SOLVE INSUFFICIENT COMMUNICATIONS
A Measurement-method for Satisfied Communication in Business Organizations

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Abstract: Communication in widely distributed organizations is in many cases unsatisfactory. This contribution presents a method, which enables scalability for satisfied communication in business organizations. This method has been applied in practice and further evaluated by two IT-companies, which operate globally in the field of Web Engineering, E-Commerce and Usability. In the course of the evaluation for a one-month period, personnel were introduced to a checklist, which is specially designed for capturing communication dissatisfaction. The findings within these two companies are alarming in several respects. Many communication channels, which personnel choose by default, are inadequate and thus unacceptable for them and for the respective communication partners.

1 INTRODUCTION

Experts often clash, not because of technical or domain specific reasons, but because of the way they communicate with each other, which may often end in a dispute. A retrospective is a method (Kerth, 2001) for reflecting what happened during the last project period and allows for ideas and suggestions to improve project steps and processes that have been passed. If discords and conflicts arise in this period the project members talk these out and may repair their relationships with each other (Rupp & Steiner, 2009).

On one hand, not every company is in the habit of conducting retrospectives. On the other hand, in optimal circumstances, a retrospective should not even be necessary because many of these conflicts would not arise.

This contribution aims to give companies a practical tool that identifies and solves the aforementioned conflicts and communication problems by way of prevention. A comprehensive number of exemplary conflicts have been discovered and classified in an empirical study, see (Sultanow, Vladova, & Weber, 2009). Our research project to develop a Measurement-Method for Satisfied Communication in Business Organizations is an exploration in reference analysis: we aim to empirically collect data in one company for a one-month period and to compare the results with data

collected in a comparable company for the same period. The results thus far are promising; in both companies we identified the use of improper and deficient communication channels.

2 MEASUREMENT METHOD DESIGN

In order to perform a measurement of communication satisfaction within the given period of one month, the roles are to be identified and the checklist is to be designed with as much user-friendliness as possible in order to ensure peak efficiency.

2.1 Identifying Roles and Channels

Both IT companies, which have been investigated, are distributed nationwide and both contain staff in the following common roles: developer, marketing, project manager. These delegates communicate through well-established channels such as e-mail, phone, face-2-face talk and chat. Other forms of communication, such as videoconferencing, are not currently being implemented.

The above mentioned roles and channels have been identified by means of an interview with the business executives taken in advance. The identified

roles and channels are relevant for designing the checklist, where a contact maker contacts a contact taker. If the contact maker's attempt to get in touch with the contact taker fails or the communication between them is unsatisfactory from the view of the contact maker, he makes a short annotation into his checklist by checking his chosen communication channel, the appropriate role of the person he contacted and the reason of dissatisfaction. If the contact taker perceives an attempt of a contact maker's contact as inconvenient/inadequate or the contact taker is dissatisfied by the communication initiated by the contact maker, the contact taker annotates this in the checklist as same as done by the contact maker as described above.

2.2 Design Checklists

As introduced in the previous section, a communication requires at least two members, a contact maker and a contact taker. Analogously, two checklist types are designed, one for the contact maker and another one for the contact taker.

Figure 2 shows the checklist, which is designed for contact takers in an unsatisfied communication situation. The structure of both checklists must allow personnel to input quickly without spending a disproportionate amount of time for understanding what is meant and where to check correctly. For that reason, pre-tests were performed to improve the checklist's efficiency.

Each checklist is self-explanatory. For an unsatisfied communication case, the contact maker indicates who he tried to contact, which channel he used, the reason for dissatisfaction, the range to be improved and the new attempt of contact including its rating. The checklist for the contact taker is similarly designed.

In checklist for contact takers, in the case of an unsatisfied communication a contact taker indicates on which channel who tried to contact him, why and how he counteracted including a rating for his counteraction.

3 EMPIRICAL INQUIRY

The empirical inquiry is performed in two mid-sized IT companies each with approximately fifty employees. The business profile of both companies investigated can be summarized as follows:
- Company A develops an E-Commerce web portal, which provides products, offers and consumer information.

- Company B provides consulting in the manner of *Design Led Innovation* and develops user feedback driven solutions.

Personnel situated in key roles, such as developers, marketing professionals and project managers, are introduced into the inquiry and trained for the usage of the checklists, which have been designed for this inquiry.

Before starting the inquiry, both checklists – the one for contact makers and the other one for contact takers have been evaluated during a pre-test. During this pre-test staff members are requested to annotate exemplary hypothetical situations within the checklist. For example a marketing employee was given following imaginary situation:

"You tried to contact a developer by phone in order to ask for an estimated development time for a new module planned for sale. The developer didn't pick up the phone and you went into his office for giving your question in a face-2-face talk".

For a month period the staff member filled out the checklist, during the first week at each end of the day feedback dialogs where performed in order to ensure that the checklist was accurately used and not forgotten in moments when they are to be used.

After this period, Company A collected from their personnel 79 checklists from contact makers and 62 from contact takers. Company B collected 145 checklists from contact makers and 142 from contact takers.

This data collected forms the basis for the analysis given by the next section.

4 DATA ANALYSIS

The data analysis consists of three parts. First there is a descriptive analysis of each company separately. Another part is the network analysis of each company. And finally there is the comparison of a company with another particular company or a set of companies.

4.1 Descriptive SPSS Report

The descriptive analysis was done with the statistic application SPSS. Due to the fact that the collected data is collected anonymously it is not possible to join/merge the two databases based on different checklists. The checklists only ask for the role of the communication partner but not for his identity. But each database still enables a various kind of analysis.

The checklist "Somebody tried to contact me" gives an insight into the view of receivers on dissatisfying communication (see Table 1).

Table 1: "Somebody tried to contact me."

	Addressed problem
1	How often and which communication channels are subject to a dissatisfying communication (overall; per role)?
2	What are the reasons for counter action (overall; per role)?
3	What is the frequency of different kinds of counter actions?
4	Which counter action is preferred to react on dissatisfying communication using which channel?
5	What is the frequency of dissatisfying communication between the different roles of contact maker and contact taker?
6	Which communication channel causes the most trouble for a particular role of the contact taker?
7	How is the applied counter action rated?
8	How often and which communication channels are subject to a dissatisfying communication (overall; per role)?

Figure 1 shows the results of the question "Which counter action is preferred to react on dissatisfying communication using which channel?" As you can see, in both companies the employees documented dissatisfying communication by phone, e-mail, chat or face-to-face-talk. But the reaction and the executed counter actions are completely different. The members of Company A (Figure 1a) prefer to ignore untimely or inconvenient communication requests or place them on hold. Members of Company B (Figure 1b) choose more intensive the alternative of forwarding communication requests to a project manager. In this case the project manager is able to recognize the occurring communication overflow of its project members and he is able to satisfy the communication resp. information request without delay. After having a deeper view on company B we observed that the company made some organizational rule: In the past the developer had been contacted by other departments frequently and the work rhythm was interrupted each time. Therefore the project manager has acquired the responsibility to be the first contact point for technical request of non-developers. The descriptive analysis (Figure 1b) shows that the learning process is still in progress. Not all employees are ready to contact the project manager first, but the developer

already makes use of that service. They forward the technical request to the project manager and he will answer or preselect the requests without disturbing the development. A future snapshot in this company will show if this service has been accepted by the non-development departments.
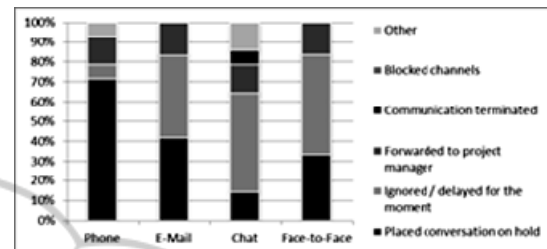

Figure 1a: "Somebody tried to contact me": Communication channel crossed by counter action (Company A).
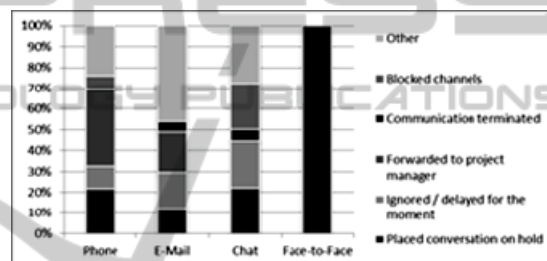

Figure 1b: "Somebody tried to contact me": Communication channel crossed by counter action (Company B).

The other point of view is the one of the contact maker. All results, however, cannot speak for themselves. They have to be interpreted by someone who knows the enterprise. Maybe the organizational behavior differs from other organizations because of very special institutions, e.g. workflow organization vs. self-organization. Based on the primary result it is possible to see that something in the organization is different, but without an expert view it is not clear whether it is a symptom of something good or bad.

4.2 Social Network Analysis (SNA) Report

The different SNA values for the investigated example are listed in Table 2. In this example indegree, outdegree, degree centrality, closeness centrality and prestige are analyzed.

Figure 2: Checklist for contact takers.

Table 2: SNA values for the investigated example.

Role	In Degree	Out Degree	Degree Centrality	Closeness Centrality	Prestige
Consultant	4	4	0.5714	0.77	0.5714
Marketing	3	6	0.8571	1.4	0.4286
Developer	3	4	0.5714	1	0.4286
Project Manager	4	0	0	0	0.5714
Customer	3	0	0	0	0.4286
Employee Group	1	0	0	0	0.1429
Misc.	0	0	0	0	0
Business Executive	0	4	0.5714	0.875	0

5 RÉSUMÉ

In the case of the first company, which has been investigated, the results can be interpreted as a performance of success; namely, the communication between IT and other departments including marketing etc. has been mediated by introducing a special role. So it is not to be negatively interpreted, that contact makers are delivered to a dedicated person, which communicates between them. It shows a kind of organizational learning: the use of a mediator between different departments. A direct communication was previously overloaded.

6 FUTURE WORK

The results of the comparative analysis becomes better the bigger the database is. As databases expand it will be possible to make much more specific comparisons, e.g. organizations of the same size, business branch, and communication structure or role distribution. It will be possible to make an analysis for particular roles independently from their organizational affiliation.

The biggest challenge is to make data collecting efficient. At the moment every dissatisfied communication event has to be reported manually by paper and pen. Data is collected manually and therefore the proposed method does not scale. But this offline tool has been chosen because of its independence of PC accessibility. Even a mobile device would be too inconvenient. The perfect solution would offer different ways for reporting but must still guarantee anonymity.

Whenever possible, the analysis has to take advantage of automatic data collection, for example by analyzing log files, always guaranteeing the privacy of the employees. Only then will it become possible to create reports in time and to offer individual communication profiles. These individual reports will only be posted to the specific user. This might be a personal outer distant signal. The user has an empirical indication that his communication

behavior is "very special" and might be the cause for
some communication problems in the past.

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