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tcworld

July 2018

Learning reinvented

How Artificial Intelligence changes our jobs

Pushing syrup through a straw

Strategies for times when content exceeds capacity

Design-oriented approach in technical writing

Why design thinking is becoming ever more important in tc

imprint

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From the editor

Taking a brief look into the history of technical communication, you can't help but wonder how much our cognitive functions have changed over the past 60 years or so. Back in the late 1940s, the development of the transistor made the production of computers more affordable, enabling small businesses and even individuals to own them. This was without a doubt a drastic event in the history of humankind and greatly contributed to the foundation of our industry. During the 1960s, 70s, and 80s more and more consumer electronics flooded the markets. Their handling was now no longer restricted to highly-educated scientists and engineers. Computers and other electronic devices had become the everyday companions of the masses.
While the installation of your family's first video recorder might have been preceded by an intense study of the 80-page handbook that came in the box, we soon grew accustomed to our technological surroundings, and new devices were tested in a trial-and-error approach before consulting any manual.
As our devices and tools grew in complexity, so did our comprehension and acceptance of them. We soon marveled at the intuitive understanding younger generations naturally developed for their complex, high-tech environment.
As the industry committed to enabling people to successfully use their tools and devices, we are today confronted with evolutionary changes in our society that challenge us to entirely rethink the way we communicate and deliver information. Developing "user-friendly" design, for example, forces us to think deeply about the cognitive mechanisms customers use to identify the product and its functions. In order to create material that addresses the users' needs, technical communicators need a deep understanding of the cognitive factors affecting perceptions and expectations.
In this magazine, Ray Gallon sheds light on how Artificial Intelligence greatly changes our roles as technical communicators and what will be expected of us in the years to come (page 12).
Design thinking is another topic that is gaining significance as we move into a society where content is being skimmed rather than read. Madhura Kulkarni provides an overview (page 30).
Albert Einstein provides us with a fitting quote to sum up this magazine's essence:
"The world as we have created it is a process of our thinking. It cannot be changed without changing our thinking."

Corinna Melville

technical communication
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Learning reinvented

As the world changes rapidly, the challenge for all of us is to keep up. Technical communicators play a vital role in helping us to navigate through the increasingly complex reality created by Artificial Intelligence.

page 12

Pushing syrup through a straw

Information 4.0 has made technical communication more important than ever. But the growing expectations are rarely met with increasing resources. Some operational strategies can help to solve capacity issues.

page 20

Design-oriented approach in technical writing

Design thinking offers an approach to problem-solving that is highly focused on how the human brain processes information. Could this methodology be a good fit for technical communication?

page 30

SDL CRACKS RUSSIAN TO ENGLISH NEURAL MACHINE TRANSLATION

SDL has announced that its next-generation SDL Neural Machine Translation (NMT) 2.0 has mastered Russian to English translation. SDL NMT 2.0 outperformed industry standards, with over 90 percent of the system's output labeled as perfect by professional Russian-English translators. The new SDL NMT 2.0 Russian engine is being made available to enterprise customers via SDL Enterprise Translation Server (ETS), a secure NMT product, enabling organizations to translate large volumes of information into multiple languages.

www.sdl.com

XTRF 8.0

XTRF Translation Management Systems has released XTRF 8.0, its online application for translation project management and automation. The new version focuses mainly on ensuring compliance with GDPR (a regulation from the EU Parliament), but also includes updated integrations with CAT tools, vendor scheduling and Home Portal API.

www.xtrf.eu

ACROLINX AND MARKETMUSE PARTNER

Language software provider Acrolinx and the provider of the AI-powered platform for building content strategies, MarketMuse, have partnered to offer a combined solution to further improve content ROI. The new MarketMuse Add-on for Acrolinx enables the measurement of search effectiveness during the content creation process.

www.acrolinx.com

TRANSPERFECT ACQUIRES TRANSLATENOW

TransPerfect, a provider of global business services, has completed the acquisition of TranslateNow, a provider of Asian language translation services. TranslateNow cofounder Matt Arney will join TransPerfect's management team as a vice president.

www.transperfect.com

Europe boosts investment in AI and sets ethical guidelines

The European Commission has presented a series of measures to put Artificial Intelligence (AI) at the service of Europeans and boost Europe's competitiveness in this field.

The Commission is proposing a three-pronged approach to increase public and private investment in AI, prepare for socio-economic changes, and ensure an appropriate ethical and legal framework. This follows European leaders' call for a European approach to AI.

Vice President for the Digital Single Market Andrus Ansip said: "Just as the steam engine and electricity did in the past, AI is transforming our world. It presents new challenges that Europe should meet together in order for AI to succeed and work for everyone."

Boosting financial support

Europe has world-class researchers, laboratories and start-ups in the field of AI. The EU is also strong in robotics and has world-leading transport, healthcare and manufacturing sectors that should adopt AI to remain competitive. However, fierce international competition requires coordinated action for the EU to be at the forefront of AI development.

The EU (public and private sectors) should increase investments in AI research and innovation by at least €20 billion between now and the end of 2020. To support these efforts, the Commission is increasing its investment to €1.5 billion for the period 2018-2020 under the Horizon 2020 research and innovation program.

Additionally, the European Fund for Strategic Investments will be mobilized to provide companies and start-ups with additional support to invest in AI.

Preparing for socio-economic changes

With the dawn of Artificial Intelligence, many jobs will be created, but others will disappear and most will be transformed. This is why the Commission is encouraging member states to modernize their education and training systems and support labor market transitions. The Commission will support business-education partnerships to attract and keep more AI talent in Europe, set up dedicated training schemes with financial support from the European Social Fund, and support digital skills, competencies in science, technology, engineering and mathematics (STEM), entrepreneurship and creativity. Proposals under the EU's next multiannual financial framework (2021-2027) will include strengthened support for training in advanced digital skills, including AI-specific expertise.

Ensuring ethical and legal frameworks

As with any transformative technology, AI may raise new ethical and legal questions related to liability or potentially biased decision-making. New technologies should not mean new values. The Commission will present ethical guidelines on AI development by the end of 2018, based on the EU's Charter of Fundamental Rights, taking into account principles such as data protection and transparency, and building on the work of the European Group on Ethics in Science and New Technologies. To help develop these guidelines, the Commission will bring together all relevant stakeholders in a European AI Alliance. By mid-2019 the Commission will also issue guidance on the interpretation of the Product Liability Directive in the light of technological developments, to ensure legal clarity for consumers and producers in case of defective products.

europa.eu

Image: © John Williams/123rf.com

IoT spending to reach US$1.2 by 2022

International Data Corporation (IDC) recently published its latest "Worldwide Semiannual Internet of Things Spending Guide" (version 2H17). The Spending Guide forecasts Internet of Things (IoT) spending will experience a compound annual growth rate (CAGR) of 13.6 percent over the 2017-2022 forecast period and reach US$1.2 trillion in 2022. The forecast is based on the latest research in the burgeoning IoT technology market, which offers business investment opportunities across a spectrum of industries. As the diverse IoT market reaches broad-based critical mass, innovative offerings in analytics software, cloud technologies, and business and IT services have expanded rapidly. "The IoT market is at a turning point – projects are moving from proof of concept into commercial deployments," says Carrie MacGillivray, group vice president, Internet of Things and Mobility. "Organizations are looking to extend their investment as they scale their projects, driving spending for the hardware, software, services, and connectivity required to enable IoT solutions."

Forecast highlights show that the consumer sector will lead IoT spending growth with a worldwide CAGR of 19 percent, followed closely by the insurance and healthcare provider industries. From a total spending perspective, discrete manufacturing and transportation will each exceed US$150 billion in spending in 2022, making these the two largest industries for IoT spending. From an enterprise use case perspective, vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) solutions will experience the fastest spending growth (29 percent CAGR) over the forecast period, followed by traffic management and connected vehicle security.

The Worldwide Semiannual Internet of Things Spending Guide forecasts IoT spending for 14 technologies across 20 vertical industries in nine regions and 53 countries through 100 use cases. This comprehensive spending guide was designed to help vendors clearly understand the industry-specific opportunity for IoT technologies today.

www.idc.com

Few organizations are able to adopt new ways of work solutions

As many organizations want to support mobile, team-oriented and nonroutine ways of work, an increasing number of them are looking for assistance in adopting digital workplace technology. A Gartner, Inc. survey conducted in 2017 concluded that only 7 to 18 percent of organizations possess the digital dexterity to adopt new ways of work (NWOW) solutions, such as virtual collaboration and mobile work.

An organization with high digital dexterity has employees who have the cognitive ability and social practice to leverage and manipulate media, information and technology in unique and highly innovative ways.

By country, organizations exhibiting the highest digital dexterity were those in the U.S. (18.2 percent of respondents), followed by those in Germany (17.6 percent) and the U.K. (17.1 percent). "Solutions targeting new ways of work are tapping into a high-growth area, but finding the right organizations ready to exploit these technologies is challenging," said Craig Roth, research vice president at Gartner.

In parallel, the survey found that workers in the U.S., Germany and the U.K. have, on average, higher digital dexterity than those in France, Singapore and Japan (see Figure 1).

Workers in the top three countries were much more open to working from anywhere, in a nonoffice fashion. They had a desire to use consumer (or consumerlike) software and websites at work. Some of the difference in workers' digital dexterity is driven by cultural factors, as shown by large differences between countries. For example, population density impacts the ability to work outside the office, and countries with more adherence to organizational hierarchy had decreased affinity for social media tools that drive social engagement.

Older workers are likely adopters of NWOW

As expected, the youngest workers are the most inclined of all age groups to adopt digital-workplace-driven products and services (see Figure 2). They have a positive view of tech in the workplace and a strong affinity for working in nonoffice environments. Nevertheless, they reported the lowest levels of agreement with the statement that work is best accomplished in teams.

The survey also showed that the oldest workers are the second most likely adopters of NWOW. Those aged 55 to 74 have the highest opinion of teamwork, have progressed to a position where there is little routine work, and have the most favorable view of all age groups of internal social networking technology.

Workers aged 35 to 44 were at the low point of the adoption dip, potentially feeling fatigued with the routines of life as middle age approaches. They were most likely to report that their jobs are routine, have the dimmest view of how technology can help their work, and are the least interested in mobile work.

Larger organizations on average had higher digital dexterity than smaller ones. "Embracing dynamic work styles, devices, work locations and team structures can transform a business and its relationship to its staff. But digital dexterity doesn't come cheap," says Mr. Roth. "It takes investment in workplace design, mobile devices and software, and larger organizations find it easier to make this investment."

www.gartner.com

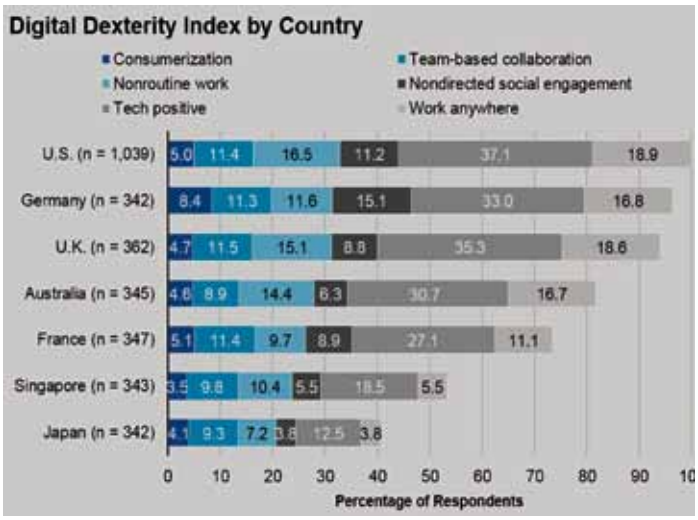

Figure 1: Openness to digital dexterity by country

Source: Gartner (June 2018)

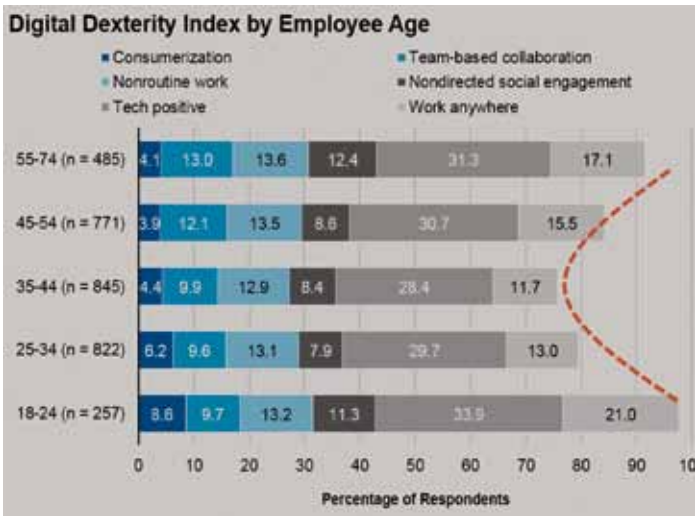

Figure 2: Digital dexterity likelihood by employee age

Source: Gartner (June 2018)

Translation and interpreting market reaches new high

Image: © alexsl/istockphoto.com

The global market for outsourced language services and technology will reach US$46.52 billion in 2018, according to a primary quantitative study by independent market research firm Common Sense Advisory (CSA Research). The firm surveyed providers from around the world to collect actual reported revenue for 2016, 2017, and expected revenue for 2018. CSA Research details its findings in the 14th annual global industry report, "The Language Services Market: 2018".

As organizations both large and small make their products and services available in more languages, the firm predicts that the language services industry will continue to grow and that the market will increase to US$56.18 billion by 2021. The firm found that the demand for language services and supporting technologies continues and is growing at an annual rate of 7.99 percent, representing an increase over last year's rate of 6.97 percent. Sixty-four percent of surveyed language services providers (LSPs) said revenue was up over the previous year. Factors driving this demand include content digitization, personalized customer service, and business globalization.

As businesses optimize their customer experience in home markets through digitization, companies are under pressure to globalize their entire operations. "Our research has long and conclusively demonstrated that people are much more likely to purchase products in their own language. In addition, that same content and product localization reduces customer care costs and increases brand loyalty," explains Dr. Donald A. DePalma, CSA Research's founder and Chief Strategy Officer.

"The Language Services Market: 2018" is available to CSA Research members. The list of the largest LSPs based on 2017 revenues is open-access.

www.commonsenseadvisory.com

What are you worth?

Text by Leah Guren

Image: © deepblue4you/istockphoto.com

When was the last time you really thought about your worth? I don't mean your intangible value as a human being, but the monetary value you can place on your professional skills. With any profession, the prices that can be charged or the salaries that can be demanded are dictated by the same factors:

- Geographical area: Obviously, salaries in Zurich are going to be very different than salaries in Bangalore.
- Industry: TCs (technical communicators) in high-tech fields usually earn far more than those in a public domain, such as a university or hospital.
- Special skills: TCs who can write API documentation or who have technical background in a specific industry can usually demand more than generic TCs.
- Experience and reputation: A TC with ten or more years of experience and knowledge is worth more than a novice.
- Market availability: A tight market with a shortage of TCs means different salaries than a glutted market.

But this does not mean that there is an algorithm that can calculate all of these variables and determine the exact amount that each of us is worth. In fact, one of the hardest things to calculate is the subjective value that people outside of our profession place on our skills. Let's look at some of the myths and stereotypes about our profession, and what we can do to improve both our individual and collective value.

Myth: "Anyone can write!"

How many times have you heard someone say this? How many times have you worked with a client where the documentation was written by engineers lacking training in technical communication? This happens because people think that what we do is "writing", very much like writing a report or an essay in school. They are painfully unaware of the amount of analysis and critical thinking that goes into producing the right con-

tent for the required audience. In fact, TCs who do their job well do much less writing than analysis. The solution is outreach education. This requires a professional society, such as tekom, to invest in public relations to educate industry about what technical communication is, and what TCs really do. When companies understand how a skilled, educated TC can help improve customer satisfaction with their products and services, they are more likely to value our services.

Myth: "Editing is easier than writing."

Nothing could be further from the truth! Most experienced TCs can create a rough draft of a topic (such as procedure) quickly. But it takes far more time and effort to refine the steps, add the right amount of structure and layering, add the right illustrations, etc. As a corollary to this myth is the confusion between *editing* and *proofreading*. I find that many people outside of our profession do not understand the distinction, and often ask us to edit something when they really want us to proofread it. Because of this lack of understanding, they think that editing is merely looking for typos, rather than looking at the organization of the material, the structure, the writing style, and more. A good editor makes suggestions about adding and removing content, not just fixing small mistakes. This makes our clients think that they can give us a 200-page document at 3 pm and expect to have it back at the end of the day.
The solution is to carefully talk to clients about what their expectations are and what we can do. I always make sure that they know the difference between a quick proofread and a thorough edit for content and organization. When I start asking them questions about the audience, the purpose of the document, what problems they are trying to solve, what results they want, etc., they begin to understand the complexity of a good edit.

Myth: "You should do this for free."

Most of us have had someone ask us to "take a look at" something, with the implication that this is such a minor effort that we should do it as a casual favor. To be fair, I have friends in other professions (a doctor, a lawyer, and a tax consultant) who have been cornered at a social gathering and asked for free advice by some rude person. But I do think that it happens more to us, partly because of how people undervalue (and misunderstand) our skillset. Giving away work is a very tricky thing; on the one hand, it allows you to create good will and build up a relationship with a client. On the other hand, it may lead to a long-term undervaluing of your services.
The solution is to be direct with clients. I don't mind looking at something and giving feedback if it just takes a few minutes. But if something looks like it is going to take more than 20 minutes, I remind the client of my hourly rate, let them know my estimate of time required, and ask them if they want to proceed and issue an invoice.

Myth: "You do word processing, right? / You're a translator, right?"

I have no idea why so many people are stuck in a 1980s time warp, but when was the last time any professional TC did "word processing"? And while many TCs are involved in localization, those of us who are content developers are not translators (apart from translating information from the SMEs into meaningful content for the end user). I think that people latch onto a profession that sounds familiar. Again, this is why doctors, lawyers, architects, and professionals in other "recognizable" fields do not have to spend so much time educating the public about what they do.
The solution is to develop an *elevator story*. The term comes from the idea that you are sharing an elevator with some influential decision-maker in your company. You have only the time it takes the elevator to reach the top floor to pitch your idea to this person. The term has come to mean any short (30–60 second) explanation of who you are or what you do. We all need to have an elevator story ready for those instances when we meet someone who asks what we do. But we also need them for internal conversations within our companies or with our clients. Rather than say something like, "I write the documentation that goes with product XYZ," try to think about what you do in your job that is exciting, new, different, helps your company's bottom line, or has a human interest. For example:

- "I help companies make their product documentation useful and easy to understand, thus making their technical products usable."
- "I provide a voice for creative, intelligent, innovative engineers who need help communicating their ideas."

Myth: "You are just English majors or former English teachers."

This myth occurs because of people's fixation on the writing and editing side of TC. And while many TC professionals came from those academic areas, that does not mean that they don't have strong technical skills.
The solution is to be proactive and develop the technical skills that will give you credibility and help you in your career. This may be specialized subjects in your industry (medical subjects, programming, engineering, etc.). It may also be learning the latest tools and content development trends, even before you may need them. Most of the tools that professional TCs use require some fairly serious technical skills, as they are massively complex and have steep learning curves. Don't downplay your technical knowledge. Work hard to keep your skills up-to-date.

Conclusion

By valuing your own work and thinking about how you would respond to these and other common myths, you can help educate your clients about the true value of TCs.

ABOUT THE AUTHOR

Leah Guren is the owner/operator of Cow TC. She has been active in the field of technical communication since 1980 as a writer, manager, Help author, and usability consultant. She now devotes her time to consulting and teaching courses and seminars in technical communication, primarily in Israel and Europe.

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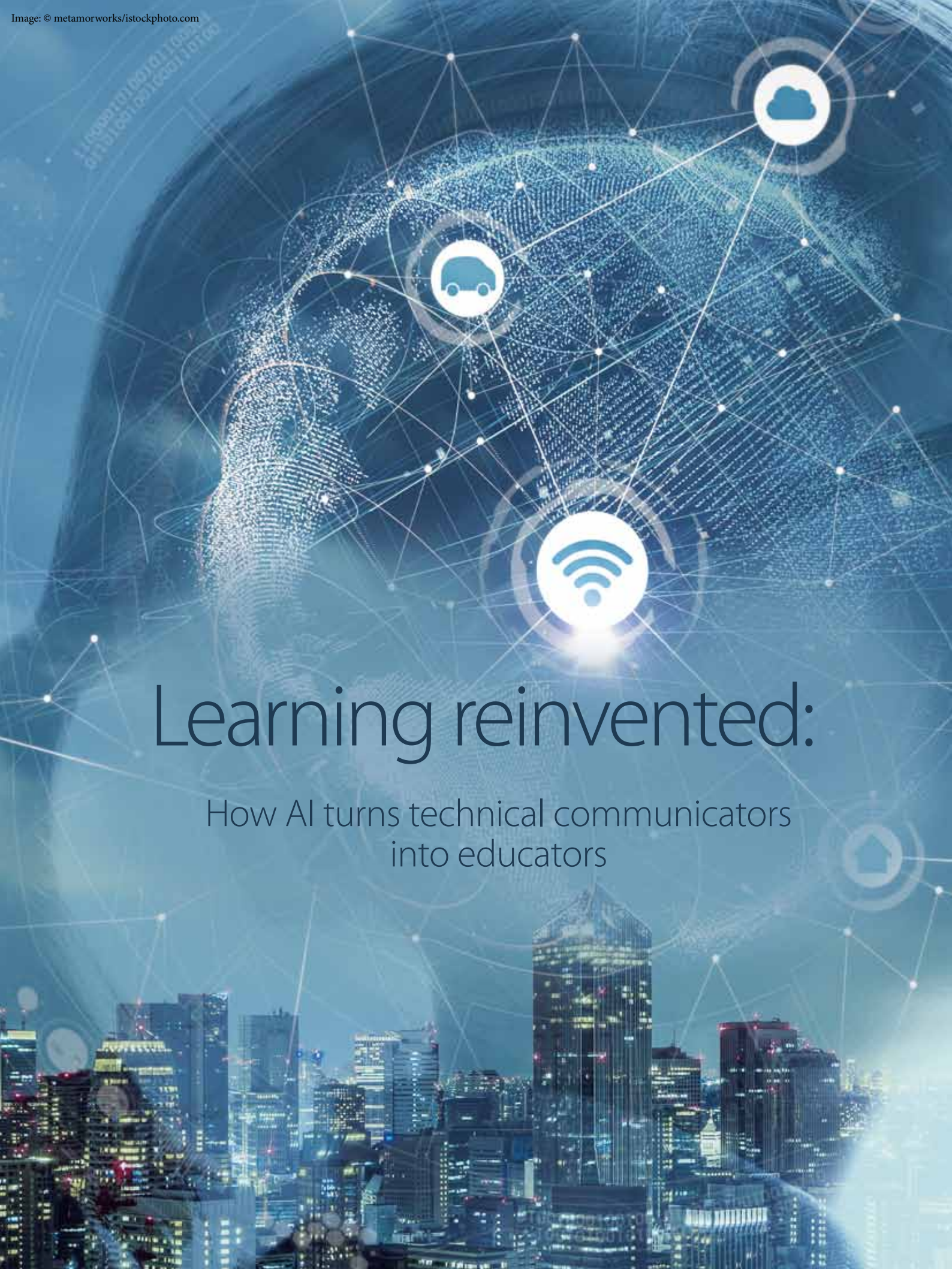

Learning reinvented:

How AI turns technical communicators into educators

The world is changing with increasing speed. So how can we keep up? Lifelong learning has become an absolute necessity, and technical communicators hold a crucial position in enabling an individualized, customized transfer of knowledge.

Text by Ray Gallon

In March 2018, my collaborator Neus Lorenzo and I had the privilege of hosting a symposium and a workshop at the annual Mobile Learning Week, an event co-sponsored by UNESCO and the International Telecommunication Union (ITU). UNESCO is the educational, scientific, and cultural organization of the United Nations. The ITU, also a UN agency, coordinates telecommunications, spectrum allocations, and policy positions on information and communication services which, it seems, the world no longer knows how to live without.

The event made for an amazing week, during which we were able to interact with some of the smartest people from all over the world on subjects connected to all kinds of learning in so many different cultural contexts, but all associated with the major question of mobility.

A subtheme that ran through many of the interventions, including our own, was Artificial Intelligence (AI). And it's no wonder – if you look closely at AI, it's all about learning. A Forbes article by Gill Press (January 2017) listed these as the top ten AI technologies:

1. Natural language generation
2. Speech recognition
3. Virtual agents
4. Machine learning platforms
5. AI-optimized hardware
6. Decision management
7. Deep learning platforms
8. Biometrics
9. Robotic process automation
10. Text analytics and NLP

With the possible exceptions of hardware and process automation, all of the above involve some type of machine learning or linguistic process. Although machines learn in a different fashion than humans, learning is at the heart of AI. It is also at the heart of technical communication. If you think about it, the different types of user assistance – be it onboarding, task-related, reference material, conceptual information, or anything else – are designed to help users learn about the products they need to use.

One of the most striking takeaways from the Mobile Learning Week was not only how much interest there is in Information and Communication Technologies (ICT) in education, but just how much convergence there is between different areas of education (formal, vocational, informal, non-formal, eLearning, mLearning, training, etc.) and technical communication.

Converging with cognitive science

Ever since the late 80's, when John Carroll developed his first notions of minimalist information design, technical communicators have been applying principles of cognitive science to the process of learning about technological products. In 2013, I presented a series of webinars on *A Cognitive Design for User Assistance* for Adobe Technical Communication that drew on the work of different researchers and learning theories to help maximize utility and retention of user guidance (see Additional reading).

Concurrently, some researchers were also using cognitive science to develop machine learning. Palm Pilot inventor Jeff Hawkins had been exploring this idea for a long time (see his 2004 book *On Intelligence*, co-authored with Sandra Blakeslee). He developed a unified theory of the brain that argues that the key to the brain and intelligence is the ability to make predictions about the world by recognizing patterns. He argues that to actually make Artificial Intelligence,

all we need to do is teach the machine to find and use patterns, rather than try and teach it to perform specific tasks. This is, in fact, what many machine learning programs do, acquiring massive quantities of training information from Big Data on the Internet. Hawkins calls this a memory prediction system. He claims that such a system is implemented in the brain's cortex and that it is the basis of human intelligence.

Minimalist information design postulates that the quickest way to become productive is to learn by doing. Researcher Roger C. Schank analyzed what happens when we learn in this manner, and he suggests that we acquire "scenes" or tasks that can be generalized from one operational situation to another: We learn to use a credit card to pay for a meal in a restaurant and can then reuse this knowledge to pay the taxi driver who takes us home. Similarly, we learn how to configure parameters when reading a two-dimensional digital medical X-ray, and we can extend that knowledge to configuring new parameters when we want to read a three-dimensional X-ray using software from the same developer.

Schank refers to these situational scripts as Memory Organization Packets (MOPs). Whenever we learn a scene in one MOP, we should be able to generalize it and transfer it to other MOPs in which this scene is applicable. We should also be able to combine scenes that we have learned, in order to create our own new MOPs – and that is at the heart of real learning. Schank is now working on AI, and regularly delivers ideas that run counter to the mainstream thinking in machine learning research.

AI researcher Carlos E. Perez, a keynote speaker at the 2018 Information Energy conference in Amsterdam, is working on the idea of an "intuition machine" that should also be able to transfer what it learns from one context to another.

It should come as no surprise that educators are also calling upon cognitive scientists to better understand how children and adults learn. This is especially important due to the fact that lifelong learning has today become a necessity. As the rate of change in the world accelerates, the labor market is destroying old, familiar jobs while creating new professions that never existed before. Just as an example, the French minister of education, Jean-Michel Blanquer, has named cognitive scientist Stanislas Dehaene to head the National Educational Science Council (*Conseil scientifique de l'Education nationale*), one of the top educational policy organs in France.

Learning to learn

These days, we hear a lot about how we need to educate children today to take on jobs that don't yet exist. What we don't talk about too much is helping adults to make the transition into the world of Industry 4.0, where machines make decisions without human intervention – decisions that affect all of us. This transition for adults is also a critical job for educators.

David H. Autor and Brendan Price of Massachusetts Institute of Technology (MIT) have studied trends in demand for worker skills in the U.S. Their work clearly shows that the only tasks for which demand is rising are those that require high-level cognitive functioning and social (i.e. collaborative) interaction (see Figure 1). It seems logical that results for the rest of the developed world would be similar.

In other words, the types of tasks most kids perform in schools today, i.e., routine cognitive tasks, are no longer in demand on the job market. Autor and Price tell us that what will be needed in the future are skills in activities that require problem-solving, intuition, persuasion, and creativity. These include hypothesis testing, diagnosing, analyzing, writing, persuading, and managing people. These are typical skills in educational, managerial, technical, and creative professions such as science, engineering, law, medicine, design, and marketing. These types of activities will be facilitated and complemented by computers, including AI applications, but not replaced by them.

The World Economic Forum projects out to 2020, and confirms the trends observed by Autor and Price (see Figure 2).

The black boxes to the left of the bars show the percentage of all jobs that will require the given skill set. The top demand is for:

- Complex problem-solving
- Social skills
- Process skills
- Systems skills
- Cognitive abilities

Note that content skills are forecasted to be required in only ten percent of all jobs between now and 2020.

Does this mean that there will be less and less work for technical communicators? I don't think

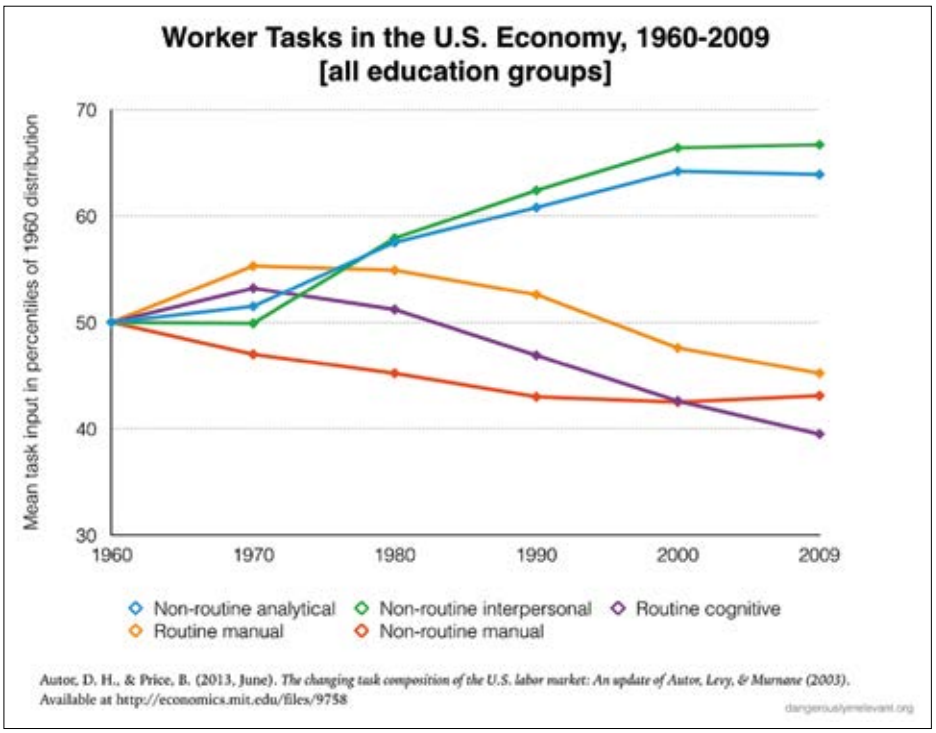

Figure 1: The U.S. labor market shows increasing demand only for advanced cognitive activities.
Source: Autor & Price, MIT: http://economics.mit.edu/files/9758

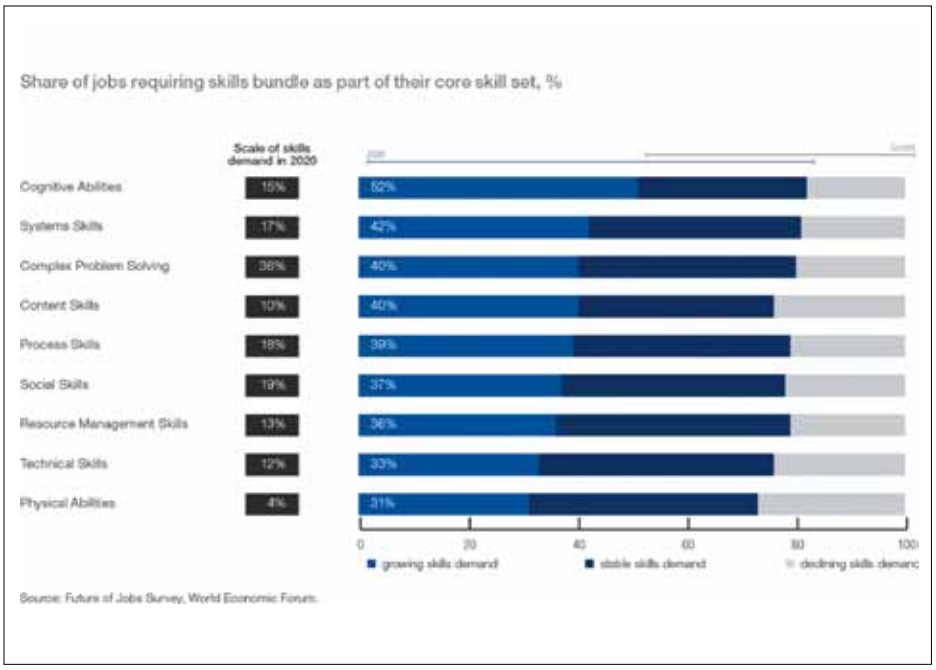

Figure 2: Change in demand for core work-related skills, 2015-2020, all industries
Source: World Economic Forum Future of Jobs Report: reports.weforum.org/future-of-jobs-2016

so. But it does mean that our roles will change – indeed, they are already changing. Many of us may be introverts, but we are called upon to collaborate in teams – for Agile development, and for collaborative design processes that can involve design thinking and other process-related methodologies. We design architectures for information creation, curation, and delivery systems, and we work (or will work) collaboratively with customers, product managers, and engineers to design contextualized, personalized information that enables our customers to become experts in the use of our products.

In schools, subject matter learning has become secondary to learning to learn, and to developing critical thinking to make useful evaluations of what students find on the Internet. In technical communication, our paper manuals and static subject matter knowledge are also giving way to notions such as onboarding, information experience, and dynamic delivery, as well as learning by doing.

Artificial intelligence is going to help us deliver information that is highly tuned to the exact circumstances of the user, and even his emotional state at the moment. We already chunk information in structured authoring systems, but we will need to make these chunks even smaller to facilitate rapid updating and translation and to combine and recombine the chunks based on the user's context.

Such information responds to a user's immediate, contingent need. The consequence is that the user will often have an isolated piece of very advanced information, which solves an immediate problem, but lacks the background fundamentals that a user would have gotten in a more traditional, linear learning context. We have already become used to this type of information delivery through the use of search engines to answer our contingent needs; we all have "black holes" in our knowledge.

From an information provider's point of view, the problem is that we don't want to tell people what they already know, but every user's black holes are different. The response to this problem should be to stop thinking about delivering static content and provide a well-chosen selection of information that gives the user a wide enough choice to find what is needed, but not so wide as to be paralyzing. The technologies to help us do this are still under development, but they will soon arrive in our toolkits. Taxonomies already exist, and Artificial Intelligence will help us create more useful ontologies in our information offer. Researchers are working on how to describe a user's context in metadata, so as to create a standard context description metalanguage. Developments that we looked at as "wishful science fiction" only a few years ago are about to become reality.

Are we ready?

Our challenge – both as educators in schools and learning facilitators in the world of technology – is not only to help people learn how to use new tools and new working environments, it's also to help people learn to live in a society where these technologies are embedded in everyday life. Let's take one example: A child grows up with Augmented Reality all around him. He plays games that use it; he learns with it in school. He's had it around since infancy. What notion does that child have about what is real? How can we guide him toward a new understanding of this notion? And how do we guide adults to enter into this realm when they do not have the experience of growing up with it?

Many people have been asking about ethics in the implementation of AI. To what extent will we technical communicators be called upon to write about, and describe, ethical aspects of the technologies we cover? What roles and responsibilities will we have? How will our discipline be impacted by changes in insurance, liability laws, and the risk of increasing litigation as autonomous technologies decide about our lives?

In 1996, the European Commission under Jacques Delors produced a report proposing an integrated vision of education based on the concept that lifelong learning was no longer an option, and four pillars of education:

- Learning to know – a broad general knowledge with the opportunity to work in depth on a small number of subjects.
- Learning to do – to acquire not only occupational skills but also the competence to deal with many situations and to work in teams.
- Learning to be – to develop one's personality and to be able to act with growing autonomy, judgment and personal responsibility.
- Learning to live together – by developing an understanding of other people and an appreciation of interdependence.

In 2015, the United Nations adopted as official policy a set of 17 Sustainable Development Goals (SDGs) to be attained by 2030. Two of these relate to education and to inclusive and sustainable economic growth. Others relate to energy, infrastructure, climate change, and so on. One of the targets for education is,

> *By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.*

The indicators for attaining that goal are listed as:

> *Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill.*

Couple that with this target for economic growth:

> *Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.*

It's easy to see that these goals are interconnected, and learning plays a part everywhere. Taking this into account, and given all that is at stake for human society, we can revise Delors' four pillars of education to the following:

- Learning to learn
- Learning to interact
- Learning to do with what you learn
- Learning to be engaged with the common good

These apply whether offering fundamental education to children at school, higher education to university and other post-secondary students, or contingent learning to users of technological equipment that is becoming more and more interactive and autonomous.

One thing is sure: If these technologies cannot help us solve human problems, they will themselves become a world problem we'll all have to solve.

Additional reading

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Augmented Reality revolutionizes the shopping experience

Ecommerce and retail have taken a seat in the front row in implementing Augmented Reality technology. Many well-known brands have come up with innovative ways for an immersive customer experience. Here are some of their use cases.

Text by Adriana Blum

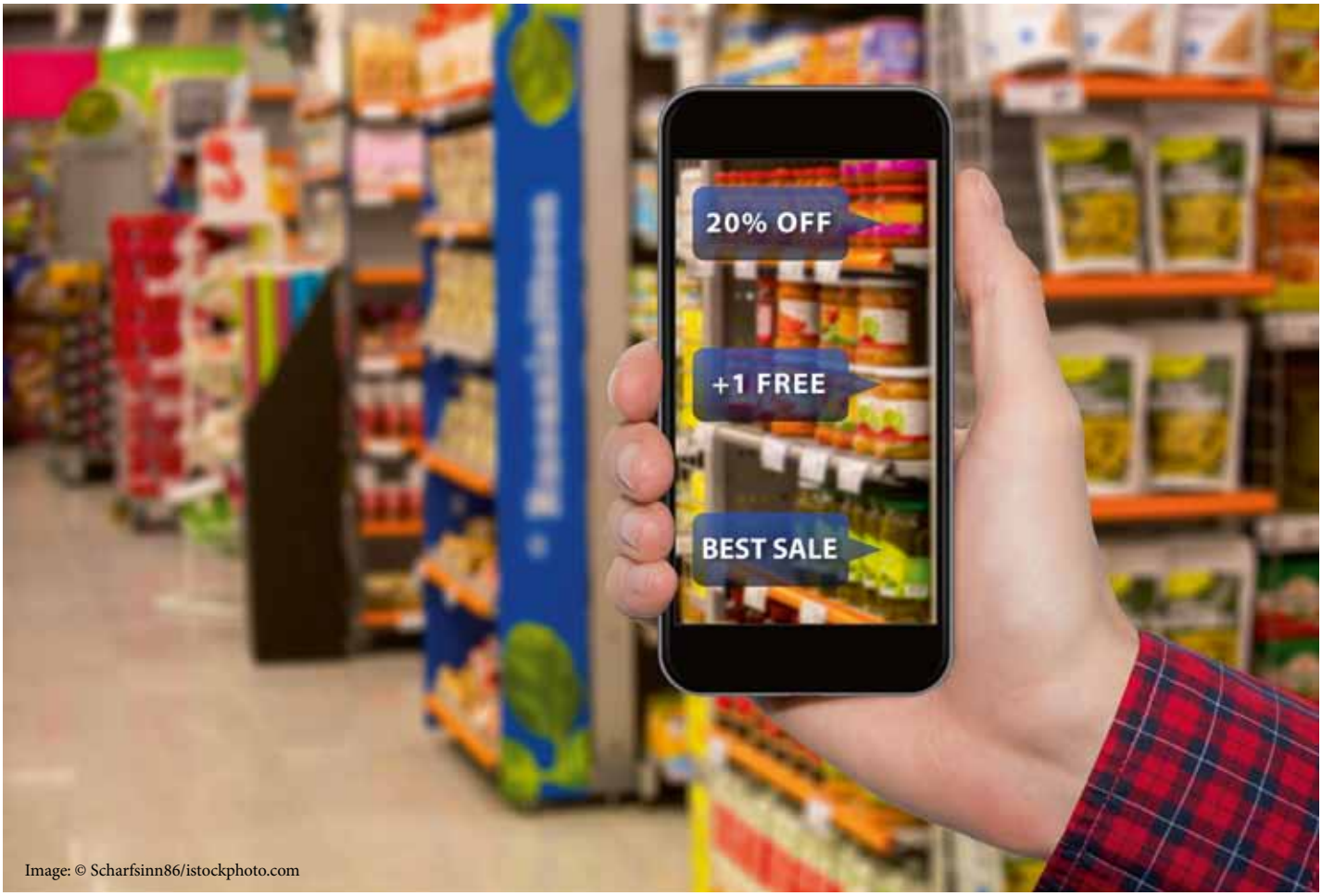

Image: © Scharfsinn86/istockphoto.com

Augmented Reality may have burst into mainstream awareness with the release of Pokémon GO, but since then it has blossomed into a technology with some serious potential to solve business problems. In traditional retail and ecommerce, AR adoption is booming, and many well-known and influential brands are launching mobile AR apps or integrating the technology in-store.

The following proven use cases are all well past the speculative stage and have been put into practice by both online and offline retailers around the world.

1. Letting shoppers try before they buy

If ecommerce ever had a drawback, it has been the difficulty consumers had in determining if their purchases would be a good fit. This applies equally to buying clothes and personal items as it does to fittings and fixtures for the home. In any case, it is an issue for shoppers and retailers alike, increasing the likelihood that goods will be returned, which is not always a simple process in the ecommerce environment.

Augmented Reality has perhaps found its most practical application in solving this problem, both for digital retailers and their customers. An AR app can enable customers to select items from an ecommerce range and superimpose them in 3D on the customers' own images (in the case of clothes or accessories) or onto their smartphone camera view of their home interior.

Different colors, sizes, and designs can thus be tried out via AR, reducing the chances of the customer finding a product unsatisfactory when delivered. Aside from reducing the number of returned items, the "try before you buy" experience also brings an element of fun and immersion to the shopping-from-home experience, and can help customers engage more deeply with your brand.

2. Engaging with virtual fitting rooms

The use of Augmented Reality for the try-before-you-buy experience is by no means limited to ecommerce. In fact, many traditional retailers are adopting AR specifically for this purpose in their brick-and-mortar shops. And the retailers enjoying the greatest success with this method are combining AR software with in-store fixtures such as LCD screens and mirrors.

The following retailers have all adopted Augmented Reality try-and-buy facilities in their outlets:

- Japanese apparel retailer Uniqlo has installed LCD mirrors that let shoppers try on garments virtually
- Adidas, Cisco, and Gap have all set up smart AR-enabled mirrors
- Topshop has implemented a virtual fitting room with its Topshop Kinect AR dressing rooms
- Shiseido uses in-store AR mirrors for letting customers try makeup products virtually

3. Facilitating in-store navigation

Sometimes your customers might need a little AR assistance even before they get to look at your products in-store. For example, as we reported in a recent article on AR in marketing [1], Lowe's, the home improvement chain, which operates stores averaging 112,000 square feet in area, launched an Augmented Reality app that shoppers can use upon entering their store.

Lowe's shoppers can begin by searching online for the products they want to buy and compiling a list in the brand's app. When customers are ready, the AR technology takes over and guides them through the store with turn-by-turn directions on their device screens. Not only does the app direct shoppers to the products they want, it also optimizes their route through the store, helping them to shop quickly and efficiently.

It should be noted that the Lowe's app requires Google's Tango sensor to operate, and as there are only one or two smartphone models equipped with the necessary hardware, Lowe's actually provides customers with the devices on loan for the time they spend in the store. However, as IoT technologies such as beacons and sensors improve, it may become possible to provide similar navigation facilities without computer vision-equipped devices.

4. Encouraging footfall in stores

With all the competition from ecommerce, it makes sense for traditional retailers to leverage technology wherever they can to keep people shopping in their outlets. Here too, Augmented Reality can help.

Convenience store chain 7-Eleven, for example, is capturing the attention of movie fans in its first-ever AR app experience [2].

The app, based on the popular ***Deadpool*** movie, encourages users to visit their nearest 7-Eleven convenience store to hunt for scannable codes to unlock loyalty bonuses and activities. The app also integrates with social media, prompting customers to share their interactions with other ***Deadpool*** fans online.

Of course, the whole idea of the 7-Eleven app is to get people inside its stores, a critical goal of any retailer in an age when people can conveniently shop from home. In fact, what's good for convenience stores is just as good for luxury brands, as Hugo Boss demonstrated in 2009 with AR window displays for its Christmas campaign.

Through specially distributed handouts and advertisements in display windows of Hugo Boss's London stores, fashion shoppers were treated to personalized, interactive runway shows on the big screens. After that, they could go to Augmented Reality stations inside the outlets, where the fun continued with blackjack games promising generous discounts on luxury fashion items.

While the scale and direction of these two examples are very different, the end goal is the same: attracting more customers to the stores. And what better way to do so than to create a larger-than-life, interactive experience with Augmented Reality technology?

Research by Retail Perceptions revealed that the majority (71 percent) of participants in a study said they would shop more often with retailers that offered Augmented Reality [3].

5. Slaking the thirst for information

According to Salsify Consumer Research, 77 percent of shoppers today consider a mobile device as an essential aid to any shopping trip, and will use a phone or tablet actively in-store to gather on-the-spot information about products they see on the shelves [4].

Product reviews, images, and price comparisons all figure in digital showrooming, and retailers are shifting from a negative to a positive attitude toward the practice. Augmented Reality is a made-to-measure technology for delivering instant product information, as shoppers only need to point their devices at items on retailers' shelves to have the data they desire shown immediately on the screen.

American Apparel is just one of the many retailers actively encouraging consumers to roam their stores with phones in hand. Their AR app has transformed retail experience for shoppers at the fashion chain: Again, it only takes pointing the phone at the shelf signage to gain immediate access to a range of information, including:

- detailed product descriptions
- colors, sizes, and stock availability
- consumer reviews relating to the product

Meanwhile Tesco, a leading UK grocery store chain, offers detailed nutritional data for health-conscious shoppers via its aptly named Discover app. Using AR software developed by IBM, Discover provides on-screen product information using image recognition, alleviating the need to include special AR targets, or "markers", on product packaging.

6. Building emotional connections and stimulating purchases

Back in 2012, Andrew Pohlmann and Caroline Winnett of the Nielsen Company shared research findings on emotions in purchasing [5]. Those findings revealed that around 90 percent of purchasing decisions are made subconsciously and that, therefore, retailers could improve profitability by addressing the subconscious emotions of consumers.

The simple fact is that emotion plays an important role in purchasing decisions, and because of its ability to stimulate, excite and energize, AR is a perfect vehicle for establishing emotional connections between shoppers and products.

Emotionally perceptive retailers are well aware of how AR can influence purchasing decisions. Take Lego, for example. The world-famous maker of hobby bricks has transformed its traditional paper catalog into an animated 3D world of exploration using Augmented Reality. After downloading Lego's AR app, users can view the specially marked catalog pages using their mobile devices. A page mark triggers the AR application and the page comes to life before the viewer's eyes. It's not hard to imagine how the experience might trigger the emotions of juniors (and some adults too), create subconscious connections, and stimulate the desire to purchase and recreate the AR dioramas in reality.

7. Blurring the boundaries between ecommerce and traditional retail

Some AR apps even go so far as to transform brick-and-mortar retail stores into digital shopping portals. They create traditional-style stores out of thin air for the ultimate Augmented Reality experience, complete with stocked shelves where consumers can browse for the goods they want.

Two companies that have taken this approach are footwear brand Airwalk, and Yihaodian, China's largest online grocery supermarket. Both enterprises use Augmented Reality apps to create pseudo-stores in outdoor locations and hence expand reach and presence in hyper-local markets, while also giving shoppers a fresh and novel experience.

A seamless online or offline shopping experience or pop-up stores using AR are only two of the ways to blend ecommerce and traditional retail. Other companies that are already operating traditional retail stores are developing apps to let customers use their stores as showrooms and give them the option to view product information, place orders, and pay online – all via Augmented Reality.

8. Gamifying the shopping experience

Creating Augmented Reality stores in parks and other public places is certainly an endeavor that could be described as gamification, but it also may be too big a step for many retail companies. However, there is a lot to be said about generating entertaining experiences for customers, and Augmented Reality offers a great platform for doing so, as the popularity of Pokémon GO clearly demonstrated.

In fact, the Pokémon GO craze was a phenomenon that inspired innovators in many industries, including retail, to think about gamification as a way to increase profitability.

Of course, retail gamification has been around for a while, but Augmented Reality adds a new immersive dimension to the concept. You can create AR experiences for both online and traditional stores, or as more games like Pokémon GO emerge, you can even tie your brand into them as some retailers did at the height of the PG frenzy, offering discounts for consumers who caught imaginary creatures in the immediate vicinity of their outlets.

Reality is no longer retailers' constraint

Unlike the closely related concept of Virtual Reality, AR does not isolate the user from the real world. Instead, it adds new dimensions to the physical environment, making it extremely versatile and practical as a way to solve problems and satisfy consumers' needs.

Perhaps that's why the range of use cases for AR in retail and ecommerce is growing, and why your brand might want to consider adding it to your technology agenda sooner rather than later. After all, the majority of consumers want AR to be part of the shopping experience. Purchasing decisions are on the line, so it could be a mistake to remain constrained by old-fashioned standard reality when the augmented version seems to deliver so much more.

Further reading

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[3] www.retailperceptions.com/2016/10/the-impact-of-augmented-reality-on-retail

[4] go.salsify.com/rs/790-IHZ-702/images/Cracking The Consumer Code 2017 - Consumer Research eBook.pdf

[5] www.nielsen.com/content/dam/c360/canada/2012-Presentations/Secrets for Selling to the Subconscious_Caroline Winnett_NeuroFocus.pdf

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Pushing syrup through a straw

In times of bots and Information 4.0, technical communication has become more significant than ever. Yet, the rising expectations are rarely met with extra resources for TC departments. Operational strategies are much needed for times when content exceeds capacity.

Text by Rahel Anne Bailie

Image: © aydinynr/istockphoto.com

Technical communication teams produce a great deal of content. Content management experts estimate that on any large website, only 20 percent of the content is persuasive (marketing) content; the other 80 percent is informational content (technical, training, support, etc.). Despite the crucial role that information content plays in the grand scheme of things, technical communication teams often find themselves overworked and under-appreciated. They are downsized, "right-sized", and otherwise squeezed until they are unable to cope with the vast amounts of content they are expected to produce.

Capacity problems

When demand exceeds capacity, this is most commonly due to one of two issues: product changes and resource changes.

Product changes

A change to product size or composition creates a discrepancy between capacity and demand.

- More product complexity
  The complexity of a product often means more features and interactions to document. This adds to an already packed schedule.
- More products in a product line or more product lines
  Every new product or product line means changes to functionality. Creating material for each new product is time-consuming, and keeping track of which products have which functionality is an added layer of work.
- More markets
  Expansion into new markets means more languages to manage. Localization is no trivial matter and can become a logistical time sink.
- More content complexity
  Documentation is no longer restricted to the classic user guide, support material, and training guides, but also needs to cater to web pages, bots, voice interfaces, and emerging outputs such as information 4.0 environments. During the past few years, the number of channels has increased, and many channels come with their own editorial requirements.

Resource changes

Even when a product set remains stable, demand can outstrip capacity when there is a change in resources.

- Decrease in staff
  Over time, team sizes shrink according to the amount of effort needed to create content for a range of products.
- Same number of staff creating more content
  An increase in the number of products or channels means extra layers of content being produced by the same number of people, which leads to more work hours per person.
- New staff
  Adding more staff to cope with increased content demands doesn't lead to an immediate increase in capacity, as anyone new will face a learning curve.
- Different deliverables
  Creating a different mix of content deliverables means that even with experienced staff, there will be added time and complexity to produce all the materials needed.

Addressing discrepancies between capacity and demand

There are four basic ways of addressing the issue of demand for content outstripping the capacity to produce that content.

1. Increase capacity

Increasing capacity is a traditional way to meet the need for more content, which can be reduced to two methods:

- Increase resource levels
  Organizations use a mix of techniques to fill resourcing gaps. If the discrepancy between demand and capacity promises to be long-term, there may be a need to hire more staff. If the discrepancy seems more temporary, outsourcing some of the work to an agency or bringing in contractors would likely be better solutions. Another option could be to offload some of the content production to adjacent roles – for example, giving the product owner responsibility for creating some of the less critical content, after which it can be edited by the professional content developers.
- Use automation
  When faced with a time crunch, it is definitely worth looking for manual processes that can be automated – for example, copying information to or from spreadsheets. Automation may be as simple as having some simple scripts written to save time, or it could be more substantial, such as adopting systems that help manage content with more efficiency. This may mean learning what's available: better authoring tools, authoring assistance through automated style guides, or more connectivity between processes.

2. Decrease demand

When increasing capacity is not an option, then decreasing the content output is the other option.

- Adopt minimalism
  This could be the time to stop documenting every feature, and focus on explaining the newer features or those that are more likely to cause confusion for users. When left with too many features that need documenting, decide which features need less depth. If there are functions that seem obvious and need little explanation, don't spend precious time on them. Another option could be to create content for fewer user groups. This is not to say that some user groups should be ignored, but they could be serviced by content that comes from less formal channels: System administrators, for example, could be considered a specialty audience that receives their content from the technical architect.
- Change your practices
  Look at more efficient ways to create content, such as using the principles of "Create Once, Deliver Anywhere". Perhaps editing content that was created by a subject matter expert would be more efficient than creating the content from scratch. Some of the emerging trends in documentation, such as creating intelligent content – defined as content that is structurally rich and semantically categorized – can use systems designed to automate content delivery across channels.

3. Change the conversation

Rather than accepting the status quo for producing content, having a frank discussion about what is really needed can change

the complement of content produced for a product.

- **Decrease the need for content**
  Seasoned technical communicators can attest to the expectation that the documentation needs to explain how to work around flaws in the software. Fixing the software instead of documenting its flaws can be more efficient, particularly when you show the quantity of content affected across a product line with multiple products, in multiple versions, across multiple markets.
- **Reuse content from other sources**
  When content is produced in a modular way, with consistent language and terminology, the ability to reuse this content increases tremendously, allowing for content to be leveraged across a range of products. Content could also come from less traditional sources. For example, some user communities are passionate about ways to use a product; they can be a handy source of information.
- **Look for help in other areas**
  When a different genre of content is needed – a features and benefits piece, perhaps – look at the departments most likely to have already created that type of content or who would want to take ownership of creating it. Also consider working with the user experience team, as they have likely produced deliverables that will help explain how a feature works.

4. Adjust the supply chain

Companies are notorious for streamlining operations across the organization but ignoring content operations. Taking charge of this area can be beneficial in several ways:

- **Change delivery demand**
  Can you deliver content in a staggered way? Is it possible to streamline operations to deliver content in a structured way?
- **Deliver in step with the Agile team**
  Chances are that the development team uses some form of Agile methodology, which means that it's possible to develop content in step with them. Delivering content within the same sprint as the dev team means that at the release of MVP (Minimum Viable Product), content is also ready to go. When localization is involved, the content from each sprint can be translated for the following sprint. This means less delay after MVP for release into multiple markets.
- **Get a head start on content**
  Searching for available content could mean looking for content from a different division, a sister company, or an upstream vendor. Getting a head start on content that way can alleviate backlogs of work later on.

Adopt new ways of working

The adage of "work smarter, not harder" is an effective way of reducing the workload while maintaining, or even increasing, content volume. Content tends to proliferate the way landfill builds up, and eventually a team on a deadline inherits an incredible amount of inconsistent, off-brand, and outdated content.


Image: © metamorworks/istockphoto.com

Anyone who has undertaken a dreaded CMS migration or "rebranding exercise" knows how fraught with tension that can be. Years of inconsistencies and errors come back to haunt the team charged with shoring up the content. Enforcing a stringent quality control process can add a bit of operational overhead, with the long-term benefit of operational ease when content needs to be manipulated in various ways.

Continuous content curation

Diamonds may be forever, but content has a finite life span. It may be tempting to let content accumulate like dustballs under the bed. However, it's in everyone's best interest to have a regular maintenance schedule.

- **Conduct a rolling ROT (Redundant, Outdated, Trivial) audit**
  A regular audit will help clean out content that, at the very least, could be embarrassing to an organization, and at worst, could leave an organization open to legal liability. A quarterly audit is a way of making the cleanup process less painful in the long run.
- **Use analytics to determine relative value**
  Looking at the analytics for your content lets you see which content has high access rates and which content is never viewed. Ranking content by its popularity can help inform content priorities. Also, if certain types of content regularly rank low, this could be a sign that it's time to rethink whether it's worth the effort to keep creating that content.
- **Practice content hygiene in the source language**
  When content needs to be translated into multiple languages, the cost of localizing content can rise exponentially when the source content is not in good shape. Keeping the source language content in order can make a significant difference to the time and effort spent untangling linguistic problems later.
- **Maintain content in multiple variants and languages**
  The amount of content maintenance can be multiplied by the number of variants. Content may be localized into multiple languages. Content may be localized into different variants of the same language for different markets – how English is used

around the world can vary greatly. Content may need to be adapted for multiple channels, such as web, mobile, wearables, or bots. The need to maintain multiple variants of content is simplified when the source content is kept up to date.

Translation management

Get maximum benefit from translation technologies. Organizations that operate in multiple markets often translate large volumes of content. Translation processes have become sophisticated and extremely efficient.

- **Use glossaries and translation memory**
  Glossaries and translation memories have been around for decades now and should be a standard part of an organization's localization toolkit. Glossaries contain approved terminology lists, and translation memories contain databases of approved translations. Storing terminology and reusable translations increases consistency and can drastically reduce translation costs.
- **Use machine translation**
  Doing the first pass through machine translation is now standard practice. The machine translation is followed by a post-editing cycle, where a translator reviews the translation for quality purposes. Adding this practice to the use of glossaries and translation memories makes for some serious processing power. Not only do the translations cost less, they can be completed in a fraction of the time.
- **Automate with a translation management system**
  The last piece of the puzzle is to use a system to manage translations. If the translations are of any significant volume, there needs to be a control system that sends content out, keeps the languages synchronized, and in the round-tripping of the content, ensures that the content ends up in the right place within the content ecosystem. Automating translated content is part of producing content with efficiency.

Build intelligent content

"Reduce, reuse, recycle" is a mantra for practitioners wanting to create content efficiencies. Using the principles of intelligent content has benefits far beyond closing the gap between demand and capacity. The components that work together allow computers to automatically process content, which in turn replaces the manual tasks.

- **Make the content structurally rich**
  Use a schema, preferable an industry standard, so that systems can understand how to process it. (Example: DITA)
- **Provide semantic categorization**
  Add more meaning by adding tags so that systems can understand how to process information more specifically. (Example: product)
- **Provide rich semantics**
  Tag your content with meaningful attributes so that computers can aggregate the content in specific ways. (Example: description, premium)
- **Map your content configuration**
  Create a map for your content that allows for the automatic pull and display of content. (Example: product-title, product-image, description, price)
- **Use a tool that helps leverage the power of content**
  Invest in an authoring tool that allows you to structure and tag the content efficiently. (Example: validating structures, choosing attributes from a drop-down list)

The agility of intelligent content means that your operational benefits also spin off some business benefits. Automated processing solves the conundrum of personalization, which is the holy grail of marketing departments everywhere.

Adopt DocOps techniques

It's easy to tell what matters to organizations by looking at how operations are supported. It's rare for accounting departments, for example, to use old-fashioned ledger books; there's sophisticated accounting software that supports data entry and provides reports through dashboards. Similarly, systems exist to help with content operations, and organizations often need to be educated as to the benefits that accrue by using those systems. Structured content authoring tools, translation management tools, taxonomy management tools – all of these contribute to healthy content (ContentOps) or documentation (DocOps) operations models.
Not much has been published about DocOps, but what has been includes some familiar techniques.

- **Collaborative content development**
  Work with other content stakeholders, such as customer support and training, to single-source content that can be used for multiple purposes.
- **Agile methodology**
  If your organization uses Agile methodology for software development, get on board by developing content in step with each sprint, so that at the end of the project, the content will be ready.
- **Iteration**
  Fix content as you go so that you can catch mistakes before you lose track of them; this will also save fixes in other areas, such as translation.
- **Crowdsource**
  Get feedback on your content from multiple sources, from internal stakeholders to select customers. A technique such as crowdsourcing isn't appropriate for every situation, but a passionate user base can improve content in unexpected ways.

Conclusion

Stretching capacity to meet demand is a lot like the law of physics. There are only so many ways that the factors can be arranged and rearranged, with a limited number of potential outcomes. The good news is that as the industry progresses, more and better factors are becoming available that will ultimately allow technical communication teams to thrive.

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Analytics: moving from cost to value

The times when technical documentation teams needed to justify their worth are well and truly over. Or are they? Here is how TC can deliver information that could be essential to the entire enterprise.

Text by Fabrice Lacroix

Image: © TommL/istockphoto.com

Your tech doc team has written another manual, printed it out, put a nice cover on it, bound it, and placed it on your desk. Congratulations – this proves that they have done their job! You've paid for something, and there it is. In other words, this beautifully composed manual on your desk is evidence of one thing: money spent. Presumably, it has value, or you never would have asked for it. But how do you measure this value? Dr. Deming famously said, "It is wrong to suppose that if you can't measure it, you can't manage it – a costly myth" (https://deming.org). But if you have a choice, being able to measure is better. Indeed, we'd rather trust Lord Kelvin when he says: "If you cannot measure it, you cannot improve it."

Without measuring the value of technical documentation, all management knows is how much it costs (all those paychecks and supplies), but the value is taken on faith. It must be worth something, right? Or we wouldn't do it.

Let's unpack this, starting with this undeniable statement:

"How you measure depends on what you're measuring."

Physical books

If all you do is print physical books, you know how many books are sitting in crates. The number will be similar to how many customers you have and how many products you have sold. But, as you presumably already knew these numbers, not a lot of value has been added.

There are a lot of good things to be said about books: The interface is intuitive, they sit on our shelves reminding us of the good old days, and they smell nice. It's sad to see them go. But they're expensive to print… all those dead trees.

PDFs

With PDFs, we start dematerializing books. We convert our manuals into digital files, and post them on a website. This is a good move – you have eliminated the cost of printing and shipping… or, at least, transferred it to the customer, at his option. The customer can always read on the computer (unless he's using the manual to repair the computer, in which case, the paper, toner, time, trouble, and staples are on him).

You can count how many PDFs are downloaded, but the rest remains unknown. Have they been read at all? Have they been shared on a corporate server with dozens of people? Which parts have been read? All of that is unknowable. All you get from download numbers is a figure that lets the manager feel that they know what's going on and that the cost of producing the PDF and its content has not been wasted.

This is just not enough data, and not the right data. So, let us move on to…

HTML web pages

This is quite an improvement on PDFs. First, you know how many times a page has been opened, at what time and for how long until it is clicked away from. If this time is long enough, it has probably been read. And, because the manual probably doesn't fit on a single web page, you have a somewhat finer grain of knowledge. Instead of just being aware that a PDF has been downloaded, you find out that the HTML page containing Chapter 5 of the manual has been loaded in someone's browser. This is better! You can tell management that Chapter 5 has received some attention.

If you could tell where on the page the customer was looking, that would be even more informative. Sadly, you (probably) don't own the browser, so you can't get that kind of detailed feedback. If you broke the chapter into too many small web pages, you could learn more precisely what parts of the chapter have been read, but it would be a pain for your users: They would spend their time clicking Next and Back buttons to navigate your content. So you get to pick: good user experience or fine-grained metrics.

But what metrics are we talking about? Web pages have been around for a while, and people believe that some useful analytics have been collected using tools such as – most prominently – Google Analytics. It's right there in the name! Not to mention that trusted brand. But having a lot of data doesn't necessarily mean knowing something useful. We could call this "the data delusion" and here's why:

Web analytics products were designed for marketing. It's right there in the summary of their site: "Google Analytics lets you measure your advertising ROI as well as track your Flash,

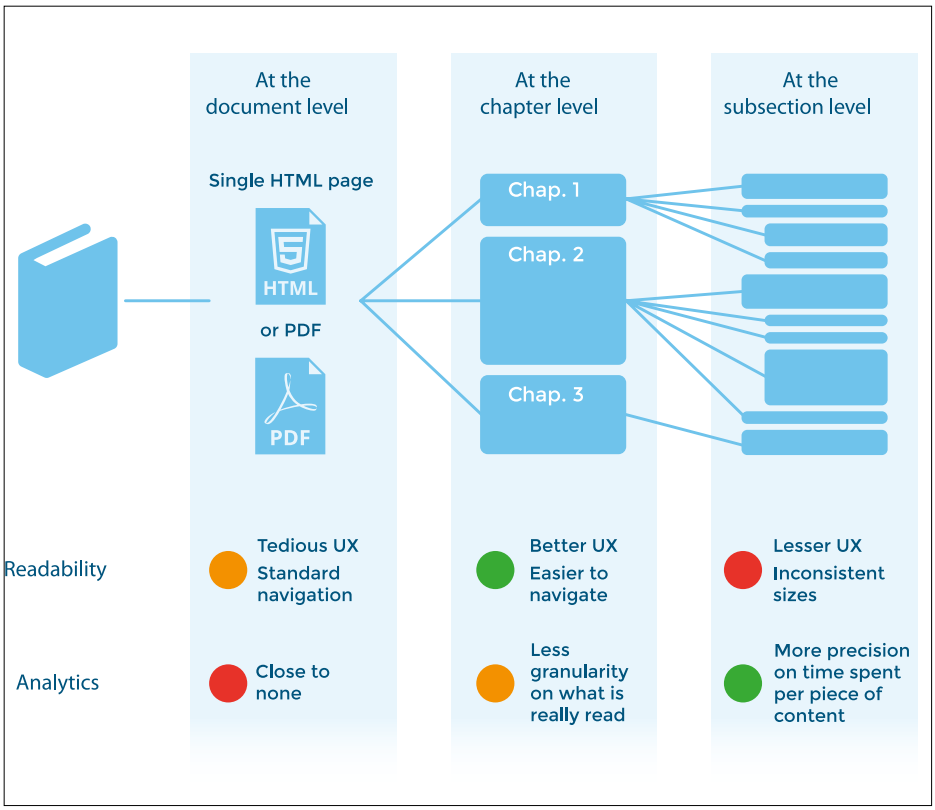

Figure 1: Long web pages provide lots of info on a 'paper like' experience, but less details. Smaller pages provide more fine-grained metrics, but a weaker UX. *Source: Fluid Topics*

video, and social networking sites and applications." Very useful for a company website of 20 to 200 pages. You get a report with the URLs, the number of times they have been loaded, how users got there, where they came from, and where they clicked to next. If you have a small number of pages, with a lot of viewers for each, and you want to focus your marketing dollars, this is very useful.

But how many tech doc web pages do you have? Hundreds? Thousands? Given a range of products, each with a set of manuals, in various languages and versions, the number of HTML pages could explode. Yet, many pages may only have a small number of readers. Your Google Analytics report will be a spreadsheet with thousands of items with impossible-to-decipher names with a wide range of numbers next to them. How can you make sense of these numbers without seeing the content at the same time? How can you make sense of a flow diagram showing the path users follow when thousands of small elements must be displayed? In addition, if two pages are related to the same task for the same product, but in two different versions, we need to see the metrics either separately or aggregated; but as Web analytic tools don't understand semantics, it's impossible to automatically create and navigate clustered numbers (by book, by version, by product).

Not to mention that changing the granularity of a HTML page (such as from topic to section) would render any comparison impossible.

What kind of action can you take with web analytics information? Not much. Metrics need context to be interpreted; we need to see the numbers and the content together in order to gain insight. Also, web analytics may tell you what has been looked at, but there's a vital bit of info they don't give you – what has not been read. Knowing what's happening at the web server level is not very useful. This renders marketing-style web analytics useless for technical communication.

So now we know that counting books isn't useful, counting downloads doesn't teach you anything, and that counting page loads is slightly more helpful, but not by much. We need to know what's happening at the user level. We need a different way to track and log.

What we need

If you really want data on how valuable your technical documentation is, you'd practically need to be standing over the user's shoulder, observing what they're reading and for how long. But that's impossible, right? Well, maybe not.

We live in the era of the data-driven enterprise, where we can engage the flood of information produced by users. Social media, online retail, mass surveillance, census – all produce torrents of data. Algorithms are being developed that can process this data to enable insight. If we could make our technical documentation generate data about its use, and apply these advanced big data mining technologies, we could start to truly understand how our users are reading our documents, learn more about our tech doc and, most importantly, about how our users interface with our products.

If only a single topic in a manual could send a message to us that says: "Hey, I'm being read now!" For this to happen, we need two things.

First, our content needs to be granular, so that we can track the consumption of each fragment individually. Structured documentation (such as DITA) helps with this, but apart from that, it is the job of the dynamic delivery platform to break the content into chunks, whatever its source format. It must take differently formatted inputs and make them all consistent and uniform so that you can present the documentation any way you like. Because everything that could be considered documentation – wikis, knowledge bases, user forums, trouble tickets, and catalogs, as well as good old manuals and guides – should be searchable through the same portal. It's all product information, and it all contributes to customer success. So it all should be tracked and analyzed with the same tool.

Second, we need a custom-designed reading and tracking technology (see Figure 2). Because you can't control the browser (you don't own it), have your customers view the documentation through a web-based reader that you do control. This sends these messages home when it displays a fragment for a long enough time that it could have been read. Tracking the display at the device level, instead of the download at the server level, creates more relevant data.

This way, the benefits of a dynamic delivery portal go in both directions. Your customers read your material benefiting from a contextual and tailored documentation, and you read about their access. You get detailed, unbiased data on everything they see, click on, and read, generated on the fly.

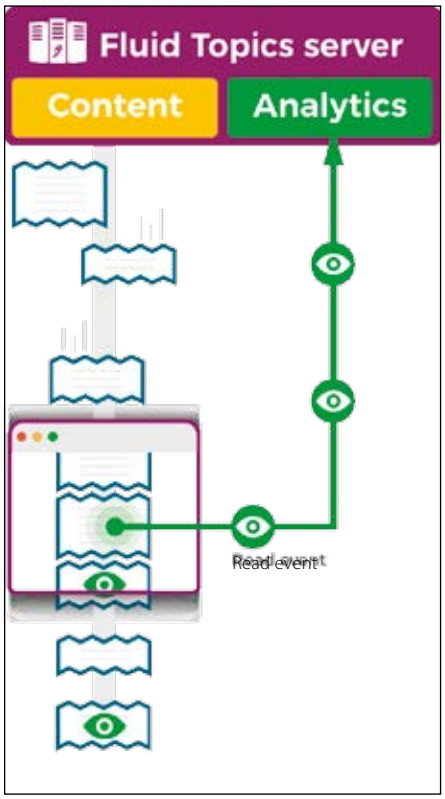

Figure 2: Displaying topics individually allows to track what is really being read and when.

Source: Fluid Topics

By accessing your documentation, your customers are telling you what's on their mind. It's time you listened.

Reading the numbers

Data visualization

Having done the above, your tech doc team can get a much better grip on which bits of documentation are getting attention and which are not. Using intelligent analysis algorithms and advanced visualization tools, you can get beyond just a number attached to each document.

You will be able to see the entirety of the documentation using graphical tools (rather than a list of numbers and indecipherable long URLs) and see where readers are focused and what grabs their attention. You can do that while seeing the content at the same time, which provides context.

You can aggregate these numbers to get more meaning. You may have an installation guide for each version of your software, but wouldn't it be more interesting to find out how much trouble users are having with installation as a whole, regardless of version? Metadata are not only useful for users at search time, but they can also be used to create clusters and axes for exploring the numbers. See content consumption per product line, type of content, etc. The possibilities are endless, and creating aggregates dynamically helps you understand and reveal the hidden data (see Figure 3).

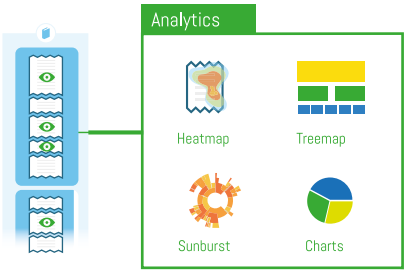

Figure 3: Using diagrams such as heat maps, sunbursts, tree maps, and others, you can gain immediate insight into what is driving your users.

Source: Fluid Topics

Taking action

Maybe what the user needs to figure out is how to set the clock on the stove. If your technical writers look at the data and see that this is a popular topic, they could shoot an email over to customer support, and give them a heads-up that this is bothering users. Or they could forward reports to product design and let them know that their interface is confusing – and maybe they can do something about that in future models. Or they could contact sales and suggest that when they sell an item, they chat about how to set the clock.

The possibilities are suddenly blossoming because you have discovered the data hidden in your documentation consumption.

Your technical writers have gone from being a known cost with an unknown value to being a known cost with a known value. Your data-driven organization now has a data-driven tech doc group.

Possibilities

With data flowing out of your dynamic delivery portal, you can do many more things than you could before.

Once you are able to collect data on every topic your users read, when and for how long, you can create a

The value of the manual

The old-fashioned way to measure the value of something is to put a price on it and make it available on the market. If people pay for it, it has value. But if you give it away, how can you tell? Thank-you notes? Would you get complaints if you don't include it? But you have to include a manual, right?

Well, some companies don't. Apple started this trend in 1999, when it decided not to create a manual for Mac OS 9. David Pogue, prominent tech blogger and former New York Times tech columnist, jumped in and wrote *Mac OS 9: The Missing Manual*, which was published in 1999 and picked up by O'Reilly Media in 2000. David Pogue went on to write numerous books – many of them best-sellers – just to fill the gap between the known cost of technical documentation and its assumed value. He wrote many more books in the "Missing Manual" series, their slogan being, "The book that should have been in the box". Indisputable sales numbers prove their value.

So, your customers know the value of technical documentation. If you give it away with your product, though, as in a user guide or reference manual, it is harder to measure. Especially because most software these days doesn't come in a box, and product information can be buried in an arcane file system.

Image: © Andrii Torianyk/123rf.com

data portrait of each of them. Your software can start to group them in novel ways that people, full of biases and preconceived notions, could not.

Subjects of interest

Beyond visualizing the consumption of content fragments, you can begin to perceive what subjects interest your users, not just which bits of documentation they are looking at. There will be forum posts, trouble tickets, knowledge base entries, and user guide topics, all having to do with the same subject, "How to restart the XY module," for instance. The combination of advanced text-mining and data-analysis algorithms permits you to see the bigger picture – not what documents your users are looking at, but what problems are bothering them.

Now we have information that is not just interesting to tech doc teams, but to engineering, sales, management, product design and, indeed, the entire enterprise. If calibrating the power supply is a persistent pain point for your field techs, maybe your support team needs to get in touch with engineering to figure out how to offer better support; your product design team might want to reconfigure it in the next version; and your training team could devote extra time to that topic.

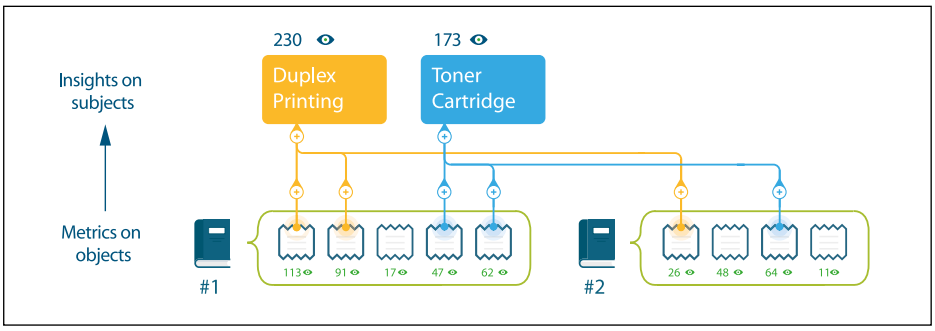

Figure 4: Numbers on distinct topics can be combined at a higher level to generate more insightful analytics. *Source: Fluid Topics*

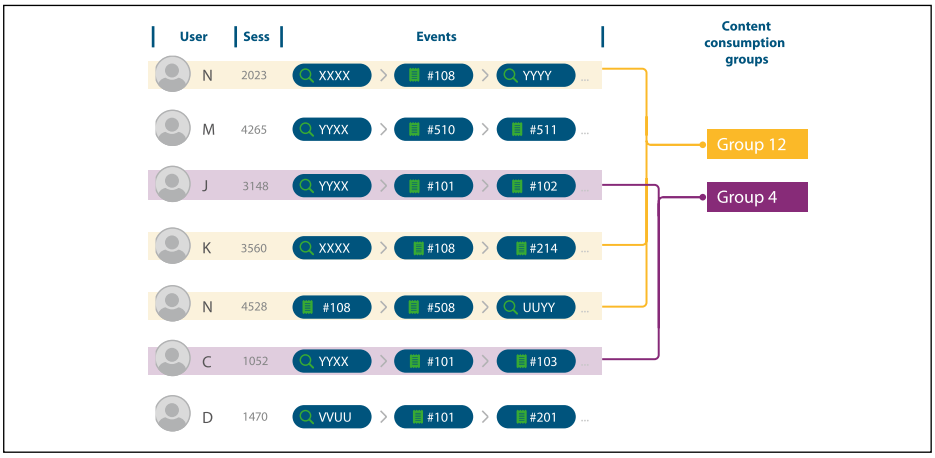

Figure 5: By mining content consumption, we can automatically detect and pattern groups of users. *Source: Fluid Topics*

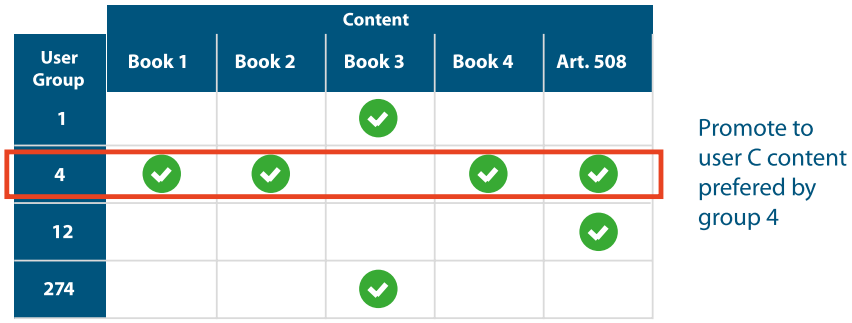

Figure 6: Search engine results and suggestions can be based on user characteristics. *Source: Fluid Topics*

Patterns and personalization

Once you know what subjects attract your readers, you will start to notice clusters of users, all interested in the same subjects. This gives you unprecedented power to offer suggestions based on what users with a similar reading pattern have looked at. You can offer your users a kind of curated serendipity, by using similar users' searches to affect result ranking.

Search results can be tailored to the individual. If a user is always looking at expert maintenance content, what is the point in proposing basic installation documentation? Personalization is even more important when the delivery channel is not a web browser, but more constrained devices such as heads-up displays and chatbots.

Real-time support

Using the new power of being able to hear and see your customers in the act of looking at your documentation, you can offer targeted, smart, real-time support. Instead of giving your chat window a general rule such as "pop up after two minutes," you can give it a smart heuristic such as "pop up if the user is looking for subject X, with a relevant suggestion." Suddenly you're being helpful instead of covering your user's browser tab with a useless interruption.

And if your phone support agents can see what the user has been searching for, they could be more helpful and faster than ever before. They will no longer have to ask an expert if they've tried rebooting, or offer a novice a complicated download and install. They will know the data portrait of the user and adapt to it.

Predictive support

From looking at the past with data visualization to perceiving the present with real-time support, you can look at the future. If a certain search pattern has tended to result in a call to support, you can start to predict when such a call is likely, and reach out to the customer first. A quick and easy call now could prevent a difficult, lengthy call later.

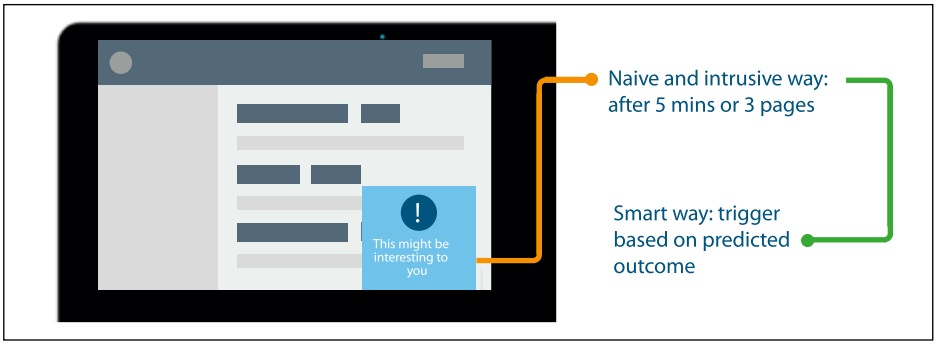

Figure 7: Popup windows could be displayed at the right moment by tracking user behavior and content consumption. *Source: Antidot*

Conclusion

Your technical documentation started as something you sent out in the mail. All you knew is that it cost money to create and ship, and that you had to do it. Now it has transformed into a medium of communication between you and your users. And it's even better than a conversation, because it's totally honest. Your user is interacting with the portal and has no reason to be anything except totally candid.

Do it right, and it will tell you what's bothering your users, and what you can do to help.

Resources:

[1] John Hunter, The Deming Institute, August 29, 2013, https://deming.org

ABOUT THE AUTHOR

Founder and CEO of Antidot and inventor of Fluid Topics, **Fabrice Lacroix** is both a serial entrepreneur and a technology pioneer. During the early years of the Internet boom, he launched Infonie, the first publicly traded French ISP and founded Zonejeux.com, an online gaming platform, before tackling the vast challenge of information mapping and retrieval through advanced mathematical algorithms with Antidot.

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Design-oriented approach in technical writing

Design thinking offers a creative and systematic approach to problem solving that is iterative and human-centered. Could this design-oriented methodology be a good fit for technical communication?

Text by Madhura Kulkarni

Image: © rawpixel/123rf.com

Technical writers play a critical role in drafting documents that must effectively and effortlessly communicate complex technical information to its stakeholders. A technical writer's failure to understand the product and processes or convey critical information could prove detrimental to the optimal use of the product by the customers. High accuracy and relevant inclusion are mandatory in every technical document, making the role of a technical writer a critical one. Studies conducted over the years concluded that – although talented in their work sphere – engineers often lack the necessary communication skills required in technical documentation. Yet, they spend 25 percent of their time writing. A lack of knowledge and awareness of writing standards for drafting technical documents instituted by different agencies is preventing engineers from producing cohesive technical documents.

Design thinking

Design thinking is a dynamic approach for technical writers. It incorporates the use of certain tools to implement the design idea. However, it is not only about using tools and techniques to devise solutions. It is an approach to accomplishing goals while focusing on the user. Designers never function in isolation. Their output is almost always an amalgamation of a dynamic team effort where the core idea is to deliver a superior user experience and to solve problems.
According to Sarah Gibbons, "Design-thinking ideology asserts that a hands-on, user-centric approach to problem solving can lead to innovation, and innovation can lead to differentiation and a competitive advantage." [1]
The model for a design-oriented approach begins with a team that includes, among others, researchers, analysts, engineers, developers, designers, product owners, and business experts. Together they perform a need analysis and develop a framework for the solution. The team converts the framework into a functional model and sends it out for testing regarding its viability, performance and its ability to solve the user's problem.
Design thinking addresses the following pertinent questions before providing respective solutions:

- What is?
  (Project plan, research, insights, contexts, writer's plan)
- What if?
  (Ideas, concepts)
- What wows?
  (Experiments, prototypes)
- What works?
  (Reviews, feedbacks, touch-ups)

The following table highlights major differences between traditional thinking and design thinking.

Traditional thinking	Design thinking
Flawless planning	Enlightened trial and error
Avoid failure	Fail fast
Rigorous analysis	Rigorous testing
Presentations	Lightweight experiments
Arm's length customer research	Deep customer immersion
Periodic	Continuous
Thinking	Doing

Table source: Design Thinking for Business Growth, www.slideshare.net

Why should tech writers adopt design thinking?

A design-oriented approach allows writers to adapt to change at a faster pace, as the writer's work begins alongside development. This offers writers more time to gain a thorough understanding of the product and to develop valuable solutions.
Adopting a user-centric perspective, tech writers can also help to identify the glitches and flaws that might affect the application. [2]

Steps for adopting design thinking in tc

Design methodology incorporates a systematic approach that can typically be divided into five stages:

1. **Empathize**: Analyze your audience's needs
2. **Ideate**: Collaborate with the product team
3. **Define**: Create a framework
4. **Prototype**: Prepare a document template
5. **Test**: Perform a quality check

1. Empathize: Analyze your audience's needs

This step includes a thorough analysis of your target audience, business concepts and software applications.

End-user analysis

In order to gain better insight into your end users' needs, it is vital to be in close contact and in tune with the core product team.
The following questions can help you with analyzing your end users and their needs:

- Who are your users?
- Are they beginners, advanced users or experts?
- What do they expect from the document?
- Have they encountered difficulties in the past while using the document?
- How would they use the document?
- Are the users following a standard practice?
- Is the document a compliance document?
- Are the users required to refer to this document?

Understanding the objective of the document and who your respective users are will help you in choosing the appropriate tools, language and content.

Business analysis

The next step in your research for the technical document is to clarify the business concept for which you will be drafting your documents. It is important to understand the business vision and the core values it stands for. During this step, you need to analyze how the customer perceives the business and what value the business delivers to its customers. A thorough understanding of the business concept helps the writer to develop a customer-centric approach while drafting the document.

Software application analysis

The next step is to gain insight into the overall application architecture and the process flows. This can be done with the help of a high-level design document (HLDD) or a low-level design document (LLDD).
A high-level design document (HLDD) maps the system architecture and the database design. It offers a skeletal view of the application. Typically, this document is designed by the software architect, and it also describes the relationship between various modules and

Figure 1: Steps involved in adopting design thinking in TC

functionalities of the software architecture, data flows, etc.

A writer may not necessarily need to grasp the complexities involved with the architecture; however, an HLDD helps in understanding how various components within the architecture interact with each other.

A low-level design document (LLDD) is a comprehensive map expanding the HLDD to define the logic for each component of the system.

A thorough review of the LLDD may help the writer to gain a better understanding of the processes involved in the software architecture.

2. Ideate: Collaborate with the product team

As a technical writer, it is important to collaborate well with the product team. Frequent team communication results in improved product knowledge and hence efficient documentation and user support.

Irrespective of the team composition, a technical writer must be treated as a pertinent team member. However, the writer must also effectively contribute to the team meetings, offer feedback, and express his opinions. Active participation also helps the writer to attain in-depth knowledge of the product. In addition, working on the product one feature at a time gives the writer adequate time to test the document.

3. Define: Create a framework

Having researched the subject matter from multiple angles, the next task is to devise a framework for the document. The following three-step model is helpful for charting this framework:

a) Determine goals

The pyramid in Figure 2, recommended by Jeff Freund, can help writers to determine the goals for their documents.

- Informational goal: Communicating information about the product or service.
- Contextual goal: Providing further insight into and analysis of the product/service and how it delivers an edge over others in the market.
- Emotional goal: Refers to content that develops goodwill about the product/service that is oriented towards developing or sustaining the company image through the documents.
- Motivational goal: Drafting content that prompts desired actions.
- Inspirational goal: Creating content that prompts desired user behavior with the product or service.

Begin by focusing on the goals that the user is trying to achieve. Analyze the activity that will help them attain that goal and later draft the information that will make the activity possible. [3]

b) Define activities

Outline the activity being performed by the users and define how the software elements interact with each other.

Essential questions to be addressed while outlining the activities are:

- What problem does the application address?
- What does the application do?
- With which products is the application competing?
- What is unique about the application?

Figure 2: What level is your documentation aimed at? Source: contentmarketinginstitute.com

- How are various components in the application related?
- What would the user expect from the application?

c) Organize information

Having highlighted the goals and activities, the writer can now begin to organize the information.

- **Define contexts:** Specify the key features and their respective schemes pertaining to the software application.
- **Consolidate collaborative knowledge:** Chart the information gathered by various authors and connect the dots.
- **Scaffold information:** Organize the gathered information into a solid structure.
- **Review:** Recheck if the organized information structure makes sense and meets the defined goals.
- **Define tools:** Define tools to enhance user experience. Ensure that the draft meets the defined expectations. Begin the draft.

4. Prototype: Prepare a document template

Once the writer has prepared all the information and has devised a scaffold for the draft, the next step is to create a prototype. A prototype is a sample output of the actual document.

Prototyping will help the author test the document template, seek feedback at an early stage and facilitate a blueprint for the actual draft [4].

A typical prototype for a technical document may include a table of contents, a general introduction, and a synopsis of major topics.

5. Test: Perform a quality check

Testing the document at an early stage helps in controlling errors at the very beginning. It allows the writer to redraft erroneous sections. It also helps in understanding whether the tools and templates used in the draft are working as intended. Moreover, it assists in understanding whether all the areas to be covered in the technical document are incorporated. Testing the document in the post-prototype phase also aids in assessing whether the standard writing practice/style guides are adhered to!

A writer may use the following steps to test the document:

→ Devise a style guide and set up criteria for quality checks. Help the reviewer understand how they should read the document and check for possible errors. For example, create a checklist for document testing [5]:

- Is the user able to search and navigate topics?
- Are there adequate introductions to the respective topics?
- Does the document help in completing a task?
- Is the provided information relevant?
- Can the instructions be generalized to perform similar steps?
- Is there too much technical jargon in the document?
- Is consistency maintained throughout the document?
- Are there instances of irrelevant information, or is the document too verbose?

→ Record the outcome of the quality check.

→ Discuss the outcome with the team and implement the changes.

Follow a similar process to test the final document.

Key points to remember

1. Start at the early developmental phase and focus on the user.
2. Collaborate with the product team and gather different perspectives.
3. Devise a scheme to best fulfill the user requirements and prepare a skeletal framework.
4. Create a prototype.
5. Test and implement necessary changes according to the test results.

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UA Reloaded 18: Technical communicators explore the impact of digital transformation and changing user habits

Break through to the other side of user assistance (UA): The theme of UA Reloaded 18 highlighted its offer for technical communicators to engage and explore how digital transformation and emerging technologies are changing user assistance – in terms of the product created, user habits, and the skill profiles of the content creators.

Text by Jacqueline Prause

With the characteristic combination of natural curiosity for all things technical and the structured approach to organizing knowledge that technical communicators are known for, the conference participants delved into topics like natural language processing, immersive user assistance with Virtual and Augmented Reality, video for social media platforms, and real-time analytics to track how users interact with technical documentation.

Held June 13-14 on the SAP campus in St. Leon-Rot, Germany, UA Reloaded 18 attracted approximately 120 participants representing a diverse cross-section of European industry, from small and midsized businesses to large enterprises, and from medical device manufacturers and software firms to heavy industry. Organized as a tekom conference supported by SAP, the event featured experts from the user assistance community, think tanks, interactive design, and SAP.

Image 1: Interactive workshop on the second day of the event

Day one of the event consisted of engaging presentations with an audience Q&A and a lively interactive panel discussion, while day two focused on deep-dive workshops into new technologies and user psychology. The UA Reloaded 18 event app provided an interactive virtual experience to complement the real-world activity. On the Future Forum exhibition floor, vendors showcased products and services designed to assist technical communicators in delivering effective user assistance materials at scale and appropriately targeted to their audience.

New skills required for automation and new media

"User assistance is changing," said Sven Leukert, vice president of User Assistance at SAP, in the opening remarks. "We need to deal with ever-faster production and delivery cycles – in some cases, going to daily shipments. Our consumers are getting information in different ways than 15 or 20 years ago, so we need to also work in new media, like Virtual and Augmented Reality. Add to that recent advancements in automa-

tion, all the way to generating content and fully automated translation without any human involvement."

The digital transformation of user assistance is well underway, supported by new technologies like Artificial Intelligence, machine learning, and AR/VR. Robert Weißgraeber, chief technology officer of AX Semantics, presented the latest innovations in user assistance using natural language generation, automated translation, and even "robot journalism" to rapidly produce technical documentation at scale. Chatbots were another topic that drew considerable interest, as participants tried to gauge the realistic possibilities for implementing the new technology in their own companies.

Speakers examined evolving user habits, with discussion around the dramatic shift from traditional text-based help to user preferences for video and collaborative social networks. Michael Gamboeck, senior manager, Strategic Relations Europe at Adobe, focused his presentation on the digitalization of content through a combination of social, mobile, and video. He also shared ten tips on how to be successful with video – starting with effective storytelling.

The panel discussion on day one focused on the evolving job requirements and skill profiles for technical communicators. The unspoken question in the room seemed to be: How can we make sure technical communicators are not replaced by robots? Audience members were quick to engage in a lively exchange about finding the appropriate combination of skill requirements for technical communicators, while embracing automation to keep pace with the demands of user assistance production and delivery.

Image 2: Participants test innovative technologies in the Future Forum.

Image 3: Panel discussion on the future role of UA professionals

"What does that mean for us in the user assistance community?" Leukert asked rhetorically in reference to the crop of new technologies flooding the market. "We need to be ready, to work on new skills, and to change our job profiles to some extent. It doesn't mean we don't have a job; it just means we need to deal with information differently; we need to work more in curating content and making content available in the right way. That's why we made that a major theme for the conference."

Equipping technical writers to bring new ideas to business

Creating user assistance as an integral part of a superior customer experience that drives value for the company was a key theme of the event. Despite the fascination with new technologies and innovations, the discussion remained largely focused on the fundamentals of user assistance: effective storytelling, good customer experience, and insightful metrics. "Technical documentation delivery done right is a sensor. It is a direct connection to your user's brain," noted Fabrice Lacroix, founder and CEO of Antidot, during his presentation on the value of real-time analytics.

"There are technical communicators who do a very decent job in their companies, but they are really busy and they have many things to do every day. They come to this conference to get new insights and impressions, and to motivate themselves," said Dr. Michael Fritz, CEO of tekom. "This is the most important thing for this event: to support these people, because often they are a small group or even alone in their company, so that they can further develop what they are doing for their companies. It depends very much on the individual technical writer to bring in new ideas. This is what hopefully is happening with this conference."

Information Delivery by Apps & Co.

Changes in technical communication and localization are everywhere. But what are the latest trends? The day-long event at the Károli Gaspár University in Budapest on May 28th demonstrated how emerging technologies can be used to deliver technical information.

Text by Trisha Kovacic-Young
Images by Franz Steiner

The event was the second part of a series launched in 2017 in Vienna by tekom Österreich (Austria) and tekom Magyarország (Hungary) as well as the AATC and Proford. The long-term goal is to encourage networking and collaboration among the professionals from these two industries and countries.

How to become a profit generator

Klaus Fleischmann (Kaleidoscope) kicked off the morning with an overview of changes in the localization and technical communication industries and a discussion about how LSPs and end customers should work together in the mobile age. He highlighted three kinds of translations that we will see in the future: FAUT (fully automated useful translation), neural, and high-quality human translation. He outlined terminology, managing smart content (because not all content needs top quality translation), and defining collaborative globalization processes as fields in which technical writers could work together with translators. Technical writers could also contribute to the TAPICC efforts – the Translation API Class and Cases Initiative. Fleischmann urged us to pay attention to the data on localization: If we can convince clients to monitor their translated click rates we might be able to interest them in localization "return on investment" and we could become a profit generator instead of a cost item!

"It's all about people!"

Ágnes Czinkóczki, user assistance developer at SAP, underlined the importance of the quality of documentation because it reflects on the respective product: If it is poor, users will also question the quality of the product itself. Great user assistance not only wants to inform and motivate, but wants to provide the user with an excellent experience. It is at its best when the user doesn't realize that

Image 1: Panel discussion moderated by Zoltán Riesz

Image 2: Márton Klausz focused on dynamic content.

it's happening! Her tips for documentation: Work with developers, get on board early. Leave enough time to create good texts and develop consistent terminology. Decide who owns the user interface (everyone along the chain seems to think they own it…), make a style guide – and even write a different one for mobile apps. Keep the development simple and useful, ensure translatability (always send an open format to your translators!), and test the product in every language. When writing error messages, make sure that you do not blame the user, for example by avoiding explanation marks. The bottom line is that people want empathy.

"Creativity is our privilege; let chatbots do the rest!"

Chatbots are another trend that is gaining rapidly in popularity. There are already 300,000 active chatbots on Messenger. Nikolett Nagy from the start-up Talk-A-Bot provided a fascinating introduction into the world of chatbots. In general chatbots can be divided into five types: fully scripted, guided, NLP-based, context-aware and Artificial Intelligence. To achieve the best user experience, Talk-A-Bot combines different types. This hybrid type is rather popular and operates with human backup (when the bot states "I can't answer that" several times in a row, you are transferred to a human). Nikolett's intriguing tales of what happens when chatbots are combined with AI truly captivated the audience. However, most bots today are still pre-programmed and are not based on AI.

Dynamic content

In his presentation, Márton Klausz from DTC Enterprise demonstrated how to improve the search experience of the modern user. His focus was on dynamic content, i.e. personalized content for every user. Dynamic content is at work "when the software notices that you are returning to a website and the airline prices go up the second time you log on." We all want specific content based on our actual needs. Of course, Google is tempting here. However, companies should try to make their content searchable so people will access them directly. Márton stressed the importance of using filters correctly to find specific documents. In addition, he offered a number of helpful tips such as: involve developers in technical documentation and empower your documentation with metadata. He also gave a glimpse of the future of dynamic publishing, when the repair person climbs into the broken elevator, scans the barcode and is immediately directed to the correct repair manual. Márton also explained predictive support, which brings you to a website where other people discuss similar problems. When blended with human interaction this might lead to a scenario where you get a phone call stating: "If you have that problem, don't start your car or it might blow up!"

A paradigm shift from supply-side to demand-side

Rob Gillespie, from Pearson Professional Development & Educational Consulting, is working on Information 4.0. Smart factory dictates that technical writers don't have lead time anymore; the order-to-delivery cycle has become too short. Molecular content can be formed and reformed into larger structures. Gillespie explained that we have gone through a paradigm shift from supply-side to demand-side. Thus, the new reality technical writers have to live with is: "Content as a Service".

Lots of things are changing

The day closed with a lively panel discussion hosted by Zoltán Riesz including all presenters and a very active audience. The discussion focused on how future technologies will influence our day-to-day lives. Some say the changes will be slower than we think, but the consequences more severe. As far as content goes: we shouldn't have to be involved in tiresome or repetitive tasks, as this can be automated. The good news is that, as companies rarely decrease their budgets, it is likely that money earmarked for processes that are now being automated will soon be spent on more creative things. Change is also expensive for large corporations. Thus, it may well come from small companies.

We should tell our clients how we are using new technologies and not try to hide them. We discussed that regulation is certainly needed to keep some new technologies in check. Many of the participants worry about protecting and training our children – and our parents – to deal with it all, to find value in the offers but avoid the dangers. For example, it is important to tell customers when they are dealing with a chatbot and not a person. István Eke joked that in the future he would write "I am a real person!" at the bottom of his translations.

Takeaway of the day from Péter Ács (DTC Enterprise): "The new technologies we heard about today aim to bring things together." We are not so much creating as organizing content and directing it to the right users.

Klaus Fleischmann commented facetiously: "All these devices and apps are just a hassle. Let's skip it all and go straight to telepathy." The discussion ended with plenty of laughter as we decided on the perfect topic for our next event: "Telepathy and more!"

Image 3: Alert audience - right after lunch

events

tcworld 2018/2019

Content Marketing World 2018

September 4-7, 2018
Cleveland, OH, USA
www.contentmarketingworld.com

Content Marketing World aims to inspire participants to create their own content marketing and network. The over 120 sessions and workshops presented by leading brand marketers and experts from around the world cover strategy, storytelling, ROI, demand generation, AI, and more new ideas. In 2017, 3,600 marketers from over 50 countries visited the event, and even more are expected for 2018.


Image: @Davel5957/istockphoto

NORDIC TechKomm

September 26-27, 2018
Copenhagen, Denmark
https://nordic-techkomm.com/

At the two-day event, experts from various European countries convene in Copenhagen to share best practices or present current ideas on the main conference topic "How to make your documentation intelligent today". NORDIC TechKomm is targeted at professionals in the field of technical communication who are eager to learn and share their knowledge about the latest industry trends. We expect attendees from a large spectrum of professional backgrounds ranging from technical writers, information designers, technical communication managers to content architects, and many more.


Image: scanrail/istockphoto

Languages & The Media

October 3-5, 2018
Berlin, Germany
www.languages-media.com

TAUS Annual Conference

October 10-11, 2018
Vancouver, Canada
https://taus.net/events/conferences

ICIT 2018

October 15-16, 2018
London, UK
waset.org/conference/2018/10/london/ICIT

LocWorld38

October 17-19, 2018
Seattle, WA, USA
locworld.com

tcworld conference 2018

November 13-15, 2018
Stuttgart, Germany
http://conferences.tekom.de

Expolingua Berlin

November 16-17, 2018
Berlin, Germany
www.expolingua.com

Information Development World

November 27-29, 2018
Menlo Park, CA, USA
informationdevelopmentworld.com

Information Development World 2018 is focused on helping participants create a one-stop shop for product information. Experts in technical communication, product management, content strategy, content marketing, neuroscience, entertainment, user experience design, conversational content, and machine learning will help visitors master the concepts and ideas needed to create an online technical resource center that will dazzle both prospective and existing customers.

Outsourcing World Summit

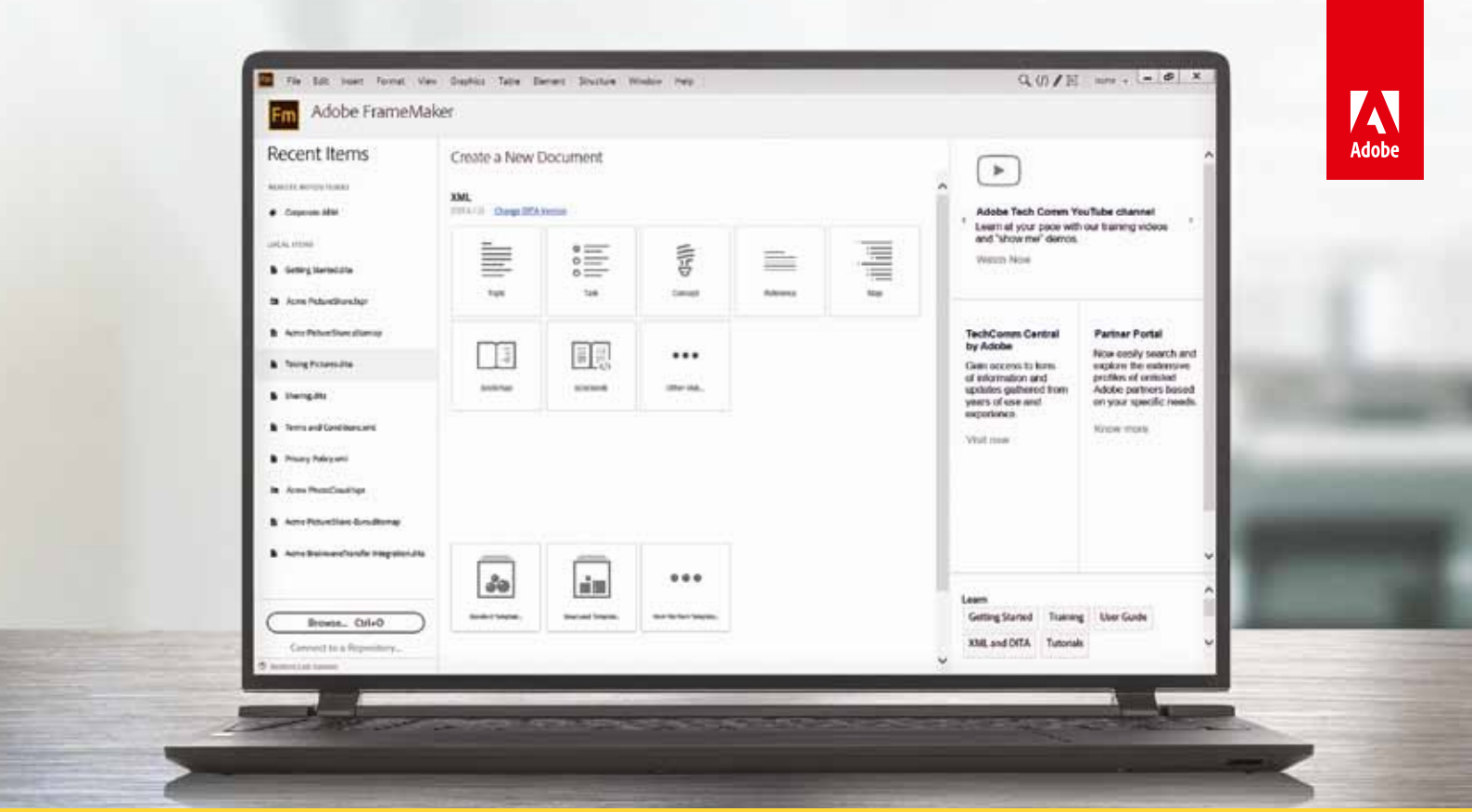
February 17-20, 2019
Orlando, FL, USA
www.iaop.org/summit

tekom Spring Conference 2019 (in German only)

March 21-22, 2019
Vienna, Austria
www.tekom.de/tagungen.html

tcworld conference 2019

November 12-14, 2019
Stuttgart, Germany
http://conferences.tekom.de



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