

論文の内容の要旨

論文題目 Production of Information Based on the Classification of
Information Receivers' Interpretations of Written Technical
Text for Communication Quality Management
(文字情報の受け手の解釈の分類によるコミュニケーションの
質向上のための文書作成に関する研究)

氏 名 マレク ジリ

Information quality management requires advanced approaches or tools with which different aspects of information will be evaluated and managed because such approaches should reduce time and costs related to inappropriately quality information in communication process.

Literature review identified that there are several problems in current information quality management. Firstly, many quality dimensions of information are mainly applied on data in different databases, but these dimensions measured with different metrics are not applicable on written technical texts. The second problem is that this research field tries to focus more on written information out of the same databases, but does not consider sufficiently deeply, while searching for this refocus, different studies from linguistics or rhetoric not only related to different recommendations for writing or about psychological aspects and sources of troubles in communication behavior. Finally, psychology is almost ignored by current research in information quality management because the refocus on written texts is still at the beginning of its development.

The thesis aims as its objective to improve current states of information quality management as a scientific discipline by proposing one tool with which mainly texts' understandability can be evaluated. This understanding can be considered as one quality dimension of information located out of databases. The tool was developed with several studies and enables to evaluate texts' quality through the evaluation of its interpretations produced by a group of people. And the prototype of the proposed tool developed with the 3 preliminary studies was applied to experienced engineers in construction projects.

The first preliminary study tested an expectation about respondents' changes of

self-evaluations of levels of understanding when these evaluations are produced at the end of different tasks required from the respondents to understand the same text. It enabled to search for how interpretations can be classified according to several respondents' main communication abilities (e.g., to understand text's organization, to explain key terms of the interpreted passage). It also enabled to search for how to construct and apply in different classification criteria on the respondents' interpretations.

The second preliminary study tested whether the expectation about respondents' changes of levels of understanding verified in the first study will also occur when different text is used (an improved version of the first text). Its second purpose was to search for whether there are no significant troubles of the tool used in the first preliminary study when different text is used.

One limitation of the first and second preliminary studies, which was identified at the end of the second study, was that the first questionnaires used in them were focused on self-evaluations, but not sufficiently. Therefore, it was not possible to compare the critical evaluation of respondents' interpretations which were always obtained in the 2nd questionnaire of the 1st and 2nd study.

Thus, the third preliminary study required in one questionnaire more self-evaluations from the respondents participated in the first and second study, but it was later still impossible to obtain many findings while comparing the results from all of the preliminary studies. Due to this limitation, the preliminary version of the tool was again reformulated for the main study.

At the beginning of this main study, three construction projects in Hong Kong were visited. This visit interviewed their project managers and identified that the most important and problematic communication identified by them always occurs with a supervising engineer's officer. Secondly, they similarly reported that their workers have insufficient communication skills or related to problem solving and trainings are welcomed for these people, but preferably before each project will start.

The proposed tool generally demonstrated that when different aspects of different texts should be evaluated, it is not always possible without considering their interpretations of information receivers who mainly deal with these texts. Because their self-evaluations of understanding can be incorrect, thus they cannot be used for the evaluation of text's understandability as reliable sources. Due to this reason, the thesis proposed several approaches with which incorrect beliefs about different communication abilities can be critically tested, including incorrect beliefs (self-perceptions) about understanding.

Based on the results from several tests presented in the thesis and dealing in most cases with respondents' understandability, the same respondents as information receivers can be then informed about their incorrect beliefs related to their different communication abilities with the main purpose to improve their interpretation abilities. Secondly, the classification of their interpretations does not only enable to identify the most non-quality aspects of the interpreted texts or to correct respondents' incorrect perceptions about their abilities to interpret, the tool enabling to classify interpretations also enables to produce suggestions for respondents' trainings whose the only one purpose can be to improve their main unacceptably low interpretation abilities.

The main part of the main study performed in Hong Kong used a group of highly experienced workers from one project. With the improved versions of the questionnaires, one focused on self-evaluations and one dealt with critical evaluations, the main study successfully led the results from the critical test with some of the experienced respondents' self-evaluations. Each group always contained at least one respondent which satisfied no evaluation criterion despite at least some criteria always required no technical knowledge to be satisfied.

The proposed tool enables to compare self-evaluations of different communication abilities with the critical evaluation of the same abilities. It enables not only to identify the main communication weaknesses connected to different people participating in a test and interpreting some text, it also enables to identify the most non-quality parts of different texts. Moreover, recommendations for communication can be produced with results obtained with the proposed tool.

Several limitations of this study were, however, clarified. Weights of different evaluation criteria applied on interpretations were always considered as equal. The thesis was not able to specify a minimum number and type of criteria which will guarantee that the same group of respondents dealing with similar texts will score highly similarly in these tests.

In conclusion, it advanced current approaches in information quality management when text's understandability was evaluated through the classification of its interpretations. Linguistics presenting recommendations for writing and psychology presenting knowledge about incorrect self-perceptions about communication behavior were also incorporated into the proposed tool. While considering approaches of several scientific fields together, it was possible to propose the tool which enables to research and understand the quality of communication process more complexly than all the previous approaches.