

DISCRIMINATOR CREDIBILITY DIMENSIONS OF AN ONLINE ACQUISITION WEBSITE – AN ANALYSIS OF AN INTERNATIONAL CONSTRUCT ON A SPECIFIC ROMANIAN TARGET

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Abstract: The purpose of this study is to identify credibility dimensions that predict the level of credibility of an online sales clothes Website in Romania. The objectives of this research are: (1) identifying the online sales clothes Websites' credibility dimensions that better discriminate between students to evaluate an online sales clothes Website to be credible or not credible; (2) creating a discriminant function to predict to which of the two analysed groups one user better fits; (3) identifying dimensions that discriminate students between the two groups for two specific situation: second year of study students and third year of study students. For the overall group, the most important discriminator dimension is real world feel. For second year of study students, the only discriminator is trustworthiness. Among the most important discriminating dimensions for third year of study students are real world feel and ease of use.

Keywords: credibility; Website; discriminant analysis; dimension; construct

JEL classification: M31; M39

INTRODUCTION

As part of the European Union market, Romanian managers understand that the impact of digitalisation at the international level on the nowadays society cannot be accurately described or predicted. What is known is the fact that a new developmental business stage has appeared as a result of mixing the Internet technologies with the traditional business technologies. In order to survive, companied need to modernise their business technology so they can serve customers' needs and desires of a more efficient manner in the context of a more and more competitive and fragmentised environment. This aspect is essentially applied also for Romanian companies, as the integration in the European Union forces managers to compete at the same level with international companies.

Although the "credible information" concept has been studied since ancient times in the persuasion field (Ceobanu and Anton, 2008), it has been defined for the first time in 1999 by de Fogg and Tseng (1999); the credible information is the information considered to be trusted, secure.

Analysing consumer behaviour thru the credibility's perspective, researchers have often met contradictory results. It seems like the Web can sometimes be considered the most credible source of information the same manner as it can be sometimes considered to be the least credible source.

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There are different researches conducted in the online credibility field. Each study evaluates and measures credibility of a specific manner (Hovland, 1953; Hovland and Weiss, 1951; Bressolles and Nantel, 2003; Hong, 2006; Fogg, 2001; Stanford, 2002; Morrison, 2005).

The study of credibility proves to be especially important in the business online world because high credibility of commercial information of a certain Web source leads to increasing power to change attitudes and behaviours.

Credibility is a psychological concept related to perception. Researchers agreed that this concept is a multidimensional construct (Raven, 1994; Kim and Mueller, 1978; Munteanu, Ceobanu, Anton, 2009; Eisend, 2006). Applied in various situations, the construct reveals different dimensions. Some of the identified dimensions are: trustworthiness, real world feel, expertise, amateurism, ease of use, sufficiency, good will, commercial implications, confident, tailoring, complete, accurate, profoundness, honesty, decision, etc. (Hovland, 1953; Hovland and Weiss, 1951; Fogg, 2001; Hong, 2006; Morrison, 2005; Stanford, 2002; Bressolles and Nantel, 2003). Most Web credibility studies identified these dimensions: *real world feel, expertise, trustworthiness*, and *commercial implications* (Ciobanu, 2011).

Although there is a consistent volume of literature on this sub-area of marketing and psychology, researchers agree that there are multiple aspect to be investigated in the Internet credibility domain. In order to define the credibility construct for specific situations, a new research has to be conducted for each particular situation, starting with configuration the research instrument.

The purpose of the study presented in this paper is to identify credibility dimensions that predict the level of credibility of an online sales clothes Website from students' point of view, based on the manner they evaluate the Website's credibility's dimensions. The target investigated in this research is represented by second and third year of study students from the Faculty of Economics and Business Administration from Iasi, Romania. This study's hypothesis is that some of the credibility's dimensions discriminate between students as Internet users when separating them in one of the two categories: those who evaluate a certain online sales Website to be credible and those who evaluate the same Website not to be credible. The objectives of this research are: (1) identifying the online sales clothes Websites' credibility dimensions (independent variables) that better discriminate between students as Internet users to evaluate an online sales clothes Website to be credible or not credible; (2) creating a discriminant function to predict to which of the two groups one user better fits: those who evaluate the site as being credible and those who evaluate the site as not being credible; (3) identifying dimensions that discriminate students as Internet users between the two groups for two specific situation: only second year of study students are analysed and only third year of study

students are analysed. For the overall group, the most important discriminator dimension is real world feel. Important discriminators are also ease of use, personal experience and trustworthiness. For second year of study students, the only discriminator is trustworthiness. Among the most important discriminating dimensions for third year of study students are real world feel and ease of use.

1.RESEARCH METHOD

The purpose of the study presented in this paper is to identify credibility dimensions that predict the level of credibility of an online sales clothes Website from students' point of view, based on the manner they evaluate the Website's credibility's dimensions.

The study involved 217 second and third year of study students from the Faculty of Economics and Business Administration, University Alexandru Ioan Cuza of Iasi, Romania. They were randomly selected from all specialisations of the faculty.

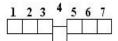
In order to collect data, a quantitative survey was coordinated using a questionnaire as a research instrument. Each respondent fulfilled a questionnaire in front of a desktop connected to Internet. In order to fulfil the questionnaire, respondents had to analyse a specific online sales clothe Website, as each item investigated a certain credibility area of that Website. All respondents evaluated the same Website.

The *research instrument* contained 13 items. Each item represents a dimension of an online sales commercial Website (Ciobanu, 2011): (-) detailed information; (-) ease of use; (-) support system; (-) booking and delivery; (-) real world feel; (-) reference-authority; (-) trustworthiness; (-) aggressive advertising; (-) relationship — communication; (-) expertise; (-) framing adverts; (-) personal experience; (-) type of seller. The end of the questionnaire continued with one more item that assessed the general overall credibility of the Website.

For each of the 14 items, a 7 points scale was used:

1 – criterion is not accomplished;

7 – criterion is very accomplished



The items in the questionnaire were listed in this order:

- 1. The site offers detailed information about the company and its' products corresponding to *detailed information* dimension;
- 2. The site is easy to use corresponding to *ease of use* dimension;

- 3. The products promoted by the site are well supported corresponding to *support system* dimension;
- 4. Ordering seems easy to be initiated and done, although the site does not insist on ordering corresponding to *booking and delivery* dimension;
- 5. The contact information available on the site makes me believe the company is real corresponding to *real world feel* dimension;
- 6. The articles included on the site have references and contact information of their authors corresponding to *reference-authority* dimension;
- 7. I trust this site corresponding to *trustworthiness* dimension;
- 8. The products are aggressively promoted by the site, without being clearly delivered all details about the product corresponding to *aggressive advertising* dimension;
- 9. The site has an active, opened relating-communicating policy corresponding to *relationship communication* dimension;
- 10. The company is an expert in its field corresponding to *expertise* dimension;
- 11. Adverts are well framed corresponding to *framing adverts* dimension;
- 12. The products are promoted by the site according to reality corresponding to *personal experience* dimension;
- 13. The seller is a company corresponding to type of seller dimension;
- 14. How credible is the overall site? corresponding to overall credibility assessment.

2.RESULTS

Objective 1: identifying the online sales clothes Websites' credibility dimensions that better discriminate between students as Internet users to evaluate an online sales clothes Website to be credible or not credible

Before running statistical analysis, the variable of the database corresponding to the assessment of the overall credibility (the last item in the questionnaire - "How credible is the overall site?") was re-coded into a different variable. Codes 1-2-3 from the original scale were re-coded with 1, codes 5-6-7 were re-coded with 2 and code 4 was re-coded with 0. 1 is the code for the site is not credible; 2 is the code for the site is credible. 0 was not included in the analysis as it represents a neutral answer and it cannot be attributed to any of the two categories named before.

Discriminant analysis was conducted. The independent variables were selected to be the 13 items corresponding to the credibility dimensions of the online sales clothes Website. The dependent

variable was the variable corresponding to the last item of the questionnaire, assessing the overall credibility of the Website.

203 students were included in this analysis. 14 cases were excluded as there were missing values for at least one of the independent variables, or missing values for the dependent variable of the dependent variable was initially evaluated with 4 (code 0 in this analysis).

Table 1 - Analysis Case Processing Summary

Unweighte	Unweighted Cases		Percent
Valid		203	93,5
Excluded	Missing or out-of-range group codes	11	5,1
	At least one missing discriminating variable	2	,9
	Both missing or out-of- range group codes and at least one missing discriminating variable	1	,5
	Total	14	6,5
Total		217	100,0

Source: Statistical output

The discriminant function significantly discriminates between the two groups as the Sig. corresponding to Wilk's Lambda value is < 0.05

Table 2 - Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	,694	70,970	13	,000

Source: Statistical output

The important dimensions to consider in discriminating between students as Internet users are: (1) real world feel; (2) aggressive advertising; (3) ease of use; (4) booking and delivery; (5) personal experience and (6) trustworthiness. The real world feel dimension is the most important discriminator between students as online shoppers as this independent variable corresponds to the greatest value in the Standardised Canonical Discriminant Function Coefficients table.

Table 3 - Standardized Canonical Discriminant Function Coefficients

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	Function				
	1				
The site offers detailed information about the company and its' products	,110				
The site is easy to use	,385				
The products promoted by the site are well supported	-,003				

Ordering seems easy to be initiated and done, although the site does not insist on ordering	-,379
The contact information available on the site makes me believe the company is real	,678
The articles included on the site have references and contact information of their authors	,173
I trust this site	,312
The products are aggressively promoted by the site, without being clearly delivered all details about the product	,441
The site has an active, opened relating-communicating policy	,041
The company is an expert in its field	-,056
Adverts are well framed	,123
The products are promoted by the site according to reality	-,344
The seller is a company	,231

Source: Statistical output

The F Anova test indicates that 10 independent variables are good discriminators, as the F value in the Test of Equality of Group Means is > 4 and the corresponding Sig. for each test is < 0.05. Three independent variables are not discriminating well as F value is < 4 and the corresponding Sig. > 0.05. The three variables are: *support system, booking and delivery* and *aggressive advertising*.

Table 4 - Tests of Equality of Group Means

	Wilks' Lambda	F	df1	df2	Sig.
The site offers detailed information about the company and its' products	,947	11,234	1	201	,001
The site is easy to use	,893	24,166	1	201	,000
The products promoted by the site are well supported	,988	2,472	1	201	,117
Ordering seems easy to be initiated and done, although the site does not insist on ordering	,994	1,246	1	201	,266
The contact information available on the site makes me believe the company is real	,841	38,057	1	201	,000
The articles included on the site have references and contact information of their authors	,979	4,214	1	201	,041
I trust this site	,913	19,200	1	201	,000
The products are aggressively promoted by the site, without being clearly delivered all details about the product	,999	,232	1	201	,630
The site has an active, opened relating-communicating policy	,972	5,791	1	201	,017
The company is an expert in its field	,979	4,410	1	201	,037
Adverts are well framed	,945	11,767	1	201	,001
The products are promoted by the site according to reality	,970	6,191	1	201	,014
The seller is a company	,966	7,055	1	201	,009

Source: Statistical output

In conclusion, important discriminator dimensions are: (1) real world feel; (2) ease of use; (3) personal experience and (4) trustworthiness.

Objective 2: creating a discriminant function to predict to which of the two groups one user better fits: those who evaluate the site as being credible and those who evaluate the site as not being credible

The discriminant analysis was conducted again, excluding the three variables that do not discriminate well between users (according to Table 4). In this second analysis 204 cases were included.

Table 5 - Analysis Case Processing Summary

Unweighted Cases		N	Percent
Valid		204	94,0
Excluded	Missing or out-of-range group codes	11	5,1
	At least one missing discriminating variable	1	,5
	Both missing or out-of- range group codes and at least one missing discriminating variable	1	,5
	Total	13	6,0
Total		217	100,0

Source: Statistical output

The discriminant function significantly discriminates between the two groups as the Sig. corresponding to Wilk's Lambda value is < 0.05.

Table 6 - Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	,747	57,537	10	,000

Source: Statistical output

The Tests of Equality of Group Means indicates that all variables included in this second analysis are good discriminators as F value is > 4 and Sig. < 0.05 for each of the independent variables included.

Table 7 - Tests of Equality of Group Means

	Wilks' Lambda	F	df1	df2	Sig.
The site offers detailed information about the company and its' products	,947	11,269	1	202	,001
The contact information available on the site makes me believe the company is real	,841	38,163	1	202	,000
The articles included on the site have references and contact information of their authors	,979	4,264	1	202	,040

I trust this site	,913	19,323	1	202	,000
The site has an active, opened relating-communicating policy	,972	5,838	1	202	,017
The company is an expert in its field	,978	4,451	1	202	,036
Adverts are well framed	,945	11,848	1	202	,001
The products are promoted by the site according to reality	,970	6,241	1	202	,013
The seller is a company	,966	7,093	1	202	,008
The site is easy to use	,893	24,313	1	202	,000

Source: Statistical output

The predictive function that separates students as Internet users into those who consider a certain online sales clothes Website to be credible and those who consider the same online sales clothes Website not to be credible is listed below:

 $overall\ credibility = -7.192 + 0.056* detailed\ information + 0.563* real\ world\ feel + 0.066* \\ reference-authority + 0.214* trustworthiness + 0.024* trustworthiness - 0.081* expertise + 0.063* \\ *framing\ adverts - 0.192* personal\ experience + 0.090* type\ of\ seller + 0.301* ease\ of\ use$

This function was created using the coefficients presented in the Canonical Discriminant Function Coefficients table.

Table 8 - Canonical Discriminant Function Coefficients

	Function
	1
The site offers detailed information about the company and its' products	,056
The contact information available on the site makes me believe the company is real	,563
The articles included on the site have references and contact information of their authors	,066
I trust this site	,214
The site has an active, opened relating-communicating policy	,024
The company is an expert in its field	-,081
Adverts are well framed	,063
The products are promoted by the site according to reality	-,192
The seller is a company	,090
The site is easy to use	,301
(Constant)	-7,192

Unstandardized coefficients

Source: Statistical output

The function is reliable as the percentage of original grouped cases correctly classified is higher than the cross-validated grouped cases classified.

Table 9 - Classification Results (b,c)

			Predicted Gr Membership	-	Total	
	How credil	ole is the overall site?	1,00	2,00		
Original	Count	1,00	5	1	6	
		2,00	12	186	198	
		Ungrouped cases	5	6	11	
	%	1,00	83,3	16,7	100,0	
		2,00	6,1	93,9	100,0	
		Ungrouped cases	45,5	54,5	100,0	
Cross- validated(a)	Count	1,00	5	1	6	
		2,00	15	183	198	
	%	1,00	83,3	16,7	100,0	
		2,00	7,6	92,4	100,0	

a. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

Source: Statistical output

Objective 3: identifying dimensions that discriminate students as Internet users between the two groups for two specific situation: only second year of study students are analysed and only third year of study students are analysed

The database was split into two subgroups: second year of study students and third year of study students. Discriminant analysis was conducted in this situation in order to identify if the important discriminators are different from one year of study to another.

82 students in the second year of study were included in the analysis. 6 cases were eliminated due to missing values on independent or dependent variables or due to assessing the overall credibility with value 4 (0 re-coded).

Table 10 - Analysis Case Processing Summary(a)

Unweighted Cases		N	Percent
Valid		82	93,2
	Missing or out-of-range group codes	3	3,4
F 1 1	At least one missing discriminating variable	2	2,3
Exclude d	Both missing or out-of- range group codes and at least one missing discriminating variable	1	1,1
	Total	6	6,8
Total		88	100,0

a year_of_study = 2,00 Source: Statistical output

b. 93.6% of original grouped cases correctly classified.

c. 92.2% of cross-validated grouped cases correctly classified.

The Tests of Equality of Group Means indicates that only one variable is a good discriminator as F value is > 4 and Sig. < 0.05 for only one independent variable for this subgroup – *trustworthiness*.

Table 11 - Tests of Equality of Group Means(a)

	Wilks' Lambda	F	df1	df2	Sig.
The site offers detailed information about the company and its' products	,998	,166	1	80	,685
The site is easy to use	,995	,439	1	80	,509
The products promoted by the site are well supported	,999	,099	1	80	,754
Ordering seems easy to be initiated and done, although the site does not insist on ordering	,995	,404	1	80	,527
The contact information available on the site makes me believe the company is real	,971	2,402	1	80	,125
The articles included on the site have references and contact information of their authors	,989	,851	1	80	,359
I trust this site	,921	6,864	1	80	,011
The products are aggressively promoted by the site, without being clearly delivered all details about the product	,985	1,200	1	80	,277
The site has an active, opened relating-communicating policy	,996	,324	1	80	,571
The company is an expert in its field	,980	1,665	1	80	,201
Adverts are well framed	,996	,360	1	80	,550
The products are promoted by the site according to reality	,998	,129	1	80	,721
The seller is a company	1,000	,013	1	80	,911

a year_of_study = 2,00 Source: Statistical output

Table 12 - Standardized Canonical Discriminant Function Coefficients(a)

	Function
	1
The site offers detailed information about the company and its' products	-,116
The site is easy to use	-,126
The products promoted by the site are well supported	-,155
Ordering seems easy to be initiated and done, although the site does not insist on ordering	-,067
The contact information available on the site makes me believe the company is real	,480
The articles included on the site have references and contact information of their authors	,127
I trust this site	,855
The products are aggressively promoted by the site, without being clearly delivered all details about the product	,617
The site has an active, opened relating-communicating policy	-,090
The company is an expert in its field	-,628
Adverts are well framed	,400
The products are promoted by the site according to reality	-,095
The seller is a company	,101

a $year_of_study = 2,00$

Source: Statistical output

121 students were included in this discriminant analysis applied for the third year of study students subgroup. 8 cases were exclude due to missing values of independent or dependent variables or due to having assessed the overall credibility of the Website with value 4 (0 re-coded).

Table 13 - Analysis Case Processing Summary(a)

Unweighte	d Cases	N	Percent
Valid		121	93,8
Excluded	Missing or out-of-range group codes	8	6,2
	At least one missing discriminating variable	0	,0
	Both missing or out-of- range group codes and at least one missing discriminating variable	0	,0
	Total	8	6,2
Total		129	100,0

a year_of_study = 3,00 Source: Statistical output

The discriminant function significantly discriminates between the two groups as the Sig. corresponding to Wilk's Lambda value is < 0.05.

Table 14 - Wilks' Lambda(a)

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	,569	63,353	13	,000

a year_of_study = 3,00 Source: Statistical output

The dimensions of *real world feel* and *ease of use* are the most important discriminators for third year of study students. Other important discriminators are: *aggressive advertising, booking and delivery, reference-authority, personal experience* and *type of seller*.

Table 15 - Standardized Canonical Discriminant Function Coefficients(a)

	Function
	1
The site offers detailed information about the company and its' products	,146
The site is easy to use	,562
The products promoted by the site are well supported	-,061
Ordering seems easy to be initiated and done, although the site does not insist on ordering	-,388
The contact information available on the site makes me believe the company is real	,595
The articles included on the site have references and contact information of their authors	,301

I trust this site	,020
The products are aggressively promoted by the site, without being clearly delivered all details about the product	,400
The site has an active, opened relating-communicating policy	-,024
The company is an expert in its field	,218
Adverts are well framed	,095
The products are promoted by the site according to reality	-,340
The seller is a company	,306

a year_of_study = 3,00 Source: Statistical output

CONCLUSIONS

The results presented above confirm that certain credibility dimensions discriminate better than other dimensions between students as Internet user and online shoppers. The hypothesis of this study was confirmed.

Real world feel is the most important discriminator of the entire group – second and third year of study students. Important discriminators are also ease of use, personal experience and trustworthiness.

The same analysis conducted on the two subgroups presented in the paper brings surprises. We notice that for the second year of study there is only one dimension that discriminates between groups: *trustworthiness*. The rest of 12 dimensions cannot be considered significant from the discriminating perspective. While the second year of study students only uses one discriminator, third year of study students uses many discriminators, among which, the most important are *real world feel* and *ease of use*. Other important discriminators are *aggressive advertising, booking and delivery, reference-authority, personal experience* and *type of seller*.

This study underlines that, among all the credibility dimensions of an online acquisition clothes Website, only some of the dimensions are important when discriminating the targeted audience between users that believe the site is credible and users that believe the site is not credible. A deeper analysis reveals that subgroups of the big group that was analysed have different perspective from the credibility's dimensions point of view.

Research limits

The important limitation of this research is that respondents included in the analysis are students from only one faculty in Romania, Faculty of Economics and Business Administration of Iasi. A more conclusive research would include respondents as students from various faculties, various universities and various regions in the country. The sample size is not a limitation but a bigger sample could have made possible to use the stepwise discriminant analysis.

Future research

For the acquisition type of Websites, results greatly differ between the two subgroups considered in this research: second year of study students and third year of study students. As a result, a new research could investigate the factors that change the perception of students in only one year of study. The hypothesis of the new study could be that second year of study students are less experienced with the online shopping and especially consider *trustworthiness* as an important factor due to this lack of experience, while third year of study students are more experienced and consider the *real world feel* as an important aspect when considering a Website to be credible or not in the online shopping world.

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