Credibility of Health Care Advertising—An Empirical Understanding of its Multi-Dimensional Structure and Scale Validation with Special Reference to Children’s Health Food Drinks

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Abstract

Advertising techniques need to be transformed based on the observations of the perceptions of consumers since they can be the directional force to any advertising aimed at those groups. The study fruitfully provides an empirical understanding about the multiple components of advertising credibility of consumer healthcare products. One of the major tasks undertaken in this research was to develop a scale which is statistically reliable and valid to measure advertising credibility in the current marketing environment of Kerala with special reference to children’s health drinks.

Keywords: Advertising credibility, corporate credibility, endorser credibility, message content credibility, consumer health care, health food drinks.

Introduction

The tough competition in the market and large volume of advertisements make the consumers confused regarding purchase decision making. There is a tendency in the minds of consumers to distrust advertising and to doubt about the genuineness of producers and products. Sometimes they feel exploited by the advertisers. This often results in the failure of advertisements and loss of money. The opportunity for consumers to raise voice and file complaints against non-credible/misleading advertisements again increases the risk of facing legal actions. According to Rodgers and Moore, advertisements that lack credibility, are often ignored or avoided by consumers. Hence knowledge about the perceived credibility of advertisements and consumer psychology may help the advertisers and marketers to avoid mistakes and adopt the right advertisement tactics. In fact, from a careful review of past-related works the researcher could observe that still gaps existed in areas of existing knowledge related to advertising credibility in terms of variables, dimensions, scales, sample, context etc. The previous studies conducted in this area approached advertising credibility with limited dimensions and items. Therefore, this paper attempts to develop a valid scale to measure Advertising Credibility. Children’s Health Food Drinks segment is opted to study the dimensions and structure of perceived advertising credibility.

Credibility of Advertising: Credibility has been identified as one of the most important characteristics of a persuasive message which frequently affect the result of persuasive messages. Advertising credibility can be defined as “the extent to which the consumer perceives claims made about the brand in the ad, to be truthful and believable”. Rodgers and Moore argue that the advertisements those lack credibility are generally ignored or avoided by consumers. According to Lafferty and Goldsmith, irrespective of media type, advertising credibility is a crucial inspiration for creation of attitude and subsequent behaviors.

Dimensions of Advertising Credibility: Perceived credibility of an advertisement is influenced by numerous factors, especially by the firm’s credibility,
the credibility of the person who brings a message\(^8\) and the credibility of the information content\(^7\). As per the literature advertising credibility has three components:

**Advertiser/Corporate Credibility:** Corporate credibility is defined as “the extent to which consumers believe that a firm can design and deliver products and services that satisfy customer needs and wants”\(^8\), and has been found to have direct, positive impacts on attitude toward the ad, attitude toward the brand, and purchase intention\(^2,6,9\).

**Endorser Credibility:** An endorser is an individual, recognized by the public and uses this recognition on behalf of a consumer good, by appearing with it in an advertisement\(^10\). Endorser credibility in this research indicates a term used to specify a communicator’s positive characteristics and trustworthiness that affect the receiver’s acceptance of a message\(^6,11\). Endorser credibility is further be classified into three: -‘Expertise’, ‘Trustworthiness’ and ‘Attractiveness’\(^6,9,11\).

**Message Content Credibility:** Quality of message or argument is another important determinant of ad credibility. In a study Austin and Dong\(^12\) tried to determine if the sender along with the message would have any impact on the total credibility of the information. They concluded that the perceived credibility of the information is more influenced by the message than by the sender.

**Objectives of the Study:**

1. To understand the structure of perceived advertising credibility
2. To develop and validate a multi-dimensional scale for measuring perceived advertising credibility

**Research Methodology**

Exploratory and descriptive research design and survey approach have been used for the study. A preliminary study was conducted to understand the dimension structure of advertising credibility which comprised a focus group interview and pilot study. The sample for the focus group interview consisted of 50 mothers of children between 5-15 years old, and who are the consumers of CHFD and who watch TV commercials and 6 experts from advertising industry and 4 experts from marketing research. The in-depth interviews with 50 respondents were conducted and as the second stage a pilot study was conducted by collecting responses from 50 respondents from Kochi, a South Indian City, and ensured the reliability of the instruments used for data collection.

The children’s health food drinks (CHFD) industry is selected for studying the credibility of advertising communication. The CHFD brands selected for the study are Horlicks, Bournivita, Complan and Boost. The sample for the study was taken from the six corporations of Kerala state namely Kozhikode, Trichur, Kochi, Kollam, Kannur and Thrissur. The mothers of children between 5-15 years were surveyed. For the selection of the wards (divisions) under study and for the selection of the sample respondents from the wards, multistage random sampling is used. The 2011 census document and 2015 voters list of the corporation were taken as sampling frame. The research instruments included structured questionnaires, advertisement story board and recorded TV commercials. The mothers were informed to respond to the questions related to the advertisements of their most preferred children’s health drink brand. A total of 1252 responses were used for data analysis.

**Measurement Tool Development:** The results of focus interview and literature review gave insights in to the dimensions that should be highlighted in the study. After identifying the three relevant dimensions of ad credibility (corporate credibility, endorser credibility and message-content credibility) through focus interview, the items from validated scales used in the previous research were taken to construct the scale for advertising credibility. To measure corporate credibility 7 item scale is used based on the scale developed and validated by Newell and Goldsmith\(^13\). The endorser credibility measurement (13 items) was based on the scales of Ohanion, R.\(^11\) and Goldsmith, et al.\(^6\). The message/content credibility scale is developed based on the measures of Kemp, Deena G.\(^14\), McKenzie and Lutz\(^4\) and Wang\(^15\) and focus group study.

**Data Analysis and Discussion:** The verification and cleaning of the collected data was done initially. Verification of Missing Values was done using frequency test, Outliers using Z-scores, Normality and Randomness using Kolomogorov-Smirnov test with Lilliefors significance correction. Skewness and kurtosis are used to ensure non-normality doesn’t exist to a problematic level. Durbin- Watson statistics was found 2.046 thus established independent observations and
“Runs” test was used to confirm randomness. Content validity is ensured through extensive literature review which helped also in the development of the constructs. In this research a pilot study is conducted to ensure that the content validity concept is not violated. Criterion-related validity is ensured by using a common scale (five-point Likert scale) for measurement throughout the questionnaire.

**Exploratory Factor Analysis:** The next step in the scale validation procedure is to discover the dimension structure of perceived advertising credibility using the EFA. After considering the pilot study results, eliminated 3 items and finally 27 scale items have been used to measure advertising credibility. Exploratory factor analysis (Maximum Likelihood) was done using varimax rotation and the items with loading above 0.5 are taken while items with low loading were dropped. To assess the internal consistency a reliability test was conducted. Following Nunnally’s suggestion it is ensured that for all the constructs the Cronbach alpha coefficients were greater than 0.70.

The KMO Measure was 0.940 and the Bartlett test was significant with $p<0.001$. The Chi-square value of 14267.39 with 351 degrees of freedom affirmed the quality of data for further analysis and served as basis for factorization. The EFA provided four components with an ‘Eigen value’ greater than 1, which together explained over 54.013 percent of the variance. The items used to measure Advertising credibility is shown in Table 1.

<table>
<thead>
<tr>
<th>Item Code</th>
<th>Items used in the advertising credibility scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC1</td>
<td>The Company has great amount of experience.</td>
</tr>
<tr>
<td>CC2</td>
<td>The Company is skilled in what they do.</td>
</tr>
<tr>
<td>CC3</td>
<td>The Company has great expertise.</td>
</tr>
</tbody>
</table>

After EFA the factor structure evolved with four dimensions. The 27 items used in the scale were classified into 4 dimensions such as Corporate credibility, Message-content credibility, Endorser credibility-Trustworthiness and Endorser credibility-Attractiveness which is given in Table 2. The single dimension endorser credibility is divided into two subgroups here – ‘trustworthiness of endorser’ and ‘attractiveness of endorser’. The themes behind the items were the basis for naming the factors. The factors extracted in each case are given in tables below with Cronbach alpha coefficients.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Factor name</th>
<th>Items</th>
<th>No. of Items</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Corporate Credibility</td>
<td>CC1, CC2, CC3, CC4, CC5, CC6, CC7</td>
<td>7</td>
<td>0.849</td>
</tr>
<tr>
<td>2</td>
<td>Message Content Credibility</td>
<td>MC1, MC2, MC3, MC4, MC5, MC6, MC7</td>
<td>7</td>
<td>0.837</td>
</tr>
<tr>
<td>3</td>
<td>Endorser Credibility-Trustworthiness</td>
<td>EC1, EC2, EC3, EC4, EC5, EC6, EC7</td>
<td>7</td>
<td>0.85</td>
</tr>
<tr>
<td>4</td>
<td>Endorser Credibility-Attractiveness</td>
<td>EC8, EC9, EC10, EC11, EC12, EC13</td>
<td>6</td>
<td>0.841</td>
</tr>
</tbody>
</table>
Confirmatory Factor Analysis Using Warp PLS 5.0: The CFA was done to confirm the factor structure model of Advertising credibility construct. The main objective of conducting confirmatory factor analysis is to check the model fit i.e., whether the predefined model is fit with the observed data. Confirmatory factor analysis tested the construct validity of Advertising credibility using Warp PLS 5.0 software as it is the most advanced research tool. The results for the measurement model of Advertising credibility showed an acceptable fit.

The various fit criteria are reported below:
Average path coefficient/\(\text{APC}\) = 0.308, \(P < 0.001\) and Average R-squared /\(\text{ARS}\) = 1.000, \(P<0.001\) which was found significant. Average adjusted R-squared /\(\text{AARS}\) = 1.000, \(P<0.001\). AVIF = 1.876 which is acceptable if \(<=5\) and ideally \(<= 3.3\). Tenenhaus GoF /\(\text{GoF}\) = 0.744, which should be \(>= 0.1\), \(>= 0.25\), \(>= 0.36\) for small, medium and large effects respectively. Sympson’s paradox ratio \(\text{SPR}\) = 1.000 which is acceptable if \(>= 0.7\), ideally = 1. R-squared contribution ratio (\(\text{RSCR}\)) = 1.000 which can be accepted if \(>= 0.9\), ideally = 1. The other fit criteria are given in Tables 4 and Table 5.

Table 3: Various Quality criteria for CFA Model

<table>
<thead>
<tr>
<th>Advertising Credibility Dimensions</th>
<th>Composite Reliability Coefficients</th>
<th>Cronbach’s Alpha Coefficients</th>
<th>Average Variances Extracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate Credibility (R)7i</td>
<td>0.886</td>
<td>0.849</td>
<td>0.527</td>
</tr>
<tr>
<td>Message Content Credibility (R)7i</td>
<td>0.877</td>
<td>0.837</td>
<td>0.506</td>
</tr>
<tr>
<td>Endorser Credibility-Trustworthiness (R)7i</td>
<td>0.886</td>
<td>0.85</td>
<td>0.527</td>
</tr>
<tr>
<td>Endorser Credibility- Attractiveness (R)6i</td>
<td>0.883</td>
<td>0.841</td>
<td>0.558</td>
</tr>
</tbody>
</table>

Table 4: Correlation among L.Vs. with square roots. of AVEs

<table>
<thead>
<tr>
<th>Correlations among L.Vs. with sq. rts. of AVEs</th>
<th>CorpCre</th>
<th>MsgCCre</th>
<th>EnCred1</th>
<th>EnCred2</th>
<th>AdCred</th>
</tr>
</thead>
<tbody>
<tr>
<td>CorpCre</td>
<td>0.726</td>
<td>0.648</td>
<td>0.539</td>
<td>0.435</td>
<td>0.719</td>
</tr>
<tr>
<td>MsgCCre</td>
<td>0.648</td>
<td>0.711</td>
<td>0.671</td>
<td>0.459</td>
<td>0.705</td>
</tr>
<tr>
<td>EnCred1</td>
<td>0.539</td>
<td>0.671</td>
<td>0.726</td>
<td>0.434</td>
<td>0.718</td>
</tr>
<tr>
<td>EnCred2</td>
<td>0.435</td>
<td>0.459</td>
<td>0.434</td>
<td>0.747</td>
<td>0.696</td>
</tr>
<tr>
<td>AdCred</td>
<td>0.719</td>
<td>0.705</td>
<td>0.718</td>
<td>0.696</td>
<td>0.807</td>
</tr>
</tbody>
</table>

Note: Square roots of AVEs are shown on the diagonals.

Results of CFA

The combined loadings and cross loadings of every indicator is significant as p-value is less than 0.05. P values less than 0.05 are desirable for reflective indicators. The indicator weights for latent variables are 0.314, 0.336, 0.318, 0.267 for corporate credibility, message-content credibility, endorser credibility-trustworthiness, endorser credibility-attractiveness, respectively.

The reliability of reflective constructs has been established as all composite reliability coefficient and
Cronbach alpha values were above 0.7. For formative constructs, reliability is not a crucial consideration. It is noticed that all average variance extracted values were > 0.5, p- values of the loadings were <0.05. The loadings were equal to or >0.5 and cross loading were <0.5. Thus, the convergent validity of reflective indicators is established. The convergent validity of the formative construct. Advertising credibility is also affirmed by observing that the corresponding AVE was > 0.5 and VIF was 0.5 for all formative indicators and weights were significant at p-value less than 0.05. Since the square root of the average variance extracted was higher than any of the correlations involving that latent variable, the discriminant validity also was confirmed.

**Conclusion**

Measuring and building credibility in advertising communication lessens consumer’s doubt about the intention of marketers and enhances the advertising effects which will positively contribute to an increase in sales. This again will save the companies from the possible legal actions invited by the non-credible advertisements. The empirical investigation into the dimensionality of ad credibility after confirmatory factor analysis, revealed four ad credibility dimensions containing 27 ad credibility attributes.

The factor construction developed after EFA had items with adequate loadings and less conflicting cross loadings. All the 27 items could be classified into 4 dimensions such as Corporate credibility, Message-content credibility, Endorser credibility- Trustworthiness and Endorser credibility- Attractiveness. Almost all the dimensions identified as significant contributors to ad credibility. The CFA model of Advertising Credibility came out as good model with adequate fit and satisfied other quality parameters. This research contributes valid output to equip corporates and their ad agencies to assess the perceived credibility of their advertisement and to study its linkage with other brand related and purchase related variables. Based on such studies they can frame suitable advertising and marketing strategies. Since health is a sensitive issue, consumers are less willing to take risk and involvement in information search for healthcare products is more. This also highlights the need for a credible communication from society’s point of view.

**Ethical Clearance:** The procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000 (5).

**Source of Funding:** Self

**Conflict of Interest:** Nil

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