions in context of various media forms is another area which is researched and explored by a variety of researchers [17]-[28]. Alpert et al. [17] in their study measured the impact of repetition on advertisement miscomprehension and advertisement effectiveness and suggested that repetition may not improve comprehension and there is some evidence of a wear out effect also while [18] investigated the effects of length, frequency and type of product on advertisement recall in context of TV. Results indicated that the length and frequency positively and significantly influence brand as well as message recall.

In an another study [19] explored relative effectiveness of 15 and 30 second TV advertisements using intermediate variable viz. advertising recall, liking and correct brand identification. Research showed that 15-sec advertisements are approx. 80 percent as effective as 30-sec advertisements in terms of recall and likeability while for correct brand

identification 15-sec advertisements are as effective as 30-sec advertisements while [20] in their study incorporated AIDA model for measuring effectiveness of the TV advertisement for electric conservation in Isfahan city. Study revealed that the TV advertisements were successful in taking attention, creating interest and desire for action and eventually was effective in behavioral change.

Newman et al. [21] studied banner advertisement and web site congruity effects on consumer website perceptions and indicated that the advertisements should be consistent with the website brand and certain consumer characteristics should be also be considered while [22] tested the effectiveness of a mouse pointer image in increasing the click through for a web banner advertisement. Study found that click-through rates for the advertisement varied significantly across the websites which is in contrast with the previous studies. In a study of advertisement effectiveness in context of movies, [23] revealed that execution style of placement had significant impact on the audience memory for the brand and reported the different categories of product placement techniques and examined the hierarchy of effects of the different categories of product placement while [24] tested the effect of different levels of plot connection on brand placements and found that recognition rate for the products of high plot visual placement was higher than recognition rates for the products of low plot visual brand placement. Research also showed that the modality of presentation of the placements and the degree of connection between a brand and the plot of the show interact to influence memory and attitude change.

TABLE II
DIMENSIONS ON WHICH ADVERTISEMENT EFFECTIVENESS DEPENDS IN PRINT MEDIA CONTEXT

S.No.	Dimension A	Reference
1.	Advertisement Size	[26], [29], [30]
2.	No. of Colors Used	[15], [26]
3.	Advertisement Position	[28]-[30]
4.	Presence of Celebrity	[29], [31]
5.	Illustration and Visual Elements	[26], [28], [31]
6.	Headline Characteristics	[26], [32]
7.	Presence of Border	[29]
8.	Advertisement Frequency	[16], [31]
9.	Presence of Text Content	[26]

In context of print media, [25] examined influence of variety of factors such as size of an advertisement, number of colors used, the product advertised and characteristics of the audience on recall and recognition of advertisements. It was found that advertisement readership is positively related to ad size, use of multiple colors and presence or model while negatively related with the time of advertisement. In a study, [26] developed a structural latent variable model to determine the effect of newspaper advertisement characteristics viz. size, color and logos on consumer preferences. Advertisement size and colors were found to influence apple sales significantly while use of a logo had no impact on apple sales as indicated by the study.

Keshari et al. [27] in their research explored the factors viz.

attractive visuals, believability, informational content, relevance, memorability and persuasiveness that make service print advertisement more effective while [28] examined whether consumers infer that celebrity endorsers like the products they endorse and presents a model to predict attitudes toward the endorsed product. Results indicated that product attitudes were predicted by inferences about the endorser's liking for the product and by attitudes towards the endorser too.

III. OBSERVATIONS AND GAPS IN LITERATURE

Review of literature made it evident that wide-ranging dimensions are identified and used by various researchers in context of advertisement effectiveness. The review also indicated that the subject of advertisement effectiveness is still unclear, ambiguous and perceived by varied researchers in different ways. Researchers have used diverse dimensions to measure advertisement effectiveness in context of series of advertising media. No generic dimensions are available to measure advertisement effectiveness in context of any specific media.

TABLE III
DIMENSIONS WHICH ARE USED TO MEASURE ADVERTISEMENT EFFECTIVENESS IN PRINT MEDIA CONTEXT

S.No.	Dimension B	Reference
1.	Attention	[5], [33]
2.	Believable	[27]
3.	Comprehension	[33]
4.	Excitability	[34]
5.	Informative	[27], [34]
6.	Interest	[5]
7.	Liking	[17], [27]
8.	Memorable	[27], [33]
9.	Persuasion	[6], [27], [30]
10.	Purchase Intention	[13], [17]
11.	Rationality	[34]
12.	Recall	[19], [29], [30]
13.	Recognition	[17], [19]
14.	Relevance	[27]

Also, dimensions which are used to measure advertisement effectiveness in context of a particular media differ with product/service category in consideration. In other words elements of advertisement effectiveness are product/service dependent. Further, these dimensions can be categorized into two broad groups viz. a) Dimensions on which Advertisement Effectiveness Depends (*Dimensions A*) and b) Dimensions which are used to Measure Advertisement Effectiveness (*Dimension B*) [36]. Tables II and III present a compilation of various identified dimensions of advertisement effectiveness in print media context.

IV. CONCEPTUAL MODEL OF ADVERTISEMENT EFFECTIVENESS IN PRINT MEDIA

Based on comprehensive and in-depth review and varied dimensions which are identified in literature, a conceptual model for achieving advertisement effectiveness is developed

in context of print media as depicted in Fig. 2. As apparent from the theoretical model, advertisement effectiveness in context of print media can be attained only if due consideration is given to different dimensions as recognized in the literature.

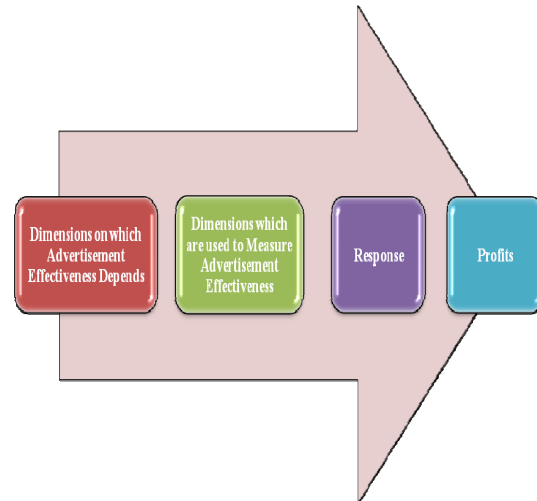


Fig. 2 Conceptual Model of Advertisement Effectiveness in Context of Print Media

It is clear from the developed framework that dimensions on which advertisement effectiveness depends and dimensions which are used to measure advertisement effectiveness; both are equally vital to make an advertisement campaign successful in context of print media. Moreover, advertisement characteristics on which effectiveness of an advertisement rely is a prerequisite which leads to measurement of advertisement effectiveness. This in turn guides consumer's response and consequently generates profit for the business.

Dimensions on which effectiveness depends are generally related to design aspect while dimensions which are used to measure effectiveness play an important role during execution of an advertisement. While there have been appreciation towards studies exploring dimensions on which advertisement effectiveness depends but little has been done towards exploring dimensions which are used to measure advertisement effectiveness.

An attempt is made in present research to understand advertisement effectiveness measures in the relevant context for which an extensive review of literature was made. The review highlighted that dimensions which are used to measure effectiveness in context of an advertisement are wide ranging and varies with advertising media in context. Also, researchers have used different effectiveness measures for different product/service categories which are taken into consideration in context of a specific media. Hence, there is a need to explore these dimensions further to identify product/service specific measures in context of a specific media.

Based on these observations and identified gaps visible from literature, a suggested methodical approach to address this problem is presented in Fig. 3. A judicious consideration

of above discussed dimensions assists in achieving response from the customers which is reflected in the form of *Sales* [29], *Demand* [26], *Action Score* [35] and even *No. of Inquiries* [29].

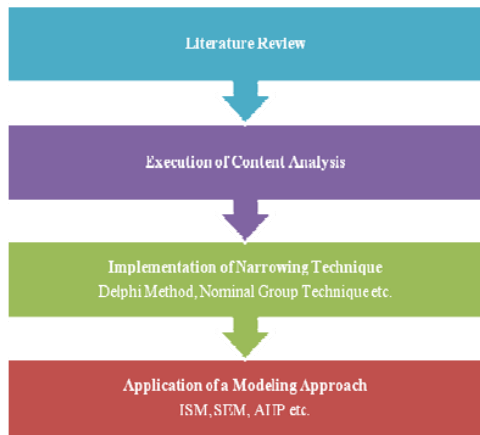


Fig. 3 Suggested Methodical Approach for Measuring Advertisement Effectiveness in a Media Context

The presented methodical and systematic approach is expected to assist research scholars to understand and explore the field of advertisement effectiveness and its measurement in a specific media context further. Analysis of media content through execution of content analysis for a print media will

help in identification of product/service category for which research is to be carried out further while implementation of a narrowing technique viz. Delphi or Nominal Group Technique (NGT) will help in the refinement of various advertisement effectiveness dimensions for a particular product category in consideration.

Once the product specific advertisement effectiveness dimensions/measures are obtained, an established modeling approach such as Interpretive Structural Modeling (ISM), Structural Equation Modeling (SEM) or Analytical Hierarchy Process (AHP) can be applied to understand and develop the interrelationships or linkages among these advertisement effectiveness dimensions identified through implementation of Delphi. Table IV presents brief details about various research methods or techniques suggested in proposed methodical approach.

V. CONCLUSION

Measuring and understanding advertisement effectiveness is crucial in today's highly dynamic business scenario as huge fund is involved in promotional activities. It will also contribute in allocating advertising budgets in most effective way. Thus, an effort has been made through present research work to understand and identify drivers of advertisement effectiveness in print media context.

TABLE IV
BRIEF DETAILS ABOUT VARIOUS RESEARCH METHODS SUGGESTED IN PROPOSED METHODOLOGICAL APPROACH

Research Method	Brief Details	Reference
Content Analysis	Content analysis is an observational research method that is used to systematically evaluate the symbolic content of all forms of recorded communications. An established method in research, content analysis offers researchers several benefits. It is a content-sensitive and flexible method that results in a simplistic description of data. It finds its application in many fields of study viz. psychology, sociology, education, political science, engineering, management, journalism	[37]-[39]
Delphi Method	The Delphi technique is a research approach used to gain agreement through a series of rounds of questionnaire surveys where information and results are fed back to jury members between each round. A popular way of harnessing opinion from the experts, the technique itself and the purposes for which it has been used have been widely modified by researchers over the years. The Delphi technique is extensively used in different research fields' viz. marketing, education, information systems, decision-aiding and knowledge management.	[40]-[43]
Nominal Group Technique	Nominal Group Technique (NGT) is a structured variation of a small-group discussion to reach consensus. It gathers information by asking individuals to respond to questions posed by a moderator and then asking participants to prioritize the ideas or suggestions of all group members. A technique of consensus building; NGT allows period of considered thought, encourages minority views to be aired and produces qualitative and quantitative data.	[44], [45]
Interpretive Structural Modeling	Interpretive Structural Modeling (ISM) is a systematic and efficient modeling technique that produces a structural model, sets up the 'leads to' relationships and has advanced ability of capturing dynamic complexities. It helps to impose order and direction on the complexities of relationships among elements of a subject and allows for a systemic view of the relationships among the variables. ISM is an interactive group learning process whereby a set of diverse elements are structured into an inclusive systematic model	[46], [47]
Structural Equation Modeling	Structural Equation Modeling (SEM) is a family of statistical methods designed to test a conceptual or theoretical model. It includes Confirmatory Factor Analysis (CFA), Path Analysis and Latent Growth Modeling. SEM provides the researcher with the flexibility to model relationships among multiple predictor and criterion variables, model errors in measurements for observed variables and statistically tests a theoretical and measurement assumptions against empirical data.	[48]-[50]
Analytic Hierarchy Process	Analytic Hierarchy Process (AHP) is a structured technique for organizing and analyzing complex decisions. It is an effective tool for dealing with complex decision making and may aid the decision maker to set priorities and make the best decision. By reducing complex decisions to a series of pair wise comparisons and then synthesizing the results, AHP helps to capture both subjective and objective aspects of a decision. In addition, it incorporates a useful technique for checking the consistency of the decision maker's evaluations, thus reducing the bias in the decision making process.	[51]-[53]

This study has examined the subject of advertisement effectiveness with two perspectives viz. dimensions on which advertisement effectiveness depends and dimensions which are used to measure advertisement effectiveness. In order to have an inclusive understanding of how advertisement effectiveness can be realized, a conceptual model and a methodical approach are also developed based on various dimensions identified through extensive review of literature.

It is believed that the developed framework will be beneficial to advertisers in leveraging advertising efficacy and is expected to provide useful insights to academicians and practitioners. This research is expected to motivate other scholars to understand the domain of measuring advertisement effectiveness in detail in other media contexts also.

There is a need to validate the proposed model empirically using a methodical research technique which will lead to the development of a separate, more comprehensive framework to understand the subject of advertisement effectiveness in detail. Also, further research is required to be carried out in other media context using developed conceptual model and systematic research approach to understand the subject of advertisement effectiveness profoundly.

REFERENCES

- [1] M.T. Bendixen, "Advertising Effects and Effectiveness", *European Journal of Marketing*, Vol. 27, No. 10, 1993, pp. 19-32.
- [2] S. Alshaali and U. Vars hney, "On the Usability of Mobile Commerce" *International Journal of Mobile Communications*, Vol. 3(1), 2005, pp. 29-37
- [3] R. Jeffrey, "Missing from the Indian Newsroom," in *the Hindu*, April 9, 2012.
- [4] A. S. Raghunath, "5 Reasons Why Print Media Still Relevant in India" in *www.mxmindia.com*, September 11, 2012.
- [5] D. Starch, "Testing the Effectiveness of Advertisements", *Harvard Business Review*, 2009, pp. 464-475.
- [6] J.N. Sheth, "Measurement of Advertising Effectiveness: Some Theoretical Considerations", *Journal of Advertising*, Vol. 3(1), 1974, pp. 6-11.
- [7] G. Robert and H. Wallace, "Advertising Communication: TV vs. Print", *Journal of Advertising Research*, Vol. 14, No. 5, 1974, pp. 19-32.
- [8] C. Sherman and P. Quester, "The Influence of Product/Nudity Congruence on Advertising Effectiveness", *Journal of Promotion Management*, Vol. 11, Issue 2/3, 2005, pp. 61-89.
- [9] K. Fam and R. Grohs, "Cultural Values and Effective Executional Techniques in Advertising", *International Marketing Review*, Vol. 24, No. 5, 2007, pp. 519-538.
- [10] R. Palanisamy, "Impact of Gender Difference on Online Consumer Characteristics on Web Based Banner Advertising Effectiveness", *Journal of Services Research*, Vol. 4, No. 2, 2005, pp. 45-74.
- [11] Y. Jeong and K. Cynthia, "Impacts of Website Context Relevance on Banner Advertisement Effectiveness", *Journal of Promotion Management*, Vol. 16, No. 3, 2010, pp. 247-264.
- [12] A. Cholinski, "The Effectiveness of Product Placement: A Field Quasi Experiment", *International Journal of Marketing Studies*, Vol. IV, No. 5, 2012 pp. 14-28.
- [13] S. Yoo and J. Pena, "Do Violent Video Games Impair the Effectiveness of In-game Advertisements? The Impact of Gaming Environment on Brand Recall, Brand Attitude and Purchase Intention", *Cyber Psychology, Behavior and Social Networking*, Vol. 14, No. 7-8, 2011, pp. 439-446.
- [14] C. Norris and A. Colman, "Context Effects on Recall and Recognition of Magazine Advertisements", *Journal of Advertising*, Vol. XXI, No. 3, 1992 pp. 38-46.
- [15] P. Quester, "Antecedents of Anti-Smoking Advertisements' Effectiveness: A Bi-Cultural Study", *Journal of International Consumer Marketing*, Vol. 10, Issue 4, 1998, pp. 29-48.
- [16] A. Wray and N. Hodges, "Response to Active wear Apparel Advertisements by US Baby Boomers: An Examination of Cognitive versus Chronological Age Factors", *Journal of Fashion Marketing and Management*, Vol. 12, No.1, 2008, pp. 8-23.
- [17] Alpert *et al.*, "The Impact of Repetition on Advertisement Miscomprehension and Effectiveness", *Journal of Advances in Consumer Research*, Vol. 8, No. 2, 2001, pp. 130-135.
- [18] B. Wu and S. Newell, "Evaluating the Impact of Advertising Characteristics on Recall during the Super Bowl: A Two Year Comparison", *The Marketing Management Journal*, Vol. 13 (2), 2002, pp. 122-128.
- [19] K. Newstead and J. Romaniuk, "The Relative Effectiveness of 15 and 3second Television Advertisements", *Journal of Advertising Research*, Vol. 10, pp.68-77, 2009.
- [20] B. Ranjbarian, A. Shaemi and S. Y. Jolodar, "Assessing the Effectiveness of Electric Conservation Advertisements in Isfahan Channel Television", *International Business Research*, Vol. 4, No. 3, 2011, pp. 194-200.
- [21] Newman *et al.*, "Banner Advertisement and Website Congruity Effects on Consumer Website Perceptions", *Industrial Management and Data Systems*, Vol. 104, No. 3, 2004, pp. 273-281.
- [22] K. Lees and J. Healey, "A Test of the Effectiveness of a Mouse Pointer Image in Increasing Click Through for a Web Banner Advertisement", *Marketing Bulletin*, Vol. 16, 2005 pp. 1-6.
- [23] S. Lai-man and S. Wai-ye, "Predicting the Effectiveness of Product Placement: A Study on the Execution Strategy and Impacts on Hierarchy of Effects", *Oxford Business and Economics Proceedings*, 2008, pp. 1-25.
- [24] C. Russel, "Investigating the Effectiveness of Product Placements in Television Shows: The Role of Modality and Plot Connection Congruence on Brand Memory and Attitude", *Journal of Consumer Research*, Vol. 29, Issue 3, 2002, pp. 306-318.
- [25] Gronhaug *et al.*, "Factors Moderating Advertising Effectiveness as Reflected in 333 Tested Advertisements", *Journal of Advertising Research*, Vol. 10, Issue 4, 1991, pp. 42-52.
- [26] T. Patterson and P. Richards, "Newspaper Advertisement Characteristics and Consumer Preferences for Apples: A MIMIC Model Approach", *John Wiley and Sons*, Vol. 16, No.2, 2000, pp. 159-177.
- [27] Keshari *et al.*, "Constituents of Advertising Effectiveness: A Study of Select Service Advertising", *Journal of Services Research*, Volume 12, No.2, 2013, pp. 111-127.
- [28] D. Silvera and B. Austad, "Factors Predicting the Effectiveness of Celebrity Endorsement Advertisements", *European Journal of Marketing*, Vol.38, 11/12, 2004, pp. 1509-26.
- [29] D. Hanssens and B. Weitz, "The Effectiveness of Industrial Print Advertisements across Product Categories", *Journal of Marketing Research*, Vol. XVII, 1980, pp. 294-306.
- [30] B. Loken and B. Pitney, "Effectiveness of Cigarettes Advertisements on Women: An Experimental Study", *Journal of Applied Psychology*, Vol. 73, No. 3, 1988, pp. 378-382.
- [31] J. Santana and A. Palacio, "Magazine Advertising: Factors Influencing the Effectiveness of Celebrity Advertising", *Journal of Promotion Management*, Vol. 19, No.2, 2013, pp. 139-166.
- [32] Clow *et al.*, "The Relationship of the Visual Element of an Advertisement to Service Quality Expectations and Source Credibility", *Journal of Services Marketing*, Vol. 20, No. 6, 2006, pp. 404-411.
- [33] Hudson *et al.*, "Cross-national Standardization of Advertisements: A Study of the Effectiveness of TV Advertisements Targeted at Chinese Canadians in Canada", *International Journal of Advertising*, Vol. 21, 2002, pp. 345-366.
- [34] Wang *et al.*, "Effectiveness of the 'Made in China' TV Advertisement", *Journal of Chinese Economic and Foreign Trade Studies*, Vol. 6, No. 1, 2013, pp. 4-18.
- [35] R. Manville, "How Much does an Industrial Logotype add to the Effectiveness of an Advertisement", *Journal of Marketing*, Vol. 29, 1965, pp. 57-59.
- [36] P. Maheshwari and N. Seth, "Advertisement Effectiveness: A Review and Research Agenda", *International Journal of Social, Management, Economics and Business Engineering*, Vol. 9, No. 12, 2014.
- [37] R.H. Kolbe and M.S. Burnett, "Content Analysis Research: An Examination of Applications with Directives for Improving Research Reliability and Objectivity", *Journal of Consumer Research*, Vol. 23 (2), 1991, pp. 243-250.

- [38] A.F. Hays and K. Krippendorff, "Answering the Call for a Standard Reliability Measure for Coding Data", *Communication Methods and Measures*, Vol. 1 (1), 2007, pp. 77-89.
- [39] P.J. Stone, D.C. Dunphy and A. Bernstein, "The Analysis of Product Image", *The General Inquirer*, Cambridge, The MIT Press, 1966.
- [40] U.G. Gupta and R.E. Clarke, "Theory and Applications of the Delphi Technique: A Bibliography (1975-1994)", *Technological Forecasting and Social Change*, Vol. 53 (2), 1996, pp. 185-211.
- [41] Lunsford *et al.*, "Marketing Business Services in Central Europe: The Challenge: A Report of Expert Opinion" *Journal of Services Marketing*, Vol. 7 (1), 1993, pp. 13-21.
- [42] D. Olshfski and A. Joseph, "Assessing Training Needs of Executives Using the Delphi Technique", *Public Productivity and Management Review*, Vol. 14 (3), 1991, pp. 297-301.
- [43] C.W. Holsapple and K.D. Joshi, "An Investigation of Factors that Influence the Management of Knowledge in Organizations", *The Journal of Strategic Information Systems*, Vol. 9 (2), 2000, pp. 235-261.
- [44] Neiderman *et al.*, "Delphi Questionnaires versus Information Systems Management Issues for the 1990s. MIS Individual and Group Interviews: A Comparison Case", *Tech Quarterly*, Vol. 15 (4), 1990, pp. 474-500.
- [45] E. Teijlingen, E. Pitchforth, C. Bishop and E. Russell, "Delphi Method and Nominal Group Techniques in Family Planning and Reproductive Health Research", *Journal of Family Planning and Health Care*, Vol. 32 (4), 2006, pp. 249-252.
- [46] Attri *et al.*, "Interpretive Structural Modeling (ISM) Approach: An Overview", *Research Journal of Management Sciences*, 2013, ISSN 2319, 1171.
- [47] Ravi *et al.*, "Productivity Improvement of Computer Hardware Supply Chain", *International Journal of Productivity and Performance Management*, Vol. 54 (4), 2005, pp. 239-255.
- [48] W. Chin, "Issues and Opinion on Structural Equation Modeling", *MIS Quarterly*, Vol. 22 (1), 1998, pp.23-37.
- [49] D. Kaplan, "Structural Equation Modeling: Foundations and Extensions", *Sage Publications*, Vol. 10, 2008.
- [50] M.A. Keith, "Principles and Practice of Structural Equation Modeling", *Structural Equation Modeling: A Multidisciplinary Journal*, Vol. 19 (3), 2012, pp. 509-512.
- [51] T.L. Saaty, "The Analytic Hierarchy Process", McGraw-Hill, 1980, New York.
- [52] F. Zahedi, "The Analytic Hierarchy Process – A Survey of the Method and its Applications", *Interfaces*, Vol. 16 (4), 1986, pp. 96-108.
- [53] L.G. Vargas, "An Overview of the Analytic Hierarchy Process and its Applications", *European Journal of Operational Research*, Vol. 48 (1), 1990, pp. 2-8.

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