
Online Stores' Credibility: the Moderating Role of Customers' Gender and Self-efficacy

Igor Garnik

Gdańsk University of Technology
ul. Narutowicza 11/12
80-233 Gdańsk, Poland
igar@zie.pg.gda.pl

Beata Basińska

Gdańsk University of Technology
ul. Narutowicza 11/12
80-233 Gdańsk, Poland
bbas@pg.gda.pl

Paper presented at MIDI 2013 Conference, 24-25.06.2013,
Warsaw, Poland.

Abstract

The evaluation of online stores' credibility by customers in regard of gender and self-efficacy has been dealt with. Two groups of attributes, usability and informational content, were characteristics of credibility. The survey embraced students as representatives of the largest group of the Internet users. As shown by the results obtained, the informational content of online stores (such as recommendations) and its professionalism was valued higher by women than by men. The evaluation of credibility attributes was not affected by customers' self-efficacy. The moderating role of gender and self-efficacy was revealed in the evaluation of unprofessionalism. These results may be applied for designing the informational content of online stores.

Author Keywords

Credibility; e-customer; online store; self-efficacy; trust; website.

ACM Classification Keywords

H.5.2. Information interfaces and presentation: User Interfaces.

General Terms

Human Factors; Economics; Management.

Introduction

Dynamic development of the online market had its unquestionable source in the advancement of information technology tools and the availability of the Internet to an increasing circle of users. Such circumstances favour the use of the Internet, among other things as a channel for distribution of goods and services. On the other hand, problems revolving around online stores' credibility and customer trust have emerged along with the developing potential.

Online market

In recent years, the number of e-shoppers has been constantly increasing both worldwide and in Poland. According to the report "E-commerce in Poland in the eyes of the Internet users, 2010" [5], in 2010 as many as 74% of Polish internauts declared e-purchasing. This was a result of the growing trust to online shopping, as well as of convenience, rich assortment and prices which were more advantageous than in traditional stores. The latest surveys [23] have demonstrated that the number of the Internet users in Poland have exceeded 19.5 million people who should be regarded as potential customers. This encourages establishing new and maintaining the already existing online stores. The size of Poland's e-commerce market in 2011 was assessed at 17.63 billion zlotys, 7.5 billion of which accounted for takings from online stores, and a similar amount from online auctions [19].

Customer trust to e-commerce

Regrettably, e-commerce is not free from bad practices and unethical behaviours, already present in the traditional commerce. On the one hand, they include breaking the rules negotiated with customers, such as inaccurate product specification on the website,

incompatibility of the goods delivered with the order, or unpunctual delivery, and on the other hand, they are classic frauds which make use of this distribution channel [20].

Shaping a credible online store's image by the supplier

The lack of a direct contact with the supplier and his offer makes credibility a significant element of this interaction. The problem of credibility concerns practically all e-commerce websites. Perception of credibility does not result only from the buyer's trust in the supplier but also from the way the supplier demonstrates his reliability. In this way, perceived credibility can be treated as an indicator of the level of customer trust in the supplier. Therefore, building credibility by the supplier is the key factor in shaping the customers' behaviours [6,14].

Factors presented in the literature which shape the perceived credibility have been assigned to one of the following groups:

- usability, embracing technical and ergonomic factors, graphic design, aesthetics [18];
- informational content of the website: information quality and the way of its presentation [2];
- and, as a factor moderating the above two groups, social factors embracing social trust or a tendency to trust, self-efficacy, tendency to take risks, habits, lifestyle, approach to the issue of safety [10].

It can be noticed that as far as usability and informational content constitute the attributes of the internet store's website, the social factors characterize

the customers themselves. They may affect the diversified perception of the e-commerce credibility and evaluation of their usability and content. Among customers' characteristics, gender and self-efficacy are important in the purchasing process.

Women as consumers

Women constitute above 56% of customers of the Polish online stores [23]. Customer loyalty of women turned out to be the most valuable feature for e-commerce. Differences were noticed in the range of goods purchased by women and men. From among categories available on Ceneo.pl (Polish price engine), most of male respondents indicated audio/tv equipment (23%) and computers (22%). Next were stores offering gadgets, military items and sports equipment. The predominant categories in the case of women were clothing, footwear, jewellery and accessories (45%) [21]. Contrary to the clothing or footwear, which are worth trying on prior to purchase, good quality photos and full product specification are enough in the case of electronic devices.

Online shopping was an object of a survey conducted by Ceneo.pl in 2010 [21] on 5,018 female customers of online stores (43% of the group examined). Going through offers of products was their main activity in the Internet. For 65% of them, making decision as to the purchase depended on the price. Product specifications were also of a considerable significance. On the Internet forums, women willingly shared their opinion about goods purchased online. Thus, apart from the attractive price, essential were recommendations, detailed descriptions and photos of the products.

Trust is of a crucial importance for female e-shoppers. Purchase recommendations and opinions from other Internet users are valued higher by women than by men. Therefore, price is the purchase determinant, but recommendations are decisive as to the choice of the Internet store. 56 per cent of e-shoppers make use of recommendations from other e-customers [5].

Self-efficacy

Self-efficacy, a trait derived from self-estimation, affects making decisions about which behaviours to undertake and how much effort and expenditure to engage while dealing with the new obstacles, until the achievement of the mastery in operation. Self-efficacy does not reflect actual executive capabilities. It only represents the belief of an individual about possessing them. General self-efficacy enhances specific self-efficacy within particular domains [13] which may be illustrated by self-efficacy in the usage of new technologies or in consumer behaviours on the virtual market [12].

Research in the area of computer systems usage has revealed that self-efficacy differentiates the frequency of using modern technologies. Experienced e-shoppers have a higher self-efficacy compared to potential and new customers [8]. Stronger self-efficacy improves the perceived usability of online stores, favours the trust to virtual institutions and reduces the perception of the risk involved in online transactions. As a result, the intention to buy enhances [1]. Similarly, self-efficacy has a more positive effect on sustaining the will of the repeated use of the e-store, even compared to the satisfaction of the previous use of the store [9]. Although customer's self-efficacy is connected with the

perceived ease of use of online stores, it does not always translate into the consumer behaviour [7].

Self-efficacy among women and men has already been studied before. The results, however, turned out ambiguous. In intercultural surveys carried out in 25 countries self-efficacy of women was slightly lower than that of men. This effect, however, was not pronounced [16]. No difference between female and male self-efficacy was found in the Polish surveys. Neither age nor education were of importance [11]. Summing up, consumers with higher self-efficacy use new technologies more frequently and perceive them as more useful.

Empirical research

In the studies carried out so far, the problem of online stores' credibility was treated in a generalized way. According to our knowledge, there are little surveys which take into account the role of social factors in the evaluation of attributes shaping online stores' credibility, and online stores on the Polish market in particular. The aim of the present survey was to find out whether features such as self-efficacy and gender of customers can differentiate the perception of factors shaping the credibility of online stores.

Group

The survey questionnaire was conducted on 225 students of technical faculties, 111 men and 111 women (three persons did not declare the gender). Students up to 25 years of age made the largest group (87%). The choice of the group was intentional since, as confirmed by surveys (e.g. [23]), persons below the age of 25 years constitute one third of the population of Polish e-customers. Highly experienced users of both

Internet stores and online auction portals were predominant among the respondents (63% and 62%, respectively). The participation in the survey was voluntary and anonymous.

Method

Apart from demographic data (age and gender) the questionnaire consisted of the evaluation of the perception of the online stores' credibility and general self-efficacy. A simplified version of Commercial Websites Credibility Scale [3] was applied to measure the attributes of consumer-perceived online stores' credibility. Online store usability embraced 4 factors: *Visual clarity, Usability, Security, Delivery flexibility*, and informational content the next 4 factors: *Recommendations, Wealth of information, Unprofessionalism, Internet store's anonymity*. Assessment of normality (skewness and kurtosis) was acceptable for ordinal variables. General Self-Efficacy Scale [17] was used to measure general self-efficacy of the respondents. The strength of self-efficacy was determined by a sum of 10 statements. Groups of persons with lower and higher self-efficacy relative to a mean ($M = 31,5$ $SD = 3,81$) were distinguished.

Results

It was expected that women would differently evaluate credibility attributes compared to men, and factors related with the informational content would be more important than usability in the credibility evaluation (table 1).

Indeed, the evaluation of two attributes of the informational content of online stores was different in relation to gender. As regards credibility building, women valued higher the recommendations from other

e-shoppers about online stores. The strength of this relation, measured using the d-Cohen coefficient, was low ($d = 0.37$).

Factor	Men (n = 111)		Women (n = 111)		t (df = 220)	p
	M	SD	M	SD		
Visual clarity	27.49	4.22	28.14	3.60	-1.23	0.220
Recommendations	16.46	2.73	17.39	2.36	-2.74	0.007*
Usability	11.62	2.08	11.63	2.00	-0.04	0.966
Wealth of information	12.74	2.01	13.15	1.63	-1.69	0.093
Unprofessionalism	9.31	2.07	8.35	1.74	3.74	0.000*
Security	8.02	1.59	8.08	1.50	-0.31	0.754
Delivery flexibility	8.46	1.79	8.48	1.41	-0.09	0.931
Internet store's anonymity	5.91	2.00	5.44	1.97	1.77	0.078

Note: * $p < 0.05$

Table 1. Gender-related differences in consumer-perceived factors of online stores' credibility.

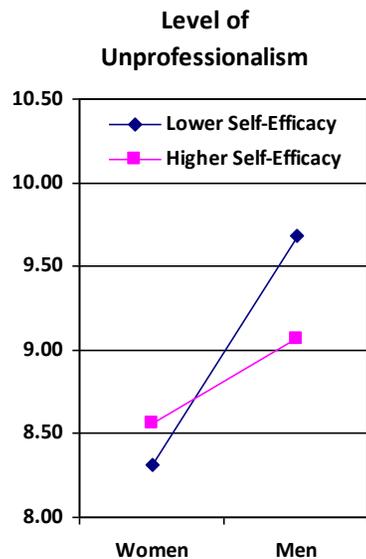


Figure 1. Slopes reflecting the interaction between gender and self-efficacy on unprofessionalism. Women with lower self-efficacy (LSE), unlike men with LSE, are less tolerant of unprofessionalism in online store's design.

On the other hand, more distinctly than in the male group, unprofessionalism in the presentation of websites weakened women's trust and consumer-perceived online stores' credibility. This relation was moderate ($d = 0.50$). The remaining features decisive of the online stores' credibility were equally perceived by women and men.

As demonstrated so far, self-efficacy of online stores' users was important for the frequency of transactions attempted and for perception of the risk involved. In the present study, Student's t-statistics was used to compare two groups of users: with a lower and higher self-efficacy. The detailed data are given in table 2.

As regards the self-efficacy level, no essential differences were found in the credibility evaluation for

the attributes of usability and informational content of online stores.

The effect of self-efficacy moderation and Internet users' gender, verified by variance analysis, was apparent in the case of unprofessionalism evaluation ($F(df = 3) = 4.09$ $p = 0.008$). Using post-hoc Tukey test for groups of unequal sizes (HSD $p = 0.01$) it was found that, compared to men with lower self-efficacy ($M = 9.68$ $SD = 2.04$), women with lower self-efficacy ($M = 8.31$ $SD = 1.77$) differed in the toleration of unprofessionally built commerce websites (see figure 1 on the sidebar). In their opinion it worsened definitely the store's credibility, whereas it was of minor significance for men. The strength of this relation measured using the d-Cohen coefficient was high ($d = 0.72$). No differences in this respect between women

and men with higher self-efficacy were found (M = 8.56 SD = 1.71 and M = 9.06 SD = 2.19, respectively).

Factor	Lower Self-Efficacy (n = 90)		Higher Self-Efficacy (n = 90)		t (df = 178)	p
	M	SD	M	SD		
Visual clarity	27.65	3.93	27.92	4.26	-0.44	0.662
Recommendations	17.00	2.62	16.76	2.84	0.60	0.551
Usability	11.54	1.92	11.64	2.26	-0.31	0.758
Wealth of information	13.00	1.60	12.78	2.20	0.76	0.445
Unprofessionalism	8.89	2.00	8.87	2.02	0.06	0.950
Security	7.95	1.52	8.06	1.68	-0.45	0.650
Delivery flexibility	8.36	1.47	8.61	1.73	-1.06	0.289
Internet store's anonymity	5.93	2.04	5.69	2.13	0.77	0.444

Table 2. Self-efficacy versus consumer-perceived online stores' credibility.

Discussion

The aim of the present study was to verify whether factors such as gender, self-efficacy and their interaction may cause different perception of online stores' credibility. Similarly as earlier studies [4], our survey has confirmed that women attach more weight to the informational content in the evaluation of online stores' credibility compared to men. According to the present investigation, women value higher the role of other users' recommendations than men. In addition, the lack of professionalism in the presentation of the store's website lowered its credibility. It is possible that the differences observed do not result from customer's gender but from the sort of products chosen. Women, as shown in previous surveys (e.g. [21]), purchase mainly clothing, underwear, cosmetics and jewellery, while men prefer electronic devices, including phones, computer and audio/tv equipment and spare car parts.

Women buy unusual products, demanding individual fitting, unlike men who choose articles of predictable visual and functional quality.

Persons with lower and higher self-efficacy did not differ in the evaluation of usability attributes and informational content of the online store. This does not match previous findings on consumer-perceived risk involved in e-shopping [12]. Moreover, the lack of relationships between credibility perception and self-efficacy may result from mastery in using new technologies. If a task is assessed as easy, self-efficacy is of minor importance, contrary to difficult tasks [15].

Unprofessionalism was the only attribute of online stores' credibility the evaluation of which depended both on customers' self-efficacy and gender. The toleration of women and men with lower self-efficacy

towards unprofessionally built commercial websites was different. In women's opinion this attribute worsened online stores' credibility, whereas for men it did not matter much. The strength of this effect was high. No differences were found in this respect between women and men with high self-efficacy.

Summary

Compared to men, women attach more significance to the informational content of the online store and to recommendations and professionalism in particular. Gender did not differentiate credibility evaluation in the area of the store's website usability. The evaluation of credibility attributes did not depend on the customers' self-efficacy level either. The exception was the lack of professionalism. Unlike for men, for women with lower self-efficacy, the lack of professionalism of the store was difficult to accept.

As indicated by surveys conducted in recent years, usability and informational content affect the consumer-perceived online stores' credibility stronger than the individual traits of customers do [22]. In the light of studies conducted, social factors are significant in relation to the perception of the online stores' credibility. The awareness of their role may help building the market advantage of a particular online store. In future studies it seems worth taking into account the moderating role of these factors and credibility, with simultaneous regard to specificity of products, satisfying diverse needs of customers.

Acknowledgements

This research work was partly supported by the Polish National Science Centre under the contract No. 4591/B/H03/2011/40.

References

1. Dash, S. and Saji, K.B. The Role of Consumer Self-Efficacy and Website Social-Presence in Customers' Adoption of B2C Online Shopping: An Empirical Study in the Indian Context. *Journal of International Consumer Marketing* 20, 2 (2007), 33-48.
2. Fogg, B., Marshall, J., Laraki, O., et al. What Makes Web Sites Credible? A Report on a Large Quantitative Study. *Proceedings of the CHI'01, Human Factors in Computing Systems*, (2001), 61-68.
3. Garnik, I. and Basińska, B. Pomiar wiarygodności internetowych serwisów handlowych. *Zeszyty Naukowe Politechniki Poznańskiej, seria Organizacja i zarządzanie* 56, (2011), 23-34.
4. Gemius SA. Badanie Megapanel PBI/Gemius. 2009. <http://panel.pbi.org.pl/wyniki.php>.
5. Gemius SA. E-commerce w Polsce w oczach internautów 2010. 2011. <http://gemius.pl/pl/raporty/2011-01/01>.
6. Van Der Heijden, H., Verhagen, T., and Creemers, M. Understanding Online Purchase Intentions: Contributions from Technology and Trust Perspectives. *European Journal of Information Systems* 12, 1 (2003), 41-48.
7. Hernandez, B., Jimenez, J., and Jose Martin, M. The Impact of Self-Efficacy, Ease of Use and Usefulness on E-Purchasing: An Analysis of Experienced E-Shoppers. *Interacting with Computers* 21, 1-2 (2009), 146-156.
8. Hernandez-Ortega, B., Jimenez-Martinez, J., and Martin-DeHoyos, M.J. Differences Between Potential, New and Experienced E-Customers. Analysis of E-Purchasing Behaviour. *Internet Research* 18, 3 (2008), 248-265.

9. Hsu, M.H., Chiu, C.M., and Ju, T.L. Determinants of Continued Use of the WWW: An Integration of Two Theoretical Models. *Industrial Management & Data Systems* 104, 9 (2004), 766–775.
10. Jarvenpaa, S.L., Tractinsky, N., and Saarinen, L. Consumer Trust in an Internet Store: A Cross-Cultural Validation. *Journal of Computer-Mediated Communication* 5, 2 (2006).
11. Juczyński, Z. Narzędzia pomiaru w psychologii zdrowia. *Przegląd Psychologiczny* 42, 4 (1999), 43–56.
12. Kim, Y.H., Kim, D.J., and Hwang, Y. Exploring Online Transaction Self-Efficacy in Trust Building in B2C E-Commerce. *Journal of Organizational and End User Computing* 21, 1 (2009), 37–59.
13. Luszczynska, A., Scholz, U., and Schwarzer, R. The General Self-Efficacy Scale: Multicultural Validation Studies. *The Journal of Psychology* 139, 5 (2005), 439–457.
14. Mayer, R.C., Davis, J.H., and Schoorman, F.D. An Integrative Model of Organizational Trust. *Academy of Management Review* 20, 3 (1995), 709–734.
15. Ratten, V. and Ratten, H. Social Cognitive Theory in Technological Innovations. *European Journal of Innovation Management* 10, 1 (2007), 90–108.
16. Scholz, U., Gutiérrez Doña, B., Sud, S., and Schwarzer, R. Is General Self-Efficacy a Universal Construct? Psychometric Findings From 25 Countries. *European Journal of Psychological Assessment* 18, 3 (2002), 1–21.
17. Schwarzer, R., Jerusalem, M., and Juczynski, Z. Polish Version of the General Self-Efficacy Scale. 2008. <http://userpage.fu-berlin.de/~health/polish.htm>.
18. Srinivasan, S.S., Anderson, R., and Ponnayolu, K. Customer Loyalty in E-Commerce: An Exploration of Its Antecedents and Consequences. *Journal of Retailing* 78, 1 (2002), 41–50.
19. Szpunar, W. Czas na e-commerce w Polsce. 2011. <http://www.internetstandard.pl/news/366877/Czas.na.ecommerce.w.Polsce.html>.
20. The European Consumer Centres' Network (ECC-Net). *The European Online Marketplace : Consumer Complaints*. 2010.
21. Wachowski, P., Paweł Lipiec, Jasińska, A., and Boruń, W. *Zaufanie jako podstawa w e-commerce*. 2010.
22. Wang, Y.D. and Emurian, H.H. Trust in E-Commerce: Consideration of Interface Design Factors. *Journal of Electronic Commerce in Organisations* 3, 4 (2005), 42–60.
23. Żbikowski, W. *Kim są e-zakupowicze*. International Data Group Poland SA, 2012.