

A Preliminary Investigation of the Effect of Social Media on Affective Trust in Customer-Supplier Relationships

Fabio Calefato, Filippo Lanubile, Nicole Novielli
Department of Computer Science
University of Bari - Bari, Italy
{fabio.calefato, filippo.lanubile, nicole.novielli}@uniba.it

Abstract—We present the preliminary results of an ongoing research aimed at investigating the role of social media in the process of trust building, with particular attention to the case of small-medium enterprises (SME). Our findings show that social media contribute to increase the affective trust more than traditional websites. This result suggests that social media have the potential to enhance the business of SMEs other than large companies, by fostering the affective commitment of customers.

Keywords—*Affective Trust, Cognitive Trust, Social Media, Empirical Study, Human Factors, Social Computing*

I. INTRODUCTION

In recent years, the use of the Web has widely affected interpersonal communication, thanks to the diffusion of social software. Most people and companies have their digital identity spread on multiple social networks, such as Twitter, Facebook, and LinkedIn. Social software is now crucial also in business as it represents a powerful marketing channel for establishing a direct communication with customers [2]. Several companies invest in social media for building their social digital brand and strengthening trust-based relationships with their customers. This holds also for small-medium enterprises (SMEs), which can benefit from the buzz of social media as a contemporary version of traditional word of mouth [21].

Trust building is a key issue in commerce [3]. The reason for success of social media originates from the classic marketing paradigms and is due to the possibility to manage relationships with customers in a ‘people to people’ fashion. Often trust is established with the salesperson, rather than with respect to a brand [6]. In this sense, the sales forces play a key role in interfacing with customers if they are able to appeal to the peripheral route to persuasion based on emotional appraisal [14]. Social media allow suppliers to realize this behavior in a virtual environment and provide customers with the possibility to perceive a company as closer, more reachable and concerned about their needs [2]. Aiming at enhancing trust building, a company should consider exploiting affective appraisal as a key strategy. In this perspective, social media offer the possibility to surrogate the affective channel of face-to-face traditional interaction with customers and enhance their perception of a company’s trustworthiness and benevolence [2].

In this paper we describe the preliminary results of an ongoing research aimed at investigating the role of social media in the process of trust building in customer-supplier

relationships, based on first impression. In particular, we focus on the impact of different web conditions (traditional websites vs. social media) on affective trust building.

II. BACKGROUND AND MOTIVATION

Trust has been widely studied [17] from cognitive science [5] to economy [6], and more recently in software engineering [1][19]. According to Hung et al. [9], trust may be defined as the belief that the trustee will behave according to our expectation. As far as marketing is concerned, several other definitions of trust have been provided. In particular, the process of trust building mainly develops along several dimensions that can be identified as trust antecedents [17], i.e., the properties of the trustee that trigger the trustor’s cognitive appraisal when assessing the trustworthiness of the others. Consistently with the point of view of researchers in the e-commerce domain [3][6], the envisaged model to adopt in this study is an adaptation of the ‘tripod’ model [11] that defines the trustworthiness of a person or organization in terms of ability, benevolence, and integrity.

Ability is the capability of the trustee to complete a task, meet an obligation, provide the answer to a request, and so on. It relates to the trustee’s professional skills, knowledge and the competence and may be evaluated by a trustor through the evaluation of available information (e.g., the description of the business provided on a website or the curriculum vitae of a person applying for a job). *Benevolence* relates to the trustee level of courtesy, positive attitude, availability, intention to share information or resources, willingness to help, kindness and receptivity. A trustee that meets this requirement is usually perceived as a person/company that cares about the trustor’s needs and goals. *Integrity* relates to a set of moral norms and trustee’s characteristics usually considered as good as, for example, integrity, honesty, fairness, loyalty, and discretion.

As far as the commercial domain is involved, McKnight et al. [13] extended this model with a fourth dimension, that is the predictability of the trustee’s behavior. *Predictability* is a concept related to Rusman’s accountability [17], that is the degree to which a person (the supplier, in this case) meets the expectations of the trustor (i.e. the purchaser) in terms of reliability and consistence of behavior. This fourth dimension is relevant with respect to research on trust in e-commerce [3] hence we decided to consider it in our study.

The process of trust building has been also analyzed and defined by highlighting the difference between cognitive and

affective trust [12]. Cognition-based trust involves deliberate appraisal of the trustee characteristics combined with the process of weighting the benefits of trusting over risks [9][21]. On the contrary, affective-based trust involves “one’s emotional bonds and sincere concern for the well-being of the others” and might be seen as more related to the “intentionality process” [9]. Schumann et al. [19] operationalize this distinction and map the trust antecedents into cognitive and affective dimensions. We maintain their mapping for the four antecedents discussed so far, as represented in Fig. 1.

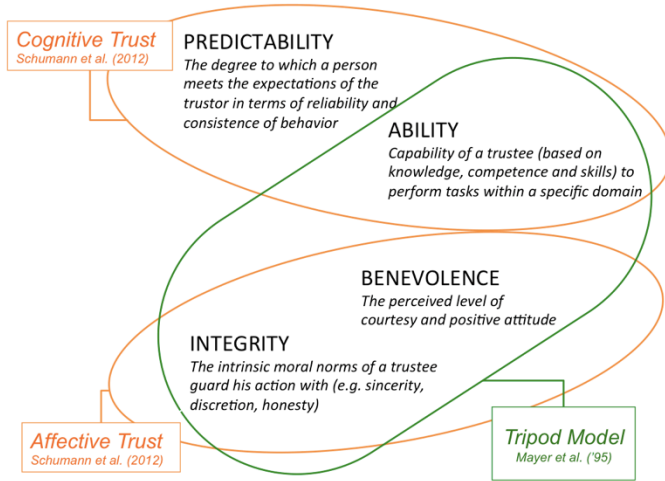


Fig. 1. Mapping multidimensional models of trust antecedents into the Affective and Cognitive dimensions.

Specifically, ability and predictability are assessed by means of cognitive elaboration of personal and professional information. At the same time, affective-based appraisal leads to trust building in terms of benevolence and integrity. In other words, evaluating the trustee’s ability and predictability in performing a task means that the trustor is purely rational, although emotions influence this process. Instead, assessing the others’ moral norms or benevolence is a process that is triggered by affective appraisal, based on commonality and on the perception of the others’ openness, friendliness and attention to our needs.

In this study we focus on information appraisal of the trustee by considering the effect of different media on information provision. In particular, we refer to the traditional websites as a content-oriented paradigm of information presentation. On the other hand, social media allow simulating the observation of a company’s behavior while interacting with its customers. By accessing a company profile on social media, customers can observe how a company replies to critiques or negative comments, if it proactively takes care of the relationship with customers, and how open and reachable the company demonstrates to be towards its customers. As highlighted by marketing research [2], social media may be used to successfully simulate a one-to-one relationship and amplify the perception of these dynamics of personal, dedicated care that was typical of old markets.

III. RESEARCH GOALS

A. Study Domain

As highlighted by recent research on trust, the intention to trust somebody is negatively associated with the perceived inherent risk associated to a specific domain. A typical example is a purchase in high-tech markets [18], or in the medical domain [4]. Whether customers are persuaded about the trustworthiness of a company also depends on the perceived risk, with respect to the specific product class, as well as on the characteristics of the vendor and the context of purchase [3]. In our experiment, we selected two companies operating both in the food domain because: (i) quality is assessed according to common-sense based criteria; (ii) the evaluation process does not require any particular skill or knowledge. Company A is a manufacturer of cake and bakery products whereas company B is an organic restaurant. Both companies started their activity about one year ago and developed marketing strategies that involve strong web presence.

B. Research Hypothesis

As in all interaction contexts, from our everyday life to the work environment, trust needs to be established as soon as possible in all human relationships. The fastest way to foster trust building is by providing information on the other party. According to the discussion provided so far, we formulate our main hypothesis about the role of social media in the trust building process between a supplier and its customers.

According to literature [19], we assume that cognition-based trust building is triggered by appraisal of professional information that can be usually acquired through a traditional website. In addition, trust has been demonstrated to be paramount for consumer behavior towards online shops [3] and the perceived trustworthiness has been found to be fundamental in the evaluation of the online image of stores [8]. Before social media became popular and reached worldwide diffusion, traditional websites have been the only web channel that vendors could exploit for self-promotion and for building an online image of a competent company. However, recent research on customer loyalty towards online stores has demonstrated that trust could be further improved by enhancing the perception of the company integrity and benevolence [10], which both refer to affective trust. In customer-supplier relationship, this goal is easily achieved through face-to-face interaction and by establishing peer-to-peer relationships. Since direct interaction is not always possible to realize, social media gives companies the opportunity of implementing this behavior over the Web [2] using a more informal, closer interaction style between a company or a salesperson and their customers with respect to traditional websites.

According to what discussed so far, we hypothesize that being able to monitor a company’s behavior on social networks could affect customer trust building along the affective dimension more than traditional websites:

H1 – Traditional websites (content-oriented) and social media (interaction-oriented) have a different effect on trust building in customer-supplier relationships.

The literature review on trust has underlined the need for distinguishing between affective and cognitive trust. Besides,

availability of different information elements about the trustee can have a different impact on trust building by impacting on different trustworthiness antecedents. In literature, professional information, specific skills, and capability description (typically found on traditional websites) have been associated to trust antecedents involved in the cognitive dimensions. On the contrary, sharing personal information about preferences and habits, as well as other information and audiovisual material (not necessarily professional) enhances trust along the affective dimensions through perceived benevolence, an antecedent that is typically triggered by the contribution of the community of customers [19] and social media offer the possibility of sharing these information elements in an interactive setting. Due to their different characteristics, traditional websites and social media may affect one type of trust rather than the other. Accordingly, we refine our main hypothesis as follows:

*H1a – As compared to traditional websites, social media enhance **affective** trust building in customer-supplier relationships.*

*H1b – As compared to social media, traditional websites enhance **cognitive** trust building in customer-supplier relationships.*

IV. EXPERIMENTAL DESIGN

We recruited 19 participants from a M.Sc. course in Computer Science (16 males, 25 years old as average age). On a 4-point Likert scale, all the participants except for one were Facebook users on a daily basis (mean = 3.74); besides, they declared to often use the Internet for their purchases (mean = 2.58). Hence, it is reasonable to assume that they are all very familiar both with the Web and the related appraisal mechanism of a company trustworthiness.

A. Independent Variables.

The study followed a 2 (Company A and Company B) x 2 (Traditional website vs. Social media) counterbalanced, randomly assigned mixed design. Each subject evaluated the perceived trustworthiness of both companies, following one of the two possible combinations reported in TABLE I. The order of visualization was randomized and equally distributed among subjects, to avoid any bias due to the sequence of information presentation. In our design, the Web mode is the independent variable while the company is treated as a blocking factor. In fact, according to the research question, in this study we want to investigate the effect of websites and social media on trust.

B. Dependent Variables.

According to our hypotheses, we need to measure the affective and cognitive trust level of the participants towards the companies. We requested subjects to fill out a questionnaire to assess the overall perceived trustworthiness, i.e., the perceived SME's ability, predictability, and benevolence. Consistently with literature on trust building based on first impression [19], we do not assess integrity in the questionnaires as it is peculiar of long-term relationships and is built over time as appraisal on the others' morality and ethical norms [17]. In our study, instead, the subjects did not know the companies before and it could be impossible for them to guess a company's integrity based on the analysis of the SME website or fan page.

TABLE I. STUDY DESIGN

	Company A	Company B
Traditional Website	Group 1	Group 2
Social Media	Group 2	Group 1

The evaluation along the three dimensions is mapped into the broader concept of affective and cognitive trust using both questionnaires and interviews. For each trust antecedent, a set of questions was defined, according to the domain of this study. We included 21 questions overall: 7 for ability and 3 for predictability (cognitive trust), 11 for benevolence (affective trust). Our questionnaire (see Q1 in TABLE II. integrates guidelines and items provided by previous studies about trust elicitation and perception based on first impression [3][16][17]. Subjects were requested to evaluate the perceived trustworthiness of a given company by filling out the questionnaire based on Likert scale from 1 to 5.

C. Procedure.

The experiment took place in a controlled environment, involving all the subjects in the lab at the same time. An experimenter performed an introduction to all subjects simultaneously, by illustrating the scenario and providing detailed instruction on the procedure for task execution. The experimenter remained in the room to ensure that the participants could not interact nor exchange opinions about the two companies and to answer subjects' questions during the experiment. Each subject worked independently and accessed the experimental procedure through the web.

At the beginning of the experiment, subjects answered a short questionnaire aimed at assessing how familiar they are with web technologies, social networking and e-commerce in to assess their actual propensity to evaluate trustworthiness of companies based on their web presence. Then, the subjects learned about the experimental task, related to the choice of one company for a catering service. The scenario of the catering was selected to mitigate the high propensity to risk taking behavior that could derive from the perception of a low inherent risk associated to the food and restaurant retail class. Hence, rather than asking where they would have lunch, we requested subjects to express their preference with respect to a purchase involving a considerable amount of money and having also social implications (i.e., offering a buffet is associated also to self-image in social context).

Once the scenario was presented, participants were requested to visualize and rate two company profiles (either the company website or its Facebook profile), according to the random presentation order described before.

Subjects were explicitly requested to explore the company profile no longer than 5 minutes. As a consequence, each of the two phases last at most 15 minutes, including both the visualization of the webpage of the company and the answering to the questionnaire for the trustworthiness evaluation. A pre-condition for the participation was that the subject had never browsed any of the two company websites.

In TABLE II. Q2 reports the questionnaire we provided at the end of the experiment to verify the subjects' preference between the two companies with respect to the catering scenario as well as the motivation for their choice.

TABLE II. QUESTIONNAIRES

Q1 Assessing Perceived Trustworthiness	
AFFECTIVE TRUST	
Benevolence	
B1.	This company puts customers' interests first
B2.	This company is genuinely interested in its customers' welfare
B3.	If problems arise, one can expect to be treated fairly by this company
B4.	If I got into difficulties with the goods/services provided or I required help, this company would do its best to help me
B5.	I feel like it could be hard for me to get in touch with this company
B6.	I am confident this company would be available when I need more information/have problems with goods/services provided
B7.	I feel like I could contact this company readily when it is required
B8.	This company makes an effort to understand what customers have to say
B9.	The people working for this company are friendly and approachable
B10.	This company keeps customers updated about what is in its plans
B11.	- The company owners share their thoughts with me/with customers
COGNITIVE TRUST	
Ability	
A1.	This company is very competent
A2.	This company is able to fully satisfy its customers
A3.	One can expect good advice from this provider
A4.	In its job this company seems to work efficiently
A5.	I have full confidence in the skills of people working for this company
A6.	This company does not provides its services/produces with skills
A7.	- This company does things competently/in a capable manner
Predictability	
P1.	This company's methods of operation are unclear
P2.	I would rely on advice from this company
P3.	- This company does things that promises to do for me
Q2 – SELF REPORT ABOUT PERCEIVED TRUSTWORTHINESS	
1.	Which company do you perceive as the more reliable? Why?
2.	Which company would you choose for your meal? Why?
3.	Which company would you choose for the catering service? Why?
4.	Which company seems more competent to you? Why?
5.	Which company seems to be more concerned about the wellbeing and needs of its customers? Why?
6.	Please leave any comment or suggestion about the experiment.

Moreover, at the end of the web-based part of the experiment, the experimenter interviewed the participants to clarify the reasons for the preference towards one of the two companies expressed in Q2. Subjects were requested to provide their opinion and perception about the role of both traditional websites and social media in web marketing. These informal, unstructured interviews provided us a better insight on which characteristics and functionalities of the two web modes affect the trust building along the affective and cognitive dimensions.

V. RESULTS

A. Questionnaire Analysis

In this section, we focus on the results of statistical analysis aimed at answering our hypothesis that websites and social media have a different impact on cognitive and affective trust.

To test H1a and H1b, we performed a multivariate analysis of variance (MANOVA) on the two dependent variables, i.e., the levels of cognitive and affective trustworthiness of companies, as perceived by subjects. The test reveals that the interaction between Web mode and Company has a significant effect on affective trust ($F = 4.528, p = .041$), as shown in Fig. 2. Conversely, no effect was observed on cognitive trust under the .05 p-level neither for the interaction between Web mode and Company ($F = .035, p = .853$) nor for the main effects, i.e.,

Web mode ($F = 1.590, p = .216$) and Company ($F = .977, p = .330$) (see Fig. 3).

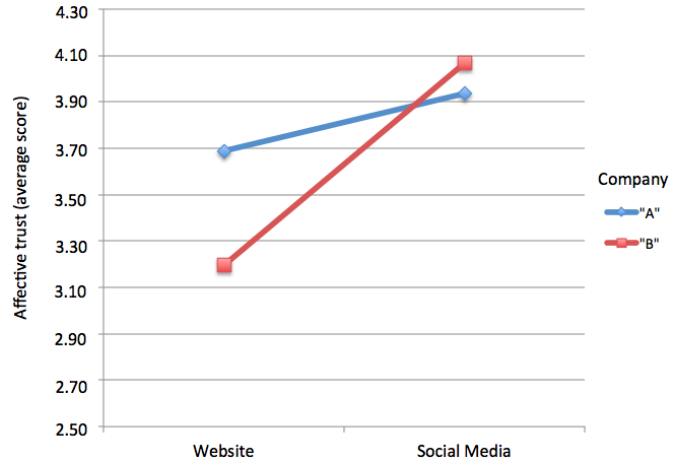


Fig. 2. Combined effect of factors affective trust

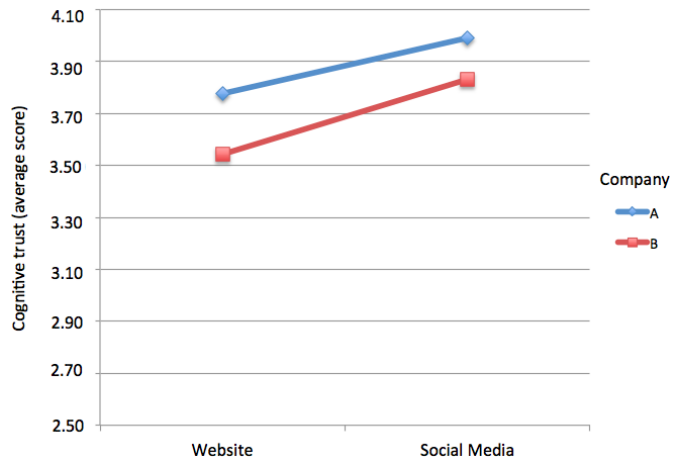


Fig. 3. Combined effect of factors on cognitive trust

To further investigate the combined effect of Web mode and Company on affective trust, we performed two separate tests for differences, one for each company, considering their individual affective trust scores (see the results of the two ANOVAs in TABLE III. The impact of the social media condition on affective trust is statistically significant only for Company B ($F = 22.152, p = 0.000$), for which we observe an average affective score of 3.20 ($SD = .42$) and 4.07 ($SD = .38$) in the website and social media conditions, respectively. Conversely, for Company A we did not observe a statistically significant difference in the level of affective trust in the website (mean = 3.69, $SD = .60$) and social media conditions (mean = 3.94, $SD = .35$).

TABLE III. ANOVAS ON AFFECTIVE TRUST FOR THE TWO COMPANIES

Company	Effect of Web Mode	
	F	P
A	1.211	0.287
B	22.152	0.000

B. Analysis of Self-report Questionnaires and Interviews

In this section, we report the findings derived from the qualitative investigation of the questions included in Q2 and the follow-up interviews with the experimenter.

The impact of social media on affective trust. When explicitly requested to state which company they perceived as more interested in the customers' needs and preferences (item 5 "Which company seems to be more concerned about the wellbeing and needs of its customers? Why?" of Q2), the 58% of subjects expressed in favor of the company for which they examined the Facebook page. Moreover, the multivariate analysis of variance performed on the data collected through Q2, confirms that a statistically significant correlation exists between the social media setting and the perceived company benevolence ($p = .020$) as well as between the social media setting and the choice of the company for the catering scenario ($p = .050$), with $\alpha = .05$.

The impact of social media on cognitive trust. When reporting about the perceived competence and predictability of a company (items 1 "Which company do you perceive as the more reliable? Why?" and item 4 "Which company seems more competent to you? Why?" of Q2, respectively), the participants explicitly referred to the huge amount of picture of both food and staff on the social medium as a key information element. In spite of this, no statistical significance is observed for the relationship between Web mode and the perception of predictability and competence. Another important issue revealed by the analysis of these open-ended questions is the perception of credibility and self-confidence of companies that have a fan page on social media. Being directly exposed to customers' feedback is perceived by subjects as a statement of a vendor self-confidence implying high quality in the goods and service provided.

Personal preference vs. perceived trustworthiness. When explicitly requested to state which company they would select for their meal and which one for the catering scenario, we observed an interesting behavior. Even if a correlation exists between the two answers (Pearson coefficient = .47, $p = 0.003$), in some cases subjects split their preferences. This discrepancy occurred in 32% of cases (6 over 19 subjects). In three cases, the subjects motivated this discrepancy stating that they felt to not have enough information to put their complete trust in one of the two companies for the catering task, even if they expressed a preference for their own meal. In two cases, subjects preferred the company they perceived as more reliable for the catering service; instead, for their meal they chose the restaurant with the warmer and friendlier atmosphere, as perceived from the pictures on the social media. In the remaining case, the reason was the higher perceived competence of the selected company, which not necessarily was the one meeting the subject's personal food preferences. In general, in all these six cases, the subjects explicitly declared they evaluated the benevolence of the company based on the pictures of the staff and the positive 'atmosphere' conveyed through Facebook.

The importance of multiple source of information. In the final interview with the experimenter, four subjects declared that they either did not express any preference with respect to the catering scenario or struggled in doing it. They justified their lack of trust by claiming that having both websites and

social media available for both companies would have been the best option in such a critical context. The discussion that originated from this claim helped us to identify a recurring schema which subjects tend to adopt for gathering information about unknown companies in their everyday life. In particular, this kind of participants first form an impression of benevolence and availability towards customers by searching for customers' feedback on social media; then, in case of satisfying and positive comments, they visit the website to access more business-related, professional information (e.g., prices, delivery, location, contact information). In this sense, analyzing a company's Facebook page first may be seen as the online version of traditional 'word-of-mouth' and confirm the importance of the affective route to trust in this domain.

VI. DISCUSSION AND CONCLUSIONS

We investigated the role of social media in trust building and its ability to foster trust by increasing the vendor's perceived trustworthiness along the affective dimension. In particular, we have directly addressed: (i) the impact of social media on affective trust, based on first impression; (ii) the potential of social software for small companies that want to build an online trustworthy image of their stores.

We tested two hypotheses, namely H1a (social media enhance affective trust building in customer-supplier relationships) and H1b (traditional websites enhance cognitive trust building in customer-supplier relationships). With regard to affective trust, the experiment findings provide partial support to the first hypothesis H1a. In fact, the results suggest that social media might have a significant role in enhancing affective trust building based on first impression. Though, the analysis of variance on the impact of social media on affective trust is statistically significant for only one of the two companies involved in the experiment. The interaction between the Web mode and Company emerging from the analysis of variance suggests the need for controlling the equivalence of information elements available for the two companies in the two web settings in the future replications of our study. Still, the analysis of self-report questionnaires revealed that accessing the Facebook community provides information elements that trigger affective appraisal. In fact, the majority of subjects indicated as more benevolent the company for which they accessed the Facebook profile. This is consistent with the findings of previous research on trust building based on first impression [19], which proved that knowing professional and personal information fosters, respectively, cognitive and affective trust. In particular, during the final interview, subjects declared that the access to social media enables them to assess the vendor benevolence, that is, his open and positive disposition towards the customers' needs and satisfaction, which is consistent with our assumption of social media reflecting interpersonal dynamics such as peer-to-peer relationships and word-of-mouth spontaneous advertising [2].

As regards cognitive trust, our findings did not support the second hypothesis H1b that traditional websites foster cognitive trust more than social media. Instead, from the analysis of open-ended questions and follow-up interviews, we observed that social media might foster trust growth also along the cognitive dimension. In fact, companies directly exposing themselves to customers' feedback on social media are

perceived as more credible and able to provide high quality goods and services. Moreover, participants reported that they associate the perception of competence and reliability of a company, evaluated through Facebook, to the wide range of available pictures of the staff. This is consistent with literature on the relationship between online photos and trust (not only in the e-commerce domain). In particular, Fogg [7] reported on the relationship between the author's picture and the perceived credibility of online articles. Riegelsberger et al. [15] showed that including photos in online shops may positively impact trust building, as far the pictures match the overall site's design and the vendor's brand. Steinbrueck et al. [20] observed that the photo of employees may increase the customer trust towards an online-bank website. Finally, these findings are consistent to the results of the study by Schumann et al. [19] highlighting how the access to information elements associated to the affective dimension may enhance also cognitive trust.

Another interesting behavior is the discrepancy between the subjects' favorite company according to their personal preferences and the company chosen for the catering task. This unexpected inconsistency, occurring in the 32% of cases, may be explained in terms of inherent perceived risk: as explicitly stated by the subjects, the risk associated to food purchase is higher in the catering scenario than in individual meal, because a buffet service causing dissatisfaction also has social implications..

Finally, from the final interviews it emerged that some of the participants had trouble in choosing between the two companies, with respect to the catering scenario, and complained that it would have been necessary to access both the websites and the social media to form an opinion about the company trustworthiness. For these subjects, social media constitute a source of information used for a preliminary assessment of the trustworthiness of an unknown company. Further details are investigated using traditional websites only in case of perceived friendliness and attention to the customers' needs or in case of explicit positive feedback of the community. This is consistent with the findings of the study by de Ruyter et al. [18] about the role of affect in commitment and trust. In this study, subjects experiencing lower levels of trust claimed they perceived their relationship with the supplier as 'strictly business-like'. The fact that participants in our study declared they usually form their early opinion about unknown online vendors by first accessing Facebook confirms the importance of the affective commitment in the trust building process. In this sense, social media may be seen as playing a crucial role for the success of a web marketing campaign.

These initial results suggest that SMEs would benefit from investing their time in establishing enjoyable 'peer-to-peer' relationships with their customers. Though, we are aware of the limitations of our study. In fact, subjects involved in the experiment share the same age, background and level of confidence with Web technologies. As future work, to verify the possibility of generalizing these preliminary findings, we plan to replicate the study with a wider and more varied pool of participants, also in different domains.

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