

Clarity in Knowledge Communication

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Abstract: Knowledge communication is an essential mechanism to facilitate intra- and inter-organizational knowledge transfer. In order to improve the efficiency of knowledge communication, organizations need to pay particular attention to the clarity of conveyed knowledge in order not to create confusion, misunderstandings, or misapplication of knowledge. In this contribution, we show where and how the concept of clarity matters for knowledge management in general, and for knowledge communication in particular. We review and operationalize the clarity concept so that it can become the object of a systematic management effort. Furthermore, we show ways of how clarity can be pro-actively and systematically managed. We have tested our conception of clarity in a survey on clarity in knowledge-focused presentations, and we present the results in this paper. An outlook on future research on clarity in knowledge management concludes the article.

Keywords: clarity, ambiguity, knowledge communication, knowledge transfer, PowerPoint presentations

Categories: M.0, M.3, M.4, M.8, M.9

1 Introduction and Overview

Knowledge management activities can be roughly divided into knowledge creation, sharing, retention, and application, as well as evaluation and measurement [Nonaka 2008; Nonaka and von Krogh 2009; Probst et al. 1999]. Clarity of expression plays a vital role in many of these contexts, as clarification is a necessary step in articulating new concepts (knowledge creation), in conveying one's insights to others (knowledge sharing, knowledge communication), and in appropriating knowledge to its application context (knowledge utilization) [Vera and Crossan 2003]. The process of knowledge communication can be regarded as the activity of interactively conveying and co-constructing insights, assessments, experiences, or skills through verbal and non-verbal means [Eppler 2007]. This individual face-to-face communication is therefore by its character a process, which asks for clarity [Grant 1996]. The result of knowledge communication is the successful reconstruction of an insight, experience or skill by an individual because of the communicative action of another and is the more successful the more clear it is conducted.

This article addresses the important, but under-researched issue of clarity in knowledge communication as a special case of knowledge management and answers the following questions: Why is the concept of clarity of high relevance to knowledge communication? How can clarity be pragmatically defined and used in knowledge communication? Which clarity-oriented practices and principles can be appropriated for knowledge communication and documentation? Which factors affect clarity in

knowledge sharing negatively, for example in PowerPoint presentations? We address these questions by first contextualizing clarity within the domain of knowledge management and then by outlining its different components. We review seminal contributions to the study of clarity and show how they can be used in knowledge management. We summarize these findings in a concise clarity checklist for knowledge managers. Finally, we present results from a survey on clarity in knowledge-focused presentations (where experts try to convey their insights to non-experts through PowerPoint slides). These results stem from the opinion that our checklist captures some of the most relevant factors related to clarity in communication of knowledge-intensive topics.

2 The Relevance of Clarity for Knowledge Management

Clarity or the characteristic of something to be clear in appearance, thought or style, is defined, according to the Oxford dictionary, as the state of being free from doubt, *ambiguity*, or *difficulty*, to be *distinct* and *well defined*. To make something clear is equivalent to making it understood and to *reduce* what is unwanted from it. The lack of clarity in turn can make documented insights or practices difficult to understand or apply; it can interfere with knowledge transfer or make the assessment of intellectual capital tiresome and difficult. To illustrate the relevance of the notion of clarity, we have compiled a few typical knowledge management challenges that can be reduced by improving clarity (see Table 1) below.

Knowledge management problem	How clarification can reduce the problem
<i>Knowledge Creation</i>	
A new product innovation idea cannot be turned into a prototype as the engineers get lost in options instead of advancing one particular design.	A clarification process is needed to single out the key ideas and combine them to a realistic prototype. Clarity helps in distinguishing the new from the old and focus on the essential ideas.
<i>Knowledge Sharing</i>	
Best practices cannot be transferred among business units [Szulanski 2000].	Distinguish and define ambiguous elements in knowledge and clarify the origination context.
<i>Knowledge Retention</i>	
Long-term knowledge repositories are no longer understood by the subsequent generation of knowledge managers and remain unused.	Clarification of original documentation context. Systematic ambiguity reduction. Increasing clarity by updating and relating key terms.
<i>Knowledge Application</i>	
Lessons learned from a completed project are not re-used.	Adding context information to project documentation, structuring the lessons learned clearly, and reducing ambiguous terms all lead to easier to use lessons learned.

Table 1: Clarity-related knowledge management problems

This apparent need for clarity is indeed documented by prior studies on the topic: [Feinberg and Pritzker 1985] found out already some time ago that the three most important attributes that executives demand in complex communication are clarity, conciseness and logic. Also newer studies show the importance of clarity: [Bambacas

and Patrickson 2008] found in their study on human resource managers' expectations that "the skill of maintaining clarity and consistency of messages was rated as having the utmost importance. HR managers considered this skill as key in their selection of managers in new supervisory roles, key in enhancing commitment and key to any communication behaviours needing attention in the organisation" [Bambacas and Patrickson 2008]. In spite of these calls to action, clarity has received little attention in management research in general, and almost none in the knowledge management domain. Nevertheless, some seminal contributions to the study of clarity can be identified and will be summarized briefly below.

3 Literature Review: Elements of Clarity

[Suchan and Dulek's 1990] statement that „clarity is business communications' most sacrosanct topic" illustrates the importance of this topic in general. In their article on a reassessment of clarity in written business documents [Suchan and Dulek's 1990] they argue that clarity is the "most serious communication problem in business". Various aspects of clarity have been subject to research, whereas only a few scholars examine the concept of clarity as explicitly as Suchan and Dulek. While some studies focus on clarity in business communication or written texts and documents [Bennett and Olney 1986; Suchan and Dulek's 1990], others examine the issue of clarity in strategic communication [Reeves et al. 2005], in instructions [Kennedy et al. 1978] in curricula for business education [Feinberg and Pritzker 1985], or in business role allocation [Hall 2007]. The majority of research concentrates on assessments of clarity in the above contexts, but fails to provide pragmatic advice on how to *achieve* clarity, especially in such complex domains as knowledge management. Apart from the literature on managerial communication, the topic of clarity is often addressed using closely related terms such as *understanding* [Sweller and Chandler 1994], *clearness* [Carlile 2004], *distinctiveness* [Peirce 1878], *sensitivity and specificity* [Reeves et al. 2005]. One of the first definitions of clarity was given by the philosopher René Descartes, when he said "Clear means evident and distinct from other things". This definition was later further developed by the logician and pragmatist C.S. Peirce who also linked clarity to the notion of distinctiveness, but added the element of *evident action implications* to clarity [Peirce 1878]. Another forefather of clarity research is George Orwell. Though published as a critique of jargon and bad use of English in political debates, his seminal essay on the topic can be seen as a pragmatic approach to clarity. Orwell recognized thinking clearly as the necessary step toward political regeneration [Orwell 1946]. His 'clarity maxims' of reducing texts to their essence seem as timely in today's Internet era as back when they were first articulated. The domain in which we can find the most discussions of clarity regards scientific and journalistic writing [Strunk and White 2008; Williams 1990]. Unfortunately, these texts mostly consist of lengthy lists of what one should do (or not) style-wise to write clearly (i.e., avoid complex nouns in lieu of verbs, passive voice, long relative clauses, foreign terms, jargon, or unstructured texts). A notable exception to this 'list mania' approach comes from Überjournalist Joseph Pulitzer and his elegant clarity mantra: "Put it before them briefly so they will read it, clearly so they will appreciate it, picturesquely so they will remember it and, above all, accurately so they will be guided by its light." This simple formula has later been the start-

ing point to many investigations made by cognitive and educational psychologists to understand and enhance the *readability* of texts and thus enable better understanding and knowledge generation, sharing, or learning.

At the forefront of modern clarity research in this tradition is the so-called “*Hamburger Verständlichkeitskonzept*” by Langer, Schulz von Thun and Tausch [Langer 1989; Langer et al. 1974]. In their empirically based, inductive framework, the three professors propose that texts are easy to understand if attention is paid to four crucial elements of text design: *simplicity*, *structure* and order (inner and outer order), *conciseness* and brevity, and additional *stimulation* (i.e., examples, quotes, anecdotes). In contrast to [Langer et al. 1974], [Groeben 1982] incorporates different approaches of cognitive psychology and develops a context-dependent model of text understandability. He distinguishes four factors that affect comprehensibility: cognitive *structure/content* classification, semantic *redundancy*, stylistic *simplicity*, and conceptual *conflict* [Groeben 1982; Jahr 2001]. In contrast to Langer et al., the Groeben model not only takes the text and its understandability (content and style, logical structure) into account, but also the *reader’s ability* (i.e., his or her necessary foreknowledge) to understand a text [Groeben 1982; Naumann et al. 2007]. He thus conceives of clarity as a relative, context-dependent construct, an approach that we can also find in another approach: the *cognitive load theory* [Sweller and Chandler 1994], which has become increasingly influential in instructional psychology and was developed by John Sweller and his colleagues. This theory from the field of knowledge acquisition gives insights to the elements of clarity and is relevant to master clarity in complex knowledge communication [Mousavi et al. 1995]. The necessity of adapting instructions to the constraints of the learner’s cognitive system has been the main concern of this research. Cognitive load theory argues that many traditional instructional techniques do not adequately take the limitations of human cognition into account, as they unnecessarily overload the learner’s working memory. The theory refers to the beneficial effect of *removing redundant information* as the redundancy effect. It furthermore tries to integrate knowledge about the structure and functioning of the human cognitive system with principles of instructional design. Conversely, some critiques to the cognitive load theory come from Schnotz who argues that a reduction in cognitive load may sometimes impair learning rather than enhance it [Schnotz and Kürschner 2007]. Schnotz investigated the effects of animated pictures on knowledge acquisition and found that different kinds of animations have, indeed, different functions in the process of learning, while a reduction of additional information to avoid information overload is not always beneficial for the learning process [Schnotz and Rasch 2005]. Clarity in knowledge communication can thus not simply be reduced to reducing information.

In more recent academic literature on clarity in knowledge management and communication, a definition of clarity is absent, with very few exceptions. such as a definition of clarity of knowledge visualizations from Bresciani et al. as the “property of the (visual element) to be self-explanatory and easily understandable with reduced cognitive effort” [Bresciani et al. 2008]. Within the domain of knowledge management, clarity has been addressed in the literature regarding knowledge transfer and knowledge sharing [Carlile 2004; Nonaka and von Krogh 2009]. In such contexts, a lack of clarity is frequently reported as a knowledge transfer barrier [Szulanski 2000; Von Hippel 1994; Jacobson et al. 2005]. [Suchan and Dulek 1990] also link clarity to

knowledge and see clarity, or the lack thereof, as the result of an organization's *idiosyncratic knowledge* and specialized internal language. In their analysis, clarity-related problems often begin with the existing *mindset* within an organization.

Steps / Elements	Explanation	Key Questions for Knowledge Managers
C oncise Content	Knowledge communication should focus on the essential elements and show them in overview before going into details. The communicators should avoid lengthy sentences or needless deviations.	<ul style="list-style-type: none"> • What is the most important part? What can be left out? • How can it be said simpler? • How can it be summarized? • How can it be made accessible? How can details be found easier?
L ogical Structure	The structure of any knowledge communication should be logical and accessible: logical in the sense that elements build on one another in sequence; accessible in the sense that it is self-evident and intuitive.	<ul style="list-style-type: none"> • What is the overall logic of the message? • What should come first? • How can it all be organized ergonomically? • How can the parts be explicitly connected?
E xplicit Context	The context of knowledge needs to be made explicit with regard to the targeted audience, the reason for the communication of that knowledge, and its urgency and importance.	<ul style="list-style-type: none"> • Is it clear who should read this? • Is it clear how and when this should be used? • Is it clear why this was developed and by whom?
A mbiguity Low	Most knowledge communication should be free from ambiguity or multiple interpretations. Ideally, all words and sentences can only be interpreted in one way in order to avoid misunderstandings or misapplication.	<ul style="list-style-type: none"> • What could be understood the wrong way? Why? • How can it be better explained? • Which terms are not clear and should be defined?
R eady to use	Any communication or knowledge documentation and its format should fit the (action or problem solving) needs, preferences and foreknowledge of the audience. The knowledge must be made actionable by involving the future users (inter-)actively.	<ul style="list-style-type: none"> • When and how will people use this material? • How can we make it easier to use the insights in those situations? • What are the most directly applicable parts? How can they be highlighted? • Which interactive tools or mechanisms will help people apply the documented insights?

Table 2: Our CLEAR formula and corresponding check questions

In order to foster a *clarity mindset*, we have summarized the factors that surfaced from this literature review in a concise and easy-to-remember formula that we present in the next section and validate in the subsequent one.

4 Operationalizing Clarity for Knowledge Communication

Summarizing the different approaches and definitions reviewed above, we propose the following C-L-E-A-R formula for assuring clarity in knowledge communication. To help knowledge managers and subject matter experts consider clarity issues in their work, they can also ask themselves the corresponding diagnostic check questions in the third row for each clarity element (see table 2).

The rationale behind this formula can be summarized as follows: Conciseness is key because too much information cannot be transformed into knowledge (the information overload syndrome). A logical structure is needed to have a scaffold with which to build new knowledge. Explicit context is imperative in order to be able to re-contextualize and consequently re-apply knowledge, as one has to understand the context of origination of insights or practices. Ready-to-use is important as knowledge should be aligned towards its actual application context.

Clarification Step	Main Activities	Examples
Compressing knowledge	editing, summarizing, visualizing	Cutting out excess examples or illustrations Writing an Executive Summary or Abstract Providing a summarizing conceptual diagram
Linking elements logically through a structure to support knowledge construction	Sequencing and organizing content Linking elements explicitly Providing transitions	Providing an up-front outline Including transition sentences between sections
Eliciting the implicit (origination and application) context of knowledge	Providing background information Stating the context of origination of the message Stating the use context of the message	Stating target group Stating purpose of document or message Adding an expiration date Providing background on the author
Addressing and reducing ambiguities inherent in the captured knowledge.	Defining terms Using simple terms Editing for easier interpretability	Providing a glossary Providing synonyms Providing illustrative examples
Reformatting the knowledge for easier applicability	Providing interactive tools and checklists Providing reference sections (glossary, index, etc.) Involving the audience	Excel model instead of only word document Q&A or FAQ section Providing an alphabetical index

Table 3: Steps in the Clarification Process

We label the process of achieving these elements as *clarification*. Clarification is an iterative process whereby unessential elements are reduced and messages are compressed, a logical, accessible and consistent structure is developed, a context for the message is being made explicit, and potential occurrences of ambiguity are systematically reduced. Clarification also entails a transformation of a message into the format and style that is most useful or applicable for its intended audience. These steps do not necessarily have to be performed in this sequence, and there may be cycles or iterations among the steps.

5 Empirical Evidence: Results from a Survey

In the section above we have argued that clarity in knowledge communication can be captured in a few vital characteristics that can be systematically applied or checked. This implies that clear communication can be (to a certain degree) learned, which has been shown by several studies, e.g. with teachers and supervisors [Langer et al. 1974, 1989; Metcalf and Cruickshank 1991]. Our next ambition was to conduct a survey among academics who are familiar with knowledge-intensive complex presentations. The purpose of our survey was to validate our CLEAR formula and to check whether the five components of clarity featured in our framework actually correspond with the needs and expectations of academic software-supported presentation modes.

The survey on 'clarity in PowerPoint knowledge presentations' consisted of 41 quantitative questions and 6 qualitative questions. We have developed the questionnaire using a 5-point Likert-scale measuring either positive or negative response to different statements related to clarity in presentations, the effect of unclearness on the audience, issues to be considered when using PowerPoint and mechanisms to increase clarity. We have distributed the questionnaires manually with a short introduction regarding its purpose. The study was conducted at the University of St. Gallen and at the University of Lugano. We have asked students and academics from different degree programs and nationalities about their views on clarity in knowledge-intensive, complex PowerPoint presentation, something that they all had extensive experience in as students and course participants. Our sample consists of 14 3rd year Italian and Swiss bachelor students enrolled in a program in corporate communication, 94 master students from the University St. Gallen and Lugano, 12 PhD students as well as 25 senior American and Canadian MBA students. Our final sample sums up to 145 completed questionnaires on this topic to validate our CLEAR framework.

The results indicate that our formula does indeed tackle the relevant clarity drivers: the most important or negative factor for (a lack of) clarity in PowerPoint presentations was considered to be 'too much text on a slide' (shows a mean of 4.3 out of 5, see table 4), which refers to our CLEAR formula step C '*concise content*'. The second highest ranked affect was 'unclear presentation structure', validating the L out of the CLEAR formula, namely *logical structure*. The third highest ranked factor for clarity (or lack thereof) concerned 'the link between speech and slides' which corresponds to our A=*ambiguity gone* dimension in the sense of better explanation and combination of the spoken word and the written text (to reduce the ambiguity in the text slide through verbal comments and thus guide the interpretation). This factor also relates to our dimension of providing 'explicit context' for information, as contextualizing the slide text is frequently the main function of orally provided slide comments. The fourth

highest ranked negative factor was ‘showing a slide too quickly’ which means it was not ready or optimal for its intended usage (i.e. understanding its content).

Although the sample is too small to generalize, it is nevertheless a first indication of the relevance of our main clarity elements.

<i>Most negative impact on clarity in knowledge presentation?</i>	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Variance</i>
<i>too much text on a single slide</i>	142	2.00	5.00	4.3	0.8	0.7
<i>unclear presentation structure</i>	143	2.00	5.00	4.3	0.7	0.5
<i>missing link between presenter’s speech and slide text</i>	142	1.00	5.00	4.2	0.9	0.8
<i>slide shown too quickly</i>	144	1.00	5.00	4.1	0.9	0.8
<i>long phrases instead of keywords</i>	144	1.00	5.00	4.0	1.0	1.1
<i>inconsistent presentation style</i>	143	1.00	5.00	3.9	1.0	0.9
<i>too many slides in a presentation</i>	143	1.00	5.00	3.8	1.0	1.0
<i>lack of summary / conclusion slide</i>	142	1.00	5.00	3.8	1.0	1.1
<i>missing interaction with audience</i>	144	1.00	5.00	3.8	1.1	1.3
<i>lack of agenda/overview slide</i>	145	1.00	5.00	3.5	1.0	1.1

<i>distracting animations on slide</i>	143	1.00	5.00	3.5	1.0	1.1
<i>unfitting clipart or symbols</i>	142	1.00	5.00	3.3	1.0	1.1
<i>spelling errors</i>	143	1.00	5.00	3.2	1.2	1.5
<i>some slides not explained/skipped</i>	142	1.00	5.00	3.1	1.2	1.3
<i>bullet points instead of explanations / relations among items</i>	140	1.00	5.00	2.8	1.2	1.5
<i>too little information per slide</i>	143	1.00	5.00	2.6	1.1	1.2
<i>no printed hand-outs</i>	142	1.00	5.00	2.5	1.3	1.6
<i>use of the same slide template</i>	139	1.00	5.00	2.4	1.2	1.5

Table 4: Items negatively affecting clarity in PowerPoint-based knowledge presentations (listed by overall ranked importance)

The qualitative part of our survey focused on people's general likes and dislikes regarding clarity in presentations. The following quotes illustrate very lively what students like about presentations, and again being clear is one of the student's favorites: "I like it when they are filled with essential keywords followed by oral explanation." "I like about powerpoints that they are clear, use keywords and are thus easy to understand." On the other hand students dislike PowerPoint presentations that are unclear, as stated here: "I hate it if the slides are not explained." "I hate it when presentations are too long and there is too much unexplained text on one slide."

A check question revealed that the population we surveyed generally likes PowerPoint presentations (3.85 mean out of a 5 point scale). No participant went below the mid-value of 3 in his or her assessment of PowerPoint presentations in general.

One main prerequisite for presenting our clarity framework was the opinion that clear knowledge communication can be learned and operationalized. This argument is supported by the results of our survey (see table 5). The most likely mechanism to

achieve more clarity in oral presentations is considered to be ‘training the presenter’. The second highest rank mechanism to improve clarity is ‘rehearsing the presentation’, a mechanism which hits upon the same idea namely professional training and exercise of clear and concise communication.

Most likely factor to increase clarity of a presentation?	N	Minimum	Maximum	Mean	Std. Deviation	Variance
training the presenter	144	2.00	5.00	4.3	0.7	0.5
rehearsing the presentation	137	2.00	5.00	4.0	0.8	0.7
watching great presentations	143	1.00	5.00	4.0	0.9	0.8
proof reading and style checking	144	2.00	5.00	3.9	0.8	0.7
feedback from friends	144	1.00	5.00	3.8	0.9	0.8
better presentation tools	143	1.00	5.00	3.6	0.9	0.9

Table 5: Mechanisms positively affecting clarity in PowerPoint-based knowledge presentations (listed by overall ranked importance)

6 Conclusion and Outlook: Towards a Clarity Conception for Knowledge Management

Knowledge communication is an essential ingredient of well working knowledge management efforts in organizations [Eppler 2007; Senge 1990]. Without the ability to document insights properly and communicate them clearly to others, much of the problem solving and innovation potential of knowledge remains ‘lost in translation’. The clarity concept – as reviewed and operationalized in this article – can help to make knowledge management more user-centred and consequently more effective. We believe that our study is a first step in addressing this important knowledge management issue. The results of our survey among 145 academics (bachelor, master, MBA and PhD students, and academic researchers) can be regarded as an indication of the relevance of our main clarity elements and thus indicates that our CLEAR

framework is pertinent for knowledge communication and can help to operationalize clear communication of knowledge-intensive topics.

In future work, we want to contextualize the clarity topic in context-rich case study material from European organizations. This material should illustrate the generic elements of clarity in knowledge-management contexts, but also reveal specific clarity factors that may vary from one knowledge management context to another. We also hope to be able to develop a clarity index, in order to semi-automatically measure and assess clarity degrees of knowledge repositories. In this way, we hope to develop a rich and yet useful conception of clarity that is tailored to the needs of the knowledge management professional and academic community.

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