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Caring for 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 article. An outlook on future research on clarity in knowledge management concludes the contribution.

Keywords: clarity, knowledge communication, knowledge transfer, cognitive load theory, PowerPoint presentations
Categories: M.5, 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.

Fields of application of clear knowledge communication range from educational to psychological and managerial contexts. Our interest here is on knowledge communication in management. Various management processes can be identified, such as strategy formulation and implementation [O'Reilly 2010], reorganizations [Miles et al. 2010], risk management [Blakley 2009] or crisis management [D'Aveni and MacMillan 1990]; all of them strongly require clarity to convey complex insights.

In their seminal work on Blue Ocean Strategies, Kim and Mauborgne [2005], for example, discuss clarity as a crucial element in strategic planning and strategy implementation. They propose a convincing step-wise procedure and call it "expectation clarity". Their definition includes that this is an element of a fair managerial process. *"Expectation clarity requires that after a strategy is set, managers state clearly the new rules of the game and what is expected of employees.…When people clearly understand what is expected of them, political jockeying and favoritism are minimized, and people can focus on executing the strategy rapidly."* This straightforward claim for clarity tackles one of the most difficult and sensitive processes in managerial work: strategic planning. This communicative process is influenced by the involved actors, their communication skills and their commitment to the new strategy [O'Reilly et al. 2010].

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 the opinion that our checklist captures some of the most relevant factors related to clarity in communication of knowledge-intense topics.

2 The Relevance of Clarity for Knowledge Management

"The problem with communication is the illusion that it has been accomplished" (George Bernard Shaw).

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 Tab. 1) below.

Knowledge management problem	How clarification can reduce the problem
Knowledge Creation	
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.
Knowledge Sharing	
Best practices cannot be transferred among business units [Szulanski 2000].	Distinguish and define ambiguous elements in knowledge and clarify the origination context.
Knowledge Retention	
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.
Knowledge Application	
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 outmost 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]. Even risk managers see clarity as a major issue, as Blakeley [2009] illustrated when saying that "clarity of risk communications can significantly improve the effectiveness of controls and, therefore, reduce business losses, regulatory penalties, and reputation damage." As an example for institutionalizing clarity he specifies that communication, in particular about risks in the future, should use clear and understandable scenarios.

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]. Chatterjee [2005], for example, posits that there are two components for designing successful strategies: choice and clarity. He further elaborates that the utmost possible clarity is required to synthesize how your business model is supposed to work.

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* [Carlile2004], *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 starting 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). The authors present different examples of texts to illustrate their concept. Additionally, they underline the emergent importance of rehearsing of clear writing skills. 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.

Another early protagonist on the clarity stage was David W. Ewing and his famous work on 'Writing for Results', an upper-level writing course for a professional who wishes to improve his or her writing skills. The new element in Ewing's work was the presentation of case-oriented guidelines for practical application. He starts with questioning if a message should be written at all and, if so, how it should be organized. Or how George Eliot once said:

"Blessed is the man who, having nothing to say, abstains from giving in words evidence of the fact."

Ewing was among the first to stress the use of *visuals* for improving clarity, and provided additionally a recipe when and how to use charts and diagrams [Ewing 1979].

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. The connection of clarity problems with internaly focused mindsets and specific jargons is also subject to a study by D'Aveni and MacMillan [1990], who investigate the behavior and communication of managers during crises situations, such as business bankruptcy. As Roberts [2005] elaborates, individuals have to manage impressions of their personal and social identities to reduce discrepancies between their perceived and desired professional images and how professional images are constructed in diverse organizational contexts.

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 tab. 2).

The rationale behind this formula can be summarized as follows: Conciseness is crucial for clarity 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. Resonance is important as knowledge can be incorporated and finally applied most easily when one can relate new insights to already existing ones and when there is an emotional connotation to them. Therefore, any message should be aligned towards existing images, experiences and foreknowledge of the audience.

Steps // Elements	**Explanation**	**Key Questions for Knowledge Managers**
Concise 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.	• 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?
Logical 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.	• 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?
Explicit 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.	• 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?
Ambiguity 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.	• What could be understood the wrong way? Why? • How can it be better explained? • Which terms are not clear and should be defined?
Resonance	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. To enhance this, the audience's emotion should be addressed.	• When and how will people use this material? • How can we make it easier to use the insights in those situations? • How can I involve my audience emotionally? • Which interactive tools or mechanisms will help people apply the documented insights?

Table 2: Our CLEAR formula and corresponding check questions

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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 connections to already known elements and 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 and a Delphi-Round

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-intense 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 American and Canadian MBA students. Our final sample sums up to 145 completed questionnaires on this topic to validate our CLEAR framework. The response rate for this sample was one hundred percent.

The results indicate that our formula does indeed tackle the relevant clarity drivers and provides a easy-to-apply guideline for operationalizing clarity. We argued that 'concise content' in the sense of having a clear objective or goal when communicating is one of the most important points to bear in mind. In our survey this was meant to be the most important issue to consider in knowledge presentations (shows a mean of 4.8 out of 5, and very low variance with 0.2, see tab. 4). Our survey participants evaluated 'having a clear structure/slide sequence' as the second important issue with a mean of 4.4 out of 5 (see tab. 4). This issue refers to the 'L' of our clear formula, which stands for 'logical structure'. In early works on text understandability this issue was also regarded as a major element to improve clarity in political or educational texts [Orwell 1946; Langer 1989].

A third element to contemplate for clear knowledge communication was 'your speaking style' (shows a mean of 4.2 out of 5, see tab. 4). This factor refers to the letter *'R'* for resonance in our clear formula, in the sense of being aligned with the needs, preferences and foreknowledge of the audience and therefore addressing the audience in the most appropriate style.

Most important issues to concider in knowledge presentations?	*N*	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*	*Variance*
Your main message / goal	*143*	*2*	*5*	*4.82*	*0.44*	*0.19*
Having a clear structure/slide sequence	*144*	*2*	*5*	*4.41*	*0.70*	*0.50*
Your speaking style	*143*	*1*	*5*	*4.23*	*0.74*	*0.55*
Including good visualizations / graphics	*142*	*1*	*5*	*4.18*	*0.74*	*0.54*
Involving the audience	*144*	*1*	*5*	*3.90*	*0.90*	*0.80*
Getting the timing right	*143*	*1*	*5*	*3.83*	*0.90*	*0.81*
The wording of text on the slides	*144*	*2*	*5*	*3.79*	*0.78*	*0.61*
The audience's prior knowledge and needs	*142*	*1*	*5*	*3.49*	*1.02*	*1.05*
Having the right amount of slides	*142*	*1*	*5*	*3.37*	*0.94*	*0.89*

Table 4: Items to be considered when presenting most clearly with a PowerPoint-based knowledge presentations (listed by overall ranked importance).

When asking for the **most negative impact** on clarity in PowerPoint presentations, the majority of respondents considered 'too much text on a slide' to be the most important factor resulting in a lack of clarity (with a mean of 4.3 out of 5, see tab. 5), which refers to our CLEAR formula step C '*concise content'*. The second highest ranking item 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 forth 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 rather small to generalize, it is nevertheless a first indication of the relevance of our main clarity elements.

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

lack of agenda/overview slide	*145*	*1.00*	*5.00*	*3.5*	*1.0*	*1.1*
distracting animations on slide	*143*	*1.00*	*5.00*	*3.5*	*1.0*	*1.1*
unfitting clipart or symbols	*142*	*1.00*	*5.00*	*3.3*	*1.0*	*1.1*
spelling errors	*143*	*1.00*	*5.00*	*3.2*	*1.2*	*1.5*
some slides not explained/skipped	*142*	*1.00*	*5.00*	*3.1*	*1.2*	*1.3*
bullet points instead of explanations / relations among items	*140*	*1.00*	*5.00*	*2.8*	*1.2*	*1.5*
too little information per slide	*143*	*1.00*	*5.00*	*2.6*	*1.1*	*1.2*
no printed hand-outs	*142*	*1.00*	*5.00*	*2.5*	*1.3*	*1.6*
use of the same slide template	*139*	*1.00*	*5.00*	*2.4*	*1.2*	*1.5*

Table 5: 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 tab. 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)

Our results correspond with findings of another study on the clearness and appropriateness of PowerPoint presentations conducted by Zenthöfer [2008]. He concludes that PowerPoint presentations are best suited to give your talk a structure. Showing corresponding pictures and figures while you are talking enables the audience to follow your thoughts with the same structure as it was supposed to be meant. Furthermore he points out explicitly, what PowerPoint presentations are not made for, such as documentation, reporting, protocol, art and for impressing the client.

Delphi-Round on the Measurement of Clear Knowledge Communication

In order to manage clarity systematically it is inevitable to measure it in order to assess the impact of clarity-related initiatives. As a step forward in this direction, we have used another empirical approach and conducted a Delphi-Round with experienced practitioners on this topic. Our objective for the Delphi-Round was convening practitioners from the same area (communication) to discuss and debate mutual problems in achieving clarity in complex, knowledge-intensive communication, and to deliver new ideas for operationalization. The agenda of the discussion included an introductory presentation by us on the topic of clarity in knowledge communication to stimulate the subsequent discussion. The two aims for the Delphi-Round were: 1) to examine whether measurement of clarity is useful and if so, in which contexts of, and 2) to identify what exactly should be measured and how this could be done. The group discussion of roughly 40 participants lasted approximately one hour and was lead and documented by two facilitators. For the simultaneously record of results, we used the facilitation software *'let's focus'*.

The results of this Delphi-Round indicate that the measurement of clear communication is a top priority for communication leaders from different industrial and service companies. Participants of this Delphi-Round agreed on the necessity of measuring communication output and more specifically the clarity of communication in business. The contexts in which clear communication should be improved reach from change management, brand communication, to top-down employee communication and thus address different levels within a company (see tab. 6). Some ideas on the methodology 'how to measure clarity' include online surveys, clarity panels for evaluation and focus group discussions. The participants viewed actual quantitative clarity indicators to be the most difficult part of measuring clarity in knowledge communication

Delphi-Round Questionnaire	Answers of Expert Panel
Rational for Measurement	
Why should clarity in knowledge communication be measured?	• To ensure it • To show areas of improvement • To show effectiveness • To have feedback on the process • To measure the impact of communication • So compare presentations • To check if your communication objectives have been achieved • To justify money spent on communication activities
Application Area	
In which areas should clarity in knowledge communication be measured?	• Top-down employee communication • Brand promise communication (internal) • Safety briefings • Change communication • Communication that leads to change in behaviour • Strategy implementation, communication to the employees
Focus of Measurement	
What should be measured? What could be indicators for clarity in knowledge communication?	• Average length of documents • Feedback ratio as positive-negative list • Number of ambiguous terms • Time response measures as a quiz • Measure impact, awareness, behaviour, outcome • Measure perceptions of employees (instant feedback with lights) • Monitoring rumours
Method of Measurement	
How should clarity in knowledge communication be measured?	• Online survey • Focus group discussions • Clarity panel • Connected to KPI

Table 6: Results of a Delphi-Round on the measurement of clarity in complex communication.

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-intense topics.

Recently we were able to start a larger research project on the clarity topic in corporate communications. As a major objective of this project we want to examine the clarity issue in context-rich case study material from entrepreneurial 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 will also focus on enablers and barriers of clear communication in a managerial context. So is communication an important tool in managing the impressions of key stakeholders, this implicates that mental conditions influence communication tremendously, either in positive or negative way. D'Aveni and MacMillan [1990] showed in their exploratory study that effective communications from senior executives are critical especially during crises periods of business failure or even preceding bankruptcy (D'Aveni and MacMillan, 1990). We would like to build on these findings and contribute to the operational managerial knowledge via compiling factors that support or restrain clear complex knowledge communication.

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.

As a limitation, we have not addressed (inter-)cultural aspects of clear communication. There are cultural differences in communication styles and habits that might strongly influence clarity in knowledge communication. Different cultural backgrounds can lead to different onsets of dialogue (straightforward versus subtle beginning of a dialogue). Thus, our clear formula for knowledge communication has been developed considering literature and therefore communication habits from a western cultural background only.

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