

Source Credibility Dimensions in Marketing Communication – A Generalized Solution

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Abstract

The purpose of this study is to examine whether a generalized conceptualization of credibility of various sources in marketing communication exists. In the survey, respondents are required to rate source credibility by applying items gathered from previous studies. To overcome inconsistencies and weaknesses of previous factor model studies, a rigorous analysis of the source credibility concept based on an extraction of a series of measurements is performed. Furthermore, an analysis procedure with various steps in order to ensure reliability and validity is applied to the data. The selected procedure led to a consistent and integrative solution of three highly discriminant main dimensions of source credibility in marketing communication. The three dimensions can be referred to as the inclination toward truth, the potential of truth and the presentation. Findings are discussed and methodological, theoretical and managerial implications are highlighted.

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Introduction

Credibility is an intuitive concept. The scholarly examination of the idea of credibility is as old as the discussion of rhetoric itself, having originated with the ancient Greeks. Nevertheless, its intuitive quality obscures its underlying complexity. The definitions and conceptualizations of credibility are manifold, as is the work that has been undertaken to identify its meaning (cf. McCroskey & Young 1981; Self 1996).

The focus of this study is to shed light on the concept of source credibility in marketing communication and to examine whether a consistent and generalized solution of the concept and its underlying dimensions exists. Credibility is seen as a multidimensional concept that is related to various communication sources. With regard to the problems of previous factor model studies of source credibility, an approach towards generalization based on several measurements of previous studies is chosen in order to explore and to analyze the multidimensional structure of source credibility in marketing communication. The identified dimensions of credibility can also function as clues for the enhancement of a source's credibility. This is of particular interest to marketers since source credibility has an impact on message receivers' attitudes, intentions, and behaviors. In their meta-analytic study, Wilson and Sherrell (1993) showed that source credibility has a positive persuasive impact: on average 7.4 percent of the explained variance of the dependent variables were due to a low- vs. high source credibility manipulation. Given our knowledge of a strong relationship between attitudes and subsequent behavior (Fazio 1990), the importance of the persuasive impact of source credibility in marketing communication is obvious.

Previous Research

Credibility refers to a person's perception of the truth of a piece of information. It is a multi-dimensional concept that serves as a means for the receiver of the information to rate the source or transmitter of the communication in relation to the information. This rating correlates with the willingness of the receiver to attribute truth and substance to the information (Hovland et al. 1953, p.21). Credibility is tied to information, and can thus be described as a communication phenomenon. Communication takes place between at least two parties. Marketing communication can be defined as any kind of communication between a supplier and a customer that occurs with the intention of in-

fluencing economic transfers (Shimp 2000). A company or its representatives (e.g., salespersons) are the sources, whereas the consumer is the receiver of the message.

Since credibility is conceived as a multi-dimensional concept, it can be only fully captured by multi-item measures. A variety of studies has already dealt with the discovery of dimensions of credibility using explorative factor analysis. The usual procedure is to confront study participants with a number of semantic differential items. Subjects rate the credibility of the source of communication applying those items and the resulting data are then combined to factors by means of factor analysis. The factors are interpreted as dimensions of credibility. This entire procedure is defined as the factor model of credibility.

Factor model studies of credibility revealed a multitude of dimensions of source credibility. Table I gives an overview of previous factor model studies; Table II shows the various dimensions of credibility explored in those studies. Those dimensions are highlighted that relate to both dimensions of credibility which were identified in initial source credibility research by Hovland and colleagues (Hovland et al. 1953; Hovland & Weiss 1951), namely competence ('competence', 'expertise', 'expertness', 'knowledge ability', 'qualification', 'smart dimension') and trustworthiness ('trustworthiness', 'character', 'personal integrity'). In addition, frequently used dimensions related to characteristics of presentation style or the appearance of the source ('dynamism', '(interpers.) attractiveness', 'attraction', 'role model dimension', 'presentation') were highlighted.

Table I. Previous factor model studies of source credibility

<i>No.</i>	<i>Study</i>	<i>Concept specification</i>	<i># Dimensions</i>
1	Baudhuin & Davis 1972	ethos (similar source)	4
2	Baudhuin & Davis 1972	ethos (dissimilar source)	2
3	Berlo et al. 1969	source credibility	3
4	Bowers & Phillips 1967	source credibility	2
5	Deimling et al. 1993	'Glaubwürdigkeit von Fernsehanstalten'	2
6	Falcione 1974	source credibility	4
7	Gaziano & McGrath 1986	media credibility	1
8	Lee 1978	(inter)national newspaper news credibility	4
9	Lee 1978	(inter)national TV news credibility	3
10	Lee 1978	local/state newspaper news credibility	4
11	Lee 1978	local/state TV news credibility	3
12	Markham 1968	television newscasters credibility	3 (major)
13	McCain et al. 1977	televised source credibility	4
14	McCroskey 1966	ethos	2
15	McCroskey et al. 1974	teacher credibility	5
16	McCroskey & Jenson 1975	mass media news source image	5
17	Meyer 1988	credibility of newspapers	2
18	Mosier & Ahlgren 1981	information presentation credibility	4
19	Newell 1993 Goldsmith et al. 1999 Newell & Goldsmith 2001	corporate credibility	2
20	Ohanian 1990	celebrity endorsers' credibility	3
21	Raman & Haley 1997	organizational source credibility	3
22	Salwen 1987	credibility of newspaper opinion polls	4
23	Simpson 1976 Simpson & Kahler 1980/81	source credibility in the selling context	4
24	Singletary 1976	news source credibility	6
25	Tuppen 1974	communicator credibility	5
26	VandenBergh et al. 1981	advertiser credibility	7
27	White 1990	newscaster credibility	6
28	Whitehead 1968	source credibility	4

The vast number and variability of the dimensions already indicate some procedural problems. In particular, the problems can be ascribed to methodological issues of item generation, item selection and ordering, the factor analysis procedure, and the interpretation of the factors.

One point of criticism refers to the procedure of item generation; if existing literature is the source for the items, one has to face the problem of a missing theory of credibility (McCroskey & Young 1981; Meyer 1988). On the other hand, there is a possibility that respondents, when characterizing different sources of credibility, associate the credibility of a source also with the source's image in general (Delia 1976; Haley 1996). Since the researchers are able to determine a priori the possible factors through their selection of items and may even influence the outcome of the factor loadings in their choice of the number of similar items, factor models are sometimes said to produce artificial and instable factors (Meyer 1988; Schweitzer 1969). The use of the same items for different dimensions leads to the assumption that the factors are not always independent. Therefore, factor analysis procedures assuming orthogonal factors are oftentimes inappropriate. With respect to factor interpretation, different expressions are used by researchers to describe dimensions with loadings on identical items, e.g. "character" and "trustworthiness" (Wanzenried & Powell 1993). These methodological problems take the bulk of responsibility for unequal results of factor model studies in addition to varying aspects of the research setting (e.g., communication situation or topic; cf. Applbaum & Anatol 1973, 1972; Baudhuin & Davis 1972; Burgoon 1976; Liska 1978; Powell & Wanzenried 1995, 1992, 1991; Schweitzer & Ginsburg 1966; Scott & Landry 1982).

Basically, those inconsistencies indicate a lack of measurement reliability (Tucker 1971). Almost none of the cited studies above used reliability or validity checks to evaluate the results. However, validity and reliability are central conditions of generalizability and applicability of the results of factor model studies and are hence to be considered in the sub sequential study.

Purpose of the Study

The purpose of this study is to analyze the hitherto rather ambiguous structure of the concept of source credibility, to generalize measurements of previous studies and, by this, to examine whether a generalized conceptualization of credibility for different sources in marketing communication exists. In order to achieve a high degree of generalization, the study design is based on a re-analysis of existing measurements used in factor model studies of source credibility in marketing communication. In particular, the study design can be described as a replication study applying generalized measures. Replication designs have already been applied to studies that deal with factor analysis and scale development in behavioral sciences (Neuliep 1991). Unfortunately, in marketing science replication and generalization studies are underrepresented (Hunter 2001; Leone 1995). However, lack of replication and generalization can lead to problems of empirical inaccuracy, perils of false conclusions and of a biased account of the knowledge base of science at length. In particular, concept measures that do not have a sufficient degree of generalization lead to a lack of comparability of study results and cast doubt on integrative reviews and summing ups of those results. Besides a biased knowledge account in science, also practitioners run the risk of wrong evaluations and decisions when relying on a comparison or synthesis of incomparable results. In order to avoid the “apples and oranges” problem in empirical research, concept measures should provide a high degree of generalization and replicability. Particularly for source credibility measures, a recent meta-analysis on effects of source credibility in marketing communication has shown that the effect sizes of the impact of source credibility also depend on the varying number of dimensions of the underlying source credibility measures (Eisend 2003). Therefore, our research tries to contribute to the stock of generalized marketing knowledge by providing a rigorous analysis of the source credibility scale based on diverse measurements of previous studies. Extensions to previous study designs are undertaken in order to overcome the methodological weakness of previous research and to improve the procedure of analysis by adding criteria of validity and reliability suggested by Churchill (1979) as well as so called second generation criteria which are based on confirmatory factor analysis (Anderson et al. 1987). We assume credibility to be a multifactorial and unidimensional concept, i.e. having several first-order factors and only one higher-order factor (Gerbing & Anderson 1988).

The entire procedure of the survey is divided in two studies. The first study covers item development and item selection from existing studies as well as the hypothetical conceptualization. The second study is based on the results of the first study and covers various steps of evaluation and stepwise optimization of the conceptualization of credibility of sources in marketing communication.

Study 1

Method

In the first study, items were generated from existing studies dealing with source credibility in marketing communication and applying a semantic differential technique. Altogether, 36 studies were evaluated that examined and in most cases also proved the persuasive impact of source credibility (Table III). 29 different credibility scales could be extracted from those studies. Since the majority of these studies generated the items through an evaluation of literature from marketing and beyond, we can assume a rather broad domain of relevant items.

A translation of the items into German forced us to leave out those items with a similar meaning in German and to add some items where an English adjective had more than one specific meaning in German. This resulted in a list of 98 items. These items were then rated by a convenience sample of 35 students who were instructed to carefully study each adjective and to rate each word for familiarity and if the word is appropriate to evoke association with a communication source. To avoid order effects, a reversed version of the ordering of the words was rated by about half of the students. Words that were rated unfamiliar by over 25% of the subjects were eliminated, since they are not suitable for the impression formation task that forms the central idea of the semantic differential technique. This process reduced the list to a smaller set of 64 items (Table IV).

Table III. Previous studies applying and displaying credibility scales in marketing communication

<i>Study</i>	<i>Concept specification</i>	<i># Items</i>	<i>Scale points</i>
Belch 1981	Advertiser objectivity and credibility	6	- ^a
Belch & Belch 1984	Advertiser credibility	3	7
Bobinski et al. 1996	(Perceived store) credibility	5	7
Bush & Moncrief 1985	Professional credibility	8	7
Bush et al. 1987	Professional credibility Spokesperson credibility	8 8	7 7
DeSarbo & Harshman 1985	Source credibility	9	7
Finn 1980	Source credibility	10	-
Gierl et al. 1997	'Glaubwürdigkeit der Quelle'	6	7
Goldberg & Hartwick 1990	Company credibility	4	7
Gotlieb & Dubinsky 1991	Source credibility	6	7
Gotlieb & Sarel 1991a			-
Gotlieb & Sarel 1991b			-
Gotlieb & Sarel 1992			-
Grewal et al. 1994			7
Harmon & Coney 1982			7
Hammond 1987	Source credibility	16	-
Hastak & Park 1990	Source credibility	3	9
Hunt et al. 1982	Source credibility	2	7
Hunt & Kernan 1984	Source credibility	2	15
Hunt & Smith 1987	Seller credibility	9	7
Keller & Aaker 1992	Credibility of the company	6	7
LaBarbera 1982	Company credibility	10	7
Lafferty & Goldsmith 1999	Source credibility	6	7
Lichtenstein & Bearden 1989	Merchant credibility	5	9
Mackenzie & Lutz 1989	Advertiser credibility	3	7
Newell 1993	Corporate credibility	8	7
Goldsmith et al. 1999		8	7
Newell & Goldsmith 2001		8	
Ohanian 1990	Source credibility	15	-
Ohanian 1991		15	-
Smith & Vogt 1995	Perceived credibility	3	7
Sobczak & Bowers 1993	Source credibility	20	-
Steinhaus & Lapitsky 1986	Source credibility	16	7
Swinyard 1995	Salesperson credibility	4	7
Wilding & Bauer 1968	Source credibility	16	5
Wu & Shaffer 1987	Communicator credibility	3	9

^a not available

Table IV. Final list of 64 credibility items^a

1	Sincere/insincere	33	Skilled/unskilled
2	Unobtrusive/obtrusive	34	Constructive/destructive
3	Exciting/dull	35	True/false
4	Honest/dishonest	36	Organized/chaotic
5	Appealing/unappealing	37	Unselfish/selfish
6	Qualified/unqualified	38	Frank/reserved
7	Simple/complex	39	Accurate/inaccurate
8	Active/passive	40	Open minded/closed minded
9	Appropriate/inappropriate	41	Practical/impractical
10	Authentic/not authentic	42	Involved/indifferent
11	Unbiased/biased	43	Believable/unbelievable
12	Expressive/inexpressive	44	Positive/negative
13	Dynamic/static	45	Competent/incompetent
14	Good/bad	46	Nice/awful
15	Experienced/inexperienced	47	Trained/untrained
16	Helpful/unhelpful	48	Useful/useless
17	Attractive/unattractive	49	Likely/unlikely
18	Concerned/not concerned	50	Profound/superficial
19	Friendly/unfriendly	51	Liked/disliked
20	Important/unimportant	52	Objective/subjective
21	Smart/stupid	53	Trustworthy/not trustworthy
22	Reliable/unreliable	54	Realistic/unrealistic
23	Dignified/undignified	55	Resolute/hesitant
24	Fair/unfair	56	Right/wrong
25	Interesting/uninteresting	57	Pleasant/unpleasant
26	Reasonable/unreasonable	58	Professional/unprofessional
27	Natural/artificial	59	Comprehending/uncomprehending
28	Informative/uninformative	60	Powerful/powerless
29	Successful/unsuccessful	61	Rational/irrational
30	Founded/unfounded	62	Unprejudiced/prejudiced
31	Expert/inexpert	63	Convincing/not convincing
32	Just/unjust	64	Clear/unclear

^a Since the items were retranslated from German to English, the most appropriate translation for the German items was given.

In order to develop the final questionnaire, appropriate sources of credibility in marketing communication had to be found. Since the respondents were students, the message had to deal with a product that was relevant to this consumer group and that could result in an extensive buying process. The product should not be a search good because consumers are then unlikely to experience uncertainty and to evaluate the message applying source credibility information. In order to identify appropriate products and appropriate sources, 28 students were instructed to write about a product they were highly interested in and to describe the appropriate company, spokesperson, and salesperson for this product. With this in mind, we selected a notebook PC and a mobile phone as products. The message for the phone dealt with characteristics such as stability, design, and safety. Verona Feldbusch, a popular German TV star, was chosen as the spokesperson,

Siemens was chosen as the company, and a middle-aged female in an electronics shop was chosen as the salesperson. The message for the notebook gave some unspecific information about the weight, performance, potential, and some of its other features. Harald Schmidt, a popular late night host on German TV, functioned as spokesperson; Sony functioned as the company, and a middle-aged male employee in an electronics shop as salesperson. The questionnaire dealing with the mobile phone was used for the first study and the questionnaire dealing with the notebook was used for the second study.

According to the results of the review of previous factor model studies of source credibility (Table I and Table II), the extraction of three dimensions of credibility is to be expected: competence, trustworthiness, and dynamism or attraction. The final factors, however, should be identified after applying criteria of reliability and validity. The mere exploration of factors should reveal a larger number of factors since some indicators are assumed to be "garbage items" (Churchill 1979) which can be of less relevance to the credibility concept of a particular source.

The subjects of the first study were based on a convenience sample of BA students of two major German universities. The questionnaires were randomly assigned to the students, and each student had to rate one source. Altogether, 571 questionnaires were found suitable for analysis, resulting in around 190 questionnaires for each communication source.

In order to include every case within the analysis, missing values were replaced by application of the EM-Algorithm (Allison 2002). Then, data were submitted to factor analysis. Since we assume correlated factors, a principal-axis solution was applied followed by an oblique rotation of the factor matrix (Stewart 1981). Items which did not meet the Kaiser-Meyer-Olkin-test (KMO) in the initial correlation matrix were eliminated, until each item of the matrix reached a measure of sampling adequacy (MSA) greater than .6 together with an MSA greater than .8 over the whole matrix. An eigenvalue of 1.0 was established as the criterion for the termination of factor extraction. Regarding a sample size of around 200 students for each object, a loading of .4 or higher was required (with no high loadings on any other factor) for an item to be considered meaningful for the particular factor (Hair et al. 1998, p.385). At least three items must have meaningful factor loadings in order to consider the factor to be meaningful. In or-

der to explore the dimensionality of the concept, the factors were submitted to factor analysis, again utilizing a principal-axis solution followed by an oblique rotation of the factor matrix. For this, factor scores were computed as means of related indicators. Factor names were chosen in accordance with factor names of previous studies by considering typical items for those factors and factor names typical for different communication sources. Hence, factor names for similar dimensions can differ for the different communication sources.

Results

178 cases were the basis for the exploratory analysis of the salesperson credibility concept. Based on the aforementioned criteria, eight factors were extracted using 31 items (Table V). The exploratory factor analysis on the basis of the factors revealed two dimensions with eigenvalues greater than one. However, the eigenvalue of the second dimension was only slightly greater than one whereas the eigenvalue of the first dimension was four times as big. Therefore, the application of a scree-test indicating one common dimension seemed to be more appropriate (Hair et al. 1998).

Table V. Extraction of factors of salesperson credibility

Factor	Indicator	Exploratory FA	
		Loading of the indicator	Loading of the factor ^a
Sincerity	Honest	.899	.636
	Sincere	.621	
	True	.420	
Fairness	Comprehending	.622	.694
	Fair	.574	
	Just	.430	
Closeness to reality/sympathy	Positive	.553	.794
	Realistic	.553	
	Liked	.526	
	Right	.485	
	Trustworthy	.459	
Objectivity	Likely	.430	.448
	Unprejudiced	.648	
	Open minded	.424	
Attractiveness	Objective	.404	.602
	Attractive	.837	
	Appealing	.574	
Dynamism	Nice	.456	.557
	Expressive	.728	
	Dynamic	.698	
	Frank	.551	
	Exciting	.450	
Expertise	Active	.403	.737
	Trained	.698	
	Competent	.485	
	Professional	.440	
Experience	Accurate	.422	.772
	Qualified	.683	
	Appropriate	.519	
	Experienced	.476	
	Authentic	.443	
<i>Required</i>		$\geq .4$	

^a assuming unidimensionality

190 cases were the basis for the exploratory analysis of the company credibility concept where six factors were extracted loading on one common dimension (cf. Table VI).

Table VI. Extraction of factors of company credibility

<i>Factor</i>	<i>Indicator</i>	<i>Exploratory FA</i>	
		<i>Loading of the indicator</i>	<i>Loading of the factor</i>
Sincerity	Sincere	.807	.719
	Honest	.730	
	True	.447	
	Believable	.407	
Reliability	Profound	.571	.831
	Accurate	.507	
	Trustworthy	.408	
Fairness	Just	.686	.789
	Fair	.514	
	Right	.459	
Professionalism	Expert	.668	.842
	Professional	.642	
	Competent	.539	
	Organized	.492	
	Experienced	.427	
	Trained	.411	
Dynamism	Active	.577	.490
	Appropriate	.543	
	Dynamic	.503	
Efficiency	Likely	.572	.849
	Useful	.560	
	Realistic	.519	
	Practical	.420	
<i>Required</i>		$\geq .4$	

203 cases were the basis for the exploratory analysis of the spokesperson credibility concept where five factors were extracted loading on one common dimension (cf. Table VII).

Table VII. Extraction of factors of spokesperson credibility

<i>Factor</i>	<i>Indicator</i>	<i>Exploratory FA</i>	
		<i>Loading of the indicator</i>	<i>Loading of the factor</i>
Sincerity	Honest	.726	.642
	Sincere	.697	
	True	.521	
	Believable	.455	
Objectivity	Open minded	.696	.508
	Objective	.608	
	Unprejudiced	.545	
Accuracy	Accurate	.767	.722
	Informative	.595	
	Profound	.425	
Experience	Successful	.660	.714
	Skilled	.626	
	Trained	.535	
	Professional	.497	
Attraction	Dynamic	.703	.592
	Expressive	.642	
	Appealing	.612	
	Active	.606	
	Attractive	.580	
	Exiting	.445	
	Authentic	.403	
<i>Required</i>		$\geq .4$	

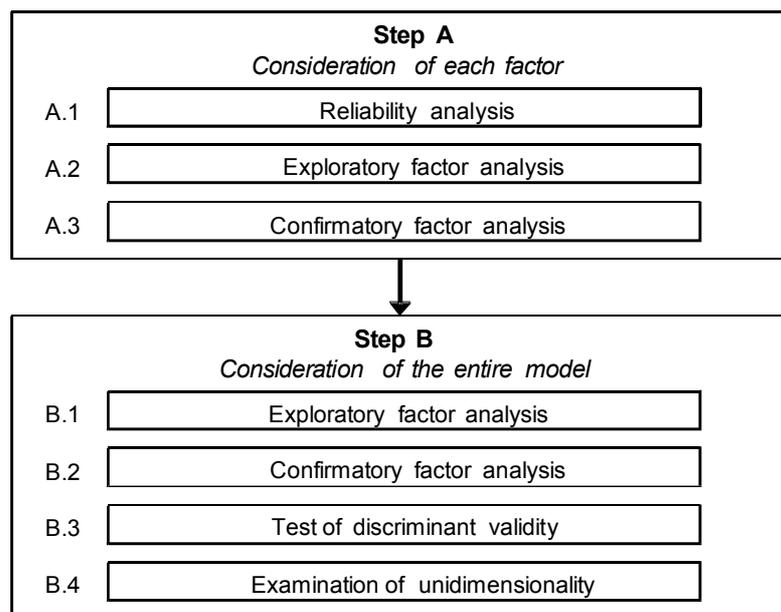
Study 2

Method

Also the subjects of the second survey were BA students at German universities, though not the same persons as in the first survey. The semantic differential for each source included only the meaningful items extracted by the exploratory factor analysis in the first study. Altogether, 577 questionnaires were found suitable for the analysis, resulting in around 190 questionnaires for each source of credibility.

The entire procedure of the analysis intends to develop for each source an appropriate structure of the credibility dimensions based on the most reliable and valid indicators and factors. An increasing refinement and improvement will be achieved by implementing two steps of analysis according to Figure I.

Figure I. Analysis procedure of the second study



Again, missing values were replaced by application of the EM-Algorithm. At step A, each factor was analyzed. For each factor, an acceptable level of reliability was required (Cronbach's alpha $>.7$; cf., Peterson 1994). Then, each factor was submitted to an exploratory and a confirmatory factor analysis. In the exploratory analysis applied to each factor only one factor should be extracted, accounting for at least 50% of the total variance. The confirmatory factor analysis was based on maximum-likelihood estimation.

The assumptions of a multi-normal distribution and of sufficient sample size were met. In the confirmatory analysis, the fit for each model was proofed by the χ^2 -statistic, the GFI and AGFI. The relation between the χ^2 and the degrees of freedom should not exceed 3.0, the GFI should be greater than .95 and the AGFI greater than .9 (Kaplan 2000, pp.106f.). For each indicator a reliability value greater than .4 and a t-value which yielded significance (>1.645) was required. For each factor, a factor reliability $>.6$ and an average variance extracted of $>.5$ was required (Bagozzi & Yi 1988). For factors with only three indicators no fit indices could be calculated. If the required criteria were violated in high gear, weak indicators had to be eliminated.

At step B, the entire model was analyzed by utilizing exploratory and confirmatory factor analysis and applying the same fit criteria as in step A. Since the sample was relatively small and the complexity of the model increased, the fit indices could be biased towards smaller ones (Gerbing & Anderson 1993). Therefore, violations of the required criteria were evaluated as the case arises. If necessary, the model had to be modified or weak indicators had to be eliminated. Additionally, the discriminant validity of the factors was tested by the application of a χ^2 -difference test where the resulting model was compared to a nested model in which the correlation between two factors was limited to one (Hayduk 1995, p.163f.; Jöreskog & Sörbom 1982). In addition, the average variance extracted from each factor should be greater than every squared correlation of the factor with another factor (Fornell & Larcker 1981). To test the unidimensionality of the model, an exploratory factor analysis based upon all factors was undertaken. Factor scores were computed as means of indicators and a loading of more than .5 was required to be considered meaningful.

Results²

The analysis for salesperson credibility was based on 189 cases and brought about several changes (Table VIII). The indicators *true*, *liked*, *frank*, *exciting*, *accurate* and *authentic* were excluded from further analysis since they did not meet the required criteria of the confirmatory factor analysis. Also the factors *fairness* and *objectivity* were

² In the following, the analysis for salesperson credibility is presented in full detail. For company credibility and spokesperson credibility only the final results of the analyses following the same procedure are presented.

excluded since the factors as well as their indicators violated several required criteria. Six factors remained for further analysis.

Table VIII. Analysis of factors of salesperson credibility (step A)

Factor	Indicator	Reliability analysis		Exploratory FA		Confirmatory FA					Elimination
		Item to total correlation	Cronbach's coefficient alpha	Variance explained (%)	# Factors	Indicator reliability	t-value	Factor reliability	Average variance extracted	X ² / DF GFI, AGFI	
Sincerity	Honest	.673	.763	67.965	1	.759	11.184	.772	.536		
	Sincere	.585				.477	9.077				
	True	.530				.371	8.075				
Fairness	Comprehending	.315	.562	54.347	1	.142	3.863	.622	.388		
	Fair	.480				.806	5.255				
	Just	.352				.215	3.863				
Closeness to reality/sympathy	Positive	.654	.839	55.946	1	.488	10.255	.843	.476	18.872/9	
	Realistic	.674				.579	11.505				
	Liked	.459				.236	6.589				
	Right	.646				.536	10.915				
	Trustworthy	.675				.569	11.373				
Likely	.600	.449	9.707								
Objectivity	Unprejudiced	.390	.433	47.715	1	.444	8.670	.470	.246		
	Open minded	.172				.086	2.948				
	Objective	.241				.208	4.519				
Attractiveness	Attractive	.701	.787	68.524	1	.856	11.830	.783	.554		
	Appealing	.559				.405	8.431				
	Nice	.553				.401	8.392				
Dynamism	Expressive	.657	.793	55.073	1	.594	11.538	.797	.453	5.086/5	
	Dynamic	.734				.794	13.944				
	Frank	.493				.291	7.468				
	Exciting	.462				.233	6.573				
	Active	.544				.355	8.397				
Expertise	Trained	.613	.815	64.877	1	.489	10.166	.823	.541	0.418/2	
	Competent	.697				.645	12.120				
	Professional	.716				.688	12.641				
	Accurate	.529				.343	8.147				
Experience	Qualified	.486	.735	55.889	1	.427	8.325	.758	.441	3.768/2	
	Appropriate	.582				.534	9.529				
	Experienced	.491				.469	8.915				
	Authentic	.557				.334	7.413				
<i>Required</i>			≥ .7	≥ 50	1	≥ .4	≥ 1.645	≥ .6	≥ .5	≤ 3	
										≥ .95	
										≥ .9	

Table IX illustrates the results of the analysis of the entire model. Since the factor analysis procedure (principal axis analysis) assumed the factors to be correlated, factors can converge during the optimization procedure. Hence, the exploratory factor analysis recognized three factors whereby the factors *expertise* and *experience* converged to the factor *competence*, the factors *sincerity* and *closeness to reality/sympathy* converged to the factor *trustworthiness*, and the factors *attractiveness* and *dynamism* converged to the

factor *attraction*. The indicators *positive* and *appropriate* were excluded due to double loadings. In order to improve the model fit as well as factor reliability, the indicators with the lowest indicator reliability were excluded namely the indicators *likely*, *qualified* and *active*.

Table IX. Analysis of the entire model of salesperson credibility (step B1-B2)

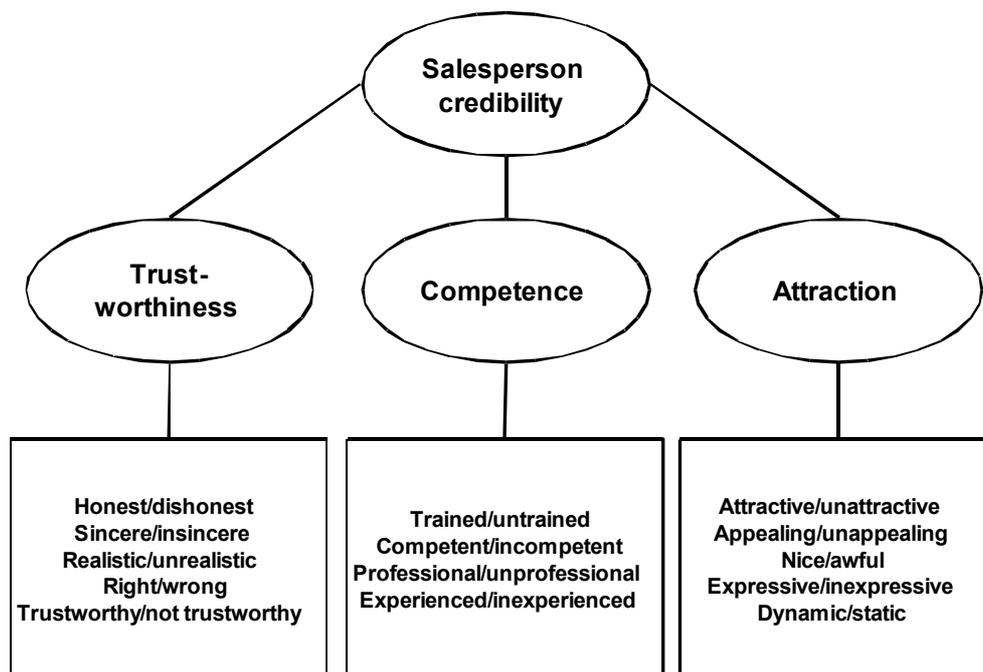
Factor	Indicator	Exploratory FA		Confirmatory FA				X ² / DF GFI AGFI	Elimination		
		Factor loading	Elimination	Indicator reliability	t-value	Factor reliability	Average variance extracted				
Trustworthiness	Honest	.659		.544	11.200	.829	.450	244.937/116			
	Sincere	.660		.503	10.611						
	Positive	(D)	X								.863
	Realistic	.722		.523	12.323					.820	
	Right	.692		.454	9.911						
	Trustworthy	.662		.360	8.558						
	Likely	.517		.315	7.887						X
Competence	Trained	.680		.513	10.811	.836	.508				
	Competent	.425		.665	12.990						
	Professional	.511		.630	12.484						
	Qualified	.420		.354	8.514						X
	Appropriate	(D)	X								
Experienced	.625		.379	8.875							
Attraction	Attractive	.728		.632	12.372	.847	.484				
	Appealing	.544		.381	8.825						
	Nice	.607		.418	9.355						
	Expressive	.787		.578	11.618						
	Dynamic	.856		.568	11.479						
	Active	.521		.327	8.036						X
Required		≥ .4 / no double loading(D)		≥ .4	≥ 1.645	≥ .6	≥ .5		≤ 3 ≥ .95 ≥ .9		

The three factors were examined for discriminant validity (Table X). Discriminant validity could be affirmed to a large extent, merely in one case the factor *trustworthiness* felt below the challenging Fornell-Larcker-Criteria.

Table X. Analysis of discriminant validity of factors of salesperson credibility (step B3)

X^2 – Difference Squared correlation of factors			
Factor (Average variance extracted)	Trustworthiness (.470)	Competence (.552)	Attraction (.515)
Trustworthiness (.470)	-	-	-
Competence (.552)	51.337 .518	-	-
Attraction (.515)	217.048 .166	151.474 .332	-
<i>Required</i>	≥ 3.84 <i>Squared correlation < Average variance extracted of factors</i>		

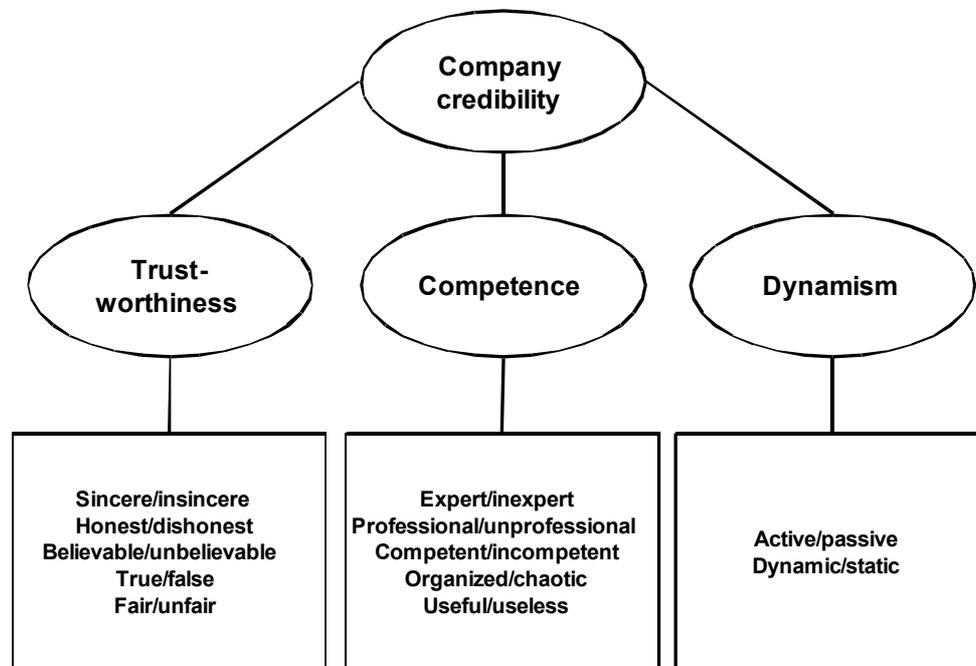
The analysis of the dimensionality resulted in a one-dimensional solution based on three factors. Figure II illustrates the resulting model for salesperson credibility. Three sufficient discriminant factors loading on one common dimension could be extracted, in particular the factors *trustworthiness*, *competence* and *attraction*.

Figure II. Factor structure of salesperson credibility

In the first study, six factors were extracted loading on one common dimension for the company credibility concept. The second study was based on 191 cases. The whole

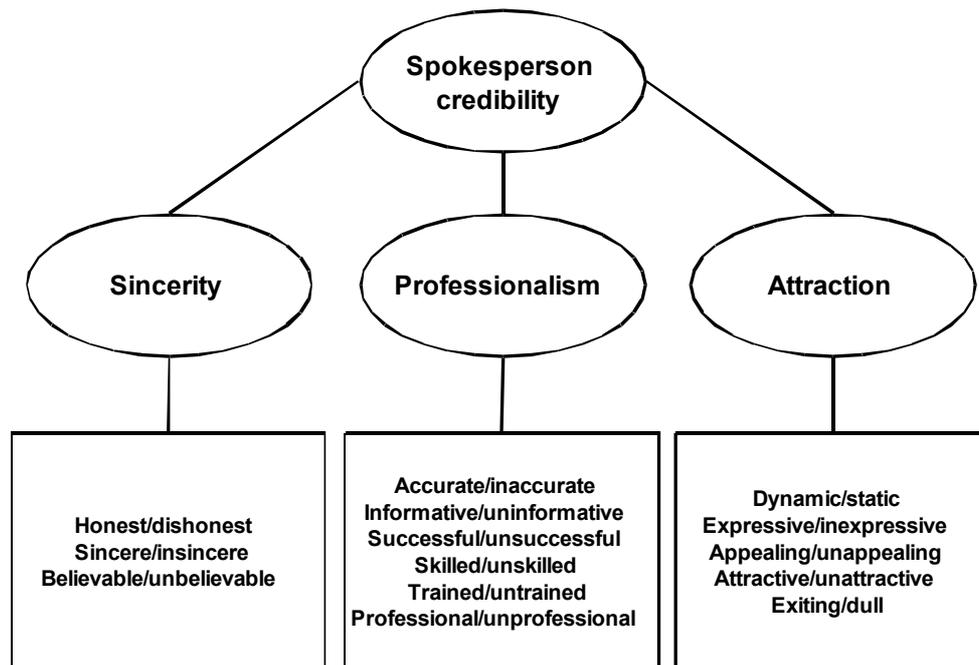
analysis procedure resulted in a final solution of three sufficient discriminant factors, in particular *trustworthiness*, *competence* and *dynamism*.

Figure III. Factor structure of company credibility



Five factors were extracted loading on one common dimension for the spokesperson credibility concept. The second study was based on 197 cases. The whole analysis procedure resulted in a final solution of three sufficient discriminant factors, in particular *sincerity*, *professionalism* and *attraction*.

Figure IV. Factor structure of spokesperson credibility

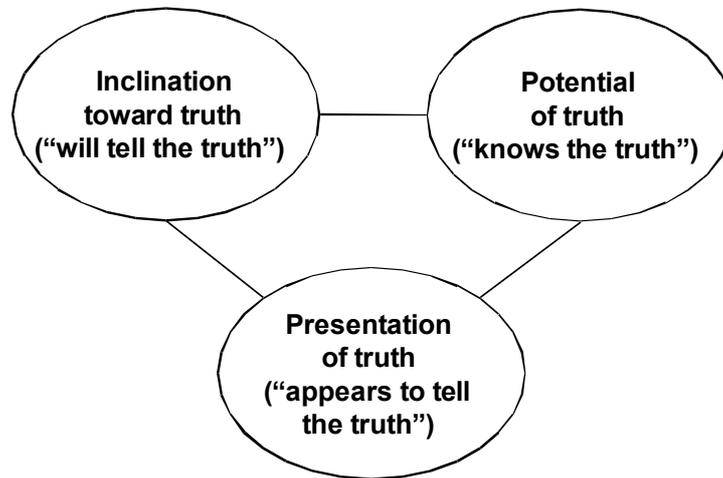


Discussion

The focus of the study was to examine the existence of a generalized conceptualization of source credibility in marketing communication and to strive for a consistent specification of the underlying factor structure in order to overcome the diverse conceptualizations of previous factor model studies of source credibility. This was achieved through a re-analysis of credibility indicators used in previous research. Antecedent studies have detected many different and ambiguous dimensions of credibility, a problem which arises from the intercorrelation of factors and the lack of application of validity and reliability criteria. The present study considered these problems by applying appropriate analysis procedures. The consistent and integrative solution affirmed the selected procedures. It could be shown that there are three discriminant main dimensions of source credibility in marketing communication. Even if the factors were described slightly different and did not exactly rely on identical indicators, the three-factorial solution revealed a consistent structure for the source credibility concept in marketing communication which was the primary purpose of the study. The three dimensions can be referred to as the *inclination toward truth* (in other words, "the source will tell the truth"), the *potential of truth* ("the source knows the truth") and a *presentation* dimension (provid-

ing an intensifying function for the source credibility perception). All three dimensions are to be conceived as perceptual phenomena on the side of the consumer.

Figure V. Components of source credibility in marketing communications



The *inclination toward truth* and the *potential of truth* correspond to the already acknowledged dimensions identified in early source credibility research by Hovland and his colleagues (Hovland et al. 1953; Hovland & Weiss 1951). Intriguingly, the consumer's perception of credibility in marketing communication is obviously also dependent on the *presentation* dimension. This perception covers easily visible characteristics of the appearance of a source like dynamism, attraction or attractiveness, also formerly identified by various authors as independent factors of credibility and named as 'image' (Munter 1987, S. 62ff.), 'self-presentation' (Kenton 1989) or characterized as physical attributes which also can be applied to organisations (Haley 1996). The identified dimensions of credibility also function as clues for the enhancement of the source's credibility. Therefore, practitioners should be aware of the three-dimensional basis of the concept when striving for credibility. Even if the analysis showed that the three factors are statistically independent, the relative instability of the presentation dimension suggests that it may not be psychologically independent of the other dimensions. This can be due to the fact that presentation has an intensifying function. The polarity or intensity of the inclination toward truth and the potential of truth, in short the evaluation of the source is intensified through their presentation. An expressive or exciting presentation leads to the expectation of other positive or negative attributes of a source and intensi-

fies the perception of truth inclination and potential. On the other hand, a source would not be perceived as having an extreme inclination toward truth or potential of truth (or the opposite) when the presentation is rather unexciting and unexpressive (Berlo et al. 1969).

The methodological approach of our study also approved the potential of a re-analysis of conceptualization studies. Strictly speaking, we conducted an extended re-analysis of measurements which resulted in a consistent and generalized structure of the concept under investigation. This solution can be used as a basis for the final development of a source credibility measure in marketing communication. Furthermore, conceptual replications that essentially consider criteria of validity and reliability can also be useful for other inconsistently operationalized concepts in marketing (e.g., trust). It is, however, not an empirical generalization in a strict sense, since it does not integrate results from previous studies (Ehrenberg 1995). However, the study did provide an approach towards generalizing a measure of the source credibility concept. The generalizability of concepts and underlying dimensions are central to contribute to a comparability of replication studies and to avoid incomparable measures in meta-analysis (apples-and-oranges-problem) (Hunter 2001). Using generalizable measures can also help to improve the comparability of the relationship between concepts. This is particularly the case for the persuasive impact of source credibility that is of major interest to marketers when considering behavioral consequences. Source credibility studies have revealed rather heterogeneous results with respect to persuasion which can be partly explained by the different measures used (Eisend 2003).

The present study has a number of limitations and their identification should help to refine future research efforts. One aspect refers to the precision of the obtained factor structure since sometimes indicators for one factor were chosen that are used for different concepts in other contexts, for instance, dynamic and appealing were used together for the factor attraction of the salesperson credibility. This may be due to the very broad basis of indicators. For the development of a measurement scale, a further reduction of the items would be appropriate in order to achieve an applicable scale of six or nine items with a comparable number of indicators for each dimension. However, this was not the purpose of the explorative character of the study and such a procedure would run the risk to determine a priori the resulting factor structure. With regards to validity and

reliability, it would be useful to apply the questionnaire with additional measures to a second sample. Thus, nomological validity as well as additional reliability and validity tests could be applied. With regards generalization, cross-validation of the resulting model tested with a second sample would be a useful further approach. Here, a non-student sample is recommended in order to check the generalizability of the dimensions for other respondents than students. Finally, further research should also emphasize other possible sources of variance apart from methodological ones that might have also an influence on the factor solution of credibility, for example the communication situation (e.g., print vs. television advertisement), the level of credibility of a source (high vs. low), or products that are advertised other than those used in this study that could provide useful comparisons (e.g., fast moving consumer goods of lower price such as sweets, food).

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