

Social Commerce: Informative Richness and Perceived Quality of Products

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Abstract—Increasingly more people access virtual online markets in order to buy and sell products, establish relationships and give way to forms of social commerce. In these contexts, it appears necessary to have a clear indication on the way in which products should be presented in order to generate a sense of trust and therefore encourage the purchase to be made. Thirty-five subjects were involved in this study which were then required to evaluate simulated webpages for the online sales of different products. The results indicate that the webpages that appeared richer in content from an informative perspective, and above all the ones that exhibited an image of a subject using a product, were the most preferred. However, this preference did not have an impact either on the opinions relating to the quality of the product, the reliability of the site or the seller, or on the subjective value of the purchasable item. From a qualitative analysis, it emerged that these aspects would more likely be influenced by the relational opportunities that could be provided by the site.

Index Terms—information richness, quality, social commerce, trust

I. INTRODUCTION

Online commerce is constantly changing. New interactive opportunities are produced by technological advancements and, above all, by the development of the web 2.0. Until only a few years ago, the most common relationship of trade, more or less mediated, was the one occurring between an institutional seller and a consumer. Today, on sites for e-commerce, the relationship which seems more and more frequent is instead the one that is established between consumers. Online commerce is constantly evolving from environments centred mainly on the product itself, to contexts in which the relevant aspects are centred on consumers and on the relationships among consumers [1]. To summarise and describe these social and technological changes, since 2005 the label “Social Commerce” has been adopted [2].

The evolution of social commerce is truly remarkable. Ten years ago it was clear that social commerce was already becoming increasingly popular with a growth rate of 43% annually [3], and thousands and thousands of companies, which are involved in online commerce, are modifying their online-platforms to take advantage of web 2.0 opportunities [4].

As in the case of more traditional systems for e-commerce, likewise in the case of social commerce, there are some problems that can make the interaction difficult between the system and its user, such as the use of information and data related to the commercial transaction that are often not efficiently structured and produce cognitive overload. Intertwined to the problem of content structuring lies another issue, probably the most studied in relation to e-commerce, that is the differing level of trust that a system can modulate on the side of the consumer.

The concept of trust has been long debated within the settings of platforms for online commerce. Traditionally, we can consider two aspects related to trust: i) the trust in the system, in the process that will lead to the purchase of the product, and ii) a meaning more connected to the idea of safety, that is the trust that one is not subjected to fraud, damages of an economical kind or privacy breaches and therefore to the processing of obtained data.

Back in 2002, it was proposed a definition of trust that links aspects that are both external and internal to the individual, namely trusting beliefs and trusting intentions [5]. The first are defined by the set of characteristics of a seller that can lead to trusting the seller. The second, are instead connected to the subjective tendency to commit to a purchasing behavior based on a sense of trust.

For this type of behavior, the theory of reference is the Theory of Reasoned Action, TRA [6], that accounts for trust by directly linking it to the perceived level of quality of the given web service.

TRA brings together two concepts which are “attitude” and “subjective norm”. These two concepts incorporate another concept, i.e. “motivation”, to determine whether the behavior will go in a certain direction or not. More in particular, attitude is the more or less positive evaluation of a given behavior; the subjective norm is the belief that the others will appreciate that behavior, and both of these factors contribute to regulating the “motivation”, that is the more or less evident willingness to adopt a behavior.

After its formulation, TRA was adopted in many studies, and also subjected to some modifications, such as TAM, Technology Acceptance Theory [7] that states that at the basis of the intentions in using a system there is i) the perception of the usefulness of that system and ii) the perception of the ease of its use. Both these two variables can be considered as attitudes.

More recently, it has been proposed another model [8] that, as a new revision of TRA, considers three aspects in order to distinguish the perception of the qualitative level of a website designed for e-commerce, these being the perceived risk, the service convenience, and the website content. The website content, after its introduction, allowed the model to significantly increase the explanation of the variability (R^2 has gone from 0.33 to 0.619) [9].

This model therefore seems to be very interesting because of the particularly small number of factors considered and, perhaps even more so, due to the reference to the contents of the site as an aspect of absolute importance for e-commerce. Currently, as a matter of fact, in social commerce environments, this is maybe the less-sophisticated aspect. The contents on websites are frequently organized by non professional people, those who implement them on the basis of implicit awareness. Consequently, they are not structured by considering theoretical models and, as well as this, relational aspects are often neglected.

Regarding the contents that are used in a system for social commerce, the first aspect to evaluate would be the amount of information available.

It is known that an excessive amount of information may lead to the failure of adequately taking said-information into account [10], [11], and it is also known that it is more preferable to make a purchasing choice when there is less information available than when too much information is provided [12]. But the boundary between information richness and information overload is not always easily distinguishable, especially because it is related to a users' cognitive capabilities and style, their knowledge, their computer skills and the chance of controlling the information flow [13].

In addition, information richness is not the only element to be considered in order to manage, in a consistent manner, the information structuring in online commerce, but also the right balance between texts and images appears to be a relevant issue [8]. As showed in an often cited study [14] images are among the most important elements that influence the efficacy of an e-commerce website.

It has been reported in numerous studies that images are highly valued in cognitive processing, but the focus on images, in the context of online commerce, started only about ten years ago [2]. In fact, it was found that clothing was one of the categories more frequently present in social commerce websites [15]. And, evidently, images of the clothing cannot be avoided, in particular, images with models, real or stylized must always be displayed.

Also, in this case there are studies about product exposure which suggest how a person's presence can help to facilitate a purchase, thus stressing the preference for a real person image [16].

Another study [17] supports this hypothesis. In this research study it was shown that an image showing an

employee from a bank can significantly increase the reliability level attributed to an e-banking website.

Other studies pointed out that the presence of a person's image, maybe different from the consumer's self-image, can contribute to a negative perspective instead of a favourable one, thus leading to lower self-esteem and inducing negative feelings [19].

Based on these considerations it seems evident that the relationship between the preference of a social commerce website and text-images balance is not clear. The most evident lack of knowledge is about the value of the images' contents, what they represent, and how they can cause judgments about a website's value and, in particular, if these judgments can result in more favorable evaluations of the products.

This study aims to explore these kind of questions and expose their answers.

II. THE STUDY

Aiming at answering some of the questions that not yet have a clear solution, this study involves some potential users of social commerce platforms assigning them the task of evaluating some webpages, in order to simulate possible interactions with a social trade environment.

The study is based on the understanding that online social trade webpages and websites are not very often managed by professionals, but by ordinary people who start trading mostly because of their need for relationships rather than just for selling or buying [2]. Especially in these circumstances, design issues could hinder the future development of the desired online commercial relationship.

Actually, currently there is not a high interest in the content design of social trade websites developed by non-professionals [4].

In order to fully address this issue, the aim of this study was to understand if the different proportion between text and images may lead to a preference for a specific type of webpage over another one.

We tried also to connect these possible preferences through evaluation measurements about the online product such as product quality, the reliability of the site and of the seller, and the value attributed to the given product which could be higher or lower than market prize.

III. METHOD

A. Participants

In total, 35 people took part in the study. They had an average age of 31 years with a divide of 21 males and 14 females. All subjects confirmed that they had made at least one purchase online in the last three months.

B. Procedure and Materials

The subjects took part in the study voluntarily. They were informed that the study was regarding online trade and that they could have discontinued their participation in the experiment at any time. They were also informed that their data would be treated as aggregated data.

The study procedures were carried out in accordance with the Declaration of Helsinki. All subjects of our general population sample of adults provided informed consent.

First they were asked their age and the number of online purchases they had made recently.

Then a webpage was shown to each subject telling them that it was a webpage for an online trade website where other users could put some items up for sale.

In total, twelve webpages were created for this study. They simulated hypothetical webpages where they presented four different objects in order to counteract possible motivational effects due to personal or genre preferences.

The objects were a rugby ball, an electric guitar, hair straightener and an iron.

Three different types of webpages were made for each item. In the first type, including just text, the object was described starting with the brand and model, followed by technical features and materials.

The second type of webpage (text + object), in addition to the textual information, a photo of the product was added. Except for the photo, no additional information was provided.

The third type of page (text + object + user) included the same aspects as the second but in the provided photo of the product there was a model using the product. The object's dimensions were the same for both photos.

For the hair straightener and the iron photos the model users were female, in the other two photos the model users were male.

Twelve stimulus pages were created in total (3 types of images X 4 objects).

The three pages relating to each item referred to a hypothetical social commerce website called "Online shop" (Fig. 1).

Each participant saw three pages in total, one for each type: a) only text b) text + object c) text + object + user.

Of the three pages each individual observed, the user saw three different items.

The pages were presented randomly.

After the inspection of each page, the participant had to answer four questions on a five-point scale: a) Does the presented product appear of high quality? (1=very low – 5=very high) b) Does the website where you can purchase the item seem reliable? (1=not at all – 5=very much) c) Are you worried that the seller will not send this object to you? (1=not at all – 5=very much) d) Considering a hypothetical market price, would you be willing to pay for this item? (1=much less – 5=much more).

At the end of this part the subjects had to answer two other questions: a) Did you notice something different in viewed webpages? b) Among the pages, did you have a preference towards one? If so, which one?

After the questionnaire, an interview was conducted in order to collect as many impressions as possible about the pages the participants had evaluated.

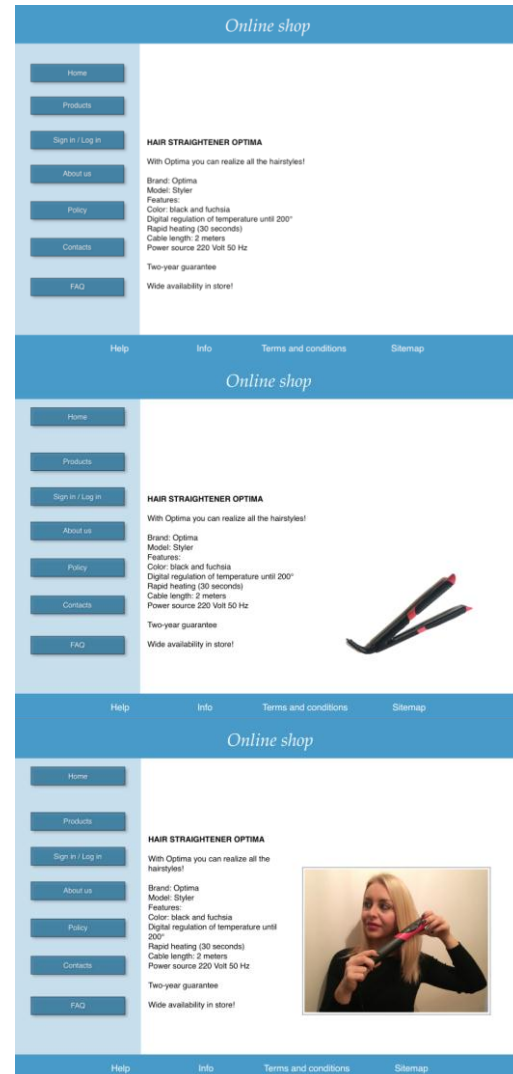


Figure 1. Three different types of pages for hair straightener.

IV. RESULTS

The majority of the subjects ($n=29$; 83%) had a clear perception that the 3 pages observed by each of them were different in some way. And, in fact, just 6 out of 35 (17%) participants reported to have not preferred any page among the three viewed, whereas 11 (31.4%) preferred the page composed of "text + object" and the majority, 21 subjects (60.0%), preferred the page composed of "text + object + user".

These results seem to highlight a strong preference for pages with images, in particular for those which show a model in direct interaction with the object for sale. However, these findings do not correspond to a parallel increase of the values relative to the measures of product quality, site reliability, seller reliability and subjective value of the product.

In Table I, the averages of the subjective evaluations for these four variables in relation to the three different conditions, that is the three types of webpages, are shown. The results seem to suggest an improvement of the perception of the product quality passing from pages

displaying only text, to the ones in which the user and the product were also visible.

To address this finding, analyses of variance concerning the 4 variables considered for the evaluation of products and website have been carried out.

In Table II the 4 Anovas are reported by setting the “type of page” as levels between subjects. It can be appreciated that there is no significant difference between the three levels of each variable.

Based on the results, it is not possible to assume any clear link between the levels of preference for the webpages containing images - especially those in which a user is present - and the variables considered such as the perceived product quality, the site reliability, the seller reliability and the subjective product value.

Additionally, a correlational analysis was carried out to verify the presence of a possible result due to informational enrichment of the webpages.

For this purpose, value “1” was assigned to condition A), value “2” to condition B), value “3” to condition C). These values have been then related to marks obtained by the evaluations of each subject to the first four questions in the questionnaire. Once again, the only notable result is in relation to the product quality $r=0.202$, in that perceived product quality seems to be related to informative richness of the viewed pages, but again the correlation is not significant ($p>0.5$).

From a qualitative point of view, remarkable information was obtained from the post-test interviews where 50% of the participants stated that seller reliability mainly depended on the product description and the information provided about the item. In this regard, and related to this study’s purpose, the participants used the images as a reflection of the product’s characteristics and its level of quality.

In relation to trust, but again underlining the need for relational opportunities, the websites that allow social contact with the webmaster were considered more reliable by many participants, such as a phone number or, alternatively, an e-mail address.

Social issues appear to also underpin the request made by several subjects to read comments left by other users about the online seller.

These comments are considered worthwhile when taken into consideration with a users’ previous buying experience. Moreover, some participants requested the presence of metrics which, referring to the seller, could report figures on transactions that have been concluded in a satisfactory way for the buyer.

TABLE I. AVERAGES OF SUBJECTIVE EVALUATIONS FOR PAGES DIFFERING IN THEIR LEVEL OF CONTENT RICHNESS

	<i>Text only</i>	<i>Text + object</i>	<i>Text + object + user</i>
Product quality	3.00	3.34	3.37
Website reliability	2.86	3.11	3.11
Seller reliability	2.74	2.57	2.60
Product subjective value	2.40	2.46	2.46

TABLE II. THE 4 ANOVA WITH “TYPE OF PAGE” AS BETWEEN SUBJECTS LEVELS

<i>Variables</i>	<i>Degrees of freedom</i>	<i>F</i>	<i>p<</i>
Product quality	2 32	2.721	0.071
Site reliability	2 32	1.242	0.293
Seller reliability	2 32	0.280	0.757
Product subjective value	2 32	0.051	0.950

As a general consideration, it seems possible to state that social trade environments are most favourably valued if they also include images to support the text, in particular, images showing users interacting with the product. This preference, however, is only referable to the website and to the page where the product is presented, and it does not affect factors such as the perceived product quality, trust in the site and in the seller, and the attribution of that product to be a higher value than market price.

V. CONCLUSION

Though quite recently it has been pointed out a lack of articulated proposals to improve the structure of e-commerce websites [20], at the moment some broad and interesting hypotheses are being developed. These theoretical frameworks relate many relevant elements in the context of online commerce [21].

In a recent study, for instance [21], a connection was highlighted between a consumer’s regulatory focus (promotion focused or prevention focused) and the features of the website (hedonic vs. utilitarian). It has also been shown that the user’s evaluations are related differently to different products and that the intentions to make a purchase depend on fit between these variables. Furthermore, it has been found that a system’s ease of use, engagement and perceived usefulness represent underlying mechanisms of purchasing dynamics which also act as purchase mediators [21].

Aiming at designing systems that are much closer to the consumer’s features and needs, important indications can be derived from these studies for e-commerce website implementation. However, it seems hard to translate these indications into useful suggestions for consumers who create purchase situations on social commerce websites. In these cases, the consumers are the same producers of the contents [22], implementation activity is characterized by spontaneity, computer skills are various, and psychological competences can be little more than naive.

In order to make social commerce environments closer to the intentions of those who create them, some clear and precise indications are required to transform the users’ intentions to effective implementations.

This study reported how there could be an emphasized tendency to enrich contents with images, often for just aesthetical purposes, but, in fact, this tendency could not produce a more favorable attitude towards the product. Nevertheless, as a consequence of the fact that those images use a real human being while using the product on sale, the result is rather an increase in website preference, but this preference does not affect the considered product. Product quality and seller reliability are certainly evaluated on the basis of available information [23], but information richness must not turn into a surplus of information.

These results do not contrast with those provided by other studies which, in fact, suggest that the impression about a website leads to its exploration, and it is involved in choice processes but it does not account fully for purchase intentions and product evaluation [24]; [25].

Information richness, especially in these contexts, seems to depend on the chance to establish relationships with other users and from the sharing of users' knowledge about the products and the sellers of those products.

Recent studies are indeed showing that social support is essential for a positive evaluation of website and to encourage a positive purchase attitude [26]. Furthermore, the implementation of these so-called social commerce constructs, i.e. forums, referrals, ratings and reviews, seem to have a substantial influence on developing a sense of trust [27]. These latter elements of social commerce platforms seem necessary in order to let users pursue their objectives, which appear to mainly be of a social form. By and large, since they are often self-managed, it remains unclear how to address their implementation in order to maximize the quality of selling and buying activity.

This study however is characterized by some limits due to a smaller sample margin. Despite this, it has provided us with some suggestions that should be better qualified and quantified, which can represent a move towards the elaboration of useful indications to make social commerce websites more pleasant and effective, even for amateur user

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