Perceptions of Quality among Technical Communicators

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Tämän tutkimuksen tarkoituksena on selvittää, miten laatuasiat vaikuttavat teknisten viestijöiden työhön. Tutkimuksessa tarkastellaan erityisesti sitä, kuinka laatuvaatimukset on asetettu ja millaiseksi tekniset viestijät kokevat laatuprosessien ja laadunvarmistusmenetelmien merkityksen. Laatuvaatimukset eivät tarkoita tässä tutkimuksessa vain tekstin ominaisuuksia vaan myös koko projektiin vaikuttavia tekijöitä.

Tutkimuksen teoriaosassa tarkastellaan laatuliikkeen kehitystä yleensä sekä laatuasioiden kehittymistä teknisessä viestinnässä. Laatuliikkeen yleisen kehityksen kuvauksessa käytetään Garvinin (1988) tutkimusta ja teknisen viestinnän kehityksen kuvauksessa muun muassa Fredricksonin (1995) mallia.

Empiirinen aineisto kerättiin www-kyselylomakkeella. Kyselytutkimukseen osallistui 46 teknistä viestijää. Tutkimuksessa yhdistyy kvantitatiivinen ja kvalitatiivinen metodi: monivalintakysymysten analysoimiseksi käytettiin yksinkertaisia tilastollisia menetelmiä, ja tätä analyysia täydennettiin analysoimalla avoimia kysymyksiä kvalitatiivisesti.

Tutkimuksen lähtökohtana oli, että laatuasioiden saaman viimeaikaisen laajan huomion vuoksi laatuasioiden pitäisi nykyään olla hyvin näkyvissä teknisten viestijöiden työssä, ja laatuprosessien ja -menetelmien tulisi ohjata heitä siten, että korkealaatuisen dokumentaation tuottaminen on mahdollista. Tutkimuksen hypoteesina oli kuitenkin se, että kaikesta laatututkimuksesta huolimatta prosessien noudattaminen ja laatuvaatimusten asettaminen ei kuitenkaan toteudu alalla vielä täysin.

Tutkimus osoitti, että vaikka laatuasioiden selvästi katsotaan kehittyneen teknisessä viestinnässä, laatuprosessien hoitamisessa ja laatuvaatimusten määrittelemisessä esiintyy ongelmia. Erityisesti ongelmia aiheuttaa se, että laatuasiat otetaan huonosti huomioon koko dokumentointiprosessin ajan, sekä se, että laatuvaatimukset eivät vastaa projektin vaatimuksia. Lisäksi projektikohtaisia laatuvaatimuksia ei aseteta projektin alussa hyvin, mistä syystä aikataulu- ja resurssiongelmat mainitaankin yleisimpinä esteinä laadukkaan dokumentaation tuottamiselle.

On yllättävää, että prosessien merkitys ei juuri näy teknisten viestijöiden laatumääritelmissä. Oletan, että jos teoria tulisi lähemmäs käytäntöä tässä asiassa ja tekniset viestijät itse alkaisivat korostaa prosesseja työssään enemmän, he voisivat nähdä parannusta esimerkiksi aikataulu- ja resurssiongelmissa. Jos tekniset viestijät eivät itse korosta prosessien tärkeyttä, kukaan muu ei tule tekemään sitä heidän puolestaan.

Avainsanat: Tekninen viestintä, laatu, laatuvaatimukset, prosessi, asiakaslähtöisyys

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1. Introduction

During the past few decades, quality considerations have become a very important issue in nearly every part of the society. In the business world, the increasing global competition among companies as well as customers' increasing expectations of quality have made product and service quality a significant factor in creating a company's competitive edge. In today's world, it is hard to imagine any business that would not list quality as one of their top priorities. In line with this development, research on quality has grown into a very popular topic in many fields. The field of technical communication is no exception in this matter; defining quality and creating quality metrics have also become important topics for technical communicators, and producing quality documentation is seen as the ultimate criterion for any documentation project.

A lot of research on quality has already been carried out in technical communication, but a major difficulty has proven to be how it is even possible to define good quality in this field. This is largely due to the fact that documentation includes many factors that are simply very hard to measure. For example, providing good quality documentation cannot usually be seen as direct revenue for the company. Instead, customer satisfaction is one of the most often mentioned goals of good quality documentation, but since customer satisfaction can really be anything that the individual customer feels and says it is, this goal is very hard to measure. Furthermore, it is common knowledge in the field that technical communicators very rarely receive feedback for their work from their audience. As a result of these difficulties, numerous attempts have been made to define good quality and create methods to measure it.

Many technical communicators would therefore perhaps argue that despite the numerous studies, articles and books concentrating on quality in technical communication, the biggest problem still remains how to specify explicitly how quality can be measured. I would argue that an equally problematic issue is the fact that the research has not emphasised enough the importance of the requirements that first need to be set for the documentation. Although there does exist different checklists for quality, the lack of emphasis on the requirements makes it seem like the general assumption still is that good quality is something that can be measured as such, as a concept, independent of the initial requirements set for the documentation. If we, for example, consider the previous example of customer satisfaction and the difficulty of

measuring it, the question is who can define some universal requirements for customer satisfaction. The answer is no one. No one can automatically say what the customer needs before all the essential factors of a documentation project have been carefully considered.

The basis of this study is that only after the requirements are set can quality even try to be measured and that all quality definitions and measurements are dependent on these requirements. Although there are many ways you can determine good quality, most of the metrics do not apply to every situation. Documentation projects should be evaluated case by case, and quality goals should be adjusted to fit the current situation, requirements, schedule, and so on. The idea for this study is derived from the last mentioned thought: in order to find out how quality is really perceived in technical communication, it is important to examine how the quality requirements have been set and how technical communicators are affected by the quality assurance processes and methods that they should follow in their work.

1.1 Aim of this study

The aim of this study is to find out how technical communicators experience the quality requirements and processes in their everyday work. The basis of the study is that the recent extensive focus directed at quality issues should be seen in the everyday situations that technical communicators face as they aim to do their work best and most efficiently. However, using such terms as "best" and "most efficiently" is dependent on the criteria that the work is supposed to be measured against, that is, the quality requirements. A typical example in technical communication could be, for example, a project that has a very busy schedule and where it is very difficult or even impossible to ensure that all general quality requirements will be fulfilled. In such a case, some things need to be prioritised. This is one of those situations where it is crucial that the initial requirements have been set based on what is known about the project. If specific requirements are not set, technical communicators have to base too many decisions on their own judgement. In addition, measuring quality at the end of the project becomes problematic since there are no criteria for quality for that specific project. The everyday choices that technical communicators' have to make concerning quality depend on how well quality issues are taken into account during the whole documentation process.

To summarise the above, this study sets out to finding the answers to the following important questions:

- How well are technical communicators aware of the quality process that they should follow? (in other words, process quality)
- How well are technical communicators aware of the overall quality requirements that their work should fulfil as well as the specific requirements in single documentation projects? (in other words, quality requirements for the product and project)
- How well do technical communicators feel that quality issues are taken into account during the whole documentation process?

This study also focuses on finding out how much technical communicators feel that the documentation and quality processes used contribute to assuring quality. The basic assumption is that the right kinds of processes provide the means for achieving the quality at which the company is aiming. If there are no processes, the technical communicator is pretty much left alone to figure out how to achieve the quality goals.

Based on the great emphasis on quality issues in technical communication, quality issues should nowadays be very visible in technical communicators' work, and quality processes and methods should guide technical communicators so that producing high-quality documentation is achievable. However, based on the many conversations with my colleagues in the field and based on my five years of experience in the field, my hypothesis is that following processes and setting clear quality requirements may not really be put into practice to the fullest. Quality may still be something that is just measured at the end of the project based on, for example, a simple checklist for grammar, style, correct terminology, etc., forgetting the factors that might be much more relevant when we consider how the user uses the product (such as task-oriented instructions) and the factors that are dependent on the customer (such as schedule and resources).

This study does not aim to provide yet another definition of good quality. Similarly, developing a comprehensive quality metrics for measuring quality in technical communication is out of the scope of this study. Although the field is yet to define a common view about those two topics and it may be that a consensus of opinion will never be found, they have nevertheless already been widely discussed and studied. Instead, the major focus of

this study is on finding out how all the research in those areas has borne fruit and how quality issues are nowadays taken into account in documentation processes.

1.2 Material and methods

Since this study focuses on finding out how technical communicators perceive the current situation, the empirical material for this study is gathered through a survey, which is an efficient way to gather information about people's perceptions, opinions and attitudes. A survey means the gathering of structured material with the help of a standardised method (for example, a questionnaire or an interview), in which every participant is being asked the same questions in more or less the same way (Scheuren 2006). A questionnaire is the most widely used technique to gather survey data (de Vaus 1986: 70). A questionnaire was also chosen for this study to get a large group of respondents.

The survey was sent to the mailing list of Finnish Technical Communications Society (FTCS). FTCS has about 340 registered technical communicators (FTCS/Leivo 2005), so it is therefore the best way to reach as many technical communicators in Finland as possible. The survey participants were presented with open-ended and closed questions that concerned their own experiences with quality issues and quality processes at work. The purpose of the survey questions was to find out what kind of role quality processes and requirements play nowadays in technical communicators' work. The respondents were also asked to provide some background information, such as information on their educational background and work-related experience. The background information was gathered to provide possible explanations for the answers given for the actual survey questions. This study is a combination of the quantitative and qualitative methods where these two methods complement each other.

1.3 The structure of this study

The key concepts of this study are defined next, in Chapter 2. The key concepts are referred to with the terms *customer vs. audience*, *quality*, *quality requirements* and *process*.

Chapter 2 and Chapter 3 form the theoretical framework for this study. In Chapter 3, I will first take a look at how quality issues have evolved in general throughout the whole quality movement and then turn to the development of quality views in technical communication. Knowing this history is particularly relevant for this study, since the aim is to find out how the development of quality research has affected documentation processes. It is assumed that technical communicators are fairly active in following the research carried out in the field. This conclusion was also made by Tytti Suojanen (2000: 106), whose study of 106 technical communicators in Finland showed that 57% of the respondents followed research in technical communication sometimes and 17% followed it often.

Chapter 4 represents the empirical part of this study. It includes detailed information on the material and methods used, the respondents, the process of designing the survey and analysis of the survey results in light of the theoretical framework of this study. The most important results as well as implications for further research are then discussed in Chapter 5.

2. Key concepts in this study

In this chapter I will define the key concepts of this study. The purpose of this chapter is not to provide detailed and all-embracing definitions for the terms, but to describe them as they are used in this study. The key concepts are referred to with the terms *customer vs. audience*, *quality*, *quality requirements* and *process*.

Using terms like *customer* and *audience* greatly affects the way that quality issues can be perceived, because they represent different angles of looking at things. Therefore, I will first define the customer and audience aspect and the differences between these different target groups. Although this study does not aim to provide a definition of good quality, the different perceptions of the term form an essential part of this study, and *quality* is, therefore, defined in a broad way in this chapter. Since this study focuses on finding out how well technical communicators are aware of the *quality requirements* and *processes* that their work should fulfil, I will lastly define these terms.

Overall, I will use the terms *technical communication* and *technical communicator* to cover all the different terms used to refer to the field and its professionals, because these terms are more widespread within the profession than, for example, the term *technical writing* (McGee 2000: 35). Although some authors in the field argue that *technical communication* does not give a sufficiently versatile picture of the field to outsiders (Schriver 1997: 9), I believe that the term will continue to be more widely used than the other terms existing at the moment.

2.1 Customer vs. audience

For studies that concentrate on the user perspective of documentation and the action of somebody using the product, the term *user* or *audience* would perhaps be the most appropriate choice to indicate the target group of the documentation. However, this study takes into account all the different parties that can be seen as the target group or buyer of the documentation, or simply just anyone who needs the documentation. For this reason, the difference between the terms *audience* and *customer* needs to be clarified.

The terms *customer* and *audience* are used in this study as defined by Lola Fredrickson (1995: 271). According to this definition, the customers are different for each technical communicator, depending on the technical communicator's role, and there are usually multiple customers for any given document. There are two kinds of customers – internal and external, that is, people inside and outside the organisation. For example, for a company specialised in technical communication, the customers might be the client companies, or for a writer, the customer might be the editor, boss, project team or the production department. Therefore, the definition of a customer differs greatly from that of the *audience*. Audience can be defined as the group of people to whom the technical communicator is actually writing, and issues such as usability and readability address the needs of the audience. (ibid.) By this definition, it is clear that the customer and audience are two totally different perspectives against which quality can be measured. For example, the technical communicator may be satisfying the needs of the audience by having produced an excellent document the usability of which is beyond compare, but if it took an extra two months to do that, the internal or external customer will most likely not be satisfied.

In the past, the emphasis was more on the audience aspect (Fredrickson 1995: 271). The fact that the customer service element has been so overlooked in the search for quality in technical communication (Carliner and Fredrickson 2002) is quite surprising. Although many technical communicators will most likely consider the audience to be the target of their documentation, from a company's point of view it is the customer who initiates the technical communicators' work by having a documentation request. Similarly, the work is finished only when the customer says so – not when the document has passed a usability test, for example (ibid.). Technical communication is a customer service field, and servicing the customer very much determines the success of a documentation project. Although there are other dimensions to consider as well, this study concentrates on the service providing aspect of the field. This least considered aspect of quality takes the most time and effort on the technical communicators' part (ibid.). This is a very true statement, since the customer aspect is present throughout the documentation project, and the technical communicator will have to spend a lot of time in guaranteeing that the customer is satisfied.

Saul Carliner and Lola Fredrickson (2002) argue that technical communicators rarely stop to think that they do not always write for their audience, they often write for their customers, which may be the reason why customer service has received the least attention in the literature

discussing the quality of documentation. According to Fredrickson, customers of technical communication services often have the following criteria in selecting a vendor:

- A good working relationship
- Mutual understanding of each other's business needs
- Good scoping and estimating skills
- Good management and business organization as evidenced by proposals, invoicing, etc.
- Good attitudes
- The ability to approach each project as unique
- The ability to offer a variety of peripheral services
- Proven experience
- The capability of suggesting many approaches to a problem.

(1995: 271.)

If we compare this list with the typical needs of the audience (for example, usability, readability, task orientation), it is clear how different aspects are meant when using the term customer or audience.

Lastly, it is necessary to point out that although the customer aspect is very much in the centre of this study, I do not claim that the audience aspect is a minor one to consider in technical communication. They are both important, but the other one has just not received as much attention as it should have. Therefore, it is meaningful to keep in mind both of these aspects.

2.2 Quality

As indicated above, the different parties in a documentation project can have remarkably different views on quality. There are a number of different definitions of quality, and the definitions vary depending on the person who is doing the defining. Quality is, therefore, subjective, and providing all the possible definitions would not even be possible. Quality is also relative; what may be a high-quality document to the technical communicator may be a low-quality document to the customer (Hackos 1994: 10). Rather than trying to list all the numerous definitions of quality, the purpose of this section is to provide examples and present some important issues that should be taken into account when discussing quality.

The nature of quality has developed during the past few decades towards a more comprehensive concept. Instead of the traditional definitions of quality, which have dealt with

product quality (Kuusto 2001), this study also views quality as a broad concept that incorporates all the different definitions of quality, for example, the quality of the processes and methods (schedules, resources, and so on). This broad concept also includes the nowadays often used concept of Total Quality Control (TQC) or Total Quality Management (TQM), according to which all parts of the company must be committed to creating quality and the quality principles are applied to all company endeavours (Schriver 1995: 230).

In ordinary language use, quality is often simply associated with words like excellence and goodness. Another kind of a view has a product-orientated emphasis on quality; that is, issues such as usability of the product are the most important quality considerations (Steehouder et al. 1994: 1). A more comprehensive picture is given by David Garvin (1988: 40-46), who has categorised most of the existing quality definitions as belonging into five different groups: transcendent, manufacturing-based, product-based, user-based and value-based definitions of quality. This categorisation has been widely used as a basis for quality classifications in many fields. In technical communication, it has been utilised by, for example, Karl Smart et al., whose holistic framework will now be also discussed here to demonstrate the multiple quality emphases. The framework of Smart et al. (1995: 475) incorporates six major quality definitions – transcendent, design-based[1], product-based, customer-based[2], value-based and strategic – into a two-dimensional model depicting four different quality emphases: internal/external and objective/subjective. The framework is depicted in Figure 1.

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[1] Smart et al. have renamed the term manufacturing-based quality used by Garvin to design-based quality, since technical communicators design documentation rather than manufacture it (1995: 476).

[2] This is sometimes also called user-based (Smart et al. 1995: 477), as in Garvin's categorisation. In this study, customer-based view on quality is used to mean the customer, not the users/audience.

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                        Subjective
                            │
                            │    ┌─────────────────────┐
                            │    │Transcendent quality │
                            │    └─────────────────────┘
                            │    ┌─────────────────────┐
                            │    │Customer-based quality│
                            │    └─────────────────────┘
                            │    ┌─────────────────────┐
                            │    │Value-based quality  │
                            │    └─────────────────────┘
Internal ───────────────────┼──────────────── External
                            │
                  ┌─────────┼──────────┐
                  │Design-based quality│
                  └─────────┼──────────┘
                            │    ┌─────────────────────┐
                            │    │Product-based quality│
                            │    └─────────────────────┘
                            │
                        Objective
```
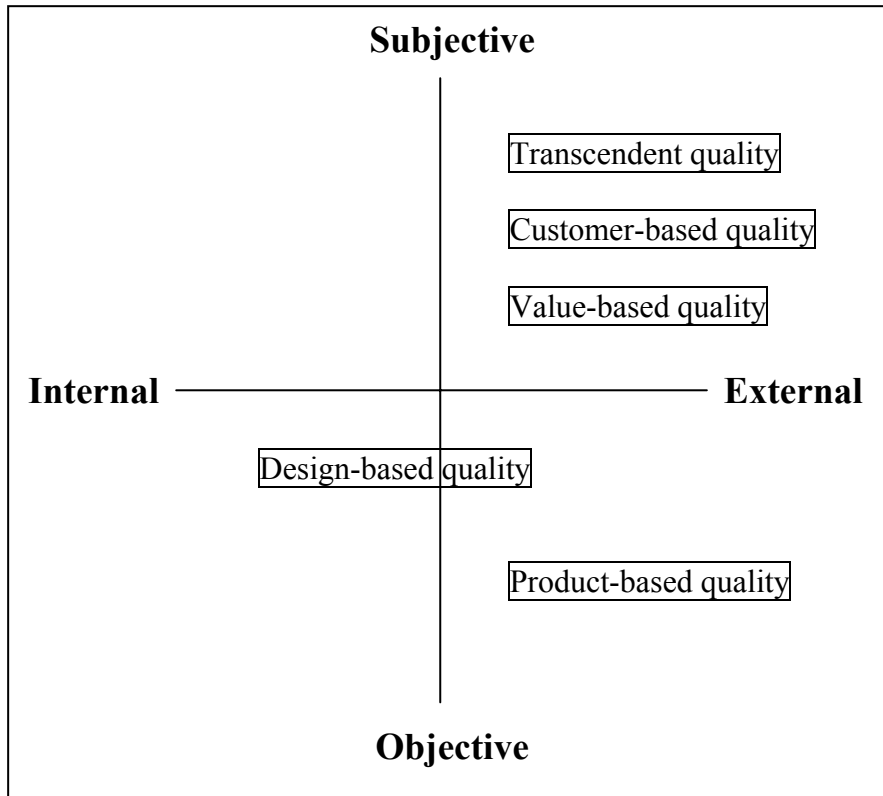
Figure 1: Quality definitions plotted on two-dimensional model (Smart et al. 1995: 477)

In the internal-external continuum, an internal focus suggests an emphasis on the processes of improving quality and establishing internal standards, whereas an external focus concentrates more on the results of the design and production processes. A subjective focus is based on individual perceptions and assessments, whereas an objective focus suggests an emphasis on tools that make measurement and replication of results easier. (Smart et al. 1995: 475.)

According to the transcendent definition, quality is highly subjective and cannot be precisely defined (Smart et al. 1995: 476). Therefore, this view offers little help in measuring quality. In fact, it offers very little guidance in other aspects of quality, too, and does not really contribute to the aspirations for good quality. I think it is safe to argue that most technical communicators do not settle for this definition of quality, and most companies have at least some kind of a checklist that identifies at what quality characteristics they are aiming.

Design-based quality is objective and can be either internal or external. For example, it can mean the degree to which a product conforms to internal specifications or external customer requirements. In addition, technical communicators are nowadays dealing with standards in design processes, as well as design specifications. (Smart et al. 1995: 476.) Although the

external focus is also present, the internal focus is still the dominant part, which according to Garvin (1988: 45), is a serious weakness of this quality definition, since little attention is paid to the link between quality and product characteristics other than conformance. Therefore, similarly to the transcendent definition, this view alone does not offer the whole picture of what quality is.

Product-based quality views are external and objective. They define quality as measurable product characteristics or attributes, such as usability. (Smart et al. 1995: 476.) Therefore, in contrast with the transcendent definition, measuring quality is very much the key in the product-based view. Although the fact that product-based attributes can be defined objectively is a strength, it has its limitations as well. For example, there is a risk of failing to account for customer differences and preferences (Smart 2002: 135). This will lead us to the fourth quality definition category, customer-based quality.

Customer-based views on quality concentrate on satisfying the needs of the customer (Smart et al. 1995: 477). Since the starting point of this quality definition is that quality "lies in the eyes of the beholder", this view is highly subjective and therefore very difficult to measure (Garvin 1988: 43). However, this view has become a very important one to consider in technical communication (Smart et al. 1995: 478).

An extension of the customer-based view is the value-based view, which adds the element of price to customer satisfaction – quality means that customer satisfaction is achieved at a reasonable price (Smart et al. 1995: 478). For example, if a two days' work for a simple FAQ document would cost 5,000 euros and the document would be excellent in terms of usability, accuracy, and all the other essentials, it would still not be considered a quality document based on the value-based view, since hardly no customer would consider the price acceptable.

The final category in the framework of Smart et al. (1995: 478) is called strategic quality. It combines and extends many of the other categories, for which reason it is not depicted as such in Figure 1. It exists in the interrelations between the various views. Strategic quality aims to achieve and maintain a competitive advantage for the company, and requires, therefore, strong commitment and support from the management. (ibid.) In addition, it requires the close cooperation of all the other departments of the company as well, as stated by Garvin in the following quote:

> Success normally requires close coordination of the activities of each function; if departments work in isolation, they are unlikely to be sensitive to the pressures that other groups feel to comply with their own definitions of quality. (1988: 48.)

Most authors who contribute to the major publications in technical communication and who focus on quality agree that finding one definition for quality is impossible and undesirable (Spilka 2000: 209). Quality is dependent on the environment it is viewed in. Only when the total context is taken into account can the superiority of one definition try to be judged for that specific situation. Although there are some authors in the field who advocate singular approaches to defining quality, the contextual approach is advocated by most authors (ibid. 210).

With the overwhelming number of different definitions for quality, each company should agree on what their own definition is. Since a company can have many different kinds of projects, a discussion of project-specific quality goals is also often needed between project team members. Otherwise, the team members will value different things, and the project result will probably have inconsistencies in quality. After all, our definitions of quality influence to what we pay attention and what we ignore (Schriver 1995: 236). Thus, although quality is hard to define, some common definition should always be agreed on for the specific project. Otherwise, measuring quality cannot be accomplished either, since selecting the metrics to measure quality depends on the definition of quality (Fisher 1998).

Because of the relative nature of quality, defining the quality requirements is essential. Therefore, quality requirements are defined next.

2.3 Quality requirements

Defining quality requirements is an essential part of the documentation process. In addition to the most obvious quality requirements related to the audience, there are nowadays more and more outside sources that create requirements for documentation. In addition to the company itself, the requirements can come from multiple sources, including:

- government agencies, especially those charged with protecting the interests of the final customer (for example, FDA, the Food and Drug Administration in the United States)

- standards bodies and other groups with an interest in ensuring product standardization (for example, ISO standards)

(Rupel 2001: 268).

In short, quality requirements for documentation establish the criteria against which the documentation can be measured (Mamone 2000: 28). A major part of the literature of documentation quality concentrates on providing checklists of quality requirements that quality documentation should fulfil. The following checklist lists typical criteria for quality documentation:

- Easy to use
  - o Task orientation
  - o Accuracy
  - o Completeness
- Easy to understand
  - o Clarity
  - o Concreteness
  - o Style
- Easy to find
  - o Organization
  - o Retrievability
  - o Visual effectiveness

(Hargis et al. 1998: 2).

In my experience, many of the quality requirement checklists simplify the documentation process, or totally ignore the factors that relate to process quality, as the example above – for example, how well schedules are planned and resources allocated. The reason for this may often be that such guides aim to give practical instructions for writing good documentation and do not even attempt to consider non-textual factors. In this study, quality requirements are understood to mean more than the ready-made checklists of the type above. Quality requirements are something that have been carefully agreed with the customer and designed for a specific documentation project and for the needs of a specific customer.

According to one view on quality, the answer to the question of what kind of quality technical communicators should provide is whatever the customer wants. In this view, quality is defined solely by the customer. However, this view is a rather narrow one, and it does not take into account that the customers do not usually know what they want or need – they just expect good quality and good service. In addition, contrary to the common view in the service

business, customers may not always be right. As Jorma Sipilä (1999: 27) states, customers do know their own line of business, but they lack detailed knowledge of the specific expertise area for which they are asking services, or it is at least most likely. On the other hand, the service provider cannot know what the customer wants and just invent the quality requirements either. It is, therefore, clear how important it is that the customer and documentation team go through the documentation objectives and requirements together. The often-quoted notion that customers recognise good quality when they see it may be true, but settling for that definition without identifying the requirements will not most likely yield best results. Listening to the customers and providing them with a set of choices makes it possible to find out what kind of requirements they have.

It is also important to notice that the concept of quality can change over time and there can be a shift in what customers view as important. For example, according to the old, classic view on quality, durability was more important than speed to market, whereas with a modern view on quality and in today's consumer society products are needed to be launched quickly and consumers do not even expect them to last long (Järvinen 2001). Similarly, context sensitivity and hyperlinking were only viewed as attractive add-on features in the early online helps, but they have developed to be important prerequisites in modern help systems (Smart 2002: 137). In other words, customer requirements can change. The above-mentioned quality shifts serve as illustrative examples of why good customer service always requires that the requirements need to be considered case by case.

When the requirements have been agreed, realistic expectations of cost, schedule and documentation quality should be written down (Carliner and Fredrickson 2002). As stated by Richard Chisholm (1988: 313), a good contract always specifies the requirements for documentation. Therefore, those who are responsible for negotiating the framework for the project (for example, project managers) should agree on the requirements at the beginning of the project, and then convey this information to the team who implements the work. In his survey that aimed to find out what kind of problems technical communicators experience, Chisholm (1988: 304) concluded that one of the three biggest problems that impede technical communicators' work is the fact that managers fail in planning and scheduling writing projects. This leads to lowered morale and lowered quality (ibid. 305). I think that many technical communicators are likely to consider time pressures as an inevitable part of their work, but Chisholm's findings showed that many of these time pressures were actually caused

by poor scheduling (1988: 305). Therefore, time pressures should not be considered so inevitable, and an improvement in this matter is possible by better planning. Since the planning and scheduling phase seems to be a problematic one, I will take a look at how often this problem comes up in the respondents' answers in the empirical part of this study.

It is important to remember that quality requirements can be anything from usability to low cost and speed to market. The customer may have also decided to choose a lower documentation quality to achieve some other objectives. Thus, I find it important that setting quality requirements would also mean defining the level of desired quality, not just defining what constitutes high quality. In practice, however, technical communicators may often also try to fulfil their own quality criteria for documentation; professional pride does not easily allow you to produce documentation that you yourself consider low quality, even if the customer has chosen to pay only for low quality. Edmond Weiss (2002: 143) compares today's quality discourse to metaphysical or religious discourse, where quality equals almost virtue. Everyone, especially technical communicators, have been urged to strive for quality and having fulfilled that obligation, they will achieve a state of grace that will lead either to profitability, long-term survival or, a least a profound sense of having done what is right (ibid.). This comparison may seem a little extreme, but there does seem to be some truth in it. Instead of this kind of view, the field of technical communication should begin to realise that there are different levels of quality – not just high quality and no quality at all – and that setting the requirements will define the desired level.

2.4 Process

In the previous discussion about quality requirements, I claimed that many of the quality requirement checklists simplify the documentation process or do not take process quality factors into account at all. Indeed, instead of studying documentation quality purely from the traditional aspect – the product – documentation process quality should also be considered. It is concerned with the manner in which documentation is produced (Kuusto 2001). These two aspects are also represented in the following example:

> Our employers expect us to produce good stuff, cheap. 'Good stuff' translates to product quality (broadly, is a document effective?), and 'cheap' translates to process quality (was it efficiently produced?). (Steven Jong et al. 2000.)

In my opinion, achieving "good stuff and cheap" is a contradiction in terms and cannot be achieved. As with all products, experience has shown that if you want to get the good stuff, you need to be willing to pay for it. However, the example points out well that to be even able to consider achieving such a result, both aspects of documentation quality need to be addressed.

The focus of documentation quality has shifted from the product to the process, because it is better to prevent defects through a well-managed process than to find the defects in the end product and to try to remedy them. In other words, instead of trying to improve the product, it is more efficient to improve the process, because an improved and stabilised process eventually also affects the quality of the product. (Kuusto 2001.) Therefore, this study assumes that the right kinds of processes provide the means for achieving the desirable level of quality. A process is defined here as a systematic course of action consisting of a series of steps used to ensure the quality of a product. A more detailed description of a documentation process is provided by JoAnn Hackos (1994: 20): it is "the set of procedures, standards, and management methods you use to produce consistently high-quality technical publications".

Due to increased industry regulation and international standards, many companies have carefully considered the need to implement a documentation process. However, a process may often bring to mind excess work, inflexibility or a hindrance to actual work (Atkinson et al. 2001: 568). The common problem with such inflexible processes seems to be that they focus on the process itself, not on the product, whereas a good process is a tool, not an end in itself. In a well-defined documentation process, customer requirements are taken into account from start to finish and the process guides the technical communicators to achieve the defined goals (Kuusto 2001).

A good process includes factors that measure quality, and in a good process quality is measured throughout the whole process. Jennifer Atkinson et al. (2001: 568) also consider processes to be the best method to guarantee quality. With a well-defined process it is possible to measure documentation quality and evaluate how documentation is progressing. Equally importantly, processes help you identify problems, and you will be able solve them before it is too late. (ibid. 569.)

Many different documentation processes have been defined, and there is no single documentation process that would be suitable for every company. The details of the documentation process depend on the specific needs of the industry, company and the people doing the work (Atkinson et al. 2001: 569) (see also, for example, Tarnanen 2001). In general, the goal is to have as much detail as is needed to ensure that the process is verifiable, repeatable and able to be followed by someone else (Atkinson et al. 2001: 569). However, it is important not to make the process too rigid.

Defining a process does not guarantee quality. A process needs to be managed and controlled. With a well-defined process, quality becomes everybody's responsibility because everyone is responsible for the quality of one's expertise area, but it needs to be made sure that everyone also follows the process (Kuusto 2001). In addition, the process should be improved when needed, but changes should be implemented in a controlled way and not on-the-fly during the course of a project (Atkinson et al. 2001: 569). However, managing the process may often turn out to be challenging. This was also concluded by Chisholm (1988: 307), whose study showed that one of the three biggest problems that technical communicators face is that managers fail to support them. Even though some firms in Chisholm's study had established policies and practices, some of them failed to enforce them, since managers did not monitor and manage them well (ibid.). Finding out how the quality process is managed is also an important question in my questionnaire.

As an additional benefit, a documentation process can help develop the technical communicator's role in the product development environment. In many cases, the technical communicator is involved in many phases of the product development: in addition to being responsible for documentation, the technical communicator can, for example, be involved in testing or user interface design. Having a clearly defined documentation process should also outline these different responsibilities technical communicators can have. Therefore, "revising a process to redefine roles will give technical communication a firm ground from which to launch new areas of responsibilities." (Rupel 2001: 268.)

Above I have mostly defined what a good process is and listed its benefits. Still, despite all the benefits, it is still quite normal that people may think of processes negatively. Many technical communicators feel that instead of helping them with their work, a process actually makes it more difficult, slows them down and does not allow for creativity (Rupel 2001: 268).

I think that this may very well be the reality and not just a feeling in some cases if, for example, the process has not been well defined for the purpose it is supposed to be used. In addition, the way a good process is defined makes it sound very smooth and organised, and it raises the question of whether the description can be very realistic. After all, the technical communicators' work is often everything but smooth – I consider it to be quite hectic and unorganised most of the time. These issues will be further examined when analysing the results of the process-related questions in the questionnaire (Section 4.2.2).

3.   Research on quality

One of the main topics of this study – setting quality requirements for documentation – stems from finding out how significantly different views about good quality there can be between technical communicators. For example, a research carried out by Karen Schriver (1995) reflects this well. Schriver explored document design practices in the United States and Japan, and found out that there are significant mismatches between the visions of quality among managers and technical communicators. The technical communicators in Schriver's case study considered good quality to be something they could be proud of and something that would enhance the prestige of their company, whereas in their opinion their managers valued low cost and speed to market. (ibid. 229–230.) Clearly these significantly different views present a question of how good quality can be achieved when people within the same project strive for different things. They also seem to indicate that quality requirements may not have been clearly set at a general level or for individual projects. Whatever the requirements for quality are in any given project, there should be no mismatches or misunderstanding between the different parties involved in the documentation project in order to achieve the desirable level of quality.

In this chapter I will first take a look at how the quality movement has developed as a whole and then outline how quality definitions have developed in technical communication and what kind of different views on quality there are in the field nowadays.

3.1 Overview of the quality movement

The emphasis of this section is on looking at what role employees have had in quality issues and who has had the responsibility for quality during the different phases of the quality movement. Table 1 first summarises the whole development of the quality movement by identifying the characteristics of each quality era as defined by Garvin.

Table 1: The four major quality eras (Garvin 1988: 37)

Identifying characteristics	Stage of the Quality Movement			
	Inspection	*Statistical Quality Control*	*Quality Assurance*	*Strategic Quality Management*
Primary concern	detection	control	coordination	strategic impact
View of quality	a problem to be solved	a problem to be solved	a problem to be solved, but one that is attacked proactively	a competitive opportunity
Emphasis	product uniformity	product uniformity with reduced inspection	the entire production chain, from design to market, and the contribution of all functional groups, especially designers, to preventing quality failures	the market and consumer needs
Methods	gauging and measurement	statistical tools and techniques	programs and systems	strategic planning, goal-setting, and mobilizing the organization
Role of quality professionals	inspection, sorting, counting, and grading	troubleshooting and the application of statistical methods	quality measurement, quality planning, and program design	goal-setting, education and training, consultative work with other departments, and program design
Who has responsibility for quality	the inspection department	the manufacturing and engineering departments	all departments, although top management is only peripherally involved in designing, planning, and executing quality policies	everyone in the organization, with top management exercising strong leadership
Orientation and approach	"inspects in" quality	"controls in" quality	"builds in" quality	"manages in" quality

Quality issues have played an important part in many fields and companies for some decades already. The quality movement is, therefore, not a new issue, and it can be dated back all the way to the 1920s (Schriver 1995: 230). Before this period, during the eighteenth and nineteenth century, quality control did not exist in the form as it is known today (Garvin 1988: 3). Products were being produced by individuals such as artisans and skilled craftsmen who passed on their knowledge to apprentices. They themselves determined, managed and assured the quality of their products. (Atkinson et al. 2001: 566.) Goods were produced by hand and in small volumes, and the level of quality was determined either informally or not at all (Garvin 1988: 3). Therefore, producing high-quality products was a prerequisite for the craftsmen, because if they did not produce high-quality products, they risked their livelihood.

The situation changed with the rise of mass production and the Industrial Revolution in Europe and the United States (Garvin 1988: 3–4). Garvin distinguishes the rise of *inspection* as the first era that shaped quality: with the increased number of parts being produced, parts could no longer be fitted to one another by hand and formal inspection became necessary to guarantee that parts were interchangeable (ibid.). Goods were now starting to be manufactured in large volumes and quality was no longer determined and controlled by the people making the products but by the engineers and managers who developed the process (Atkinson et al. 2001: 566). Therefore, the planning and managing of products were now separated from producing the products. According to Atkinson et al., this did not have the most positive effect on the level of quality, however. Employees' goals were now mostly directed towards the amount of products they could produce, so they were responsible for the speed of production, not the quality of the products. Although production increased, the change in the quality responsibility had the opposite effect on the quality of the products. (ibid.) To correct the negative development, quality control started to be performed by inspection departments, whose tasks included mainly such narrow activities as counting, grading and repair (Garvin 1988: 5–6). These departments were responsible for inspecting the finished products and removing the defective items (Atkinson et al. 2001: 566). During this first quality era, it is noteworthy that the employee and the management were not involved in defining the quality. In this kind of a work environment, the management relied on the process to produce the desired result, employees were only perceived as parts in the machinery, and the responsibility for quality relied on the inspector of the product. Although there are probably very few companies today that would still hold this quality approach, the

importance of speed of production and speed to market can nevertheless be seen in many workplaces today.

At the beginning of the quality movement, quality issues were closely related with the coming new field of statistics (Schriver 1995: 230). Garvin defines *statistical quality control* as the second quality era. Much of the modern-day statistical quality control originates from the work of Walter A. Shewhart, who in the 1930s represented the idea that there will always exist some variation between manufactured products and that probability and statistics would be the key to understanding this variation and defining what level of quality has been produced. (Garvin 1988: 6–7.) His methodology concentrated on measuring the extent to which the observed phenomenon fell within the acceptable limits of variation (Schriver 1995: 230). I find this quality view very appropriate, since it includes the notion that a totally defect-free and perfect quality cannot be the only acceptable aim. In other words, the acceptable limits of variation determined when the product could be considered *good enough*; this approach will be discussed in more detail in Section 3.2.2.2. In addition, Shewhart's methodology took into account the production *process* and aimed at preventing defective products, not just removing them when they had already been produced (Garvin 1988: 7). Therefore, the quality focus was moving from the isolated inspection departments to the production process, and the quality professional's role would develop from being just an inspector of a finished product to being something a little bit more. Although Shewhart's and his colleagues' methods decreased inspection costs, improved the quality of products and produced fewer defects, it was not until the World War II and the need to produce munitions in large volumes that a wider audience gained an interest in the concepts of statistical quality control and process improvement methods (Garvin 1988: 9).

In the above-defined second quality era, quality control was characterised by the use of statistical methods to achieve quality. During the *quality assurance period*, which is defined by Garvin (1988: 12) as the third era that shaped quality, quality considerations started to have broader implications, mainly for management. Preventing defects was still the main goal, but the discipline obtained other tools besides the statistical methods: "quantifying the costs of quality, total quality control, reliability engineering and zero defects" (ibid.).

Quality considerations until the 1950s had identified that defects were costly, but very few companies had really calculated what the exact costs of their possible defective products

were. Joseph Juran was the first to really tackle this question. He divided the costs of achieving a certain level of quality into avoidable and unavoidable costs. Unavoidable costs are caused by quality control initiatives, such as inspection, whereas avoidable costs are those incurred by product defects and those that can be greatly reduced by investing in quality improvement. He also made an estimation of how much money was spent on avoidable quality losses, so there was now a clear figure based on which managers could determine how much investment in quality improvement was sensible. (Garvin 1988: 12–13.) Quantifying the costs and estimating the value of one's work are important calculations in many companies nowadays. Technical communicators, for example, have long had to justify what value their work adds, and how high-quality documentation helps to reduce costs by, for example, reducing the number of support calls, which reduces the number of support costs (Redish 2003: 505).

Another major contributor during the quality assurance era was Armand Feigenbaum, who introduced the principle of Total Quality Control, in which quality is seen as everybody's responsibility and every department must cooperate to achieve quality. A quality professional's work was now starting to become more diverse, and skills in statistical methods were no longer enough; the work started to require a mix of management skills for tasks such as setting quality standards, coordinating the activities of other departments and providing quality measurement. Interestingly, at the same time as the statistical methods were starting to become replaced or complemented by new quality principles, another branch on the quality field relying more heavily on statistics, reliability engineering, was emerging. Its main focus was on acceptable product performance over time, and in the same way as total quality control, it emphasised quality throughout the design process. (Garvin 1988: 13–15.)

The fourth major development in the quality assurance era was zero defects. Unlike the other quality ethics at the time, the zero defects principle abandoned the notion of acceptable quality levels and claimed that the only acceptable quality is that the product does not have any defects. This was a major expansion on the different quality definitions. The zero defects principle emphasised that employees should be supported to do their job right the first time, and achieving zero defects would be possible by supporting them through training, goal-setting, posting of quality results and personal feedback, for example. In this way, the zero defects principle very much acknowledged the employees' importance in the process. (Garvin 1988: 16–17.) In my opinion, achieving a zero defect rate is pretty much a utopian idea with

most products, especially with those whose features cannot be precisely defined in numerical terms, such as technical communication products. However, I find the emphasis on supporting employees a major contribution of this approach.

Although the quality assurance period brought about major changes and improvements to the manner in which quality was perceived, quality was still mainly viewed negatively and only as a necessary evil that needed to be taken into account or the company would suffer. The view that quality could be used positively, as a tool to gain a competitive advantage, was recognised in the 1970s and 1980s with *strategic quality management*, which is the fourth era of the quality movement as defined by Garvin. A major contributor to this new development was Japan's rise to be an economic superpower, which was due to the superior quality of Japanese products. (Garvin 1988: 20–22.) Japanese manufacturers had been the most eager to take in the new ideas presented by, for example, Juran and Feigenbaum, whereas the quality movement first received little attention in Europe and the US (Moir 1990: 2). Like Feigenbaum, the Japanese saw quality as everybody's responsibility, and as a result, they greatly increased their market share. With this new world competition, both European and US companies started to initiate their own quality initiatives. (Atkinson et al. 2001: 566.) Companies also started to realise that a new and better understanding of quality was needed (Firquin 1992: 93). Gradually, quality started to be defined from the customer's perspective, since customer satisfaction is related to being competitive in the market (Garvin 1988: 24). This strategic approach introduced the concept of continuous improvement where all employees are involved in quality improvement and which also requires the commitment of the top management (ibid. 26).

The change in quality responsibility when compared to the beginning of the quality movement is significant. Employees are no longer perceived as parts of the machinery but important parts of the process who can improve it. Quality does not happen at a single inspection department or production line but throughout the process and at all levels of the company.

3.2 Development of quality issues in technical communication

Although the quality movement started out in factories at engineering level and dealt with the production of tangible products, it spread to include all the phases of the product lifecycle: instead of only examining the production of the final product, attention was also paid to designing, testing, marketing, selling and distributing the product, for example (Moir 1990: 3). Similarly, it is clear that the presented quality principles can be extended to service-oriented businesses too, but it is often more difficult to examine quality issues in the service field since the product is more complex than a simple part produced on a production line, for example. This has been the case the in field of technical communication.

The principles of total quality control have been seriously applied to technical communication only around the 1990s (Smart et al. 1995: 474). Although technical communicators have shown an interest in quality issues, adopting the new quality principles has been difficult because of lack of a common understanding of quality (ibid. 475). Therefore, technical communicators have been faced with the same obstacle as other quality management practitioners in other fields. It is no surprise then that the first views on quality in technical communication were characterised by the notion that quality can be identified if present but it is difficult to articulate and describe, and therefore also replicate, measure and control (Smart 2002: 130, 132). Since each quality definition has its advantages and disadvantages in a given context, many industry authors are now starting to emphasise that the multidimensional nature of quality should be taken into account and the appropriate quality definition depends on the context (see, for example, Smart et al. 1995: 475 and Spilka 2000: 210).

In this section, I will first take a look at what kind of quality perceptions have been dominant during the early development of technical communication internationally and then discuss what kind of topics are currently receiving the attention in the field. I will end the section with a discussion of the whole quality development in the field.

3.2.1 Early quality perceptions

The most notable early development steps of quality issues in technical communication can be broadly divided into the following three categories:
 1) conforming to standards (for example, organisation, grammar, style, accuracy)

2) meeting audience needs (for example, usability, design, readability, focus on purpose, content)

3) using efficient processes (for example, process for review cycles, schedule and cost controls, automation, and production)

(Fredrickson 1995: 269–270.)

Assessing quality in technical communication and demonstrating the value of technical communicators' work has its roots in the 1970s and 1980s (Carliner 2006). Quality assessment in technical communication has had a similar beginning as in many other fields, using mainly methods known in the inspection and statistical quality control eras. Documentation quality was first measured based on the number of pages, typographical errors, hours needed to produce the documentation and how it met the requirements in the applicable standard (Rupel et al. 1999); in other words, quality was mainly measured by inspecting the finished product and how it conformed to the standards set in style guides, for example. According to Hackos (1994: 10), this kind of quality can be called manufacturing quality, and it focuses on those documentation factors that are simple to measure and quantify. With this approach, quality is achieved by performing a series of quality assurance steps at the end of the process (ibid.). In such cases, quality is not incorporated into the process, and quality mainly deals with such topics as style and grammar. Since this represents only a small part of the documentation process, manufacturing quality fails to take into account most of the factors that would be valued by the customers or the people involved in producing the documentation (ibid.).

Conformance to standards can only have a small influence on the quality of documentation, which was also discovered by Michael Klauke (1994: 169), who studied how British standards for instructive texts (such as BS 4884 on operating and service instructions) affect documentation quality. His study concentrated on the macro-structure, syntax and complete layout of 40 technical texts. He concluded that standards can provide some good advice for improving text quality, but they do not give advice that would be adequate for different textual situations. (ibid.) Therefore, documentation quality must be understood to include more than just conforming to standards. In the empirical part of this study, I will examine how this comes true in reality and see how big a part standards play in technical communicators' quality views.

The manufacturing quality view failed to produce the level of quality expected by the audience, and the emphasis of quality issues started moving from the product to the way the users were using the product. Therefore, technical communication went through a similar development as the manufacturing domain: it was realised that inspection and statistical quality control were not enough to guarantee quality, but that issues related to audience needs and the whole documentation process needed to be taken into account. This development started gaining ground mainly during the 1990s. (Rupel et al. 1999.) The needs of the audience started to be addressed by paying more attention to issues such as usability and readability that could make the documented information more understandable and accessible to the audience (Fredrickson 1995: 270). At the same time, it was also understood that "ensuring quality is more than what you do, it's how and when you do it", and many companies have noticed that by improving process quality they can improve the quality of their products (Carliner and Fredrickson 2002).

Any conceptual quality model should take into account that in addition to controlling the quality of products and services by monitoring the production process, quality features and characteristics should be determined for the production process itself (van der Pijl 1994: 165). Although processes need to be well defined, many documentation process descriptions may create a very organised and straightforward picture of the technical communicator's role (see, for example, the description in Rupel 2001 and the discussion in Section 2.4). However, the role can be said to be everything but straightforward, because technical communicators have to adapt to the ever-changing project variables. For example, in the software industry it is more than common that planned features are dropped from the product in the middle of the project or even at the last minute before product launch. This is why an often-used comparison in technical communication is that documentation work is like trying to change tyres to a moving car. Thus, even with the best-documented processes, technical communicators are often faced with situations that require judgment on how to develop information (Carliner and Fredrickson 2002). The idea of using judgment brings us to a new element of quality in technical communication, which will be discussed in the following section.

3.2.2 Most recent development

This section deals with the following issues that are currently receiving the attention in the field: customer service aspect and the multidimensional nature of quality as well as quality classifications.

3.2.2.1 Focus on customer service

Standards, audience needs and processes have been the dominant aspects in quality discussions in technical communication. It is noticeable that none of these categories take into account customer satisfaction, which should be one of the most important factors in a service field, and technical communication can very much be considered a service field. Therefore, a new element is needed, and there has already been some development in the field in this direction. Fredrickson, for example, adds customer service as the fourth component of quality in technical communication, as shown in Figure 2.

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┌──────────────────────────────────────────────────────┐
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│  │    Standards     │                                 │
│  └──────────────────┘                                 │
│           +                                           │
│  ┌──────────────────┐                                 │
│  │   Reader Needs   │                                 │
│  └──────────────────┘                                 │
│           +                                           │
│  ┌──────────────────┐                                 │
│  │    Processes     │                                 │
│  └──────────────────┘                                 │
│           +                                           │
│  ┌──────────────────┐     = Total Customer            │
│  │ Customer Service │         Satisfaction            │
│  └──────────────────┘                                 │
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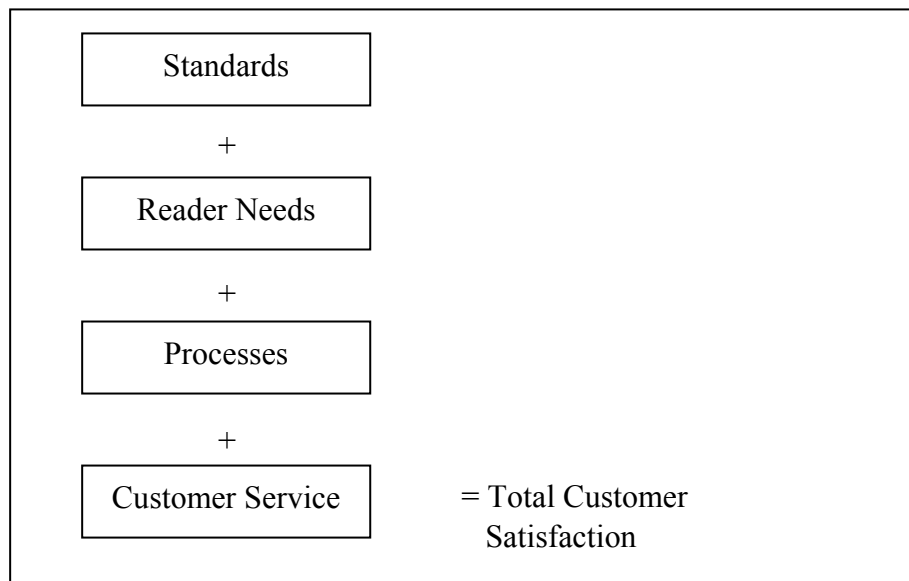
Figure 2: A model for quality in technical communication (Fredrickson 1995: 271)

Some companies may consider that the customer service element has always been included in their approach for handling customers. This may well be true if the company has taken the first view to customer service as defined by Carliner and Fredrickson, according to which customer service is a "routine for handling customers". According to this view, customer service is provided through routine and checklist-like tasks that state a standard way to handle

each situation. For example, it is customary to go through a series of checklists before submitting a project for final production. The second view of customer service, "doing whatever is necessary to please the client", requires judgment from technical communicators, since it is often not clear what "whatever" means. In addition, what is good customer service to one customer may be bad customer service for another. (Carliner and Fredrickson 2002.) When customer service is understood in this broad way, it can be argued that this kind of service has not been considered in technical communication very much. If, for example, a customer needs a seven-day documentation work to be done in two days, technical communicators need to listen to the customer's requirements and also discuss together with the customer what kind of documentation quality can be achieved with such a demanding schedule. This can be considered high-quality customer service, although the documentation quality itself is likely to be considered lower quality by the technical communicator and the audience as well. These kinds of quality considerations seem to date have been very rare in technical communication.

The growing need to listen to the customers' different quality requirements and providing good customer service based on those requirements could be heard, for example, in the numerous comments presented in the panel discussion dealing with quality in the FTCS autumn seminar in 2004. During the discussion, some comments were made in which the technical communicator's profession was discussed by way of an illustrative example – a washing machine. An analogy was seen between technical communicator's skills and washing programs. Different washing programs exist for different needs. Some programs are fast, whereas some are more thorough. Usually users choose a basic program, but sometimes they may need other options. Therefore, defining the quality requirements is crucial in providing good customer service. This is closely related to the different dimensions of quality, which will be discussed in the next section.

3.2.2.2 *Multidimensional nature of quality and quality classifications*

In Section 2.2, I presented the holistic framework of Smart et al. that illustrated various quality emphases existing in the field. The framework can mainly be helpful in reducing semantic disagreements and misunderstandings between technical communicators and in making sure that quality initiatives are broad and comprehensive (Smart 2002: 134). Acknowledging the various emphases helps in understanding the possible problems that

different parties may encounter, such as the situation in Schriver's case study described at the beginning of Chapter 3 on page 19. For example, technical communicators may prefer a customer-based view, but they can still remain sensitive to the pressures faced by their managers who may have a more value-based view. In contrast, adopting a one-sided view on quality is a frequent source of problems (Garvin 1988: 47). For example, a purely internal approach to quality that emphasises the use of comprehensive specifications and checklists to guarantee quality does not account for a number of other important issues such as variations in customer preferences.

In addition to understanding the various quality emphases, the different quality dimensions also need to be taken into account. I define quality dimensions simply to be all the desirable characteristics that a documentation project and documentation can have, such as error-free documentation or speed to market. The key for technical communicators is to determine which quality dimensions are important to the customer (Smart et al. 1995: 478). Therefore, establishing and prioritising quality dimensions needs to be based on customer needs and expectations (Smart 2002: 135).

Since a product or service may rank high on one dimension of quality and low on another (Garvin 1988: 50), defining the customer requirements will be the most important factor in determining which dimensions to focus on. Some may argue that all dimensions are just as important, but according to Garvin (ibid. 61), pursuing all the dimensions at once is not necessary. Smart (2002: 136) supports an even stronger view by stating that any quality effort *will* fail if trying to focus on all the dimensions at once. In fact, it is rarely even possible, and sometimes an improvement in one dimension of quality can mean a decline in another (Garvin 1988: 61). For example, the importance of speed to market is an issue that is likely to cause very long discussions between technical communicators: although many feel that concentrating on speed to market cannot possibly produce the desired quality, it is not uncommon to hear that it is indeed more significant than other quality factors. This is a view held mainly by those that work in the software industry, where speed to market is one of the most important competitive advantages a company can have, and mistakes in documentation are not viewed so unacceptable if the product can be launched in time. In such cases, one dimension of quality is compromised for the sake of another. A totally different view should be taken in fields where lives can be at stake because of erroneous documentation. The context of use is, therefore, the key to understanding these differences.

To be able to determine which quality dimensions are important to the customer and decide on those that become customer requirements, Smart (2002: 136) classifies quality dimensions into three categories that indicate their relative importance: essential, conventional and attractive. Essential quality indicates an expected level of quality, and dimensions in this category are generally taken for granted by customers: their presence will generally go unnoticed but their absence will result in dissatisfaction (such as spelling and correct technical information). The absence of conventional quality will also result in dissatisfaction, but its presence will result in satisfaction (for example, a thorough index). Attractive quality exceeds customers' expectations, so its presence will result in delight, whereas its absence does not result in dissatisfaction because elements of attractive quality are unexpected (for example, full-colour graphics). (ibid. 136–137.) I suspect that meeting or exceeding customers' expectations may be included in many companies' quality definitions, and will, therefore, examine this in Section 4.2.5.

The different quality dimensions bring us to the idea of quality classifications. This idea can be described with the help of the washing machine analogy discussed in the FTCS autumn seminar in 2004. Washing machines are divided into different quality groups from A to D based on, for example, their energy consumption and washing result. Similarly to washing machines, different quality groups could also apply to technical communication (Iho and Lahti 2005: 2). The result is not the only criteria for the customer; other factors, such as price, contribute to the final decision, too (ibid.). I find the washing machine comparison very appropriate and helpful. As it is understandable that a washing machine with a good washing result is more expensive than a washing machine with a poor washing result, the same reasoning could certainly apply to the products in technical communication, too. Although this is not a new idea as such, categorising documentation to clear quality groups and applying a certain quality label to it have not been seen in the field. For example, Smart's essential, conventional and attractive quality presented a similar kind of solution, but it mainly considered the audience aspect and it did not take into account that the customer can be allowed to choose the level of quality and pay the price accordingly. Naturally, this kind of an approach can be seen to have its advantages and disadvantages, as will be discussed further down in this section.

Similar quality considerations can also be seen in other service fields. For example, the idea of quality classifications has been proposed in the field of translation. This has mainly risen from the main problem concerning quality issues in most fields, that is, the lack of a consensus on what quality means. According to Kristiina Abdallah, the biggest gap can be seen between the quality perceptions between the customer and translator. Since customers often do not know the details of the translation process, they also do not know what it takes to produce a high-quality translation. In addition, translation students are educated on how to provide good quality, not how to produce a minimal translation, so their professional skills and pride often lead them to provide good quality, no matter what they are being paid. Therefore, translators often end up producing quality at their own expense. (Abdallah in an interview and article by Pesonen 2006: 18.)

Quality classifications have already received some cautious approval in the field of translation, but there has also been some resistance, as can be expected with these kinds of novel ideas. Abdallah sees the resistance resulting from the fact that some people consider productisation of translation work to be a foreign concept and do not see how humanistic work could be performed using the production rules taken from business life. Interestingly, Abdallah has noticed that the idea of quality classifications has been better received among technical communicators than translators. (Abdallah in an interview and article by Pesonen 2006: 19.) This may be due to the fact that documentation is seen as part of the product, and the concept of productisation is, therefore, easier to accept when it comes to documentation. During my five years of experience in the field, I have noticed that even though it is very common that technical communicators would want to finalise documents until they are "perfect" – which is undoubtedly a characteristic of both technical communicators and translators – technical communicators very soon become accustomed to the thinking of the product development world. If the deadline for the product has been reached, documentation needs to be ready too, even if it was only half-finished. In fact, faced with hectic schedules and too little resources, many technical communicators have to settle for quality that they consider "good enough". Indeed, "good enough" is one of the most often used terms that I have heard when technical communicators refer to the quality of their documentation. This is a totally different criteria for quality than, for example, the "zero defects" principle that developed in the quality assurance era. I will, therefore, examine whether this "good enough" quality definition comes up in the answers given to the quality definition questions in the questionnaire (Section 4.2.5).

With the help of quality classifications, every work can be graded, productised and priced (Iho and Lahti 2005: 3). If we compare, for example, the "good enough" example with Shewhart's methodology of acceptable limits of variation discussed in Section 3.1, the problem becomes what the acceptable limits of variation in technical communication can be. I believe that quality classifications can prove to be useful in this respect, since they can help in defining what such vague statements as "good enough" really mean, which will benefit both the customer and the service provider. When customers do not know what they want or need, they can be presented with the different quality choices (Iho and Lahti 2005: 3). Therefore, productisation enables customisation of services (Sipilä 1999: 16).

The problem with quality classifications and putting a low-quality stamp on some service is that no company will likely want to choose the low-quality option. This can of course be viewed as a good thing, but it can lead back to the problem that every company wants to get the high-quality service, but does not want to pay for it. The problem in this case is mainly that of definition. Maria Iho and Maria Lahti (2005: 4) provide one solution to this problem by suggesting that B quality is defined so that the documentation does not contain any mistakes, but it only includes well-documented but closely-defined basic features, for example. The documentation work starts off with the production of these basic features, and quality-adding features are implemented only at a later stage if there are resources available. Characteristics of higher-quality documentation could be better organisation, search features, ease of use and so on. (ibid.) For example, a high-quality document would include an index, whereas in lower-quality documents it could omitted. I see this kind of a solution very helpful, since it considers the needs of both the customer and the audience. The basic level of quality serves both parties, but in particular the needs of the customer are fulfilled, because it takes into account that resources may be limited. In higher-quality documentation, the factors that fulfil the needs of the audience are allowed more emphasis. Therefore, customers can make a clear and informed decision on how they want to serve their audience.

I have emphasised that all documentation projects should be evaluated case by case, and quality goals should be adjusted to fit the current situation and requirements. I believe that the idea of quality classifications could be incorporated into this kind of an approach. If there were some defined quality classifications, the discussion of quality at the start of the project could be based on these classifications and there would a clear starting point and a set of

available options for the customer to choose from. Since the most difficult problem of quality seems to be its definition, with this approach quality would already be defined to some extent, and the discussion about requirements and goals could be based on the different levels of quality and what they entail. Naturally, quality classifications, too, would need to be reviewed from time to time, since the concept of quality can change over time. Although defining different quality levels is likely to face resistance, I consider their greatest advantage to be the fact that they may ideally be able to break the old inflexible way of thinking that quality is either good or bad – quality can also mean something in the middle. In addition, by defining a certain quality level and quality requirements for a specific project, it also becomes necessary to articulate what is really meant by quality in that specific case, and quality does not remain only some isolated concept without a clear meaning. When examining the answers given to the quality definition questions in the questionnaire (Section 4.2.5), I will see whether there are comments that would imply the use of or need for quality classifications.

3.2.3 Conclusions about the quality development

Referring back to Figure 2 on page 28, it is noticeable that Fredrickson's model for total customer satisfaction includes all the elements of quality: standards, reader needs, processes and customer service. Although some elements have been emphasised more strongly in the past and others are more in the spotlight nowadays, they all still contribute to good quality. For example, merely conforming to standards and style guides is no guarantee of quality, but it is one contribution to it. This is a similar development as has happened during the four quality eras defined in Section 3.1. Each new era has added something new to the prevailing quality definition and extended the concept of quality. The development of quality issues in technical communication has followed a natural order, where the clearest and simplest factors have been considered first, after which the field has gradually moved on to other quality factors that are more complex to define and more difficult to measure, such as the customer service element.

Although none of the elements of quality should be ignored, I think one can argue that the manufacturing view on quality still receives far too much emphasis. As Fredrickson (1995: 270) has stated, if the definition of quality revolves around conforming to standards, "any literate person can do the same job as a technical communicator with, supposedly, the same output". In other words, the focus in manufacturing quality often results in

underestimating the complexity of technical communicators' tasks. One obvious reason for focusing on the manufacturing quality is that it deals with the easiest ways to measure documentation quality. I argue that the difficulty of defining quality can sometimes be used as an excuse to not to look more closely at the other complex dimensions that quality includes. Hackos (1994: 10) also argues that technical communicators have been reluctant to define narrowly what quality means, which has, however, eventually caused them to fall into the trap of focusing on the manufacturing quality when they have been forced into a quality corner by upper management.

With the growing emphasis on the importance of processes and the principle of total quality control, in which quality is seen as everybody's responsibility, the main challenge can be seen to lie on the management. When quality is defined as a company-wide responsibility, the management also has to think of the management work as a process that needs to be assessed and improved, and not just direct business activities based on merely looking at the results. (Moir 1990: 40.) I would argue that if the company has a lack of emphasis on quality requirements, it can be symptomatic of the fact that the management has not adopted a company-wide view on quality, for in almost all cases the person responsible for discussing the project details with the customer is a management-level person. By not defining the quality requirements with the customer, the management leaves most of the quality considerations to the technical communicator(s). Roberta Rupel et al. (1999) have stated that quality *is* becoming everyone's responsibility in technical communication. However, this is not the case if quality requirements are not well defined and included in the customer service. Therefore, I will study the questions related to quality requirements in the empirical part of this study keeping in mind how they imply a company-wide view on quality. For example, a lack of a company-wide emphasis can be seen in statements that suggest that technical communicators have been dissatisfied with their products for decades since the support factors have failed in supporting them to produce high quality (Ihalainen 2003). According to Sirpa Ihalainen's definition, support factors relate to the quality of operation, such as clearly-defined customer requirements and processes (ibid.).

Although the framework of Smart et al. and other research on quality suggests that adopting only one-sided view on quality is not desirable (see, for example, Spilka 2000), many quality approaches concentrate on only one emphasis (Smart 2002: 135). This is understandable since most proposed quality approaches are used in particular circumstances and context. For

example, this study has emphasised how external customer requirements need to be taken into account in internal processes, although other aspects are important, too. This emphasis was chosen since such a major part of the literature in the field has already dealt with how to implement standards, tools and procedures (ibid. 134), thereby mostly ignoring the complexity of external influences. However, the external emphases on customer satisfaction are gaining increasing focus in the field (ibid. 135).

The description of the quality development tells us that technical communicators' quality perceptions have to a great extent evolved along the same lines as the quality definition of the company for which they have worked (Rupel et al. 1999). Focus on the customer and continuous improvement, which are characteristics of the prevailing quality era as defined by Garvin (1988: 21), can also nowadays be seen to some extent in the field's publications, such as Fredrickson 1995 and Carliner and Fredrickson 2002. Therefore, it would seem that, despite the slow progress, technical communication is also moving towards strategic quality management.

As can be concluded from the theoretical framework described in this chapter, the importance of processes and customer requirements is acknowledged in the field in theory at least to some extent. Whether the research has succeeded in emphasising their importance and whether they have been applied to practice is a less known factor. The following empirical part of this study aims to find the answer to this question.

4. The realisation of quality issues

In this chapter I will first describe the material and method used in this study and then go on to analysing the results of the survey in light of the theoretical framework. The questionnaire sent to the survey participants is included in Appendix B.

4.1 Material and methods

In this section, I will first explain the details of the chosen data collection method and describe how the respondents were chosen. Then I will describe the process of designing the survey and improving it by conducting a pilot study.

4.1.1   Data collection method

The purpose of this study was to gather information about technical communicators' perceptions and opinions on quality issues. The two perhaps most common survey methods for gathering such information are interviews and questionnaires. When thinking about the right method for this study, the questionnaire method immediately seemed like the best solution. One of the major advantages of mail questionnaires is that you are able to reach a large, widely dispersed audience (Fowler 1985: 71). To be able to make generalisations about the results, a large audience was important for my study. However, the major weakness of mail questionnaires is that they may have a large non-response rate (ibid. 66), so as such questionnaires do not guarantee a large audience. An important factor to be able to achieve a high response rate was to get the respondents feel that their answers were dealt with in confidence. Questionnaires can eliminate the interviewer's influence and the respondents may feel that their identity is better protected than, for example, in an interview, since they do not have to share their answers with the interviewer (ibid. 71). In questionnaires, emphasising confidentiality is, therefore, not as challenging as it is with interviews. I consider most of the questions in my survey to require some degree of confidentiality, so this was another reason for me to choose the questionnaire method. The respondents were not required to provide any contact details if they did not wish to do so.

There are no official statistics about how many technical communicators there are in Finland. TCEurope (2003: 2) has estimated that this number could be as high as 9,958. However, TCEurope's calculation has been based on the share of the industry of the Gross Domestic Product (GDP) in relation to the share of the industry of the GDP and the number of technical communicators in Germany (ibid.), so the number may not be so reliable. In 2000, Ulla Kujanpää et al. (2000: 8) estimated that the number could be anything from 500 to 1,000. Since the Finnish Technical Communications Society (FTCS) has 340 registered technical communicators (FTCS/Leivo 2005), I think that it, nevertheless, represents a fairly large portion of the field in Finland and is the most efficient way to reach as many technical communicators as possible. The survey was, therefore, sent to the FTCS mailing list.

Using the FTCS mailing list for the selection of the respondents puts this study into the category of non-probability sampling. In this kind of sampling, not all the people have an equal chance of being selected (de Vaus 1986: 52). To be more precise, this study used purposive sampling, which is one type of non-probability sampling – a particular sample is chosen because it will be instructive (Plumb and Spyridakis 1992: 629). Since the majority of the FTCS members represent the IT field (FTCS/Leivo 2005), it is possible that the non-probability sampling will cause a bias based on the line of business people are working for. However, since there are no official statistics about the whole field in Finland, it is impossible to say if and how the FTCS industry distribution differs from the whole country.

The survey was sent on 15 June 2006 and the participants were asked to provide their answers in two weeks time. However, all responses that were sent by 19 October 2006 were taken into account, since I started analysing the material only after that date (four responses were received after the due date). The final number of responses was 46, so the response rate was 13.5%, calculated from the total number of 340 registered technical communicators in FTCS. With this response rate, the results should be considered as tendencies. This study is a combination of the quantitative and qualitative methods where these two methods complement each other – simple statistical methods are used to analyse the closed questions in the questionnaire, and this analysis is then complemented with a qualitative analysis of the open-ended questions.

4.1.2   Designing the survey

For the purpose of designing an effective questionnaire, I studied and used mainly the works from D.A. de Vaus (1986), Floyd Fowler (1985), and Carolyn Plumb and Jan Spyridakis (1992).

It is important to make the questionnaire easy to complete. According to Fowler (1985: 54), the respondents should not be asked to provide written answers, except at their option. This was then my approach in designing the questionnaire; in the end, the survey included only a few questions that required written answers from the respondents. Furthermore, to make the questionnaire easy and fast to complete, I decided to create a Web questionnaire.

From the total of 25 questions, 18 were closed and 7 were open-ended. Most of the closed questions were implemented using a typical rating scale method, the Osgood's scale, in which people's attitudes are reflected through semantic differential (Linking Words with Attitude: Osgood's "Semantic Space" 2005) (for example, Question 10), while some questions only required responses such as yes/no/I don't know (for example, Question 9). In addition, all closed questions included a "no opinion" or "I don't know" alternative to not to force the respondents to choose a "wrong" answer in cases where they do not have any opinion about the matter or simply do not know the answer.

The advantage of closed questions is that the answers are better comparable with each other than the answers from open-ended questions (Fowler 1985: 64). On the other hand, in some cases the predefined options may be perceived as too restricting, so some questions needed to be formulated as open-ended questions. However, since open-ended questions are far more time-consuming to answer and may yield unclear answers that are not comparable across respondents, I limited the number of open-ended questions to only the few that I considered necessary. For example, I wanted to ask how the respondents defined quality, and as already discussed, there is no one way to define quality; providing predefined, comprehensive options about quality would have been impossible.

The questionnaire was divided into two sections: a background information section and the actual survey section (see Appendix B). With the background information questions, I gathered information about the respondent's educational background, work experience and

employer. The actual survey section included questions about quality processes, quality requirements, the success of quality assurance methods and quality views. All the questions were aimed at finding out how technical communicators perceive these issues and how they are realised in their daily work.

The purpose for gathering background information is to be able to see whether patterns differ for various subgroups (de Vaus 1986: 71). They may help in identifying possible reasons for the answers given for the actual survey questions. For example, the answer to the question "How well are you aware of the overall quality requirements that your work should fulfil?" (Question 14) is likely to be different for an employee that has worked for the company for one day and an employee that has worked for the company for five years.

Another reason for gathering the background information was to be able to identify reasons and differences of opinions that are perhaps not as obvious as the one in the previous example. One possible example is a mismatch on quality definitions that may be caused by people's different positions in the company, as briefly illustrated in Chapter 3 by way of Schriver's case study – writers participating in the case study considered good quality as something they could be proud of, whereas low cost and speed to market were valued by the managers. For this reason, the survey respondents' titles were asked in the background information section. The objectives of the individual questions are discussed in more detail in Section 4.2.

Lastly, I also decided to add brief definitions of the most important terms to the questionnaire (*quality process*, *requirements*, *quality assurance*), since questionnaires always include the problem that the respondents can interpret the terms used in the survey in many different ways. These definitions were not aimed to be highly detailed, but to provide the respondents help in answering the questions and to tell them how the terms were used in this study.

4.1.3   Pilot survey

Since self-administered questionnaires do not give the researcher the opportunity to provide additional clarifications for possible unclear or ambiguous questions, the reliability and validity of the questions (see Plumb and Spyridakis 1992: 635) needs to be tested. To test whether the questions were understood as they were supposed to and whether they measured

what they were designed to measure, a pilot survey was conducted. In addition to identifying possible problems, such as ambiguously phrased questions, a pilot survey can also provide information on some practical issues, such as illogical order of questions, clarity of the instructions, the overall time required to fill in the survey and the respondents' ability and willingness to answer honestly and completely (ibid. 634). For example, a question may not be sufficiently discriminating if all the respondents answer a question in the same way; on the other hand, the question may be ambiguous if answers on one question vary too widely (ibid. 635).

Merely asking a pilot group to complete the questionnaire is not enough. Instead of just trying to interpret their responses, it is much more effective to also ask them directly to identify the possible problems with the questions and instructions. For this reason, I personally discussed the survey with each pilot respondent.

The pilot survey took place 1–14 June 2006. The questionnaire was tested with four technical communicators. These pilot survey participants were my friends or their acquaintances, and they were chosen because they were easily available. To keep the pilot survey as close to the real survey situation as possible, I did not give the pilot survey respondents any more additional information on the topic of the survey than what was given in the actual survey (see Appendix A and Appendix B). However, I gave them general instructions on what things to comment. These included the following:

- the intelligibility and unambiguousness of the questions
- the readability and layout of the questionnaire
- the information on the cover letter: is it understandable and does it include enough information
- the suitability of the fixed answers (do some questions require more/less answers)
- the time it took the respondents to fill in the questionnaire

The pilot survey revealed that there were not any major ambiguities in the questionnaire, but some modifications were, nevertheless, needed. The most significant changes concerned the fixed response sets in Questions 10–11 and 13–18; they were changed as follows:

- The original fixed answers in Questions 10-11 and 13-18 were the following: "very poorly", "poorly", "moderately", "well", "very well" and "no opinion". Two of the

respondents commented that fewer options might be suitable. Having considered how I will analyse the responses, I decided that the options "very poorly" and "very well" were not needed. Thus, I removed them from the final survey.

- Based on the comments to Question 16, a "not at all" option was added to Questions 10–11 and 13–18. To use Question 16 as an example, it was not enough to have a "poorly" option to questions such as "How well are specific quality requirements set at the beginning of a documentation project?" It may be that the quality requirements are not set at all.

In addition, the following are examples of the minor modifications that were made to the questionnaire based on the pilot survey:

- The definition of quality process (see Appendix B) was changed from "a systematic and controlled repeated set of target-oriented activities that is used to ensure the quality of the product and project" to "a repeatable, controlled set of target-oriented activities that is used to ensure the quality of the product and project" since the respondents found the original definition difficult to understand.
- The wording in Question 15 was modified slightly and the following example was added to the end of the question: "e.g., requirements that stipulate that quality issues 'x' and 'y' need to be prioritised because the project has a too tight schedule". The example was added, since understanding what "specific documentation project" means was difficult for some respondents, and they felt that an example would help clarify the question.
- An additional text box was added to the end of the questionnaire, so that respondents could clarify some of their answers in more detail, if necessary.

In addition, one respondent commented that some additional information about the reasons for the background questions could be given (for example, why I ask how many years a company has been in business). However, I did not add any additional information about the background questions because gathering such information is quite a normal procedure in questionnaires, and I think that it can be assumed that the respondents know that background information will be used as a tool to analyse the actual survey questions. Adding this information would have only made the questionnaire longer and would not have added any real value.

When all of the modifications had been made to the questionnaire, I discussed the changes with the pilot survey respondents and asked whether they would now answer the questions in a different way and how. The respondents did not change their answers, and I was, therefore, able to use their responses in the actual survey, too.

4.2 Results of the survey

In this section, I will analyse the results of the survey question by question. I will first describe briefly the results of the background information section and then move on to the actual survey questions. I have divided the questions in the actual survey section into four groups: processes, setting quality requirements, the success and development of quality issues and definitions of quality.

The respondents are indicated by R1–R46, and this includes the pilot survey respondents, too. For clarity and to make the examples shorter, I have made minor modifications to some of the answers given to the open-ended questions by removing spelling mistakes, unnecessary words or sentences, for example.

4.2.1   Background information

Since the background information was only gathered as a means to provide possible clarifications to the actual survey questions, the purpose of this section is only to provide the individual reasons for the background information questions and to give an overview of the respondents – not to provide an in-depth analysis. The possible impacts of the background information will be studied together with the actual survey questions in Sections 4.2.2–4.2.5.

Questions 1 and 2 were optional questions that asked the name and e-mail address of the respondent. To maintain confidentiality, providing contact details was only required if the respondent wanted to receive the results of the study, so this information will not be dealt here in more detail.

Next, the respondent's educational background was asked in Question 3 to be able to see whether there are differences in the quality perceptions between technical communicators with a background in the humanities and those with a technical background. Table 2 shows the results.

Table 2: What is the respondent's educational background (Question 3)

Educational background	Responses
Studies in the humanities	40
Studies in a technical field	4
Other	2
	Total N = 46
	No response = 0

As can be seen from the table, the majority (87%) of the respondents have a background in the humanities, and only 9% have studied a technical field. Other studies included business studies and social/behavioural sciences. Since so few respondents had studied other than humanities, no significant differences were found between the respondents with different educational backgrounds; therefore, this question will not be referred to in Sections 4.2.2–4.2.5.

The type of the respondent's current company was asked next in Question 4 to be able to analyse whether quality perceptions differ between technical communicators working for different types of companies, for example a company providing technical communication services and a product development company. Table 3 provides a breakdown of the company types.

Table 3: In what kind of a company does the respondent work (Question 4)

Type of company	Responses
Service providing company	28
Product development company	18
Other	0
	Total N = 46
	No response = 0

We can see that the majority, 61%, are working for a service providing company, and the rest are working for a product development company.

The respondent's work experience in the current company was asked next in Question 5, since this information is important when determining how familiar the employee is and should be with the company's processes and other practices. Table 4 presents this distribution.

Table 4: How many years has the respondent worked in the company (Question 5)

Years in the company	0–1	1–3	3–5	5–10	10 or more
Responses	8	17	9	11	1
Total N = 46					
No response = 0					

Since only one respondent has been working for 10 or more years, groups "5–10" and "10 or more" have been joined together when comparing these results with the actual survey questions to get a better comparison.

The number of years the company has been in business can have a difference in how developed processes the company has. If the company has just been established, the processes are probably not as developed as in an older company. Therefore, Question 6 asked how many years the company has been in business, and the purpose was to compare this information with the process-related questions. Table 5 provides a breakdown of how many years the companies have been in business.

Table 5: How many years has the company been in business (Question 6)

How many years the company has been in business	0–1	1–3	3–5	5–10	10 or more
Responses	0	1	1	10	34
Total N = 46					
No response = 0					

As can be seen, most of the companies (96%) have been in business over five years and only 4% can be considered as young companies, that is, 0–5 years. Although so few of the companies were young and no significant conclusions can be drawn based on this question, some observations will, nevertheless, be made in Sections 4.2.2–4.2.5.

Question 7 asked how many years the respondent has worked as a technical communicator. The purpose of the question was to compare this information with Question 19 that is affected by the employer's work experience. Table 6 presents information on the work experience.

Table 6: How many years has the respondent worked as a technical communicator (Question 7)

Years worked as a technical communicator	0–1	1–3	3–5	5–10	10 or more
Responses	1	7	14	20	4

Total N = 46
No response = 0

Table 6 shows that the majority have worked as technical communicators for 5–10 years (43%) or 3–5 years (30%), and only 9% have worked for 10 years or more. This is not surprising, since the field is relatively new in Finland and long work histories are rare (Suojanen 2000: 102). Since only one respondent has been working for 0–1 years, groups "0–1" and "1–3" have been joined together in the following sections to get a better comparison. Similarly, groups "5–10" and "10 or more" have also been joined.

The respondent's job title was asked as the last background information question (Question 8). The purpose was to be able to identify possible differences of opinions between technical communicators that are working in different positions. Table 7 lists the respondents' job titles.

**Table 7: What is the respondent's job title (question 8)**

Title	Responses
Technical Writer	24
Senior Technical Writer	8
Documentation Specialist	4
Information Designer	2
Project Manager	2
Documentation Manager	2
Concept Owner	2
Consultant	1
Key Account Manager	1
	Total N = 46
	No response = 0

Senior Technical Writer, Concept Owner, Consultant and Key Account Manager were listed in the "Other" field of the questionnaire; the other titles were provided as fixed responses. Table 7 shows that the majority (52%) are working as Technical Writers or Senior Technical Writers (17%).

4.2.2   Processes

This section analyses the answers given to Questions 9–13 that deal with processes. First, Question 9 asks whether the respondent's company has a documented quality process. According to the importance of processes as outlined in the theoretical framework, the expectation was that most companies would have a documented quality process. Chart 1 depicts the responses.
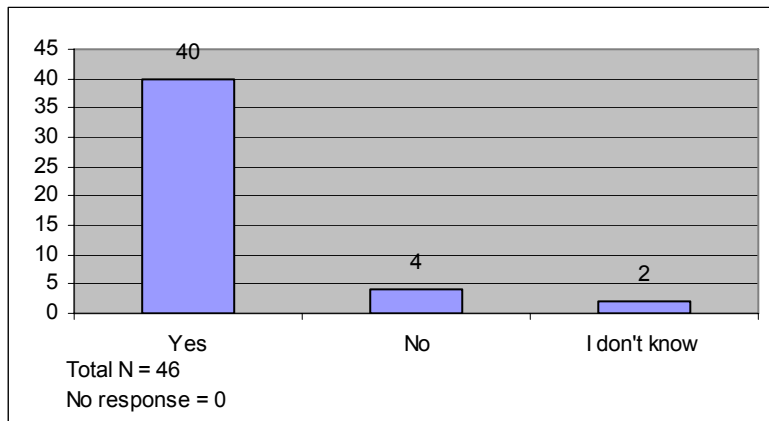

Chart 1: Do companies have a documented quality process (Question 9)

As expected, most companies (87%) have a documented quality process, and only two respondents did not know whether a documented quality process existed in the company. It was also expected that those companies who did not have a documented quality process were likely to be younger companies. Two of the respondents who answered "no" were working for a company that was quite young (1–3 years or 3–5 years), but interestingly, the other two respondents who answered "no" were working for companies that had been in business for 10 or more years, as were the two who answered that they did not know whether a quality process existed. Based on the emphasis on quality issues, it is quite surprising that there still are such older companies that do not have a quality process. These two respondents were both working for product development companies, so it is likely that documentation quality is still mainly viewed in those companies from the point of view of the product, not the process. Nevertheless, the large number of "yes" responses indicates that most companies have realised that documentation quality does not only relate to product quality – it includes implementing processes, too.

Those 40 respondents who answered "yes" to Question 9 were asked to provide answers to Questions 10 and 11. Question 10 deals with the first major aim of this study; that is, how

well technical communicators are aware of the quality process that they should follow. Chart 2 shows the responses.
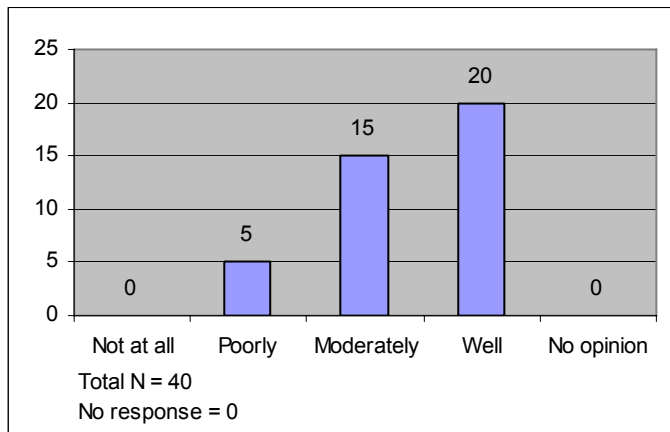
Chart 2: How well respondents are familiar with the details of the quality process (Question 10)

The assumption was that quality processes should guide technical communicators' work, and technical communicators should, therefore, also be well familiar with the details of the process. As can be seen from Chart 2, half (50%) of the respondents did report that they were well familiar with their company's process. However, the other half reported that they were only moderately familiar with it (37.5%) or even had poor knowledge of it (12.5%). This gives some support to my hypothesis that although processes have been emphasised, there is also room for improvement and processes may not be really put into practice to the fullest. After all, an important part of having a process is that everyone follows it, which may be challenging if employees are not well familiar with it.

It was assumed that the respondent's lack of work experience in the current company could explain the response to Question 10. Chart 3 provides a breakdown of the results of Question 10 compared with the respondents' work experience.
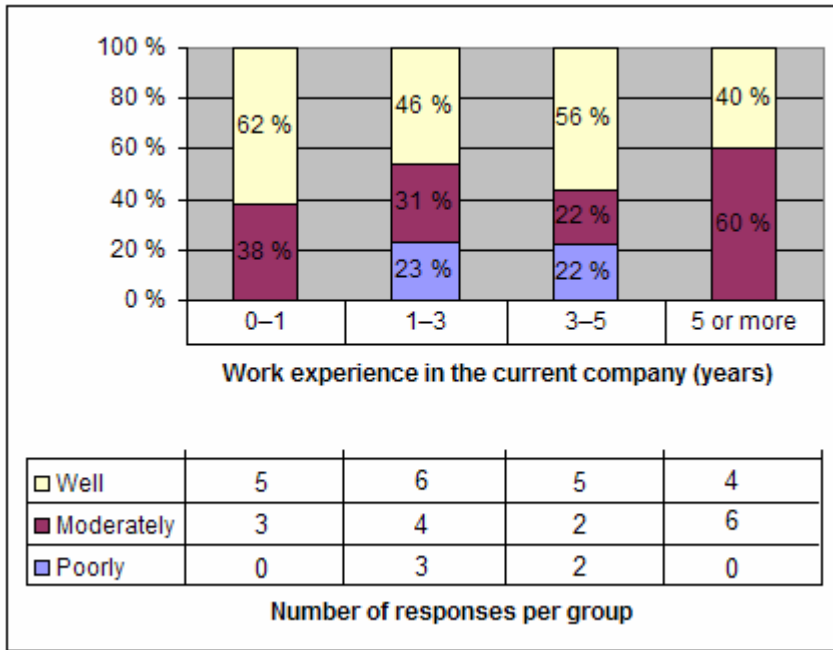
Chart 3: How work experience in the current company affects knowledge of the process

It is interesting to note that those who have just started working in a company (group 0–1) have the highest percentage of "well" responses and no "poorly" responses at all, and the "poorly" responses are actually given by the respondents who have worked 1–3 or 3–5 years. Since there was so much dispersion in the comparison of these results, the lack of work experience in the current company does not explain the quite high percentage of the "moderately" and "poorly" responses combined together (50%). For example, the percentage of "moderately" responses is actually the highest with those who have worked for the longest period. Moreover, this group has the fewest "well" responses.

Bearing in mind that having a quality process is not a guarantee of quality in itself and good processes need to be managed and controlled, Question 11 was aimed at finding out how good the process is by asking how well the quality process is being managed. Chart 4 shows the results.
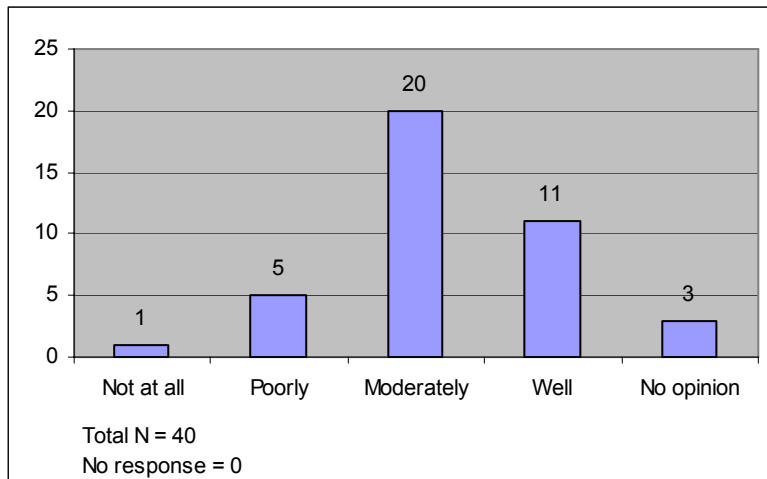
Chart 4: How well the quality process is managed (Question 11)

It is noteworthy that half (50%) of the respondents felt that the process was only managed moderately, and only 27.5% of the respondents felt that it was managed well. One respondent even answered that the process was not managed at all and 12.5% felt it was managed poorly. As in Question 10, these findings point out that there is room for improvement. This management issue takes us back to Chisholm's study discussed in Section 2.4, which showed that managers fail to support technical communicators by not managing the established policies and practices (1988: 307). The results of Question 11 show that managing the quality process has similar problems.

It was expected that the number of years the company has been in business could affect the answers to Question 11; that is, it was assumed that processes could be better managed in older companies than younger companies. Referring back to Question 6 (Table 5), the two respondents that answered that their company had been in business less than five years also answered that they did not have any established quality process (Question 9). This is typical for young companies who often may not have any processes yet, or whose processes have not matured enough so that the employees would know that they are actually performing a process (Hackos 1994: 50). The lack of processes for the two young companies was, therefore, an expected result. In addition, 91% of the respondents who answered that the process was managed well were working for a company that had been in business for 10 or more years. Therefore, the age of the company can be seen to have an effect on how successfully the process is being managed, although the small number of really young companies must be kept in mind when considering the reliability of this result.

Question 12 was an open-ended question that allowed the respondents to explain briefly how the quality process or lack of it makes their work easier or harder. The following are first the answers from the respondents who commented on the lack of process:

- I don't think a quality process would make any difference at this point, since the quality is set to be low due to our excessive workload. (R15)
- Often quality processes focus on minute details, and thus they are frustrating to implement. A quality process that would aim to improve the entire life span of the user guide would be useful. (R17)
- I always work in line with my client's processes, if any (R34)
- It definitely makes the work harder because
    - a) We do not have an established way of doing things: you have to figure out the best way to do things as you go along.
    - (b) Time is wasted because you have to explain your decisions: if the reasons for doing things in a certain way were documented, the reason for doing things in a certain way (to ensure quality) wouldn't have to be explained over and over again.
    - (c) Perhaps if the quality requirements (such as review practises) were formally defined and adhered to, they would be better taken into account in the project schedules/work hour estimates (which are set by the management) as well.
    - (d) The lack of a quality process obviously also affects the accuracy of the documents (this has already been acknowledged). (R40)

The responses show that some feel that the lack of process does not make the work harder, whereas some say it does. The same can be said about the existence of a quality process based on the answers given by those whose company has a quality process. The following examples concern responses that describe how the process makes work easier and the examples are divided based on the most often occurring themes in the answers.

1. Quality process helps to define everyone's roles and responsibilities

    - Quality assurance does not solely rest on individual writers, but there is a process according to which quality is assured. (R3)
    - It defines the roles and responsibilities for people who participate in the project, and helps in fitting in and scheduling quality-related work within the project work. (R12)
    - It is easier to explain people what to do when there are existing quality guidelines. The end result is better if the quality process is followed from early on. (R38)

2. Quality process guarantees that technical communicators receive support from other people in the organisation:

    - When certain aspects of quality are required from the product, I too can rely on the management to help me out if it starts to look as if I'm not reaching my goals. (R11)

- It makes my work visible in the overall picture. When designing new projects the R&D also takes into consideration my workload and how I need support from the designers and marketing people in the project for my work. (R13)
- The quality process helps us in getting more information available for everybody and restricts the possibility that some information is only kept in small circles. (R21)
- The process guarantees that I'll get support at least in the regulatory subjects. (R31)

3. Quality process improves the quality of documentation:

- The quality process has improved the quality of my work and made it somewhat more finished and "professional". (R2)
- The quality process for example necessitates peer reviews. This helps me to improve the quality of my work. (R32)

The following examples concern responses that describe the way the quality process makes work harder. The examples are again divided based on the most often occurring themes in the answers.

1. Quality process is too complicated and does not allow flexibility

- The process at our company is too complicated and time-consuming and therefore takes way too much time sometimes. The process should be more flexible to facilitate meeting tight deadlines. (R3)
- It makes my work more complicated as certain processes and procedures need to be followed even if there was no time for them. (R32)
- In general, it helps to schedule certain working phases and ensure that everything is done as planned. However, sometimes in some phases the process may be an extra burden, especially if there's a big rush. In those cases, I'd prefer concentrating on getting the information product done and not deal with bureaucracy. (R22)

2. Quality process causes problems with time and scheduling (closely related to the theme above):

- The time needed for quality actions has not been taken into account in work amount estimations. (R4)
- If the schedules are very tight, it can be difficult to follow the quality process strictly. (R24)
- It makes my work slower when many specialists are needed first to give the information and then to approve the manual. (R31)
- The main hindrance for implementing the quality process to my experience is the constant lack of time. (R42)

3. Service providing companies may have challenges when implementing a quality process with customers

- I cannot participate in the quality process because the documents I work on are too confidential, and the customer will not let us subject them to my company's quality process. (R10)
- Quality issues are somewhat related to what services the customer buys from us, and because of this, there may not always be a possibility to apply the quality process to a project. (R12)
- It is very challenging to create a comprehensive process description for our company since we have many customers working in different lines of business and consequently these companies have varying documentation needs. (R36)

The often-repeated comments about the quality process support the ideas presented in Section 2.4: a process can be viewed as a really helpful tool to improve the quality of documentation or it can bring to mind excess work, inflexibility or a hindrance to actual work. The results show that the biggest disadvantage relates to the inflexibility of the process and how following the process causes problems with deadlines. Therefore, the inflexibility and complexity of the quality process is a reality in some companies. Based on the answers, it is difficult to draw any single conclusion about what causes the inflexibilities, but the often-occurring comment on the lack of time seems to be a major contributor: in those cases, the quality process does not, therefore, take well into account one of the most important customer requirements, meeting schedules, or customer requirements do not take into account the quality process.

Many of the respondents mentioned both positive and negative things about having a quality process. However, only a few had only negative things to say and the majority of the comments show that the process does make technical communicators' work easier. In Section 2.4 I debated whether the description of a good and smooth process fits the hectic work of technical communicators. The results do not give a direct answer to this question, but they do tell us that a quality process is seen valuable since it helps to define roles and responsibilities and guarantees that technical communicators receive support. Therefore, a process does bring order and structure to the technical communicators' daily work.

Finally, Question 13 deals with another major question of this study, formulated in Section 1.1: how well technical communicators feel that quality issues are taken into account during the whole documentation process. Chart 5 shows the results of this question.
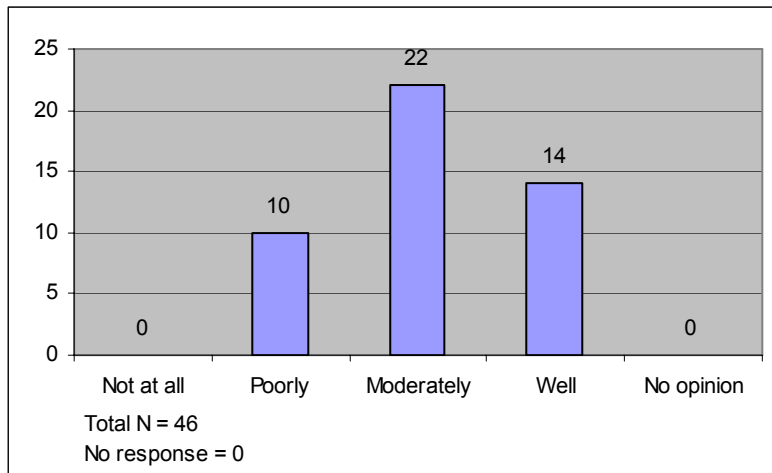
Chart 5: How well quality issues are taken into account during the whole documentation process (Question 13)

Chart 5 shows that the majority (48%) have again chosen the middle alternative, "moderately", whereas only 30% answered that quality is taken well into account during the whole documentation process. Moreover, "poorly" has been chosen by more than every fifth respondent, which is quite a high figure. These results were as expected. Although in theory it is acknowledged that quality issues should be taken into account during the whole process and not by just performing quality assurance methods at the end of the project, for example, the practical implementation is difficult.

It was expected that the number of years the company has been in business could affect the answers to Question 13: it was assumed that younger companies could have more troubles in taking quality into account during the whole documentation process. Referring back to Question 6 (Table 5), since only two respondents answered that their company had been in business less than five years, the information from Question 6 does not really offer any statistically significant information about young companies. However, 90% of the respondents who answered "poorly" to Question 13 were working in a company that had been in business for 10 years or more. Therefore, the old age of the company does not seem to guarantee the success in implementing quality throughout the documentation process.

In summary, the results of the process-related questions reveal that most companies realise that implementing quality also includes implementing a quality process. Technical communicators' descriptions of the quality process also show that a quality process is seen as a valuable tool in their work. However, lack of knowledge of the process and managing the

process cause problems. In addition, taking quality into account throughout the whole documentation process can be seen as the most challenging task.

4.2.3   Setting quality requirements

This section tries to find out answers to the second important question of this study, as formulated in Section 1.1: how well technical communicators are aware of the quality requirements that their work should fulfil. The section analyses the answers given to Questions 14–17. The questionnaire included the following definition for requirements: "For example, requirements on documentation quality (e.g. style, comprehensibility) and general requirements (e.g. schedule, pricing)". Therefore, the respondents were told to think of all the quality requirements that affect the whole documentation project.

Question 14 asks how well technical communicators are aware of the overall quality requirements that their work should fulfil. The results are shown in Chart 6.
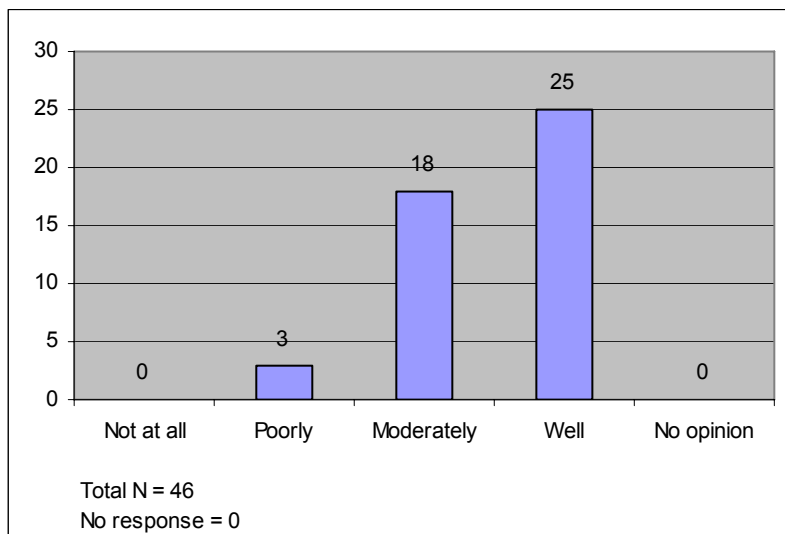

Chart 6: How well technical communicators are aware of the overall quality requirements (Question 14)

As with the familiarity of the quality process, the expectation was that technical communicators should be well familiar with the general quality requirements that should guide their work. Looking at the results in Chart 6, we can see that the majority of the respondents (54%) are well aware of the general requirements and 39% are moderately aware of them. Only 7% have poor knowledge of the general quality requirements. Although the "well" answers form the majority, it should also be pointed out that the percentage of the

"moderately" answers is again quite high. In other words, despite the emphasis on quality requirements, the results give some support to the assumption that quality requirements may not be defined as well as they should.

It was assumed that the respondent's lack of work experience in the current company could explain the response to Question 14. Chart 7 provides a breakdown of how respondents with different work experiences reported knowing the general quality requirements.
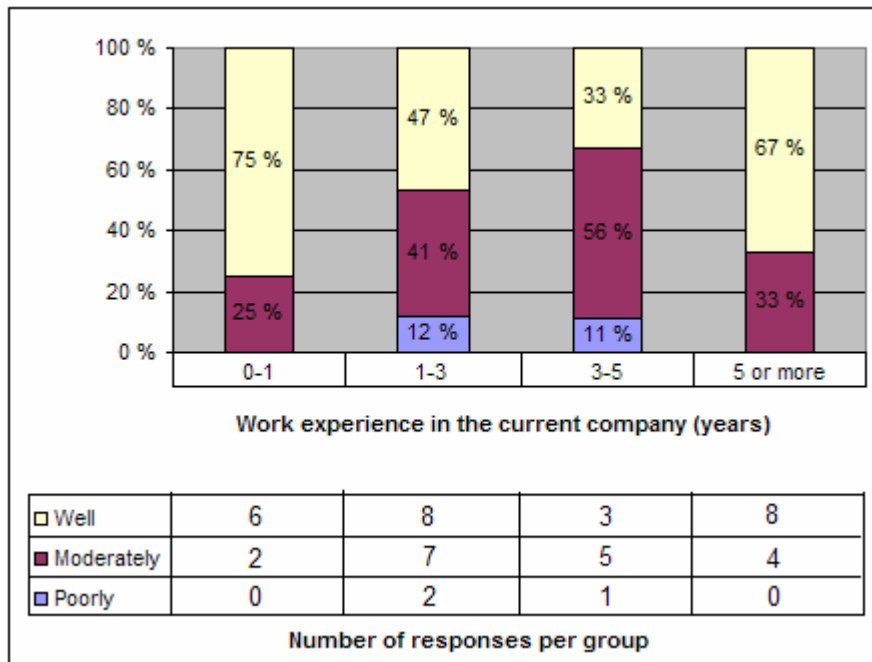
Chart 7: How work experience in the current company affects knowledge of the general quality requirements

Chart 7 has similar characteristics as Chart 3 that depicts how work experience in the current company affects the knowledge of the quality process: those who have just started working in a company (group 0–1) have the highest percentage of "well" responses and no "poorly" responses at all, and the "poorly" responses are actually given by the respondents who have worked 1–3 or 3–5 years. Therefore, the lack of work experience in the current company does not explain the "poorly" answers or the relatively high percentage of the "moderately" responses.

Question 15 asks how well technical communicators are aware of the quality requirements that are set to specific documentation projects they have been working in; for example, requirements that stipulate that quality issues 'x' and 'y' need to be prioritised because the project has a too tight schedule. Chart 8 shows the responses to this question.
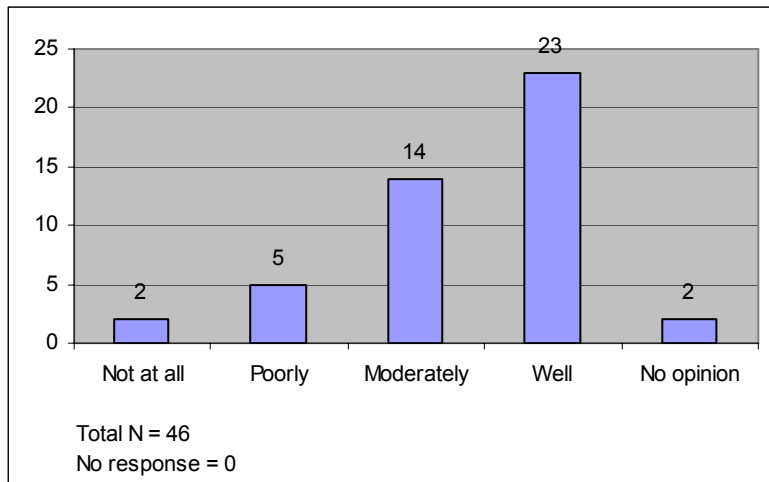
Chart 8: How well technical communicators are aware of the quality requirements that are set to specific documentation projects (Question 15)

The chart shows that the responses are slightly different from the answers given to Question 14: that is, 50% are well aware, 30% are moderately aware and 11% are poorly aware of the specific requirements. 4% stated that they are not aware of the specific requirements at all. Compared with the results of Question 14, it can be said that the respondents are less aware of the specific requirements than the general requirements. In addition, the two "not at all" answers show that project-specific requirements may not be set at all, which is closely related to the following question.

Question 16 asks how well specific quality requirements are set already at the beginning of a documentation project. As defined in the theoretical framework (Sections 2.3 and 2.4), defining quality requirements is an essential part of the documentation process and in a well-defined documentation process, customer requirements are taken into account from start to finish. It was, therefore, expected that there should be an emphasis on setting quality requirements at the beginning of the project. Chart 9 shows the responses to this question.
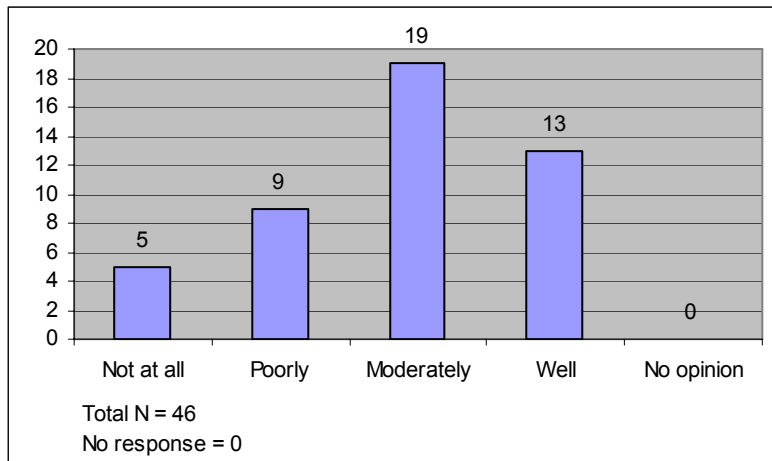
Chart 9: How well specific quality requirements are set at the beginning of a project (Question 16)

The chart shows that a total of 30% have answered "poorly" or "not at all" to this question, and only 28% feel that quality requirements are set well at the beginning of a project. In defining quality requirements (Section 2.3) I concluded that the field of technical communication should begin to realise that there are different levels of quality – not just high quality and no quality at all – and that setting the requirements will define the desired level. Since so few respondents answered that quality requirements are well set at the beginning of a project, it leads me to believe that many companies trust in that the general quality requirements can be applied to all projects and different levels of quality are not really considered. As a result of this, many technical communicators may have to base too many decisions on their own judgement during the project if and when the general quality requirements and project requirements do not correspond.

It is noteworthy that 4 of those 5 respondents who answered "not at all" and 5 of those 9 respondents who answered "poorly" were working for a product development company. These figures are quite high when we take into account that only 39% of the total number of respondents participating in the survey were working for a product development company. This indicates that service providing companies put more emphasis on defining quality requirements from the very start of the project. This is understandable, since customer needs have to be carefully considered when a documentation project is being started with another company, and quality requirements are an essential issue to consider when drafting a project plan: as mentioned in Section 2.3, providing good customer service includes asking what the customer wants. However, this does not mean that setting quality requirements at the beginning of the project should be any less important for product development companies;

although a technical communicator working in a product development company might not have any external customers, there are still people inside the organisation who should be considered as customers with various expectations and requirements.

Question 17 asks how well general documentation quality requirements correspond to the project's requirements. Chart 10 shows the responses to this question.
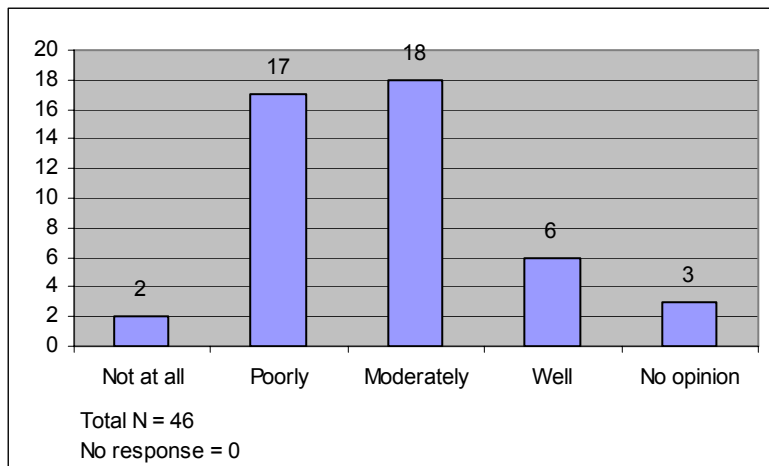
Chart 10: How well general documentation quality requirements correspond to project requirements (Question 17)

"Poorly" answers are remarkably high in this question; they count for 37% of the responses, and 4% have even answered that the documentation quality requirements do not correspond to project requirements at all. In addition, many respondents (39%) have again picked the middle alternative, "moderately". Only 13% feel that the requirements correspond well. Based on my experience in the field, these results were as expected. These results also take us back to Chisholm's study, which showed that poor planning and unrealistic deadlines are one of the main problems experienced by technical communicators (1988: 305) (Section 2.3). The results of Question 17 show that this is also true today. Although my survey did not ask what the reason for the lack of correspondence between the requirements was, the answers given to Question 12, for example, showed that the time needed for quality actions is not always taken into account in work amount estimations. It was no surprise then that the realities of projects with their budget and scheduling constraints often limit the way in which documentation quality related requirements can be accomplished. In addition, these results could also to some extent be concluded from the responses to Question 16: since specific quality requirements are not particularly well set at the beginning of a project, realistic expectations

of cost, schedule and documentation quality have not necessarily been set, and the general quality requirements do not, therefore, correspond to project requirements.

4.2.4 Success and development of quality issues

This section analyses the answers given to Questions 18–20. These questions deal with the success and development of quality issues at a general level.

Question 18 serves to point out how useful and valuable quality assurance is generally seen by the respondents by asking them how quality assurance has contributed to the success of the projects in which they have been involved. The results are shown in Chart 11.
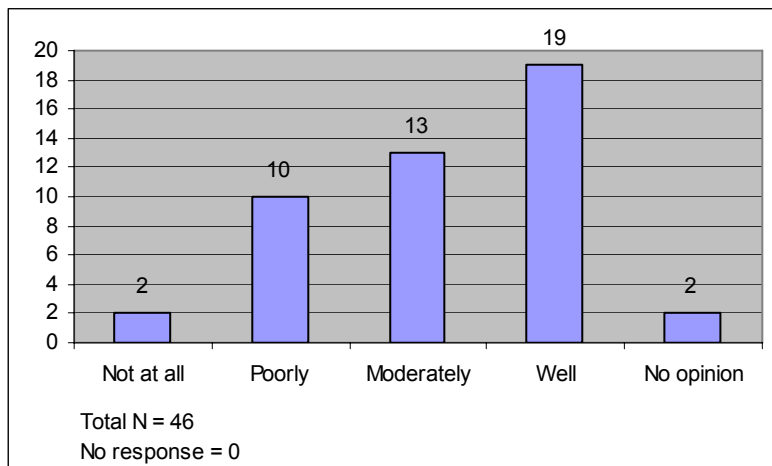
Chart 11: How has quality assurance contributed to the success of projects (Question 18)

Although the majority (41%) answered that quality assurance has contributed to the projects' success well, as many as 22% of the respondents felt that the effect has been poor and 28% said it has been moderate. Some (4%) even felt it has been non-existent. It was expected that the way the process is handled would result in the success or failure of quality assurance; this assumption turned out to be true as can be seen below when comparing the results of Question 18 with Question 11 and Question 13.

The results of Question 18 and Question 11 go to a large extent hand in hand. Almost all who answered that quality assurance has succeeded well or moderately in their projects also answered that the quality process was managed well or moderately (Question 11). Similarly, when quality assurance has succeeded poorly, the quality process has also been managed poorly.

The results of Question 18 and Question 13 also go hand in hand. Almost all who answered that quality assurance has succeeded well or moderately in their projects also answered that quality issues are well or moderately taken into account during the whole documentation process (Question 13). A similar correspondence also exists between the "poorly" and "not at all" responses in these two questions.

These major findings support the assumption that the right kind of process that is well managed and incorporates quality throughout the documentation process creates the necessary conditions for achieving the quality at which the company is aiming. In such a process, quality assurance methods will most likely succeed and are seen to be valuable.

Question 19 asks how respondents feel that quality issues had evolved during their whole work experience in the field. This question can be directly linked to the aim of this study: whether the recent great emphasis on quality issues can nowadays be seen in technical communicators' work. It was expected that the responses would show that quality issues have developed for the better. Chart 12 shows the results of this question.
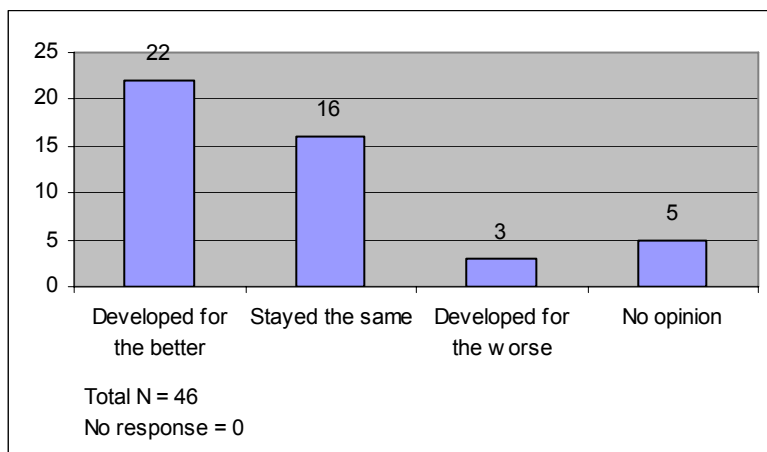
Chart 12: How have quality issues evolved (Question 19)

The chart shows that the expectation was correct: the majority (48%) feel that quality issues have developed for the better. However, 35% feel that there has been no development at all, which can be considered quite a high figure. In addition, three respondents felt that development has gone to the opposite direction. To put these figures to a better perspective, the respondents' work experience in the field needs to be examined (Question 7). Chart 13 shows this comparison.
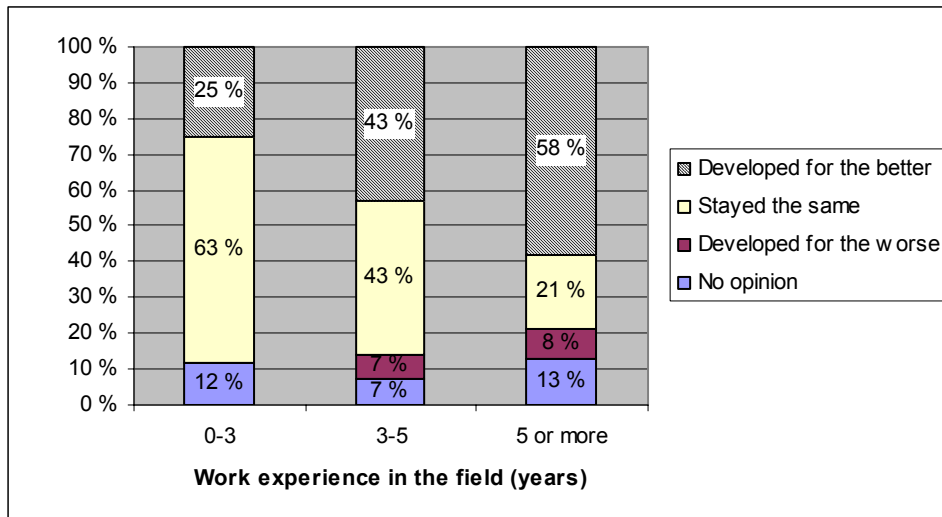
Chart 13: How work experience in the field affects views on quality development

As we can see, the respondents who have worked in the field for a short time are likely to say that quality issues have stayed the same, whereas the percentage of those who feel that quality issues have developed for the better grows as the respondent has had more work experience in the field. I think that the "5 or more" group in Chart 13 gives a better general view of the situation, and tells us that quality issues have developed for the better and the percentage of those who think that there has not been any development at all is considerably lower than when viewing all the respondents together.

Reasons for the responses to Question 19 can be searched from the responses to Question 20 that asked the respondents to provide details of the development. Many of the respondents commented that the development of quality issues depends purely on the company and even teams within the company. For example, one respondent answered that the range of quality development is from excellent to terribly poor in the field (R5).

Those who answered that quality issues have developed for the worse commented that schedules keep getting tighter all the time and budget restraints hinder quality improvement. In addition, projects do not seem to be so profitable as they used to be. These comments reflect the ever-increasing competitive situation in which companies are nowadays, as was discussed in the Introduction. Interestingly, the same kinds of comments were made by those, who answered that the development has stayed the same. However, other positive

developments in quality issues possibly caused them to answer that the situation has not gone worse, as in the following case:

> Earlier there was more time allocated for the work. Nowadays the schedules get tighter all the time, so even if the knowledge of quality and the quality processes have developed during the years, the tight schedules hinder the actual implementation more than earlier. (R42)

The following is a list of the typical themes that were present in those respondents' answers who said that quality issues have developed for the better (not direct quotations):

- The importance of quality has been acknowledged and is growing. In the past, very few quality issues were taken into account, whereas now they are one of the main issues.

- Competence "recycling" between different professionals. Quality issues are discussed and training and seminars are available.

- Theory has become closer to practice; quality process works and does not only exist for the sake of having one. There is more control over quality. For example:
    - (Peer) reviews are mandatory.
    - Procedures are documented. Clear instructions and follow-up procedures make the process easier.
    - Documentation processes have been further developed.

- Documentation is more and more seen as part of the product development process. The quality of documentation is taken into account and it is used as a sales argument.

- There has been a shift from performing mere language checks towards more comprehensive checks that take usability and user needs into account.

The above list gives quite a comprehensive picture of everything that has developed for the better in the field. However, respondents who answered that quality issues have developed for the better also commented that there is less time to do things properly. Therefore, scheduling again seems to be the main problem. If we would take out the answers that mention problems caused by scheduling, the development could mainly be seen as positive.

4.2.5   Definitions of quality

This section analyses the answers given to Questions 21–25. Although providing a definition of good quality is not the aim of this study, I included these questions related to quality definitions in the survey to see what kind of definitions are dominant nowadays.

Question 21 was an open-ended question that asked whether high-quality documentation has been defined by the company, and how. Chart 14 shows first the distribution of how many companies have defined quality.
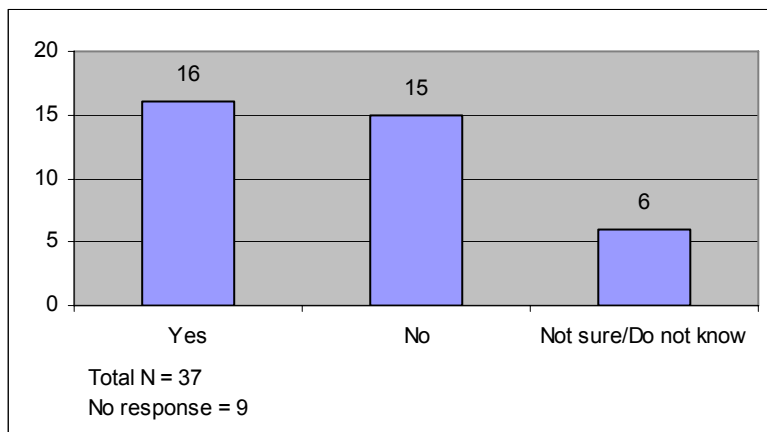
Chart 14: Has high-quality documentation been defined by the company (Question 21)

The chart shows that almost the same number of respondents answered yes or no to the question. Furthermore, 16% answered that they were not sure or actually did not know whether high-quality had been defined by the company. If we count the "no" and "not sure/do not know" answers together, they make up 57% of the total number of responses to this question. These answers included respondents from service providing companies and product development companies alike. I find this percentage remarkably high, and based on the emphasis on TQM and company-wide quality endeavours, I would have expected another kind of result. The "no" and "not sure/do not know" results do not necessarily mean that these companies have a transcendent view of quality, but the assumption I made in Section 2.2 – according to which most companies are likely to have at least some kind of a checklist that lists their quality goals – turned out to be incorrect. If these companies do have some quality definition, this information has not been conveyed well enough to the employee level and the technical communicators working in those companies seem to be in a grey area when it comes to their companies' quality goals.

The following are examples of the typical high-quality documentation definitions in the respondents' companies who had defined quality:

- Meets customer requirements, meets the deadline, meets requirements defined in the style guide. (R9)
- It has been defined against customer expectations and requirements: fulfilling customer's requirements and exceeding customer's expectations. (R16)
- The customer has, but if this causes extra costs due to increased amount of reporting and thus working hours, the customer sometimes is ready to ignore parts of the quality process. (R27)
- There are specific guidelines and quality metrics to follow. In addition, (almost) every project has some specific instructions, usually according to the customer's wishes. (R2)
- There are several definitions. Documentation should meet the user's needs and be free of technical errors. It is difficult to measure these things, though. (R6)
- The individual processes related to producing high quality documentation have been defined. (R7)
- High quality documentation is introduced in the company-wide quality requirements and values and in the specific documentation related processes. (R19)
- A general assessment of the current situation (current documentation quality including customer/audience needs, efficiency of processes) has been made, including suggestions for documentation process development. However, the actual implementation is now on hold. (R40)
- Quality can be seen as a kind of a layered structure. The level of quality required (or possible) depends on the work product, its purpose, lifecycle, time available for the work etc. (R42)
- It is defined in all-too general terms. (R37)

These definitions define quality through customer requirements, audience needs, documentation processes, company's quality requirements and values or a combination of these. Some also comment that quality is defined in all too general terms. As expected, there seems to be quite a lot of variation in what companies emphasise when they define quality, which shows the multidimensional nature of quality. For example, most of the answers emphasise elements of essential or conventional quality, according to Smart's categorisation, but one answer also included elements of attractive quality, that is, exceeding customers' expectations. Concentrating on the essential and conventional quality is natural, since their absence would result in customer dissatisfaction. On the other hand, the absence of attractive quality does not result in customer dissatisfaction, which explains its small visibility in the companies' quality definitions.

Question 22 asked how respondents themselves define high-quality documentation. The responses to this question fall into the same categories as in the Fredrickson's model shown in

Figure 2 on page 28: standards, audience needs, processes and customer service. Some of the responses include elements from more than one category, but for clarity they are included here in one category only, based on which element is emphasised more strongly.

1. Conforming to standards

   - The language is clear, unambiguous, constant and suitable for the technical topics. There are no abbreviations of verbs, or other features that are typical of spoken language. The contents are logically arranged, and all the necessary information is included, but no unnecessary background or too much technical detail. The layout is neat, according to the template being used, and the overall feeling of the document is "organised and easy to use". (R2)
   - All the documents look alike, the right vocabulary is used and defined, translation is taken into consideration while writing an original document. (R8)
   - 1. User friendly: Simplified language, clear pictures, translation should be very good localisation to each culture where the instruction will be used. 2. Accurate and up-to-date information. 3. Clear terminology (R28)
   - Accurate and focused information in a user-friendly form. (R31)

2. Meeting audience needs

   - High-quality documentation gives the users what they need and presents the information in a way that users with varying backgrounds and skill levels can understand and use it. The documentation should not be misleading in any way, but small, insignificant errors such as typos are acceptable. (R1)
   - Documentation should provide users with access to information when they need it in a format that they accept. The instructions should be correct and to the point. (R6)
   - Good enough for its purpose, understandable/readable at minimum. (R10)
   - When documentation meets the reader's needs. When it is good enough so that the questions are answered and the user knows where to contact for more details. When it doesn't underestimate the reader but is on the same level with the user. (R13)
   - High-quality documentation provides the information that the user needs to use a product with little effort from the user to find or understand the information they need at any given time, presents the information in an attractive and professional-looking way, and does not provide excessive details or information that is incorrect or misleading. (R15)
   - Documentation that fulfils the target group's needs. Documentation that the reader likes, user-friendly, clear, has no mistakes (if possible), easy to access. (R32)
   - End users get the information they need. Often "good enough" needs to be accepted because of other constraints. (R44)

3. Using efficient processes

   - Clear guidelines and processes. Writers should be able to concentrate on writing and get support from designers, Project Managers and management. Product training is important (Why is it that we so often hear that it is expensive to provide product training for technical writers? Just think of the huge amount of money that is paid for consultants talking nonsense on management level.) Live meetings with project members. (R27)

- Quality must be defined not just as some abstract measure of "goodness" but as conformance to predefined requirements, which extend beyond the product or deliverables, such as a user manual. High-quality technical communication: meets audience and customer needs, conforms to standards, uses efficient processes. (R40)

4. Customer service

- Meets customer requirements, meets the deadline, meets requirements defined in the style guide. + easy to use and meets the user's requirements. (R9)
- High-quality documentation meets the needs and goals of the customer. Sometimes customers know exactly what they want. In such a case, the challenge of technical communicators is to find a way to realise these needs in a cost-effective way. At other times, customers may be quite clueless as to what they want and need. In these cases, technical communicators have greater responsibility and the experience and skills of individual Project Managers and Technical Writers play a more significant role in the success of the project. (R36)

It is noteworthy that most of the respondents' quality definitions included audience needs and standards. The focus was clearly on meeting audience needs and only a few respondents answered that quality meant conforming to standards only. This takes us back to Klauke's findings showing that standards alone have very little influence on the quality of documentation (Section 3.2.1). The results also point out that the manufacturing view on quality does not seem to receive so much emphasis as I expected, which can be considered a positive development.

It is surprising that the support factors, as defined by Ihalainen (2003), did not come up more often in the respondents' answers: that is, very few mentioned the use of efficient processes and providing good customer service by defining customer requirements. In fact, the examples given above were the only ones that mentioned them, whereas the audience needs section includes only some of the examples of this definition since there were so many of them. However, it is likely that since this question was an open-ended question, respondents have only answered what has first come to their mind about quality and have not necessarily given consideration to all the aspects. For example, based on the answers given to Question 12, the majority of technical communicators view the quality process as important, and, therefore, efficient processes would be seen as contributing to quality. If Question 22 had been a closed question, and one option had been "the use of efficient processes", I suspect that many respondents would have also chosen processes as part of their quality definition. Nevertheless, the results of this question imply that there is a lack of emphasis on processes and the customer aspect, and most technical communicators do not incorporate them immediately in the big picture when they think of quality. The results of this question confirm

the argument made by Carliner and Fredrickson (2002): technical communicators rarely stop to think that they do not always write for their audience but their customers. The following comment made by one of the respondents in Question 24 (how different quality perceptions affect work) summarises what has been said above: "Mostly the differences I can see are related to whether technical communicators are aware of certain greater and smaller issues that affect the quality of a document, not to differing points of view as to what quality is all about." (R12)

In Section 3.1, I argued that the zero defects view of quality has hardly any supporters in technical communication. The results of the survey support this argument. For example, the term "good enough" appears in some of the respondents' answers. In addition, R1 mentioned that small, insignificant errors such as typos are acceptable. This is no surprise and many technical communicators have to settle for lower-level quality than they would like, as discussed in Section 3.2.2. Related to this topic, R4 and R23 point out that it is not wise to produce over-quality and there comes a point after which it is not worth investing more in quality. R21 also comments that nobody wants to buy high-quality documentation – a moderate quality is required with a moderate cost level – or when some customers do want high quality, they are not prepared to pay for it. In these comments, a value-based view on quality is the dominant quality definition, according to which it is impossible to consider quality alone without also considering how much it costs (as discussed in Section 2.2). In addition, the answers emphasised elements of essential or conventional quality, and none of them really implied attractive quality. This also shows that technical communicators do what they can with the time available for the work, but exceeding requirements is not really possible, or not even desirable when thinking about costs and profit.

The comments from R4 and R23 as well as R42 in Question 21 also imply that the different levels of quality are acknowledged to some extent and quality can be seen as a layered structure. As R42 commented, the level of quality required (or possible) depends on issues such as product, its purpose, lifecycle, and time available for the work. One dimension of quality can be compromised for the sake of the other – for example, speed to market can be more important than correcting typos. Therefore, the idea of quality classifications does seem to come up in some of the responses, but they do not reveal whether it is really put into practice, and how. Based on the results of the questions related to quality requirements as well

as the lack of available research on this subject, I suspect that the idea of quality classifications has not really been implemented as such.

The results of Question 22 show that technical communicators do not settle for the transcendent view of quality, according to which quality cannot be defined; 89% of the total of 46 respondents in the survey provided an answer to Question 22 and none of them answered that quality cannot be defined. Many of the respondents' quality definitions incorporated more than one quality view from the framework of Smart et al.: for example, a design-based quality view can be seen in the emphasis on conforming to standards and a product-based view can be seen in the emphasis on usability and readability. Therefore, adopting a purely one-sided view on quality, which is a frequent source of problems according to Garvin (1988: 47), does not seem to be characteristic of technical communicators. However, more emphasis on the support factors seems to be needed, as mentioned above.

My intention was to compare the companies' quality definitions and technical communicators' personal quality definitions. However, since so many companies did not have a quality definition, this task did not yield so many results. The only difference was that companies defined quality more through the customer and the process, whereas technical communicators emphasised the audience and standards more. Otherwise, there were no significant differences or conflicts in the companies' and technical communicators' definitions.

As was seen in Table 7, the majority of the respondents were technical writers, and there were only two project managers, two documentation managers and one key account manager (page 46). Despite this low percentage of respondents in a managerial position, it should be pointed out that only one of them emphasised the customer; others did not even mention the customer in their quality definition, which I find quite interesting. I would have expected that the customers would have been more in their mind, because they are the people who usually have the first contact with the customer and are responsible for planning the documentation project and the framework that either ensures or does not ensure that quality requirements can be fulfilled.

Question 23 asked whether the respondents feel that the people they work with have significantly different quality perceptions. Chart 15 shows the responses to this question.
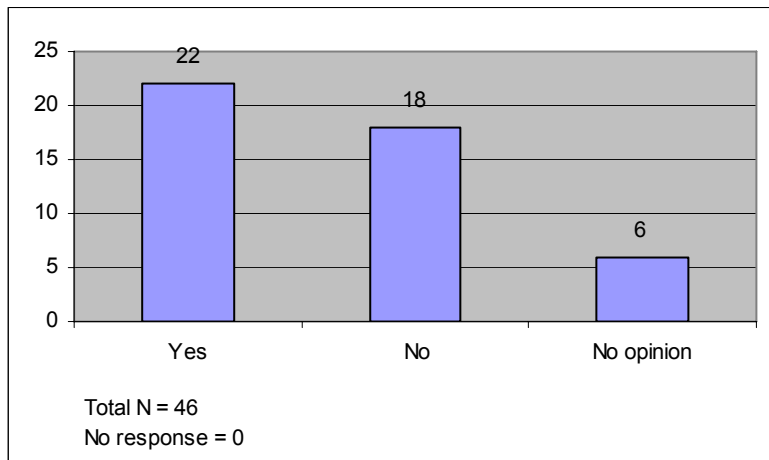
Chart 15: Are there significant differences in the way co-workers perceive quality (Question 23)

The chart shows that the majority (48%) feels that there are significant differences between co-workers' quality perceptions. There may be several reasons for this, and they may not necessarily affect the technical communicators' work. Therefore, this question needs to be examined together with Question 24 that asked how the different quality perceptions affect the respondent's work; for example, do they consider it an obstacle for producing high quality.

The results of Question 24 show that only a few technical communicators consider the different quality perceptions to be a great obstacle for producing high quality. Instead, the different perceptions do cause situations that they consider problematic. The following list includes examples of the most typical responses. The examples are divided based on the most often occurring themes in the answers.

1. What is considered essential and value-adding information differs between people, which makes it difficult to produce high-quality documentation

    -   Some people see quality only related to technical correctness, others only to the correctness of the language. Some people think that only as long as every little detail of the product to be documented is in the documentation, it is perfect. Therefore, it is sometimes difficult to find out what is essential information and what is not. In many cases these different views make it difficult to produce high-quality documentation (as defined by me). (R3)
    -   All readers have their own agenda, so it is sometimes difficult to write for the actual target group. Product managers might want more marketing information

included and the system testers often would like me to write specifications (describe the functionality of the product). (R6)

- Usability is a big problem in our products. Our products are highly specialised but our users are very versatile – you need to write from "this is how you use a windows application" to how they really use our application. Frustrating, because I see the users' problems but software development wants me to write about the new features. (R13)
- Every one has a different opinion about the quality and how it should be improved. Especially what kind of information the end user needs. (R28)
- It seems that to some people quality equals impeccable spelling, whereas some think that good quality translates to fulfilling the expectations of SMEs or the customer's managers. (R35)
- There are people who seem to think that as long as there are no compensation claims and the customer does not complain, the quality is good enough. In my opinion this does not suffice. (R36)

2. Quality perceptions are affected by resources and often resources are not allocated so that high-quality could be achieved

- We are required to produce perfect quality with no errors. However, the software development schedule does not allow that – and that is a problem that is not always understood. (R1)
- To the customer, quality equals sticking to schedules. (R7)
- It is an obstacle. It is not easy to know what is good enough. People have different views depending on the schedule and costs. (R33)
- It seems to me that the indians are quite well aware of the quality requirements, but the chiefs seem unaware of just what it takes to achieve them. (R40)

3. The importance of documentation, quality and the quality process is ignored

- It is hard to rely on people whose attitude to quality is nonchalant. You cannot trust that the team will succeed if even one person does not care to fulfil the basic quality requirements. (R16)
- Some people think that some parts of the quality process are not that necessary and it only takes excess time. (R24)
- The general opinion seems to be that we just make manuals, why should we care about documentation or quality. Nobody reads manuals anyway. (R28)

The majority of the responses were related to theme 1 in the above list. This result was expected since theme 1 essentially deals with the definition of quality: as shown in the holistic framework of Smart et al., for example, and in the discussion of the results of Question 22, the various definitions of quality emphasise different aspects of quality. The responses to Question 24 show that the various definitions cause problems because they cause people to strive for different things.

Question 25 asked whether the respondents feel that quality is viewed as everyone's responsibility in the company, including all levels of the organisation. Referring back to Section 3.2.3 for the discussion of the quality development in technical communication, the expectation was that quality should nowadays be viewed as everyone's responsibility in technical communication. Chart 16 shows the responses to this question.

Total N = 46
No response = 0
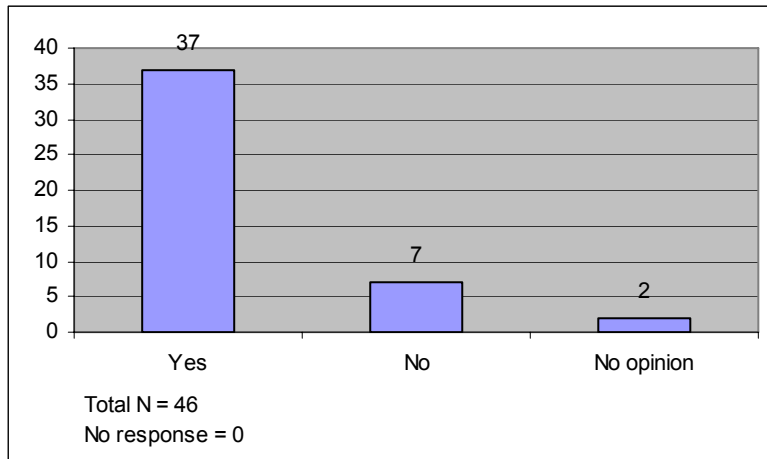
Chart 16: Is quality viewed as everyone's responsibility in the company (Question 25)

As expected, a clear majority (80%) feels that quality is viewed as everyone's responsibility. Since the percentage of those who feel that quality is not seen as everyone's responsibility is so low, no significant conclusions can be drawn about this group. However, based on the theoretical framework, two issues are worth looking into briefly, even with such a small comparison group. These questions are how the quality process is managed and how quality requirements are defined.

Based on the theoretical framework, with a well-defined process, quality becomes everybody's responsibility. Therefore, it would be likely that those who feel that quality is not seen as everyone's responsibility would also feel that the quality process is managed poorly (Question 11) or that quality issues are not implemented throughout the process (Question 13). Based on the comparison of the questions, this turned out to be a true assumption.

In Section 3.2.3 I also argued that if the company has a lack of emphasis on quality requirements, it can be symptomatic of the fact that the management has not adopted a company-wide view on quality, and by not defining the quality requirements with the customer, the management leaves most of the quality considerations to the technical communicator(s). Therefore, it would be likely that those who feel that quality is not seen as

everyone's responsibility would also feel have that the quality requirements are set poorly at the beginning of a documentation project (Question 16). This also turned out to be a true assumption.

The following comments were given by the respondents who did not feel that quality is seen as everyone's responsibility. These examples reflect what was said above:

- The quality process is on paper only, not in practise at all. Everything related to quality is up to the worker. Scary phenomenon. It is up to me to keep other project people (including PM) aware of documentation qualifications. (R5)
- Quality is the writer's responsibility, but s/he is not paid for it". (R7)
- Quality is seen mainly as the writers' responsibility. It should be a requirement for documentation project managers as well since their work has an impact on the entire project (for example, if their time estimates are incorrect or if they give incorrect information). (R32)

Nevertheless, the majority of the respondents felt that quality is seen as everyone's responsibility, which is an indication of strategic quality management as defined by Garvin (1988: 26), where all employees are involved in quality improvement and which also requires the commitment of the top management (see Table 1).

The following list summarises the major findings of the questions related to quality definitions:

1. Surprisingly, many companies have not defined high-quality documentation or technical communicators are not aware of the definition.

2. Technical communicators include audience needs and conforming to standard in their quality definitions, but the lack of emphasis on processes is surprising. In addition, the customer aspect is not really seen in technical communicators' quality views yet.

3. Technical communicators' value-based comments on quality as well as the lack of emphasis on the elements of attractive quality show that technical communicators do what they can with the time available for the work, but exceeding requirements is not really possible.

4. Some responses imply that the idea of quality classifications could be possible in technical communication.

5. The majority feels that there are significant differences between co-workers' quality perceptions. However, quality is viewed as everyone's responsibility.

5. Conclusions

The purpose of this study was to find out how technical communicators experience the quality processes and requirements in their everyday work. The main focus was on analysing how close the theory has come to the practice. To gather such empirical material, the Web-based questionnaire method turned out to be a good solution, since quite many responses were received. However, with the response rate of 13.5%, I would treat the results as tendencies. In retrospect, a statistically more significant response rate could have been achieved if I had sent reminders to the respondents. However, the design of the survey was successful, and the respondents provided answers to all the closed questions, and the open-ended questions had a good response rate, too.

In the Introduction, I started out with the assumption that the recent great emphasis on quality research in technical communication should nowadays be seen in technical communicators' work, and that quality processes and methods should guide technical communicators so that producing high-quality documentation is achievable. Therefore, technical communicators should also be well familiar with the details of the quality process as well as the quality requirements. However, my hypothesis was that despite all the quality research, following processes and setting clear quality requirements may not really be put into practice to the fullest. This hypothesis turned out to be true, as the following discussion shows.

When considering the results, however, one important factor has to be pointed out first. In many questions, the respondents tended to pick the middle alternative, "moderately", from the fixed response sets. Although some people would be inclined to think that the high percentage of "moderately" responses basically means that the situation is fine, I interpret the responses to mean that the situation could be improved, and "moderately" is not, therefore, interpreted as a totally neutral option.

In the Introduction, I formulated the important questions to which this study tries to find answers. Two of these questions were how well technical communicators are aware of the quality process that they should follow and how quality issues are taken into account during the whole documentation process. The high percentage of respondents who were only moderately or poorly aware of their company's quality process showed that more emphasis on

the quality process is needed. In addition, the low percentage of respondents who feel that the quality process is managed well shows that there is room for improvement there, too. On the whole, the quality process is, however, seen useful and it makes technical communicators' work easier, but the inflexibility of the process and trying to meet all quality requirements within the process framework causes problems with deadlines. Since the quality process is only moderately managed, these kinds of problems are very likely to occur. Moreover, since so many of the respondents felt that quality issues are moderately or even poorly taken into account during the whole documentation process, it can be argued that quality issues are not given as much weight as they would seem based on the theory.

Another important question was how well technical communicators are aware of the general quality requirements that their work should fulfil as well as the specific requirements in single documentation projects. The results showed that the majority are well aware of the general requirements, although there is quite a high percentage of "moderately" responses again. The respondents were less aware of the specific requirements than the general requirements, which can be explained by the fact that in some cases quality requirements were not set at all at the beginning of a project, and in most cases only poorly or moderately. When the requirements are not set well, it is no surprise then that the majority also felt that there are significant differences between co-workers' quality perceptions, which causes problems when trying to achieve good quality. These results lead me to believe that many companies trust that the general quality requirements can be applied to all projects and different levels of quality are not really considered or presented to the customer. Since the majority felt that general documentation quality requirements correspond to the project's requirements only poorly or not at all, it shows that there is a serious need to rethink the quality requirements in many companies. In my opinion, the situation could be improved by putting more emphasis on the specific quality requirements so that requirements would fit the projects better and by setting them already at the beginning of the project, which would also mean that better customer service would most likely be provided.

My aim was also to see how technical communicators feel that the quality assurance methods used contribute to achieving quality and how quality issues have developed in the field. Although the majority feel that quality assurance has contributed to the projects' success well, over half of the respondents feel that the effect has been moderate, poor or even non-existent. The reasons for the discontent with quality assurance methods can be traced back to poor

management of the quality process and to a documentation process that does not incorporate quality throughout the process. On the whole, quality issues are seen to have developed for the better, although many feel that this development depends purely on the company. Despite the positive development in many areas such as processes, quality awareness, and increased professional competence and training, the main problem is that there is less time to do things properly.

Although analysing the respondents' and their companies' quality definitions was not the main purpose of this study, it turned out to be an interesting exercise. Quite surprisingly, many companies had not defined high-quality documentation or alternatively the respondents were not sure or actually did not know whether it had been defined. In this respect, quality research has not really borne enough fruit. As theory has shown, there is an overwhelming number of different definitions for quality, and each company should agree on what their own definition is so that there can be no confusion about the quality goals. When this result is combined with the fact that the majority also felt that there are significant differences between co-workers' quality perceptions, there are likely to be problems caused by the different quality views and the lack of a company's quality view.

Fredrickson's model (1995) proved to be a useful tool to see how technical communicators view quality. In their quality definitions they put the most emphasis on meeting audience needs. Conforming to standards is seen as the second most important thing. Although technical communicators seem to have moved far from the manufacturing view on quality, the lack of emphasis on processes does raise some questions. Since the scheduling and planning problems seem to be the greatest hindrances to implementing quality, it is surprising that technical communicators do not incorporate the use of efficient processes more in their quality views, especially as almost all of the respondents' companies did have a quality process and as processes have received so much attention in the literature in the field. I suspect that if the theory would come closer to practice in this matter and technical communicators started to emphasise processes more, they could see some improvement, for example, with respect to the poor planning. After all, if technical communicators themselves do not emphasise the importance of processes, nobody else in the company will do it for them. Moreover, research cannot do it for them either.

Although the customer aspect is slowly gaining some attention in the field's publications (see, for example, Fredrickson 1995), it is not really seen in technical communicators' quality views yet. This study confirmed the argument made by Carliner and Fredrickson (2002), according to which technical communicators rarely stop to think that they often write for the customers instead of the audience. I did not find this result surprising, but the fact that managers did not emphasise customers either was a surprise. However, since the study included only a few respondents in a managerial position, further research on this subject could be carried out.

Some of the value-based comments which emphasised that there comes a point after which it is not worth investing more in quality also give cause for further research. If many companies tend to want only moderate quality with a moderate cost level, how can this be handled in practice? Although some answers revealed that quality is considered as a layered structure, I suspect that this idea only exists in technical communicators' thoughts and not really as a concrete option that is presented to the customer. This assumption can be made, for example, based on how rarely requirements are set well at the beginning of the project and the lack of available research on this subject. However, since the different levels of quality are acknowledged at least to some extent, it would be worth while to see what kind of acceptance the idea of quality classifications would receive in the field. I suspect that quality classifications might able to break the inflexible way of thinking that quality is either good or bad. Therefore, a study on what kind of help quality classifications could provide in defining quality requirements and the desired level of quality would be interesting.

Garvin's (1988) descriptions of different quality periods and quality emphases as well as Smart et al.'s (1995) adaptation of Garvin's framework turned out to be useful tools to analyse the development of quality views. According to Garvin (1988: 21), focus on the customer and continuous improvement where all employees including top management are involved in quality improvement are the characteristics of the prevailing quality era, that is, strategic quality management. Based on the results of this study, a clear majority feel that quality is viewed as everyone's responsibility in technical communication, and the field has, therefore, characteristics of the strategic quality management period. However, I find it problematic that the quality requirements are not set as well as they could be, and consider it to diminish the result a little. Since strategic quality means that the key for technical communicators is to determine which quality dimensions are important to the customer

(Smart et al. 1995: 478), I would consider the field to be somewhere in the middle of the quality assurance and strategic quality management periods (see Table 1). However, as the results showed, quality issues have developed for the better in technical communication, and with a further emphasis on the customer and quality requirements, the field continues to develop and may be able to adapt a more strategic view on quality in the future.

This study has been an attempt to emphasise those aspects of quality that have thus far received the least attention in technical communication. As a result of this and other similar studies, I hope that the different levels of quality will start to be emphasised and realised more in the field. Since it is understood that quality is subjective and relative, the practitioners in the field could start to embrace a more contextual approach to quality, instead of trying to find a consensus on what quality ultimately means.

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Appendix A. Cover letter to the survey participants

Dear Technical Communicator,

I'm writing my MA Thesis at the University of Tampere on quality issues. The purpose of my study is to find out how the recent emphasis on quality issues in the field has translated into practice in technical communicators' work. The main question in my study is how technical communicators experience quality processes and methods in their everyday work. The study also focuses on finding out the manner in which quality requirements are set in specific documentation projects.

To get information on these aspects, I'm conducting a survey among Finnish Technical Communications Society members and would be very grateful if you could find the time to answer my questionnaire. By answering the questionnaire, you will greatly contribute to research in the field, and it is also your chance to let yourself be heard about today's hot topic in technical communication. If you want to contribute to this study, please fill in the questionnaire at http://www.uta.fi/~ms61196/survey.html.

The study does not aim to obtain any company-specific information. All responses will be kept confidential and you are not required to enter any contact details. However, you can fill in your contact details in the questionnaire if you want me to send you the results of my study. The response data will be used for the purpose of this study only.

There are 25 questions in the questionnaire and it will take you about 10-15 minutes to fill in.

The deadline for submitting your answers is 30.6.2006.

Thank you for your time!

Kind regards,
Mervi Sivula
Phone: +358 50 528 2278
E-mail: mervi.sivula@uta.fi

Appendix B. Questionnaire

This survey form is divided into two sections: background information questions and the actual survey questions. Please fill in both sections. If you do not have any opinion about a particular question, use the "no opinion" or "I don't know" options.

If you feel that you need to clarify some of your answers in more detail, use the extra text box at the bottom of the page.

If you are currently not working, you can provide your answers based on your previous work experience.

Background information questions

1. Name (optional; fill in if you want to receive the results of this study)

2. E-mail address (optional; fill in if you want to receive the results of this study)

3. Educational background
   - Studies in the humanities
   - Studies in a technical field
   - Other, what?

4. In what kind of a company do you work?
   - Service providing company
   - Product development company
   - Other, what?

5. How many years have you worked for the company? (drop-down menu with the following options: 0-1, 1-3, 3-5, 5-10, 10 or more)

6. How many years has the company been in business? (drop-down menu with the following options: 0-1, 1-3, 3-5, 5-10, 10 or more)

7. How many years have you worked as a technical communicator? (drop-down menu with the following options: 0-1, 1-3, 3-5, 5-10, 10 or more)

8. What is your title?
   - Technical Writer
   - Documentation Specialist
   - Information Designer
   - Project Manager
   - Documentation Manager
   - Other, what?

Actual survey questions

The most important terms used in this survey are introduced below to provide help in answering the survey questions. The aim of the study is not to provide a definition of good quality, so the terms are specified here only as a general reference.

- Quality process: A repeatable, controlled set of target-oriented activities that is used to ensure the quality of the product and project.
- Requirements: For example, requirements on documentation quality (e.g. style, comprehensibility) and general requirements (e.g. schedule, pricing).
- Quality assurance: Means to help verify that quality requirements are fulfilled (e.g. review).

9. Does your company have a documented quality process?
- yes
- no (jump to question 12)
- I don't know (jump to question 12)

10. If your company has a documented quality process, how well are you familiar with its details?
- not at all
- poorly
- moderately
- well
- no opinion

11. If your company has an established quality process, how well is the process managed?
- not at all
- poorly
- moderately
- well
- no opinion

12. Explain briefly how the quality process (or lack of it) makes your work easier/harder:

13. How well are quality issues taken into account during the **whole** documentation process?
- not at all
- poorly
- moderately
- well
- no opinion

14. How well are you aware of the overall quality requirements that your work should fulfil?
- not at all
- poorly
- moderately
- well
- no opinion

15. In general, how well are you aware of the quality requirements that are set to **specific** documentation projects you are working in? (e.g. requirements that stipulate that quality issues 'x' and 'y' need to be prioritised because the project has a too tight schedule).
- not at all
- poorly
- moderately
- well
- no opinion

16. How well are specific quality requirements set at the beginning of a documentation project?
- not at all
- poorly
- moderately
- well
- no opinion

17. How well do general documentation quality requirements correspond to the project's requirements (e.g. is a tight schedule taken into account)?
- not at all
- poorly
- moderately
- well
- no opinion

18. In general, how well has quality assurance contributed to the success of the projects you have been involved in?
- not at all
- poorly
- moderately
- well
- no opinion

19. On the whole, how do you feel that quality issues have evolved in technical communication during your whole work experience in the field?
- developed for the better
- stayed the same
- developed for the worse
- no opinion

20. Please provide details of what has developed for the better/worse:

21. Has high-quality documentation been defined in your company, and how?

22. How do **you** define high-quality documentation?

23. Do you feel that there are significant differences in the way that the people you work with perceive quality?
- yes
- no
- no opinion

24. If you answered yes to the previous question, provide details of how the different perceptions affect your work (e.g. do you consider it an obstacle for producing high quality?)

25. Do you feel that quality is viewed as everyone's responsibility in your company (all levels of the organisation)?
- yes
- no
- no opinion

Feel free to provide any additional information or clarify your answers in more detail:

Suomenkielinen lyhennelmä

Johdanto

Viimeisten vuosikymmenten aikana laadun huomioonottamisesta on tullut keskeinen asia yhteiskunnan lähes joka osa-alueella. Kasvava maailmanlaajuinen yritystenvälinen kilpailu sekä asiakkaiden lisääntyneet odotukset ovat tehneet tuotteiden ja palveluiden laadusta merkittävän tekijän yritysten kilpailukyvylle. Tämän kehityksen myötä myös laadun tutkimus on nykyään yleinen aihe monilla aloilla. Teknisen viestinnän ala ei tee poikkeusta tässä asiassa: laadun määrittelemisestä ja laatumittareiden kehittämisestä on tullut tärkeitä aiheita teknisille viestijöille ja laadukkaan dokumentaation tuottaminen nähdään dokumentaatioprojektien keskeisenä tavoitteena.

Teknisen viestinnän alalla on tehty jo paljon laatututkimusta, mutta suureksi hankaluudeksi on osoittautunut se, kuinka on edes mahdollista määritellä, mitä hyvä laatu merkitsee tällä alalla. Tämä johtuu suurelta osin siitä, että dokumentaatio sisältää monia tekijöitä, joita on yksinkertaisesti hyvin vaikea mitata. Korkealaatuisen dokumentaation tuottaminen ei esimerkiksi yleensä näy suorana tulona yrityksen taloustilastoissa. Sen sijaan asiakastyytyväisyys on yksi useimmiten mainituista laadukkaan dokumentaation tavoitteista, mutta tämän tavoitteen toteutumista on hyvin vaikea mitata, koska asiakastyytyväisyys voi olla melkein mitä tahansa yksittäinen asiakas kokee sen olevan. Lisäksi tekniset viestijät saavat hyvin harvoin palautetta työstään yleisöltään. Näiden vaikeuksien takia hyvän laadun määrittelemiseksi ja laatua mittaavien metodien luomiseksi on tehty useita yrityksiä alalla.

Väitän, että laadun määrittelyn vaikeuden lisäksi yhtä ongelmallista on, että tutkimus ei ole korostanut tarpeeksi, kuinka tärkeitä dokumentaatiolle ensin asetettavat vaatimukset ovat. Vaikka laadun osatekijöitä on toki lueteltu erilaisissa tarkistuslistoissa, vaatimusten vähäisestä korostamisesta muodostuu vaikutelma, että hyvän laadun oletetaan yleisesti yhä tarkoittavan jotain, joka voidaan mitata sellaisenaan, riippumatta dokumentaatiolle alussa asetetuista vaatimuksista.

Tämän tutkimuksen lähtökohtana on, että laatua voidaan yrittää mitata vain silloin kun vaatimukset on asetettu ja että laatumääritelmät ja -mittarit ovat riippuvaisia näistä

vaatimuksista. Vaikka hyvän laadun määrittelemiseksi on olemassa monia keinoja, useimmat laatumittarit eivät sovi joka tilanteeseen. Dokumentointiprojektit pitäisi arvioida tapauskohtaisesti, ja laatutavoitteet pitäisi sovittaa kyseiseen tilanteeseen, vaatimuksiin, aikatauluun ja niin edelleen. Tutkimuksen idea on peräisin viimeksi mainitusta ajatuksesta: jotta voidaan selvittää, kuinka laatu todella käsitetään teknisessä viestinnässä, on tärkeää tutkia kuinka laatuvaatimukset on asetettu ja kuinka teknisen viestijän työhön vaikuttavat laatuprosessit ja laadunvarmistusmenetelmät, joita hänen tulisi noudattaa.

Tämä tutkimus pyrkii löytämään vastauksia seuraaviin keskeisimpiin kysymyksiin:

- Kuinka hyvin tekniset viestijät ovat tietoisia laatuprosessista, joita heidän tulisi noudattaa? (eli prosessin laatu)
- Kuinka hyvin tekniset viestijät ovat tietoisia yleisistä laatuvaatimuksista, joita heidän työnsä tulisi täyttää, sekä tietyistä laatuvaatimuksista, jotka on asetettu yksittäisille dokumentointiprojekteille? (eli tuotteen ja projektin laatuvaatimukset)
- Kuinka hyvin laatuasiat otetaan huomioon koko dokumentointiprosessin ajan teknisten viestijöiden mielestä?

Tutkimus pyrkii myös selvittämään, kuinka dokumentointi- ja laatuprosessit osaltaan vaikuttavat laadunvarmistukseen. Perusolettamus on, että oikeanlaiset prosessit mahdollistavat yrityksen toivoman laadun saavuttamisen. Jollei prosesseja ole, tekninen viestijä joutuu suuressa määrin yksin selvittämään, kuinka laatutavoitteet voidaan saavuttaa.

Laatuasioiden saaman viimeaikaisen laajan huomion pohjalta laatuasioiden pitäisi nykyään olla hyvin näkyvissä teknisten viestijöiden työssä, ja laatuprosessien ja -menetelmien tulisi ohjata heitä siten, että korkealaatuisen dokumentaation tuottaminen on mahdollista. Monien kollegojen kanssa käytyjen keskustelujen ja viiden vuoden kokemuksen perusteella oletan kuitenkin, että prosessien noudattaminen ja laatuvaatimusten asettaminen ei kuitenkaan toteudu alalla vielä täysin. Laatu saattaa olla yhä jotain sellaista, joka vain mitataan projektin lopussa esimerkiksi yksinkertaisen tarkistuslistan perusteella, samalla unohtaen tekijät, jotka saattaisivat olla olennaisempia käyttäjien kannalta (kuten tehtäviin perustuva ohjeistus), ja tekijät, jotka ovat riippuvaisia asiakkaasta (kuten aikataulut ja resurssit).

Tutkimuksen empiirinen aineisto kerättiin www-kyselylomakkeella. Pyyntö osallistua kyselyyn lähetettiin Suomen teknisten dokumentoijien (STD) postituslistalle. Tutkimuksessa

yhdistyy kvantitatiivinen ja kvalitatiivinen metodi: monivalintakysymysten analysoimiseksi käytettiin yksinkertaisia tilastollisia menetelmiä, ja tätä analyysia täydennettiin analysoimalla avoimia kysymyksiä kvalitatiivisesti. Jotta kyselylomake oli nopea ja vaivaton täyttää, suurin osa kysymyksistä oli monivalintakysymyksiä.

Keskeisimmät käsitteet

Tutkimuksen keskeisimmät käsitteet ovat *asiakas vs. loppukäyttäjä*, *laatu*, *laatuvaatimukset* ja *prosessi*.

Tässä työssä käytetään termejä *asiakas* ja *loppukäyttäjä* kuten Lola Fredrickson (1995: 271) on ne määritellyt. Tämän määritelmän mukaan asiakkaat vaihtelevat teknisen viestijän roolin mukaan ja yleensä yhdellä dokumentilla on useita asiakkaita. Asiakkaat voivat olla yrityksen sisällä tai ulkopuolella toimivia asiakkaita. Esimerkiksi teknisen viestinnän palveluihin erikoistuneen yrityksen asiakkaita voivat olla toimeksiantajayritykset, ja teknisen viestijän asiakkaita voivat olla esimies, projektitiimi ja tuote-osasto. Loppukäyttäjät puolestaan muodostavat ryhmän, jolle teknisen viestijän voidaan nähdä todellisuudessa kirjoittavan, ja tälle ryhmälle keskeisintä on esimerkiksi dokumentaation käytettävyys ja luettavuus. (ibid.) Tämän määritelmän mukaan asiakas ja loppukäyttäjä muodostavat kaksi täysin eri näkökulmaa, joiden mukaan laatua voidaan mitata. Tekninen viestijä voi esimerkiksi tyydyttää loppukäyttäjien tarpeet kirjoittamalla erinomaisen dokumentin, jonka käytettävyys on vailla vertaistaan, mutta jos sen kirjoittamiseen menee kaksi ylimääräistä kuukautta, sisäinen tai ulkoinen asiakas on hyvin todennäköisesti tyytymätön.

Tähän mennessä loppukäyttäjät ovat saaneet alalla eniten huomiota (Fredrickson 1995: 271). Asiakaspalveluelementin vähäinen huomio teknisen viestinnän alan laatukeskusteluissa (Carliner ja Fredrickson 2006) on melko yllättävää. Koska asiakkaan palveleminen määrittelee hyvin paljon dokumentointiprojektin menestyksen, tämä tutkimus pyrkii keskittymään asiakasnäkökulman huomioonottamiseen. On kuitenkin tarpeellista huomauttaa, että asiakasnäkökulman korostamisesta huolimatta en kuitenkaan väitä, että loppukäyttäjien tarpeet tai muut laatutekijät olisivat yhtään sen vähäisempiä. Kummatkin näkökulmat ovat tärkeitä, mutta toinen niistä ei ole vain saanut niin paljon huomiota kuin olisi tarpeen. Siksi

tämän tutkimuksen tarkoituksen kannalta molempien näkökantojen mielessä pitäminen on tarpeellista.

Yhden hyvän määritelmän löytäminen *laadulle* ei ole tämän tutkimuksen tarkoitus, koska määritelmiä on useita ja ne vaihtelevat määrittelijästä riippuen. Laatu on myös suhteellista: mikä on korkealaatuinen dokumentti tekniselle viestijälle, saattaa olla huonolaatuinen dokumentti asiakkaalle (Hackos 1994: 10). Sen sijaan, että tässä tutkimuksessa pyrittäisiin luettelemaan kaikki laadun eri määritelmät, tutkimuksessa tuodaan vain esimerkinomaisesti joitain määritelmiä esille. Yleisessä kielenkäytössä laatu yhdistetään usein esimerkiksi sanoihin erinomaisuus ja hyvyys. Tuotteen ominaisuuksia korostavassa laatunäkemyksessä käytettävyys on keskeistä (Steehouder ym. 1994: 1). Laatunäkemys saattaa myös sisältää useita eri aspekteja. Mielestäni yhden oikean määritelmän löytäminen laadulle on mahdotonta. Tässä tutkimuksessa korostuukin näkemys, että laadun määritelmä riippuu kontekstista. Tutkimuksessa laatu nähdään myös laajana käsitteenä, joka ei sisällä ainoastaan tuotteen laatua koskevia tekijöitä vaan kaikkia sen tekemiseen vaikuttavia tekijöitä, kuten prosessin laatu (aikataulut, resurssit, ja niin edelleen).

Tämä tutkimus korostaa *laatuvaatimusten* tärkeyttä joka dokumentointiprojektissa. Dokumentaation laatuvaatimukset asettavat kriteerit, joiden mukaan dokumentaation laatua voidaan mitata (Mamone 2000: 28). Monet dokumentaation laatua käsittelevät julkaisut keskittyvät tarjoamaan laatuvaatimuksia listaavia tarkistuslistoja, jotka monet mielestäni yksinkertaistavat dokumentointiprosessin tai jättävät prosessiin liittyvät tekijät täysin huomiotta – esimerkiksi kuinka hyvin aikataulut suunnitellaan ja resurssit jaetaan. Syy tähän saattaa olla se, että sellaiset oppaat ovat usein tarkoitettu käytännön oppaaksi hyvän dokumentaation kirjoittamiseen, jolloin tekstinulkoisia tekijöitä ei edes huomioida. Tässä tutkimuksessa laatuvaatimukset ymmärretään tarkoittamaan enemmän kuin vain valmiita tekstin ominaisuuksia painottavia tarkistuslistoja. Laatuvaatimukset ovat vaatimuksia, jotka on huolellisesti sovittu asiakkaan kanssa ja suunniteltu tietylle dokumentointiprojektille sekä vastaamaan kyseisen asiakkaan tarpeita. On tarpeen huomata, että laatuvaatimukset voivat myös tarkoittaa mitä tahansa käytettävyydestä alhaisiin kustannuksiin ja tuotteen nopeaan markkinoille saamiseen. Asiakas voi esimerkiksi valita huonomman laadun saavuttaakseen muut tavoitteensa. Siksi tässä tutkimuksessa laatuvaatimusten määrittelemisellä tarkoitetaan myös halutun laatutason määrittelemistä.

Dokumentaation laatua voidaan tutkia *prosessin* näkökulmasta, eli kuinka dokumentaatio on tuotettu. Tässä tutkimuksessa oletetaan, että oikeanlaiset prosessit mahdollistavat halutun laatutason saavuttamisen. Tätä tutkimusta varten prosessi määritellään järjestelmällisenä menettelytapana, joka sisältää sarjan erilaisia vaiheita, joilla varmistetaan tuotteen laatu. Määriteltyjä dokumentointiprosesseja on olemassa monta, eikä ole olemassa yhtä dokumentointiprosessia, joka sopisi joka yritykselle. Dokumentointiprosessin yksityiskohdat riippuvat alan, yrityksen ja työntekijöiden tarpeista (Atkinson ym. 2001: 569).

Järjestelmällisyydestä huolimatta prosessit saattavat tuoda monille mieleen lisätyötä, joustamattomuutta tai jotain, joka haittaa todellisen työn tekemistä (Atkinson ym. 2001: 568). Sellaisten joustamattomien prosessien ongelma vaikuttaa olevan, että ne keskittyvät prosessiin itseensä, eivätkä tuotteeseen, kun taas hyvä prosessi on työkalu, ei itsetarkoitus. Hyvin määritellyssä dokumentointiprosessissa asiakkaan vaatimukset otetaan huomioon alusta loppuun ja prosessi ohjaa teknisiä viestijöitä saavuttamaan määritellyt tavoitteet (Kuusto 2001). Pelkkä prosessin määritteleminen ei takaa laatua, vaan prosessia pitää hallita hyvin. Hyvin määritellyssä prosessissa laadusta tulee jokaisen vastuu, koska jokainen on vastuussa omasta erikoisalastaan, mutta pitää myös huolehtia siitä, että jokainen noudattaa prosessia (Kuusto 2001).

Teoreettinen viitekehys

Yllä kuvattujen keskeisten käsitteiden lisäksi tutkimuksen teoreettisen viitekehyksen muodostaa koko laatuliikkeen kehittymistä kuvaavan historian tutkiminen sekä se, kuinka laatuasiat ovat kehittyneet teknisessä viestinnässä. Tämän historian tunteminen on keskeistä tälle tutkimukselle, koska tavoitteena on selvittää, kuinka laatututkimuksen kehitys on vaikuttanut dokumentointiprosesseihin. Tutkimuksessa käytetään myös Karl Smartin ym. (1995) mallia esimerkkinä erilaisten laatunäkemysten tutkimiseksi. Keskeistä laadun moniulotteisuuden ymmärtämisessä on, että asiakkaan laatuvaatimukset määrittelevät sen, mihin laadun ulottuvuuksiin teknisen viestijän tulisi keskittyä. Konteksti on siis tärkeimmässä asemassa erilaisten vaatimusten ymmärtämisessä.

Laatuliikkeen kehityksen kuvaamisessa käytettiin David Garvinin (1988) tutkimusta. Laatuliikkeen ja teknisen viestinnän kehitystä vertailemalla nähdään, että tekniset viestijät ovat kohdanneet samat ongelmat kuin muutkin laadunharjoittajat muilla aloilla; laadun parantamisen hidas edistys ei ole johtunut kiinnostuksen puutteesta vaan siitä, että laadun sisällöstä ei ole ollut yhteisymmärrystä (Garvin 1988: xi). Vaikka siis laatuasiat ovat herättäneet kiinnostusta teknisen viestinnän alalla, uusien laatuperiaatteiden omaksuminen on ollut vaikeaa ja kokonaisvaltaisen laadunohjauksen (Total Quality Control, TQC) periaatteita on alettu soveltaa vakavasti alalla vasta 1990-luvulla (Smart ym. 1995: 474). Ei ole siis yllättävää, että ensimmäisten laatunäkemyksien mukaan laadukas dokumentti on kyllä tunnistettavissa, mutta laatua on vaikea määritellä ja sen vuoksi myös vaikea toistaa, mitata ja hallita (Smart 2002: 130, 132).

Tutkimuksessa käytetään Fredricksonin mallia teknisen viestinnän laatunäkemysten kartoittamiseksi. Seuraavat kolme kategoriaa kuvaavat keskeisimpiä teknisen viestinnän laatunäkemyksiä, jotka ovat hallinneet laatukeskustelua tähän mennessä:

1) standardeihin mukautuminen (esimerkiksi rakenne, kielioppi, tyyli, tarkkuus)
2) loppukäyttäjien tarpeiden tyydyttäminen (esimerkiksi käytettävyys, luettavuus, päämääräkeskeisyys, sisältö)
3) tehokkaiden prosessien käyttäminen (esimerkiksi katselmointiprosessit, aikataulujen ja kustannusten hallinta, automaatio ja tuotanto)

(Fredrickson 1995: 269–270.)

Kuten monilla muilla aloilla, laadun arviointi keskittyi teknisessä viestinnässä ensin standardeihin mukautumiseen ja tekijöihin, jotka ovat yksinkertaisia mitata ja ilmaista määrällisesti. Koska vain pieni osa dokumentointiprosessista koskee näitä asioita, alettiin huomata, että dokumentaation laatuun vaikuttavat keskeisemmin loppukäyttäjien tarpeet sekä koko dokumentointiprosessi. Nämä kolme näkökantaa ovat hallinneet teknisen viestinnän alan kirjallisuutta, mutta nykyään tähän yhtälöön aletaan myös lisätä asiakkaan tarpeet ja hyvän asiakaspalvelun tarjoaminen.

Yhtenä esimerkkinä asiakkaiden erilaisten tarpeiden tyydyttämisestä tutkimuksessa mainitaan mahdollisten laatuluokitusten käyttö. Laatuluokitusten avulla työ voidaan "paketoida", tuotteistaa ja hinnoitella (Iho ja Lahti 2005: 3). Mielestäni eri luokitukset voisivat antaa lähtökohdan sille, millaiset laatuvaatimukset projektille halutaan asettaa. Koska laadun määritelmä tuntuu olevan monissa laatukeskusteluissa suurin ongelma, laatuluokitusten avulla

laadusta olisi jo olemassa jonkinlainen määritelmä, ja keskustelu vaatimuksista ja tavoitteista voitaisiin perustaa laadun eri tasoille ja sille, mitä ne sisältävät.

On huomattava, että vaikka standardit, loppukäyttäjien tarpeet ja prosessit ovat saaneet eniten huomiota tähän mennessä ja asiakaspalvelu on vasta melko tuore ajatus, ne kaikki kuitenkin edistävät hyvän laadun saavuttamista. Esimerkiksi pelkkä standardien noudattaminen ei takaa laatua, mutta se silti vaikuttaa siihen. Tämä kuvastaa samanlaista kehitystä kuin laatuliikkeen kehitys yleensä. Jokainen laadun aikakausi on lisännyt jotain uutta hallinneeseen laatumääritelmään ja laajentanut laadun käsitettä. Laatuasioiden kehitys teknisessä viestinnässä on seurannut luonnollista järjestystä, jossa selkeimmät ja yksinkertaisimmat tekijät on otettu huomioon ensin, minkä jälkeen ala on vähitellen siirtynyt muihin laatutekijöihin, jotka ovat vaikeampia määritellä ja mitata, kuten asiakaspalvelu.

Empiirinen tutkimus ja päätelmät

Tutkimuksen keskeinen tavoite on tutkia, kuinka lähelle käytäntöä teoria on tullut laatuasioissa. Käyttämäni www-kyselylomake osoittautui hyväksi valinnaksi tällaisen empiirisen materiaalin keräämiseksi, sillä vastauksia tuli melko paljon. Koska vastausprosentti oli 13,5 % tuloksia tulee silti pitää tendensseinä.

Lähtökohtana oli, että laatuasioiden pitäisi nykyään olla hyvin näkyvissä teknisten viestijöiden työssä, ja laatuprosessien ja -menetelmien tulisi ohjata heitä siten, että korkealaatuisen dokumentaation tuottaminen on mahdollista. Tämän vuoksi teknisten viestijöiden tulisi myös olla hyvin tietoisia laatuprosessin yksityiskohdista sekä laatuvaatimuksista. Hypoteesini oli kuitenkin se, että kaikesta laatututkimuksesta huolimatta prosessien noudattaminen ja laatuvaatimusten asettaminen ei kuitenkaan toteudu alalla vielä täysin. Tämä hypoteesi osoittautui totuudenmukaiseksi, kuten seuraavista päätelmistä selviää.

Yksi tärkeä asia täytyy kuitenkin ottaa ensin huomioon tuloksia arvioitaessa. Monissa monivalintakysymyksissä vastaajat olivat taipuvaisia valitsemaan keskivaihtoehdon, "kohtalaisesti" (vastausvaihtoehdot olivat "ei lainkaan", "huonosti", "kohtalaisesti", "hyvin", "ei mielipidettä"). Vaikka keskivaihtoehtojen suuri prosentuaalinen osuus saattaisi joidenkin

mielestä tarkoittaa, että tilanne on silloin käytännössä hyvin, minä tulkitsen näiden vastausten tarkoittavan, että tilannetta tulisi parantaa, joten "kohtalaisesti" ei ole tällöin tulkittu täysin neutraalina vaihtoehtona.

Kaksi tärkeää kysymystä tutkimuksessa oli, kuinka hyvin tekniset viestijät ovat tietoisia laatuprosessista, joita heidän tulisi noudattaa, ja kuinka hyvin laatuasiat otetaan huomioon koko dokumentointiprosessin ajan. Puolet vastaajista oli tietoisia yrityksensä laatuprosessista vain kohtalaisesti tai huonosti, mikä osoittaa, että laatuprosessiin pitäisi kiinnittää huomiota enemmän. Lisäksi vain suhteellisen pieni prosentuaalinen osuus vastaajista oli sitä mieltä, että laatuprosessi hallitaan hyvin, mikä osoittaa, että tässäkin suhteessa on varaa parantaa. Kaiken kaikkiaan laatuprosessi nähdään kuitenkin hyödyllisenä ja se tekee teknisten viestijöiden työn helpommaksi. Prosessin joustamattomuus ja kaikkien laatuvaatimusten täyttäminen prosessin puitteissa aiheuttavat kuitenkin ongelmia aikataulujen kanssa. Koska laatuprosessi hallitaan vain kohtalaisesti, tällaisten ongelmien esiintyminen on hyvin todennäköistä. Lisäksi koska niin moni vastaajista koki, että laatuasiat otetaan kohtalaisesti tai jopa huonosti huomioon koko dokumentointiprosessin ajan, voidaan väittää, että laatuasioihin ja laatuprosessiin ei kiinnitetä niin paljon huomiota kuin mitä teoria antaa ymmärtää.

Kolmas tärkeä kysymys tutkimuksessa oli, kuinka hyvin tekniset viestijät ovat tietoisia yleisistä laatuvaatimuksista, joita heidän työnsä tulisi täyttää, sekä tietyistä laatuvaatimuksista, jotka on asetettu yksittäisille dokumentointiprojekteille. Tulokset osoittavat, että enemmistö on hyvin tietoisia yleisistä vaatimuksista, vaikkakin moni oli jälleen vastannut "kohtalaisesti" tähän kysymykseen. Vastaajat olivat vähemmän tietoisia projektikohtaisista vaatimuksista kuin yleisistä vaatimuksista, mikä selittyy sillä, että joissain tapauksissa laatuvaatimuksia ei aseteta ollenkaan projektien alussa, ja useimmissa tapauksissa vain huonosti tai kohtalaisesti. Kun vaatimuksia ei aseteta hyvin, ei ole yllättävää, että enemmistön mielestä heidän työtovereidensa laatukäsityksissä on merkittäviä eroja, mikä aiheuttaa ongelmia, kun pyritään tuottamaan laadukasta dokumentaatiota. Näiden tulosten perusteella olen taipuvainen uskomaan, että monissa yrityksissä luotetaan siihen, että yleisiä laatuvaatimuksia voidaan soveltaa joka projektiin ja laadun eri tasoja ei juurikaan harkita eikä esitetä vaihtoehtoina asiakkaalle. Koska enemmistön mielestä yleiset dokumentaation laatuvaatimukset vastaavat projektin vaatimuksia vain huonosti tai ei ollenkaan, se osoittaa, että laatuvaatimusten tärkeyttä tulisi harkita vakavasti monissa yrityksissä. Tilannetta voitaisiin mielestäni parantaa korostamalla projektikohtaisia laatuvaatimuksia, jolloin

vaatimukset sopisivat projekteihin paremmin. Kun vaatimukset asetetaan jo projektien alussa, tarjottaisiin hyvin todennäköisesti myös parempaa asiakaspalvelua.

Tutkimus pyrki myös selvittämään, kuinka hyvin projekteissa käytetyt laadunvarmistusmenetelmät ovat osaltaan vaikuttaneet hyvän laadun saavuttamiseen ja kuinka laatuasioiden nähdään yleisesti kehittyneen alalla. Vaikka enemmistön mielestä laadunvarmistus on onnistunut hyvin, yli puolet vastaajista kokee, että vaikutus on ollut kohtalainen, huono tai jopa olematon. Tyytymättömyys laadunvarmistusmenetelmiin juontaa juurensa laatuprosessin huonosta hoitamisesta ja dokumentointiprosessista, jossa laatuasioita ei oteta huomioon koko prosessin ajan. Yleisesti ottaen laatuasioiden katsotaan kehittyneen alalla kuitenkin parempaan päin, vaikkakin moni kokee tämän kehityksen riippuvan täysin yrityksestä. Huolimatta siitä, että myönteistä kehitystä on saavutettu monissa asioissa – kuten prosesseissa, laatutietoisuudessa ja lisääntyneessä ammatillisessa pätevyydessä ja koulutuksessa – suuri ongelma on, että asioiden hoitamiseen on vähemmän aikaa.

Vaikka vastaajien ja yritysten laatumääritelmien analysointi ei ollut tutkimuksen päätavoitteena, se osoittautui kuitenkin mielenkiintoisesti tehtäväksi. Oli yllättävää, ettei monissa yrityksissä ole määritelty, mitä korkealaatuinen dokumentaatio heillä tarkoittaa tai vaihtoehtoisesti vastaajat eivät olleet varmoja tai eivät tienneet, oliko sitä määritelty. Tässä suhteessa laatuasiat eivät ole kehittyneet tarpeeksi. Kuten teoria on osoittanut, erilaisia laatumääritelmiä löytyy valtava määrä, ja jokaisen yrityksen tulisi sopia, mitä heidän laatumääritelmänsä käsittää, jotta laatutavoitteista ei ole mitään epäselvyyttä. Kun vielä otetaan huomioon se, että enemmistön mielestä heidän työtovereidensa laatukäsityksissä on merkittäviä eroja, erilaiset laatunäkemykset ja yrityksen laatumääritelmän puute aiheuttavat todennäköisesti ongelmia.

Fredricksonin malli (1995) osoittautui hyödylliseksi työkaluksi teknisten viestijöiden laatunäkemysten kartoittamisessa. Laatumääritelmissä korostuu eniten loppukäyttäjien tarpeiden tyydyttäminen ja toiseksi eniten standardeihin mukautuminen. Vaikka alan ammattilaiset ovat selkeästi tulleet kauas pelkästään standardeihin mukautumisesta, prosessien korostamisen puute herättää kysymyksiä. Koska aikataulu- ja muut resurssiongelmat vaikuttavat olevan suurimpia esteitä laadun saavuttamiselle, on yllättävää, että tekniset viestijät eivät sisällytä tehokkaiden prosessien käyttämistä enemmän laatumääritelmiinsä – varsinkin koska lähes kaikkien vastaajien yrityksissä oli laatuprosessi ja

prosessit ovat saaneen niin paljon huomiota alan kirjallisuudessa. Oletan, että jos teoria tulisi lähemmäs käytäntöä tässä asiassa ja tekniset viestijät alkaisivat korostaa prosesseja enemmän, tekniset viestijät voisivat nähdä parannusta esimerkiksi aikataulu- ja resurssiongelmissa. Jos tekniset viestijät eivät itse korosta prosessien tärkeyttä, niin kukaan muu yrityksessä ei tule tekemään sitä heidän puolestaan.

Vaikka asiakaslähtöisyys alkaa hiljalleen saada huomiota alan julkaisuissa, sitä ei ole vielä kunnolla nähtävissä teknisten viestijöiden laatunäkemyksissä tutkimuksen tulosten mukaan. Tämä tulos oli odotettavissa, mutta oli yllättävää, että johtoportaan vastaajat eivät myöskään korostaneet asiakasta. On kuitenkin muistettava, että tutkimuksessa oli hyvin vähän vastaajia johtotasolta, joten tästä asiasta tulisi tehdä lisätutkimusta, jotta tilanteesta saataisiin totuudenmukainen kuva.

Joissakin vastaajien laatunäkemyksissä korostettiin, että jossain vaiheessa tulee raja vastaan, minkä jälkeen ei ole kannattavaa sijoittaa enempää laatuun. Tämä antaa aihetta lisätutkimukseen. Jos siis yritykset haluavat vain keskinkertaista laatua keskinkertaisilla kustannuksilla, kuinka tämä voidaan hoitaa käytännössä? Vaikka joissain vastauksissa laadun eri tasot tiedostettiin, oletan että asia on olemassa vain ajatusasteella eikä sitä ole käytännössä toteutettu tai esitetty mahdollisia laadun eri tasoja konkreettisina vaihtoehtoina asiakkaalle. Tämä oletus johtuu esimerkiksi siitä, että tulosten mukaan laatuvaatimukset on harvoin hyvin asetettu projektien alussa ja laatuluokitukset ovat melko uusi ajatus alalla. Lisätutkimuksen aihe voisi olla tutkia esimerkiksi, miten alalla otettaisiin vastaan dokumentaation jakaminen eri laatuluokkiin. Koen, että laatuluokitukset saattaisivat pystyä rikkomaan vanhan tavan ajatella laatua joko hyvänä tai huonona. Tutkimus siitä, millaista apua laatuluokitukset pystyisivät antamaan laatuvaatimusten ja toivotun laatutason määrittelyssä olisi siis mielenkiintoinen.

Asiakaslähtöisyys ja jatkuva kehittäminen, jossa kaikki työntekijät sekä ylin johto ovat mukana laadun parantamisessa, ovat tunnusomaista tämänhetkiselle laatuaikakaudelle, eli strategiselle laatujohtamiselle (Garvin 1988: 21). Tämän tutkimusten tulosten mukaan enemmistön mielestä laatu nähdään olevan kaikkien vastuulla, joten alalla on siis nähtävissä strategisen laatujohtamisen tunnuspiirteitä. Näen kuitenkin ongelmalliseksi sen, että laatuvaatimuksia ei aseteta niin hyvin kuin ne voitaisiin asettaa. Koska strateginen laatu tarkoittaa, että on olennaista, että tekniset viestijät määrittävät mitkä laatu-ulottuvuudet ovat

tärkeitä asiakkaalle (Smart ym. 1995: 478), ala vaikuttaa olevan laadunvarmistuksen ja strategisen laatujohtamisen aikakausien välivaiheessa.

Tämä tutkimus on pyrkinyt korostamaan niitä laatuasioita, jotka ovat tähän mennessä saaneet vähiten huomiota teknisen viestinnän alalla. Toivon, että tämän ja muiden vastaavien tutkimusten tuloksena alalla aletaan enemmän korostaa sitä, että laadulla on eri tasoja. Koska ymmärretään, että laatu on subjektiivista ja suhteellista, alan ammattilaiset voisivat alkaa tukea enemmän kontekstista riippuvaa näkökantaa laatuun, sen sijaan että yritetään löytää yhteisymmärrys siitä, mitä laatu tarkoittaa.