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The Mind's Eye on Personal Profiles; How to Inform Initial Trustworthiness Assessments in Virtual Project Teams

Abstract. Personal information is an important precursor for the trust formation process in virtual project teams. However, till today it has remained unclear what specific personal information most trustors prefer. Insight in their preferences as well as in their foundation could support the development of templates that provide communication support to virtual teams. In this paper, we describe and empirically test an approach that links trustors' common information preferences and a TrustWorthiness' Antecedents (TWAN) framework. Thus, we provide 'the mind's eye' on interpreting and valuing information elements.

Keywords: trust; trustworthiness; virtual teams; profile; online identity; impression formation; attribution; design; computer supported collaborative environments; groupware

1 Introduction

People form impressions of others every day, attributing properties to them they can never be certain the others do indeed possess. People make a 'best' guess based on signs and signals they perceive; this we call 'a first impression'. This first impression of others is the first seed of trust or distrust, and it colours perceptions of all subsequent behaviour [3,6,14]. In computer-mediated communicative (CMC) settings routes and available signs and signals to form an impression may be obstructed or different [4,5], but the impression-formation process remains just as important for human interaction [10,11,20]. Contrary to the initial belief that personal relationships would not be developed via CMC, since people would have less and not very useful information available with which to form an impression ('cues-filtered-out' perspective) [8], Walther [20,21] found that only the process of impression formation is delayed. He found that given enough time enough information about a person, personal as well as behavioural, is revealed and relationships grow as a result.

In face-to-face situations people use various routes to acquire information: via face-to-face interaction, via inferences based on social characteristics (e.g. communities the other takes part in) and via reputational information acquired via 'worth of mouth' [16]. In virtual project teams which use ICT (e.g., email, chat, videoconferencing) predominantly as their means of communication these routes are often not available or in different forms only. Team members of virtual project teams sporadically meet in person, they often do not have a prior history of working together

and they may never meet in the future [9], so the routes of 'worth of mouth' and 'face-to-face' interaction are in many cases blocked. Furthermore, messages that are ICT-mediated do not convey the same type of signs and signals as they would in face-to-face settings. This type of teams are reported to have most problems with interpersonal trust formation, especially in the initial phases of a project [22,23].

In order to jump-start impression formation on trustworthiness in the first phases of a project one could offer team members information about their colleagues. This has been done for years by companies who organize special face-to-face team building activities, leaving the type of information exchanged up to spontaneous interaction. This approach has also infused online environments, of which evidence can be seen in the design and use of profile templates within social network sites or communities, such as Facebook or Elgg. The notion that a representation of people in online environments is beneficial for their collaboration is also supported from the perspective of research on presence [7].

Availability of information about virtual project team members can positively influence trustworthiness assessments [17], however it is not yet clear which specific information elements are considered most supportive for these assessments and why they are supportive. Information elements are small units of data which reveal certain characteristics of a person. Examples are a name, photo, hobbies, job title and so on. First steps in the research on the significance of information elements have been made by Ten Kate (2009) and Berlanga et al. (in press), who in the context of social network sites (SNS) explored what elements displayed in profile templates contributed to a first impression of trustworthiness or were used to present oneself of perceive another [2,19]. Still, the information elements originally displayed in these templates were likely chosen by designers at the senders end of the computer-supported communication process and probably not specifically grounded in the cognitive processes at the receivers' end. Furthermore, the context of a social network site may differ from a virtual project team as their objectives are different. In addition, virtual teams have more mechanisms for social (institutional) control on the reliability of personal information displayed than SNS, as team members are embedded in existing organizations.

If one would know what type of information most people prefer in order to form an impression of their team members in a virtual project team, one could provide a pre-structured template for entering such information. Such predefined templates can have positive effects on the impression formation process as well on the collaboration process as a whole [15,17]. Unfortunately, the selection of the information elements to be displayed in these templates still is a 'best guess' rather than an informed decision.

When people form an initial impression of the trustworthiness of others, several factors interplay [18]. A trustor looks at the specific situation and the specific properties of a trustee, influenced by her mood as well as her trust disposition. While trying to gauge whether a trustee has characteristics which are desired in the specific context, a trustor collects information which can function as a cue and verifies it against the several antecedents of trustworthiness [18]. Although according to implicit

personality theory people use different information elements as cues for specific properties of the other [1], we assume these elements overlap, that is, there are elements many people use. We furthermore expect that it is best to offer elements which are linked to different antecedents of trustworthiness and that elements revealing information on more than one antecedent are more worthwhile. In previous literature, many antecedents have been mentioned, but in recent literature three clusters of antecedents are discerned: ability, benevolence and integrity. This clustering and exclusion of previously mentioned antecedents was made mainly on analytical grounds, not so much on empirical grounds.

While reviewing literature, we have not excluded any antecedent found so far, but merely admitted them all to our list. This led to the following 'candidate' antecedents as the footing of a trustworthiness decision [18]:

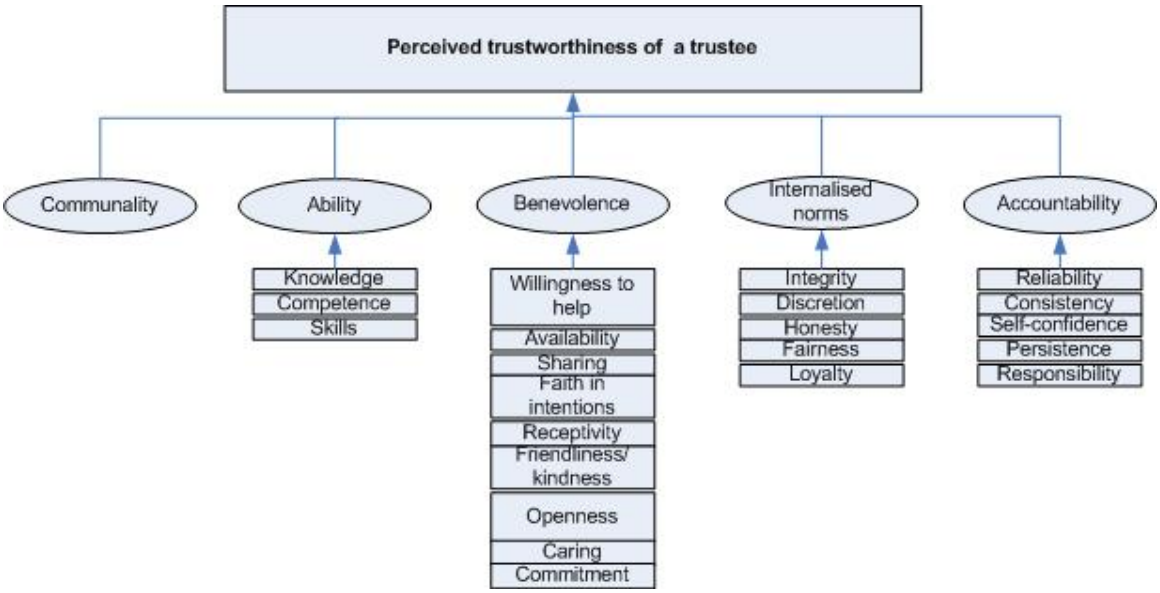

Fig. 1: the TrustWorthiness ANtecedent schema (TWAN)

The question to be answered now is what information elements provide cues for reaching a trustworthiness decision and why these elements apparently matter most. Possibly, some information elements are preferred as they provide information for more than one antecedent. For example, one's education could address one's ability as well as one's consistency and responsibility. Also, from an economy principle people may prefer information elements which provide cues for multiple antecedents. Certain information elements will then have an increased 'weight' in a trustworthiness decision. However, people might also prefer information elements which provide 'unique' information related to a specific antecedent.

These and similar considerations have led us to design a test of the following hypotheses:

H1: Trustors in a virtual project team use the antecedents in the TrustWorthinessANtecedent schema as a reference while selecting preferred information elements in order to decide on a trustee's trustworthiness

H2: Trustors in a virtual project team prefer information elements that provide cues for multiple antecedents within the TrustWorthiness ANtecedent schema

H3: Trustors in a virtual project team prefer information elements that provide unique cues for an antecedent within the TrustWorthiness ANtecedent schema

H4: Trustors' total selection of information elements relates to multiple antecedents within the TrustWorthiness ANtecedent schema

2 Method

First, we determine what information elements trustors have in common when arriving at a trustworthiness decision. Subsequently, we test whether trustors' explanations of their preferences contain references to the TrustWorthiness Antecedent schema, thus testing whether the antecedents function as a reference framework for reaching their decision.

2.1 Participants

Data were collected among bachelor level students, enrolled in the Educational Sciences programme at the Ghent University. A convenience sample existing of 226 students (mean age = 18,2 years, SD= 1,85) participating in a research course was obtained, 93% of which were female and 7% male. 99 % of the respondents had previous experience with collaboration in a face-to-face project team, either in a (part-time) job or during their study. 95 % had previous experience with collaboration in a virtual project team. 88% of the respondents had experience with online conversations with people they had never met before. The majority of online conversations took place via text-based media only, either via chat and/or e-mail (78%) or in combination with SMS (9%).

2.2 Instrument

The questionnaire contained open, as well as closed questions in the respondents' native tongue (Dutch). In this paper we restrict ourselves to the analysis of the open questions. In this part of the questionnaire participants were asked to select the 10 information elements they considered most important when forming a first impression of trustworthiness of a virtual project team member. They could select these information elements either from the pre-defined list they had just rated (closed

questions) as well as from an initial open brainstorm of preferred information elements in a profile they did at the start of the questionnaire.

2.3 Procedure

Before they filled the questionnaire participants received a short presentation that clarified our definition of virtual project teams and showed examples of them. The presentation discussed the role of interpersonal trust for collaboration and the objectives of the questionnaire. At the start of the questionnaire, respondents were prompted by a scenario that described them as a member of a new European project, which required them to collaborate in a virtual project team. They were asked to imagine that they were part of this virtual team and told that they had to form a first impression of their team members' trustworthiness. They were told that they could determine what information they would want to have available from the profiles of their team members by selecting the information elements that they felt mattered most to their trustworthiness assessment. Respondents were told that the responses to this questionnaire would be kept anonymous and that it would take about 30 minutes to complete the open questions of the questionnaire: 10 minutes for the initial open brainstorm and 20 minutes for the selection of the 10 most important information elements, based on the results of the brainstorm as well as on the importance of information elements ranked previously in the closed questions of the list. They were asked to reflect on their answers and to select the 10 information elements they perceived as most important for the determination of trustworthiness within a virtual project team. They were also asked to explain what factual information about an other person they derived from this information and how they interpreted this information in the process of determining the trustworthiness of a future team member.

2.4 Data Analysis

We focus on the analysis of the open questions of the questionnaire, as they provide an explanation for the preference of specific information elements for the design of a personal profile. We used a mixed quantitative and qualitative approaches for this data analysis [12], to detect common preferences of information elements as well as their meaning for trustworthiness assessments of virtual team members. We here report the quantitative part and describe our approach for the qualitative part, not yet reporting the results of this part.

First, information elements selected as most important were categorized and counted and information elements mentioned most often by all respondents were listed according to their frequencies. All explanations referring to these information elements were listed as well, so that we could gauge both the shared importance of the information element across the respondents as well as the explanations of the advantage of using a particular information element for the assessment of trustworthiness. We here report on this first step.

For the qualitative part of the data analysis, we will use a coding approach for the analysis of explanations given in order to verify whether respondents used

antecedents in the TWAN schema as a reference framework for selection of information elements. The different antecedents in TWAN are the coding categories (Figure 1), next to additional categories derived from theory on trust and trustworthiness, such as 'context' and 'trustors attitude' (comprises of trustors propensity and mood). Two raters will first individually analyse 10 % of the responses [13], to determine the similarity of their analyses. We use Cohen's Kappa as a measure of interrater-reliability, with a cutoff criterion of .8 [13]. The rest of the responses will be analysed by one rater.

3 Results

We received 2251 open entries from 226 respondents, of which 1882 entries were indeed rankings and 369 entries were missing data (16%). These entries were due to respondents which did not correctly follow the instruction and selected and described less than 10 information elements. The filled entries of these respondents were included for analysis. Table 1 shows the frequency distribution across the 15 most selected information elements.

Table 1: Frequencies of preferred information elements for trustworthiness assessment in VT's

Information element	*Frequency*
Personality traits/character	124
Work experience	118
Personal motivation for project	117
Education/studies/training/diplomas	94
Age/date of birth	87
Availability during project/agenda	82
Recommendations/references/reviews by third parties	74
Project work experience	67
Language/language proficiency/language skills	66
Photo (formal/informal)	65
Interests/hobbies	60
Family situation/marital status	54
Ideas in relation to project	49
Occupation/function/role/job	49
Nationality	47

In total, 106 different information elements were selected. 9 of them were not in the pre-defined list which respondents had available, e.g. stress immunity; computer skills and meeting skills, but resulted from the open brainstorm.

4 Discussion and Future Research

In this paper we described an approach to determine common preferences for information elements that are used to support trustworthiness assessments. We also describe an approach to the analysis of explanations virtual team members provide for these preferences. For the latter analysis, we will use a TrustWorthinessANtecedent (TWAN) schema.

Initial quantitative results show that often-used information elements such as 'name' hardly matter to trustworthiness assessments, as they were not commonly preferred. Such elements may just be an indicator of identity, merely used to distinguish people ('the flag on the ship'), but apparently they do not carry weight in a trustworthiness assessment. Results also show that each person uses different information elements to assess the trustworthiness of others and that, although there are commonalities across the selection of information elements, the variance of selected information elements is also quite high.

Further analysis of the obtained qualitative data is needed to provide more insight in the nature of peoples common information preferences.

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