

Raising awareness of the value of technical communication: Different contexts, but a common challenge.

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Abstract

In spite of many attempts to enhance the value of technical communication, it remains hidden in the background. There is a wide gap between how people perceive technical communication and what it is exactly. Which tools or methods could be used to raise technical communication awareness, when technical communicators work in various professional contexts? We investigated how technical communication is perceived within a company. Then we set up a strategy to define tools that could be relevant to our work context, some of them being metrics or internal communication, for example. In the end, these tools proved to be efficient but may not give the same results in other contexts.

If any case, the best lesson we take from this research is use what we know best: to communicate. Just like cobblers do not make good shoes for themselves, technical communicators have a great skill they often misuse. In order to change the way we are perceived and break silos in whatever company we may be working for, it is up to us to reach out to others, using our experience. This paves the way for an emerging type of communication: Information 4.0.

Keywords: Technical communication, Value, Enterprise Content Management, Customer satisfaction, Visibility.

INTRODUCTION

Technical communication is defined as *“a broad field and includes any form of communication that exhibits one or more of the following characteristics:*

- *Communicating about technical or specialized topics, such as computer applications, medical procedures, or environmental regulations*
- *Communicating by using technology, such as web pages, help files, or social media sites.*
- *Providing instructions about how to do something, regardless of how technical the task is or even if technology is used to create or distribute that communication.”* [1]

This is what technical communicators usually do or, at least, what they are supposed to do. In reality, they go beyond what is expected: they can strengthen communication between departments, for instance. That means they have more value than most people think, since they improve a company's efficiency. But, of course, very few people know what they do in their day-to-day tasks. Claire Mahoney humorously points out technical communicator's superpower (which is invisibility) [2] to explain such a lack of attention. This is partly due to the fact that people ignore what technical communicators do, even developers or engineers who work with them on a daily basis.

Lots of people already tried to bring to light technical communicators and make that superpower disappear. Despite substantial improvements, this phenomenon is still ongoing.

As technical-communicators-to-be, we decided to seek ways of becoming visible to our colleagues, using suggestions from two technical communicators [3] [4]. Both of us face different contexts: one student works in the industry, whereas the other one works in the IT sector.

Although our companies do not use the same tools and do not have the same area of expertise, they have a common issue: how and why to emphasize the role of a technical communicator? Besides, on each layer of a company, one can hear the same word: benefit. Whether it be an executive committee or a regular employee, they all ask themselves the same kind of questions: What are the benefits for the company? Or even: What is my own benefit?

We do not expect this research to create an upheaval in the technical communication world nor bring technically-proven solutions, but rather to show how a few tools and approaches can have an impact on technical communication value awareness and suggest potential solutions.

So how to raise technical communication value awareness? A first lead would be to focus on the financial benefits technical communicators may bring to their company and secondly on other benefits they may bring inside or outside the company.

CONTEXTS

For our research, we used and compared our respective work contexts.

I. A company without technical communicators

The first context is the Industrial Pump Organization (IPO) section of an international company, in France. The site provides pump groups worldwide for oil and gas, nuclear, hydrocarbon and chemical processing, power generation and water resources industries.

The site is responsible for some dedicated products and the documentation attached. It delivers standard and/or specific documentation to the customer, according to the contractual requirements of the project.

There is already a Documentation department in the French site but no technical communicators yet. The writing and (internal and project) updates of the documents are done by different jobs depending on the content (project engineer, project manager and so on). Currently they use Microsoft Word without structured templates. The Documentation department tracks and sends documentation all along the project for customer approval and at the material shipment for final delivery.

The site environment is changing especially due to new products integration, external experience feedbacks about technical communication and the necessity to develop skills within the documentation department. How to incorporate these elements to existing ones and make the whole operational and profitable for the company?

The first student raised the hypothesis that the centralization of all or part of technical communication activities within the Documentation department and the recruitment of technical communicators may be profitable for the company.

II. A company with technical communicators

The other student works at a Franco-American software editor that specializes in data flow. A Documentation department was created at the inception of the company, due to historical reasons. To say the least, the student's company was initially part of a firm that comprises a Documentation department. When the division was created, the executive management team found a Documentation department should be part of the new company.

Thanks to that decision, this company now gathers nearly twenty writers, spread across the USA, France, Ireland and Bulgaria - four of them working in France.

Most of the writers working in this company use MadCap Flare, an authoring and publishing solution for web and printed documentation. Yet, some of them use a collaborative platform called Confluence to publish documentation online.

A lot of Microsoft products are used internally. For instance, Microsoft Visio is often used when there is a need for graphics. Apart from that, technical communicators communicate with colleagues through

Outlook (electronic mailbox) and instant-messaging chat (Teams). For one-to-one meetings with their manager or anyone else, they use an online meeting tool used for web conferences, WebEx.

Over the years, this software editor acquired different products such as an operational intelligence software (2009) or a product used to store files on the cloud (2017).

METHODS

In this part, both students explain how they tried to implement some ideas within each other's company.

I. A company without technical communicators

The goal is to check if the centralization of all or part of the technical communication activities within the Documentation department can be profitable for the company and how to integrate technical communicators [5] [6]. Before starting the project, it is essential to get stakeholders from the senior management to support it.

The next step is the definition of the technical communication scope of activity specific to the company. It started with the achievement of two different rigorous analyses: a top-down and bottom-up analysis.

The top-down analysis examines the global elements first. The goal is to determine all activities attached to technical communication from a global point of view [7]. In this case, the student used job descriptions and benchmarked global practices used by other companies [8] [9].

The bottom-up analysis examines company-specific factors: it is an assessment of the current state. The goal is to define all needs within the company that could be linked to technical communication activities. In this case, the student listed all the technical documents of the site. Matching the two analyses allows defining the specific company's scope of activity attached to technical communication jobs.

The student prioritized the technical communication activities to be implemented and centralized in order to define a short-term and a long-term strategy. Then he defined different options about tools, resources and costs for the implementation.

He also applied a metric analysis on the company's scope of activity [10] and used customer satisfaction feedbacks [11] [12]. The goal is to check if the management of these activities by technical communication experts can be profitable for the company.

The method concerning customer documents consists in comparing actual costs for the company with costs if a Technical Communicator would do the job:

- List all technical documents and the job of each actual writer, the number of hours needed to write and update it (A) and the recurrence per year of customer requirement (B).
- Define the actual costs:
 - o Get the average hourly wage (C) for each actual writer.

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- o Multiply the average hourly wage of the actual writer with the number of hours and recurrence for each document ($A \times B \times C$) to get the actual cost (D).
- o Add all the results to get the actual full cost (D0).
- Define the costs with a Technical Communicator.
 - o Get the average hourly wage (E) for a Technical Communicator.
 - o Multiplying the average hourly wage of a Technical Communicator (E) with the number of hours and recurrence for each document ($A \times B \times E$) to get the full cost (F).
 - o Add all results to get the TW full cost (F0).
- Compare the results (D0 and F0).
 In the first instance, the student considered the Technical Communicator will need the same number of hours to write and update the documents as actual writers.

Document name	Actual Writer name	Actual writer job	Number of hours (A)	Recurrence per year (B)	Actual average hourly wage (C)	Actual cost (D)	TW average hourly wage (E)	TW cost (F)
Document 1	Name 1	Job 1	A1	B1	C1	D1	E1	F1
Document 2	Name 2	Job 2	A2	B2	C2	D2	E2	F2
Document 3	Name 3	Job 2	A3	B3	C3	D3	E3	F3
...
TOTAL						D0		F0

All along these steps, the student communicated regularly with the stakeholders, but also with as many colleagues as possible in order to keep them informed about technical communication as of now [13].

The final step is the presentation to the company's executive committee. The goal is to convince them that the creation of a technical communication department will be valuable for the company: present the scope of activity attached to technical communication and the different options defined for implementation, use the metrics to support factually the presentation, communicate about customer requirements for high-quality and standardized documents with fast and easy access information.

The student assumed that following these steps, especially using metrics and customer satisfaction, will allow technical communication value awareness in order to centralize the activities tied to technical communication.

The test is performed in one company that has its specific domain of activity, situation about technical communication, type of documents and so on. Tests performed in several companies having different situations would provide a more representative sample and consolidate the method.

II. A company with technical communicators

So as to get more information on how technical communicators evolve in a Documentation department that already exists, the second student decided to conduct a one-to-one interview with the head of the Research & Development department (R&D) for an operational intelligence software, Arnaud. The student thought it would be interesting to learn his thoughts on the matter, since Arnaud is a developer and Valérie's manager, as well.

This product is currently one of the leading products of the company and Arnaud's team has been developing this software since 2011. As this software is a recent start-up acquisition, developers used to document features they were developing before they were joined by Valérie, a technical communicator.

That team has been using Confluence since the very beginning, firstly because the whole team works on three different locations (Paris, Lyon and Bucharest). Another reason is that contrary to a same-based-location team, they need to communicate in asynchronous mode. Though they mostly use it for internal purpose (specification and reports, for example), documentation accounts for 10% of their activity.

Valérie has been working with her current team for a year, this is why one of the students thought the time had come to check whether the developers team realized a technical communicator could add value to their team, and whether they think it did add value or not.

This interview cannot represent the point of view of every single developer, but it still represents an opportunity to learn what some developers may expect of technical communicators, as well as to discuss the future of our profession. How far should technical communicators adapt their skills to the tasks they may be asked to implement in the few months or years to come?

RESULTS

We exhibit the results of a few months of research, stating good or bad points.

I. A company without technical communicators

The student got two stakeholders from the executive committee to support the project.

He identified three hundred and six documents in the complete listing of documents a customer may require. A technical writer may manage twenty-nine of them, based on the job description. The workload per year for the writing of customer documents' represents one thousand four hundred and fifty-four hours (including writing and updates).

The student defined the writing and update of documents sent to the customers as the first priority. The several options here below were defined:

Option	Tool	Resource
Option 1	Microsoft Word	A technical communicator hired
Option 2	Microsoft Word	A documentation technician trained
Option 3	Adobe FrameMaker	A technical communicator hired
Option 4	Adobe FrameMaker	A documentation technician trained

The student suggested hiring a Technical Communicator and continuing working with Microsoft Word to begin with. He relied on an internal cost analysis and the current situation within the company. In a second phase, the goal is to improve the skills of actual documentation technicians in order for them to write technical documentation. In a short term, using Microsoft Word is most appropriate as everyone already knows how to use it.

For the metric analysis, the student gathered the twenty nine documents per actual writers' job to make the reading of the results easier. We defined the global load per year for each actual job multiplying the number of hours (A) with the recurrence per year (B) and adding the results.

It is possible to present all the figures attached to our results because of confidentiality reasons (hourly wages for example). That is why some figures were gathered and others do not appear in the following table.

Here, the actual cost of customer documentation writing per year, detailed by job and number of hours:

Actual writer job	Hours' load per year	Actual average hourly cost for the company (C)	Actual cost per year for the company (D)
Project Engineer	13	C1	D1
Project Manager	680	C2	D2
Product Engineer	185	C3	D3
Site Engineer	33	C4	D4
Quality Engineer	136	C5	D5
Product Manager – Service center	167	C6	D6
Test coordinator	240	C7	D7
Total	1454	-	54 804€

The student defined the cost per year for a Technical Communicator using an average of wage.

Writer job	Hours' load per year	TW Average hourly cost for the company (C)	TW cost per year for the company (D)
Technical Writer	1454	34.44€	50 075€

The average cost saving is 4 729€.

In addition to the cost saving, one student presented a load transfer plan to adjust resources vs load for all actual writers impacted by the centralization of the activity.

The student also communicated on the following elements:

- The writing of customer documents done by a technical writer allows structuring and standardizing the documents [14]. It also improves their quality and the information accessibility

for the customer. In addition, the actual writers will be able to focus on their real added value as technical experts.

- The standardization improves the professional image of the company by the customer side.
- The improvement of documents' quality and accessibility enhances customer satisfaction [15].

The executive committee validated the plan for the transfer of customer documentation activities to a technical writer.

II. A company with technical communicators

To start with, though a documentation department enables a company to better communicate with its customers, some companies may not find such a department useful. Yet, this company finds a Documentation department to be useful and, in order to get the most of it, has a policy according to which every product should be documented by a technical communicator. This is how Valérie joined her current team in 2016.

In both of our companies, we had to be proactive, while working in a team of developers or Subject Matter Experts (SMEs). One would say this is usually the case when you work in a team. It sure is, but this is particularly true for technical communicators, as they often need help from a third-party in order to implement documentation-related tasks, such as updating a Content Management System (CMS) or even ensure content cohesion for internal and external use.

In the case of Valérie's team, Arnaud declares that tasks are assigned from both sides, using a task-manager called JIRA: not only the developers assign tasks to Valérie, but she also assigns herself another half. Basically, this is all about analyzing what is missing or could be updated in the documentation, as well as documenting or anticipating new features developers may work on and, lastly, structuring information.

When it comes to assessing performance, Valérie's team evolved from allocating quotas to measuring the impact on customers. For Arnaud, the main reason was a great productivity but poor performance, which suggests that quality was lower than expected.

Thanks to impact analysis, each team member - including Valérie, can figure out what articles are relevant or not, using the customers reviews. For instance, if she writes a topic reviewed as bad for 2 people but good for 5 people, that means she did a good job since most of the customers liked it.

Technical communicators can help strengthen the relationship between a company and its customers, thus enhancing the company's strategy [15]. Nevertheless, they also can deploy some of their skills to improve something else in the company they are working in.

When asked what kind of tasks Valérie implements, Arnaud says she first reviews and stylistically improves all articles written by developers (with the agreement of Subject Matter Experts), which results in a substantial saving of time. Plus, her team members also gain another outlook of the product, since a technical writer barely knows it (if not at all) and is continuously looking for further explanations.

Acting this way enables Valérie to have a better understanding of the product and, even though she is not as specialized as a developer, to examine how her product could be used in a more effective way.

Thus, Arnaud agrees with the fact that a technical communicator brings value to his products. To him, being a technical writer does have a specific purpose. It does not mean being able to write down articles, but rather being able to help people when they encounter issues or when they want to learn how to use a specific product.

As for what is to become of the technical communication field, Arnaud foresees a few trends. Nowadays, most portals currently provide keyword-enabled search and as the need for specific documentation-related tasks increases, Arnaud assumes that people are bound to increase their use of search engines, instead of printing a user guide and reading it. He also adds that: “Organizing information is essential, but that need is bound to decrease”.

Arnaud suggests enhancing documentation, using short and concise videos to explain the features of a product. If customers wish to have further information, then they are redirected to sections of the documentation. Another example he gives is contextual help within the product itself. The user should not feel overwhelmed by a product, but should get help when needed. And this could be solved by displaying concise but complete messages that anticipate how the user might behave.

When asked about technical skills a technical communicator should have, Arnaud replies that a minimum of programming skills is helpful (such as CSS language). Besides, since parts of the documentation are bound to be automated, he also recommends learning scripting. Scripting is about automating a specific task, using a wide variety of languages (Python, Java or even Javascript). It can save time when one needs to replace a regular expression with another one in a thousand- page-document, for instance.

WHAT'S NEXT?

According to the research results from the two contexts, we noticed that informing collaborators on what technical writing is exactly helps to raise technical communication value. The contexts are completely different, but the final goal remains the same and general communication helps to achieve it in both cases. It is a powerful tool for technical communicators to let people know about the extent of their knowledge and skills.

In the first context, communication is used to convince the executive committee about the challenge of technical communication for the company. In the second context, colleagues already know technical communicators' skills attached to technical writing, but they ignore the large range of its skills. Internal communication helps to make Project Managers, Product Owners and developers know. Then technical communicators can suggest easily internal improvement projects and take the lead.

Communication about customer requirements and satisfaction also turns out to be a good method to raise technical communication activities internally [15]. Everyone within a company, from direct colleagues to the top management, especially pay attention to customer feedback. (Customer) Feedback, be it good or bad, is a gift! Using it is powerful to improve customers' satisfaction but also to raise technical communication value within the company [12]. Technical communicators can also assume the role of relationship consolidator between the company and the customers.

The significant difference between the two contexts also raised the use of different tools and methods. The final goal is to raise technical communication value awareness but in the first context to create a technical communication department and in the second to keep on going and improve what exists. In the first context the use of metrics had a strong impact on the executive committee final decision. Communication helped understanding the importance of technical communication activities but its impact was lower on the final decision. On the contrary, communication is the major tool raised in the second context.

In the end, the research performed in only one company per context does not allow attesting that some tools are powerful only in some contexts or not powerful at all. Using the same tool, results may be completely different. Some methods were not applied for this research because they were not appropriate for the context, but may work in other cases: use internal surveys, define costs attached to customer support due to bad documentation, ask a developer and a technical writer to write the same technical document and compare the time needed (cost for the company) and the quality, and so on.

However, some elements may help to begin with. The thing to know is who the audience is. Then we have to adapt our methods and communication to the audience to achieve the goal [15]. The experience of employees should also help to choose the more appropriate tool to use.

Technical communication activities are extended and rapidly move forward to next steps. Some of the current subjects are attached to break silos, improve information flow, and improve general communication. One of the next steps is attached to information 4.0 [16] [17]. Beyond the need to raise the value awareness attached to actual activities, the companies will have to adapt and anticipate at best these evolutions to optimize their integration [18]. That is why technical communicators we are have to continue to raise technical communication value awareness: using and adapting recognized best practices according to the context, but also being creative, experimenting new methods to promote our activities to make them to be duly recognized.

CONCLUSION

As a matter of fact, being aware of technical communication value is not easy, even when technical communicators work in a team. As Valérie said so: *“Everybody knows documentation is essential, but as few people know the reason why and because technical communicators operate at the bottom end of the developing process, most of them consider documentation as mandatory. That is why technical communicators strive to get recognition for what they are paid for.”*

For companies with or without a Documentation department, the biggest challenge is: how to create or keep a Documentation department when companies take budget - cutting measures in a cost-saving context?

The company with no technical writer has now initiated the first step towards a Documentation department with technical communicators. Next steps are finding a technical communicator and deploying a strategy to organize content for external (customers) and internal use (employees). Metrics give an outlook of the financial benefits a Technical Communicator may bring to a company.

But what other benefits are there for a company, in general? Well, Arnaud's interview highlighted the following benefits:

- Firstly, it increases a company's productivity by preventing other employees from implementing writing tasks and helping them to focus on what they do best.
- Secondly, it reinforces a company's reputation since a harmonized documentation means the content does not differ (from one department to another, for instance). Moreover, it reinforces the relationship between customers and companies.
- Thirdly, it improves a lot the coordination between departments since a technical communicator needs feedback from a few teams in order to manage content.

To finish with, what is also interesting for technical communicators is the possibility to prove that their job is meaningful to the company they work for. Another way to prove their value could be through a customized assessment, so that they can set objectives themselves. It does not only motivate them to be more proactive, but it also helps them raise awareness with concrete examples of what they implemented. After all, communication is a powerful tool for technical communicators to raise their value as well as the value of their job, within a company.

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ABOUT THE AUTHORS



Lisa Lopes

As a former student in translation and Applied Languages, Lisa is full with desire of revolutionizing the Technical Writing environment. In order to do so, she relies on her grit and her curiosity to realize prowesses. She often dreams of a world where a whole bunch of developers would be available when a problem within the documentation process occurs. But as a CDMM student, she knows this is too big of a dream. Even when you work for a software editor, you are faced with the same kind of problems other writers encounter. This is precisely why the road to Technical Writing land can be challenging, but a rewarding one too!

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Loïc Godefroy

He started working for an industrial company in 2006 as a Documentation technician. His role was to track the documentation prepared by several internal writers and suppliers to match the customer's contractual delivery dates, all along the project for customer approval and at the material shipment for final sending. Since 2012 he is the Documentation department supervisor for the French site. For the moment there is no Technical Communicators on site. He is currently centralizing the activities attached to technical communication within the Documentation department. Therefore, he still operates in this direction with enthusiasm as technical communication activities are so wide and constantly moving.

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