

magazine for international information management

tcworld

February 2018

Technical Documentation 4.0

How the latest trends in manufacturing lead to new paradigms for technical writers

O2O and the next generation of e-commerce

From online to offline: Creating successful omnichannel customer experiences

What drives our growth?

Could knowledge work trigger the next economic upswing?

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From the editor

Working in the city of tomorrow

During the last few years, the Fraunhofer Institute has been developing *Morgenstadt*, the “city of tomorrow”. The idea behind this imaginary city is to create an urban living space and lifestyle that is sustainable, innovative, prosperous and comfortable.

Morgenstadt is a futuristic vision of a city that knows no traffic congestion, youth unemployment or water shortages. It includes housing, work space, ICT, logistics, governance, banking and other services as well as production processes. The digital backbone that supports the city of tomorrow is linked to the concepts of Industry 4.0 – the industrial revolution in which integrated cyber-physical systems enable automated, self-driven manufacturing processes.

Whether you live in an innovative smart city resembling *Morgenstadt* or in the crowded streets of Old Delhi, the waves of this latest industrial

revolution will be felt all around the globe. And these waves will reach into every aspect of our modern lives, including the way we work, communicate, relax, shop or drive. It is with this paradigm change in mind that back in 2016, a group of technical communicators and content developers came together to form the tekom Working Group Information 4.0. The group’s vision was to create “intelligent information” – information that is available where and when it is needed, context-specific, customized and individualized, and delivered in the format and on the device of choice. Over the past two years, this working group has been engaged in creating a standard that would enable manufacturers to supply their customers with the information they require, and also enable customers to integrate user information from many differ-

ent manufacturers. The release of the intelligent information Request and Delivery Standard (iiRDS) version 1.0 is expected soon. In the meantime, tekom invites all interested parties to comment on the proposed technical specifications of iiRDS. For more information please visit the website at <https://iirds.tekom.de>.

In this edition of *tcworld magazine*, we take a closer look at the new requirements for creating user information now and in the future (from page 12) and investigate whether it is the technological advancement or the knowledge work that will keep turning the wheels of the economy (from page 33).

As always, we are happy to receive your feedback.

Corinna Melville

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Technical Documentation 4.0

The concepts of intelligent information – writing modularized content tagged with metadata – is not new to professional tech writers. But nothing quite forces the industry to rethink its approach like the rise of smart factories and the transformation from products to services.

page 12

O2O and the next generation of e-commerce

A modern customer experience needs to include both offline and online services, and those combining both. A thorough content strategy is the backbone of this omnichannel approach.

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What drives our growth?

The economy changes in long structure cycles triggered by the advent of new technologies. But could it be knowledge work that will promote the next upswing?

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TAUS PUBLISHES EBOOK

TAUS has published a new ebook titled *Nunc est Tempus!* which repositions the industry as a function of "intelligent content delivery". Largely based on interviews with the principals and founders of MT companies and MT programs in large internet companies, it also synthesizes feedback from the TAUS Annual Conference 2017, the TAUS Industry Summit 2017 and the Story of the Translation Industry in 2022, also published by TAUS. The core message of the book is that translation is becoming an autonomous process - a feature on platforms - and can now be redefined as intelligent global content delivery.

www.taus.net

CSA IDENTIFIES FASTEST GROWING LANGUAGE PAIRS

Common Sense Advisory, Inc., a market research firm specializing in the language service industry, has published *Language Pair Demand and Supply: 2017*. The report provides guidance on current and evolving demand for the language pairs most frequently cited as the fastest-growing or experiencing the greatest price pressure. Buyers and suppliers of translation and interpretation services can use this data in their planning.

www.commonsenseadvisory.com

MEMSOURCE ADDS AI FEATURE

Memsource, a developer of cloud translation software, has introduced an Artificial Intelligence-powered nontranslatables feature intended to recognize and automatically confirm nontranslatable segments and content in over 200 language pairs.

www.memsource.com

RE'FLEKT OPENS SILICON VALLEY OFFICE

RE'FLEKT, a startup focused on building an Enterprise Augmented Reality Suite to fuse content automation and remote collaboration, has opened its Silicon Valley office. With its second U.S. office, the firm continues its rapid growth on the U.S. market for premium AR solutions.

www.re-flekt.com

Reaching the world's online population

Half the world's population is now online: In 2017, 3.74 billion people traversed the Internet. To reach them, websites must be available in dozens of languages, with English, Chinese (Simplified), Japanese, and Spanish leading the pack of most valuable online languages. How many languages does it take for global businesses to stay competitive online? According to independent market research firm Common Sense Advisory's 2017 findings, it takes a minimum of 31 languages, including Indonesian, Polish, and Turkish, to get access to 97 percent of the total online opportunity. Global brands looking to appeal to 99 percent of the world's online wallet will need to add another 23 languages.

These findings are detailed in the firm's research report, titled *Digital Opportunity: Top 100 Online Languages for 2017*. It updates Common Sense Advisory's proprietary metrics on the fastest growing languages online, in terms of total population and economic opportunity.

"Evaluation of return on content begins with understanding the language composition of the online world. CSA Research's annual online benchmarks capture the total economic opportunity that global brands address when they add a new

language. English only gives you access to 37 percent of digital opportunity," explains CSA Research senior analyst Ben Sargent.

The research includes detailed calculations, metrics, and concepts for the top 100 languages online of the 139 analyzed. To develop the research, the firm compiled and evaluated the gross domestic product (GDP), language data, and Internet penetration across 221 countries and territories.

The firm's research shows the potential ROI of translating into additional languages is much improved due to increased access and the expanding influence of digital content in daily life. It concludes that the calculus of online languages goes well beyond e-commerce. Digital communications affect offline purchases, business partnerships, government policies and regulation, news, and general perceptions about brands, product categories, lifestyles, and cultural and social identities.

Digital Opportunity: Top 100 Online Languages for 2017 is available as part of CSA Research's annual membership.

www.commonsenseadvisory.com



Image: ©cybrain/istockphoto.com

iiRDS: Consortium for future development founded

The iiRDS standard, developed within the last two years by a tekomp Working Group, was given over to the newly founded iiRDS Consortium in January 2018. Starting now, this group is committed to the future development of the standard. Under the aegis of Industry 4.0, the standard pursues the goal of providing intelligent information.

Image: Jiraroj Praditcharoenkul/istockphoto.com



With the finalization of version 1.0, the iiRDS standard, already widely acclaimed in the last year, is established as the outstanding final result of the tekomp Working Group Information 4.0. Taking this as a milestone, the future development of the standard is now in the hands of the iiRDS Consortium. Due to the larger structure, further potential can be uncovered and developed using pooled expertise. Among the 24 international founding members of the consortium are system manufacturers, industrial firms, and consulting services as well as universities and technical communicators. Technical know-how can be counted on in every detail: With the composition of the founding members ranging from Adobe

to Huawei, Endress+Hauser, and Schema, the continuing development of the standard and its further implementation will be observed with high anticipation. A comprehensive list of the founding members can be viewed at <https://iirds.tekom.de/iirds-consortium>. The Consortium is structured as a tekomp Working Group and continues to be open to interested firms as well as universities and colleges. Various options for membership can be found at iirds.tekom.de.

About iiRDS

The iiRDS standard, short for intelligent information Request and Delivery Standard, enables the provision of intelligent informa-

tion – independently of industry sector or manufacturer. The advantages of the standard are reflected in two respects: manufacturers can provide different customers with required usage information in a standardized manner, based on a uniform metadata model. Customers in turn can integrate information from different manufacturers effortlessly in their systems. The metadata underlying iiRDS make it possible to map the most important use cases for dynamic information provision. At the same time, human-machine communication should be able to approximate natural communication as closely as possible.

<https://iirds.tekom.de>

AI and Machine Learning to redefine content creation and delivery

SDL, a provider of global content creation, management, translation and delivery services, has announced its *Five Future States of Content*, a series of disruptive content trends for brands to watch in 2018. With content at the heart of every customer journey, SDL predicts content will hit a new dimension of organizational importance, with Artificial Intelligence (AI) and Machine Learning (ML) playing a leading role in automating content creation, translation, organization and delivery.

Self-creating and organizing content may seem like something out of a science fiction movie, but advances in AI and ML make this and other exciting advancements a reality for brands now and in 2018. The *Five Future States of Content* report looks at where AI and ML are set to make the greatest impact in the way content is securely created, managed, translated and delivered to global audiences. The Five Future States of Content include:

1. Content will create itself

Thousands of writers would be needed 24/7 to create all the content required to power future digital experiences. Breakthroughs in AI and ML mean that in 2018 it will become possible for brands to automatically generate finely-tuned content from information stored in a variety of repositories across their business – giving every customer their own, truly unique experience.

2. Content will organize itself

Creating content is only one of the many applications that Machine Learning is capable of. Brands will begin to use ML to create taxonomies of all their company's content, summarizing and tagging it to facilitate better search results through content management systems, improving metadata and optimizing SEO, and enabling other enterprise systems to automatically discover existing content. This will maximize reuse and return on already invested content

creation efforts and help form the next frontier of digital experiences.

3. Content will be Agile

With the future of content creation and organization being accelerated by AI, content will need to be structured and formatted so that it is machine-ready. SDL predicts that the old waterfall approach to creating and delivering content will become obsolete in favor of a continuous global content operating model. We'll see more companies adopt this approach in 2018, enhancing global content and localization teams with AI and ML capabilities, like authoring tools and machine translation, to create and deliver engaging content.

4. Content will become your best seller

Brands are already shifting their sales priorities to focus on content creation rather than just selling. That's because salespeople spend just one-third of

their day actually talking to prospects, and content never stops talking. SDL expects the creation, translation and delivery of content to become as much of a priority to sales leaders as incentivizing and training sales teams. SDL also predicts that the types of content that sells will expand rapidly beyond the traditional marketing materials into the realm of in-depth product information. SDL's research supports this trend: more than half (53 percent) of global customers are now consulting manuals, FAQs and technical content to learn more about a product before purchasing.

5. Content will be secured

Upcoming legislation, including Europe's General Data Protection Regulation (GDPR), means that businesses will need absolute control of customer information. They will need to provide transparency, a full audit trail and complete data custody come May 2018. But companies outside Europe are failing to prepare, and we expect some big brands to be quickly hit with fines of up to 4 percent of revenues. In order to organize and secure high volumes of data in 2018, brands will turn to on-premise ML technologies to translate, analyze and automate their content supply chains.

"Content that creates itself, organizes itself, and scales globally with ease all sounds like the stuff of imagination," says Peggy Chen, CMO, at SDL. "But the rules of content and marketing are changing in 2018, and the emergence of new AI and ML technologies are powering this seismic shift. Smart companies know that this is the future they must prepare for if they're going to thrive in the years ahead."

SDL's *Five Future States of Content* report is based on 15 years of research and development into Machine Learning, translation and content management technologies – providing an in-depth insight into the ways ML and AI are set to transform content creation and delivery in 2018.

www.sdl.com

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Businesses in lack of tools to support IoT security

Research and advisory firm Forrester just released its *The State Of IoT Security 2018* report, which outlines the current Internet of Things (IoT) threat landscape and how businesses can protect themselves.

Forrester found that while 92 percent of global technology enterprise security decision makers have security policies in place for managing IoT devices, only 47 percent of them say they have the sufficient tools to enforce these policies, and 10 percent don't even have the tools to enforce these policies at all. Additional key findings from the research include:

- Some 49 percent of global technology security decision makers

expect their firm to increase IoT security spending this year.

- Privacy concerns, integration challenges, and risk of migration or installation are the top three challenges among security decision makers when implementing IoT security.
- Among the IoT apps that enterprise firms have implemented, 43 percent have implemented intelligent customer services, 41 percent have implemented smart products, and 37 percent have implemented inventory management/warehouse management.

The report is available for purchase from the Forrester website.

www.forrester.com

Enterprise AI deployments are beginning to reach commercial scale

Enterprises are beginning to recognize the value associated with incorporating Artificial Intelligence (AI) into their business processes, according to a new report from research firm Tractica. The number of proof-of-concept and pilot programs continues to grow, and larger scale commercial deployments of AI technology are being publicized by enterprise organizations around the globe.

Tractica forecasts that worldwide revenue from deployments of AI software, hardware, and services will increase from US\$14.9 billion in 2017 to US\$23.6 billion in 2018, a year-over-year increase of 58 percent. The market intelligence firm's analysis finds that the top 10 industries for adoption of enterprise AI are as follows:

1. Business services
2. Government
3. Healthcare
4. Automotive
5. Advertising
6. Retail
7. Finance
8. Aerospace
9. Media & entertainment
10. Telecommunications

"Results from early enterprise AI deployments are quite strong in terms of improving operational efficiencies, reducing expenses, and enhancing the

resolution of data analytics," says principal analyst Keith Kirkpatrick. "Indeed, much of the success of AI is due to the fact that most tasks currently delegated to AI technology are data-driven and therefore easily measured or benchmarked. When AI technology is deployed, even during a small pilot program, the benefits can quickly be demonstrated and proven by looking at the performance data."

Kirkpatrick adds that, in the longer term, AI market growth will move beyond data analytics use cases to include enhanced applications for computer vision and natural language processing (NLP) capabilities.

Tractica's report, "Artificial Intelligence for Enterprise Applications", examines the practical application of AI within commercial enterprises, providing a comprehensive analysis of use cases, business models, market drivers and barriers, technology issues, and the evolving market ecosystem. Detailed market forecasts provide a quantification of the opportunity by technology sector, world region, and industry for AI software, hardware, and services. The report includes detailed profiles of 48 key industry players. An Executive Summary of the report is available for free download on the firm's website.

www.tractica.com



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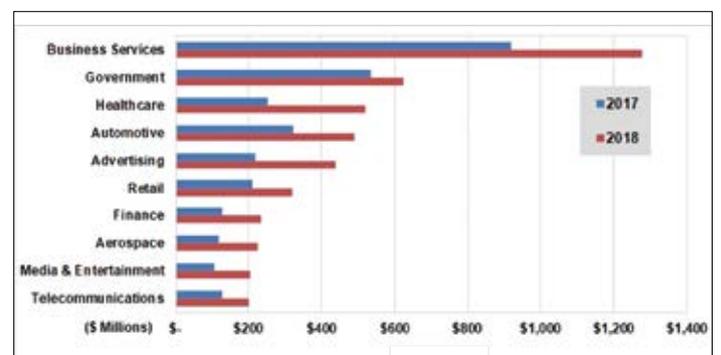


Image 1: Enterprise Artificial Intelligence Software Revenue, Top 10 Industries, World Markets: 2017-2018

Source: Tractica

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The secrets of user compliance – why users ignore instructions

Text by Leah Guren

As professional technical communicators, we make an effort to create clear, thorough instructions for our users so that they can use our products safely and effectively. But despite our best efforts, our clear instructions and careful warnings are often ignored. Why does this happen and what can we do about it?

Whether or not your users do what you want them to do is known as *user compliance*. And, in what may be no surprise, it turns out that user compliance is a complex variable affected by many different external and internal forces.

For example, an event I like to call The Great Venezuelan Rabbit Plan appeared in the news last year. President Nicolás Maduro came up with a plan to give baby rabbits to 15 communities. The idea was that rabbits are easy to raise and breed, and could provide an inexpensive source of protein to counter food shortages. After a few months, the minister of urban agriculture visited the communities to see how they were progressing. To his dismay, he found the people had named their rabbits, put bows on them, and brought them inside to sleep in their beds. They had, in fact, turned the rabbits into pets rather than nutritious dinners! The problem, the minister observed, was one of cultural acceptance. [1] In other words, your users don't always do what you expect them to!

User compliance matters because of the potential risks:

- **Risk for the user:** Users who don't read documentation are at higher risk of hurting themselves or damaging the product through misuse.
- **Risk for the company:** When users don't read the documentation, their questions

or problems often return to the company's support department, creating higher costs. Further, unhappy customers may abandon the product or write negative reviews.

While there are many different factors that affect user compliance, I am focusing on the four that have the greatest influence on behavior.

The four main influences on compliance

Experts from the UX (usability/user experience) field have long tried to understand what motivates users to read or follow instructions, whether on the screen as part of the UI (user interface) or in the documentation.

- **Age:** Usability experts are well aware of the strong link between age and reading patterns, especially with online content. Older users (65+) tend to read more and click less. They are reading and processing more slowly, but often more thoroughly. They are also more likely to miss some visual cues, such as links that may occur below the fold (that is, below the visible area in the window, requiring scrolling).
- **Education:** Education usually correlates with reading level. For example, the most common indices that measure reading complexity (ARI, FOG, SMOG, etc.) are all based on education level. We know, for example, that low-literacy readers will skip over text or click any link to avoid reading. Further, education correlates with a user's ability to logically extrapolate from one situation to another and to access the importance or relevance of information.
- **Culture:** Culture is a mixture of customs, beliefs, and societal expectations. Together,

these things shape a user's worldview and can have a powerful influence on user compliance. For example, if a culture values individualism and people are encouraged to ask questions, simple statements of DO or DO NOT are less likely to be effective. For such users, you might need to add the reason for the instructions.

- **Industry:** The field in which the user works is also an important factor. Users in heavily regulated industries are more likely to be well-trained in processes. They understand the need for regulations and are used to being regularly tested or recertified. They tend to be more used to reading and following instructions compared to users from more free-wheeling industries.

What doesn't work

Over the years, many product managers, tech pubs teams, and content developers have tried to find ways to improve user compliance. Sadly, most "common solutions" don't work:

- **Telling people to read the docs:** Do you have some text, such as "Read this document carefully before performing any maintenance procedure" in your documentation? If your readers are high-compliance users, they were already going to read it. If they are low-compliance users, they will ignore it. In other words, it makes no difference at all.
- **Overusing hazards:** It is tempting to treat every bit of important information as a note, caution, warning, etc. However, this devalues the real hazards and causes the user to start ignoring all hazards. If someone isn't going to be injured or the system seriously damaged

(including loss of data), don't treat the information as a hazard.

- **Yelling:** Many people think that putting text in all caps will make the user pay attention. But in reality, it makes it more likely that the user will skip over the information. Using all caps reduces readability, because we rely on the variety of ascending, descending, and neutral letters to be able to read quickly and accurately. [2]
- **Unnecessary lines and boxes:** Some designers think that a box around important information will help to highlight it. But for some reason, users tend to skip over content in boxes. As comic book author John Byrne once said, "They didn't read the stuff in the box. Apparently, people have a resistance to that." [3]
- **Expecting blind obedience:** Users may not follow instructions that appear counter-intuitive or go against their experience. Your job is to explain just enough to make the instruction seem logical without including all the inane detail that the developers think is interesting. As Joel Spolsky said, "Experience shows that the more words you put on that dialog box, the fewer people will actually read it." [4] This holds equally true for documentation.

What might work

So if those things don't work, what can we do to help improve user compliance?

- **Write for the low end:** Making text clear, simple, and direct is the best way to remove barriers. Even highly educated users will appreciate clear text. Remember, people don't read documentation the way they read other types of text. They aren't reading this for pleasure!
- **Considering culture and industry:** For content targeted for one region, take the time to learn the national "personality". For an industry, consider how much regulation they are used to and how much training they receive.
- **Layering info:** Don't dump everything in at the same level. Use good structure and design to allow users to scan or dive deeper. The concept of progressive reveal is as important in documentation as it is in UI. Further, good layering supports the needs of a mixed audience. For example, a procedure might include the reasons or rationale behind an instruction, presented as layered information under the main step text.

Testing: The best way to verify user compliance is through documentation usability testing. Follow the same practices as for the UX/UI testing, but be aware that users are always more compliant when they know they are being observed. After testing, modify the content to correct for obvious issues of low compliance.

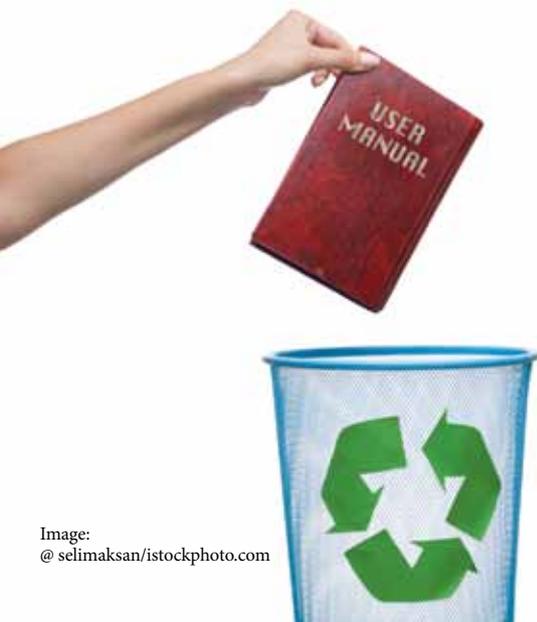
Conclusion

It may appear that we have little control over user compliance. However, understanding the key influences on user behavior can help us estimate and reduce risk. By avoiding bad solutions, we can keep our documentation as useful, accessible, and effective as possible.

Do you have any experiences in improving user compliance that you would like to share?

Sources

- [1] "Venezuela's 'Plan Rabbit' encounters 'cultural problem'", BBC News, September 14, 2017 <http://www.bbc.com/news/world-latin-america-41265474>
- [2] Kevin Larson, *Advanced Reading Technology*, Microsoft Corp., July 2004
- [3] Eric Nolen-Weathington and Jon B. Cooke, *Modern Masters Volume 7: John Byrne*, TwoMorrows Publishing, 2006
- [4] Avram Joel Spolsky, *User Interface Design for Programmers*, Apress, 2001



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Technical Documentation 4.0

How the latest trends in manufacturing lead to new paradigms for technical writers





Text by Jan Oevermann

The manufacturing industry is facing yet another revolution that transforms the way machines, humans and factories work together: Industry 4.0 – a term introduced by the “High-Tech Strategy 2020” of the German government [4]. The version number of this buzzword refers to the 4th industrial revolution, putting it in direct lineage to the first industrial revolution, which changed the world forever. Skeptics dismiss the term as hype but nobody can deny that the main characteristics of Industry 4.0, such as mass customization and the merging of products and services, are visible throughout the market.

Industry 4.0 summarizes multiple smaller trends in manufacturing, including the advance of cyber-physical systems, predictive maintenance and smart factories [4]. The rise of applications powered by Artificial Intelligence is another tangible characteristic in the progress of automated manufacturing [3]. All industries, from bakeries to banking, are affected by a global digitalization driven by market demand and the need to increase efficiency.

But what about Technical Documentation 4.0? Which challenges will technical writers face in the next decade and how will it change the way documentation is written and published? How does content have to be structured to fit into processes fueled by ever-growing amounts of data in a smart factory? Are we ready?

From products to services

A radical change that comes with Industry 4.0 is the ongoing transformation from products to services. While sectors like software (SaaS), building utilities (Cooling-as-a-Service) and aircraft engines (Power-by-the-Hour) have already established profitable service models, most manufacturers are still in the early stage of “servitization” of their products [2].

Companies that provide their products and maintenance services on a subscription-based model have an increased interest in reducing the operation times of service technicians. This can be achieved, for example by reducing the time a technician needs to find the necessary information for a task [1]. To make this kind of targeted

access to important content possible, information must be shaped in certain ways that are different from how they are presented today.

The increasing value of content results in new business models, such as “Information-as-a-Service”, where customers pay to receive additional content or metadata of better quality. This can already be observed in sectors such as heavy machinery, where service manuals must be purchased by customers through web shops embedded in content delivery portals.

Smart factories require smart documentation

Another recent development is the smart production line, built from semi-autonomous components of different manufacturers that communicate with each other or via a control station using standardized protocols. If single components are added or changed, the whole production line can automatically adapt itself to the new configuration. While this advanced machine-to-machine communication is already in production, the digital manuals for these components are static and not able to adapt to changes. This seems a bit anachronistic in times of smart factories.

With these modularized and interconnected factories becoming a reality, it is counterintuitive that technical documentation is still delivered in monolithic document formats lacking structural information and metadata, especially when these documents were published by component content management systems containing the additional information. The cause for this lies in strict legal requirements, lack of exchange standards, and a notoriously conservative manufacturing industry.

Information becomes intelligent

However, in the past years a concept called “intelligent information” has gained interest in the technical documentation sector, promising a solution for the dynamic delivery of content [5]. The term describes content that is modularized in self-contained topics and enriched with classifying metadata. Due to this, a granular and targeted access to information becomes possible, which allows the integration into data-driven

processes. For example, a predictive maintenance event could trigger the request for the appropriate service procedure already filtered by machine type, affected component, and target group [1].

The underlying concepts of intelligent information – modularization and classification – are not new or revolutionary, but in the context of Industry 4.0 they become more important than ever. Semantic access to information can work across different data sources and software but often fails due to heterogeneous metadata concepts.

The harmonization of metadata can be managed by company-wide standardization or through divisional mapping. Relations between different lifecycles of production, assemblies and functions can be expressed by ontologies. However, it is important to keep in mind that this is first and foremost a methodical process and not a technical problem.

New challenges for technical writers

Due to the importance of metadata and classification concepts, the methodical knowledge of technical writers will remain crucial for bringing information into the proper shape for dynamic content delivery outside the document context. As experts of metadata-driven content creation, they will evolve into knowledge managers and work at the intersection of production and IT.

Technical writers must embrace a systematic component content management approach to future-proof their work and review requirements for metadata not only in the documentation department, but also in other areas of the company where the content is being used. Only this prerequisite enables a tight linking of processes, components and corresponding content [9]. Classification frameworks, like PI-Class® or the standardized iIRDS relation model, can help to develop these universal metadata concepts. In the past, metadata was mainly used internally by technical writers; however, with new use cases this shifts to an external utilization of this valuable additional information.

Context will be another important factor to consider when writing documentation, as there will no longer be any surrounding content as in documents, but instead, single self-contained topics will be presented, based on situational

parameters like position, role and task. This leads to a radical change in information consumption, which technical writers must keep in mind.

Quality over quantity

Precise information access relies on unambiguous and distinct data points for good results. With an increasing number of content components and associated metadata, data quality will become a new challenge that technical writers have to face. Not only will it be crucial in keeping the ever-growing content database free from duplicates and uncontrolled variants, but it will also be important for consolidating metadata into a process of continuous improvements. Due to the wealth of information it is often impossible to control quality manually. Therefore, software tools for analyzing and reporting data quality are indispensable [5, 6]. These helpers can find semantically similar texts, incorrect metadata entries, and content components that are not (re)used.

New splendor for old content

While new documentation will be written with metadata in mind and prepared for contextualized delivery, valuable legacy content is often excluded from Industry 4.0-style use cases due to its document-oriented format and presentation. Most companies are not willing to invest the time and manpower to transform existing manuals into intelligent information and are, therefore, limited to new content (and often new products) to provide users with more dynamic scenarios where granular access to topics is necessary [7]. The differences in content quality and access methods often rupture the user experiences.

AI and other computational methods can be a solution to these problems. Approaches based on Machine Learning can already be applied in real-world scenarios to annotate, segment and classify technical content to enhance legacy data for content delivery portals. Combined with human quality control, it becomes feasible to process even large numbers of documents in an automated fashion and provide the same retrieval and filtering methods for older as well as new content.



Image: © Kinwun/istockphoto.com

Image 1: In the smart factory, components of machinery can communicate with each other, enabling processes that need little human intervention.

Integration needs standardization

With Industry 4.0, new use cases emerge that combine content from various data sources. Production lines with documentation material from various vendors that use different metadata are a case in point. A service technician who needs access to service reports, technical documentation and predictive maintenance messages is another example. To make these use cases work and to achieve a seamless integration, standardization of metadata and data formats is necessary.

To tackle these problems, a working group at tekomp has developed a new standard named iiRDS (Intelligent Information Request and Delivery Standard) [8].

Based on semantic technologies, it provides a basic ontology for expressing relations and metadata in technical communication along with a standardized data format to allow for an easy exchange between various software tools. With Industry 4.0 usage scenarios in mind, iiRDS includes mechanisms to combine documentation from a variety of vendors and data sources as well as structuring information compliant with relevant norms. It enables applications to provide information units dynamically according to context and usage scenario, and can serve as a framework to build custom semantic models for content and products [8].

The times they are a-changin'

Buzzword or not, the changes that are coming with Industry 4.0 and the gradual digitalization of companies will transform the way technical writers work. New challenges, like individualized product documentation and dynamic user assistance, require that content is provided as intelligent information.

Now is the time for a paradigm shift in technical documentation – away from document-based product manuals towards a service-oriented content delivery. To be ready for future usage scenarios, technical writers need to adapt methodical concepts like modularization and metadata models and start to provide their content in a standardized format.

The sector of technical documentation is well equipped with methods and technologies to face the new challenges that come along with Industry 4.0. Now it's up to us to start a revolution!

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Jan Oevermann is a PhD candidate at University of Bremen and Karlsruhe University of Applied Sciences. His research focuses on the improvement of semantic access to technical documentation. He works as team leader at ICMS GmbH and contributes to the iiRDS working group.



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References

- [1] Bader, S. and Oevermann, J. 2017. Semantic Annotation of Heterogeneous Data Sources: Towards an Integrated Information Framework for Service Technicians. *Proceedings of 13th International Conference on Semantic Systems* (Amsterdam, The Netherlands, 2017).
- [2] Baines, T.S., Lightfoot, H.W., Benedettini, O. and Kay, J.M. 2009. *The servitization of manufacturing: A review of literature and reflection on future challenges*. *Journal of Manufacturing Technology Management*. 20, 5 (2009), 547–567.
- [3] Brynjolfsson, E. and McAfee, A. 2016. *The second machine age: work, progress, and prosperity in a time of brilliant technologies*. W.W. Norton & Company.
- [4] German Federal Ministry of Education and Research (BMBF) 2014. *The new High-Tech Strategy - Innovations for Germany*. www.bmbf.de/pub/HTS_Broschuere_eng.pdf
- [5] Hennig, J. and Tjarks-Sobhani, M. eds. 2017. *Intelligente Information*. tcworld.
- [6] Oberle, C. and Ziegler, W. 2012. *Content Intelligence for Content Management Systems*. tcworld. www.tcworld.info/rss/article/content-intelligence-for-content-management-systems
- [7] Oevermann, J. 2016. Reconstructing Semantic Structures in Technical Documentation with Vector Space Classification. *Proceedings of the Posters and Demos Track of the 12th International Conference on Semantic Systems* (Leipzig, Germany, 2016).
- [8] Steinacker, A., Oevermann, J., Schubert, M., Wiedenmaier, M., Kreutzer, M., Göttel, S., Parson, U. and Nuding, W. eds. 2017. *iiRDS Specification - intelligent information Request and Delivery Standard - Request for Comments - 20 October 2017*. <https://iirds.tekom.de>
- [9] Ziegler, W. 2016. *Drivers and Concepts of Content Management Systems in the Age of Globalization and Mass Customization*. *Frontier, Official Journal of Japan Technical Communicators Association JTCA*. (2016), 15–26.

Product content in the new world of cognitive technology

Is the recent frenzy around cognitive technologies – deep learning, agentic technology, bots, and AI – something technical communicators need to be concerned about? Do these technologies herald a new renaissance for content? Or is our field doomed to obsolescence when the bots take over?

Text by Andrea Ames

Image: © bowie15/123rf.com



To sum up my opinion about this brave new world:

Same problems, different day ... huge opportunity.

What do I mean? Let's start with "same problems".

Same problems

At its roots, not much has changed about business or our industry since the bots began taking over (the past 5-10 years). Our goals are the same:

- Our clients (as in the consumers of our content) want to achieve success.
- Businesses want to acquire and retain customers, make money, and grow.
- As technical communicators we want to
 - support our clients in successfully achieving their goals
 - contribute to the success of our businesses to achieve *their* goals

In other words, everyone wants an experience in which the right content is designed and delivered to the right people at the right time.

These core tenets of our industry and business have not changed over the 35 years that I've been in this industry. The business environment and landscape have changed – often dramatically – and changed back again, and this cycle has been repeated several times. Our clients' expectations have altered and grown increasingly demanding. Those expectations are clearly keeping pace with the changes in technology – particularly the technology that manifests itself in new experiences. All of this is aided and abetted by the technology that now infiltrates nearly every aspect of our homes and lives.

It's a virtuous (or vicious, depending on your viewpoint) cycle. More technology that does more for us raises our expectations. Our expectations and our perceived needs – in conjunction with some human ingenuity and creativity that requires no other stimulus – drive advancements in technology. And the beat goes on...

At their core, however, our challenges remain the same:

- What is the right content? How do we create it efficiently and effectively?
- Who are the right people? What do they want to do?
- When is the right time? How do we deliver content at that time?

Note that with the exception of the last question regarding delivery, these are not technology questions. Tools and technology might help us solve some of these problems, but at their core, these are primarily questions regarding people and processes.

Even more critical, there are myriad content development environment challenges that our organizations must resolve before we can make progress on delivering content to successfully support our clients. These include process concerns, but they go beyond *content* processes. These are the *true* people challenges, spanning teams and functions and including matters of authority, incentives, and personal agendas. Until these organizational perils are successfully navigated, our ability to approach our content in a thoughtful, well-planned, and strategic way will be severely hampered.

Different day

While our basic problems remain the same, time and progress have provided us with new technologies to address our challenges. Enter cognitive technologies, including bots, AI, agentic technology, and deep learning. Using cognitive technologies in a smart way, we have significantly better ways to deliver content to our customers. These technologies are great enablers of the content consumer's experience.

These technologies are not, however, general solutions to address all of our concerns. Throwing new technology at a problem before the fundamental people- and process-oriented issues are addressed does not solve the problem. Instead, those underlying concerns are *magnified*, and our solutions are the proverbial "houses built on sand," in danger of collapsing when the unresolved issues regarding people, culture, or processes rear up. Even after those issues have been dealt with, we humans must still determine who are our content consumers, what is it exactly they want to accomplish, what is the right content for them, and when is the right time to present it.

Just as moving all of our print manuals into online Help 15 or 20 years ago did not magically dissipate all of our customers' problems with using our products, applying cognitive technologies to a content house that is not in order is a fool's errand. Yesterday's core principles of great content apply today as they will tomorrow:

- We need a strategy, a design, and a plan based on what our businesses and clients need. Our information must have a structure and defini-



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tion to describe the content at a general level (model and metadata).

- Our organization must understand, buy into, and support the processes and culture necessary to implement the strategy, design, and plan, as well as the required infrastructure and technology.
- We must implement an effective way to maintain, measure, and modify the organizational structures necessary to run a healthy content business (governance).

These are not primarily technology problems; these are challenges requiring people to come together – often having to drop their personal agendas first – and agree on cross-functional, cross-silo solutions that benefit the customer. These problems are increasing in scope within organizations as content becomes more and more entwined with the client experience, and solving them is more necessary than ever for the successful delivery of our products and services.

Imagine all the content

Imagine it is the year 1988, and you have some unstructured print content. It's not super helpful content, but it's benign, like a common wart. Clients read it; it might not help them, but they're no worse off, because they can muddle through the user interface (UI) of your product, browse your book, and possibly obtain some results. The content might be a wart, but it's a mostly undetected wart.

Now imagine that it's 1999, and you are putting that benign content online. Now it's searchable, along with all of your other content. It's easier to access. Great, right? Sadly, now your clients can quickly and easily see that you don't really provide the answer that they need. Your wart is now more exposed, and your clients are more dissatisfied.

Fast forward to 2020 when your unstructured and unhelpful-but-benign content is being served through your product's new UI, a chatbot. There's no visual UI, no help system, no search. Your content doesn't address their need, but that's always been okay in the past, so you can slide by now as well, right? Unfortunately not. Now your clients are much more likely to go elsewhere for the content they need, and perhaps even to another product and another company. If they didn't already do so before, they now believe that *content* is the experience.

Huge opportunity

As Albert Einstein said, "In the middle of difficulty lies opportunity." As I talk with technical communicators from around the world about the future of content in the new world of cognitive technology and Information 4.0, I hear their concerns and fears. There is no question that we live in a time of change, and change is always difficult.

As a result of this change, our industry is at an inflection point. Regardless of the path we choose, the movement around us toward cognitive technologies *will* surge forward relentlessly.

The question that remains is: Where will the content industry be when the dust settles? Will we be riding on top of the wave, perhaps even helping to drive it forward? Will we be crushed by it? Or will we be swirling in the eddies that are left by the wave passing us by?

As much as humans abhor it, change also offers opportunities. We can hide from it, continuing to do things as we have always done them. Or we can choose to embrace it and leverage it to meet our own ends – like ensuring that our content and content experiences are stellar and are consistently supporting the needs of our customers and businesses.

As the new technology exposes what has been labeled by well-known information architect Abby Covert our "corporate underpants", we have an even bigger responsibility to get our content house in order. We must drive the transformation within our organizations to grow and nurture a strategic content business. *This is our most valuable opportunity!*

Seizing the opportunity

I don't want to scare you, but to seize this opportunity, we have a lot of significant work to do. The great news is that we are up for the challenge! Thanks to "same problems, different day," we know what we need to do:

1. Excel at the basics; we can't abandon our basic communication and content roots.
2. Continue our vigilance in understanding our audiences and their needs and goals.
3. Learn all that we can about what our business is trying to accomplish, and understand how our content supports and drives these

goals; evangelize our value toward successfully achieving these business goals.

4. Create a strategy, communicate it, deliver accordingly, and measure it; measure early, measure often, and correct as needed.
5. Lead the activities that provide for a sound and healthy content business: defining models, governing content, and leading agreement across functions, teams, and silos.
6. Seek out and stay on top of the new technologies – try some things, learn (fail) quickly and in small increments, and share what you are learning.

The work that we do will help our businesses resolve these organizational challenges, working through unhealthy structures, agendas, and incentives to grow and embrace the changes ahead. And, as the organizational challenges are addressed, the content business will be more successful. This is our own virtuous cycle, one we must fight to perpetuate.

Now you have a personal choice to make. What will *you* do? Where will you be in the not-too-distant future when cognitive content experiences are ubiquitous and mundane – the "online help" of the cognitive era? Will you be swirling in the eddies of the opportunity that has passed you by? Or will you seize the opportunity to ride – or drive – the wave of cognitive content, difficult as it might be?

Me? I'll be on top of the wave. I hope to see you there, and share the driving!

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O2O and the next generation of e-commerce

When Amazon opened its first physical stores in 2017, the retail giant countered a decade-long trend that has seen online trade rise and rise while traditional shops were brought to their knees. Is the return to offline the next step on the journey towards a customer-focused, omnichannel strategy?

Text by Alberto Ferreira

Image: © Witthaya Prasongsin/123rf.com

A close-up photograph of a person's hands holding a smartphone. The person has long dark hair and is wearing a light-colored top. The background is heavily blurred, showing what appears to be a car and some interior lights, suggesting a parking garage or a similar indoor space. The lighting is warm and soft.

Almost 20 years ago, Amazon founder Jeff Bezos was laughed at by some of the most experienced Wall Street investors when he took Amazon public. The prevalent view was that online sales would never become more than a niche market. Today, Bezos' characteristic quirky laugh is the only one still sounding: Last year, he was declared the richest man on earth. Amazon's rise to a shopping behemoth over the past 15 years has been nothing short of spectacular. Eschewing many of the traps that left competitors by the wayside, the company has adapted to new technologies seamlessly, and in the process become the largest e-commerce company in the West.

It is hard to believe that e-commerce was once considered a risky venture. Instead, it has become an essential component of everyday life, accounting for over 30 percent of all sales worldwide and up to 70 percent in certain markets.

From groceries to medicine, clicking on the checkout button has become a natural action for consumers across Europe, Asia and the U.S. Online shopping has delivered an alternative to lengthy searches through supermarket aisles and long lines at the cashier, and it is set to continue expanding in the future. Traditional supermarkets (like Tesco and Waitrose in the UK, or Walmart and FreshDirect in the U.S.), have expanded their delivery services to

include up-and-coming digital-first alternatives. Alibaba recently opened over 20 hybrid grocery stores in China which allow consumers to buy, pick up, and consume online orders in a physical space.

This is only one of the ways in which the online experience is reaching into the physical world. Other examples of so-called Online to Offline (O2O) services include hailing a cab, ordering a massage, and buying concert tickets. Just like consumer habits, such services have evolved from pure offline experiences. O2O services are a reminder of how the virtual and the real world are intertwined and the border between them is becoming ever more blurry.

From stores to online shops... and back

Online to Offline (or Offline to Online) is a broad concept, and it is often used with businesses aiming to provide a seamless and holistic customer experience. O2O might appear such an essential component of e-commerce that it doesn't even warrant a specific acronym in the wider scheme of goods and services purchasing. From a consumer point of view, buying and selling online has been a key part of the shopping experience for many years. And this trend is not bound to stop any time soon – by 2020, eighty percent of retail sales in the U.S. are expected to be done online and the trend in Europe follows suit. However, digital retailing is not a universal part of all businesses: According to a 2016 U.S. business census, nearly 75 percent of businesses do not even have a website. Nine out of ten U.S. retailers are still brick-and-mortar companies. For these businesses, the heat is on to update their offers and touchpoints to accommodate a more customer-centric view, both online and offline.

Brands such as IKEA have harnessed the potential of an "Online to Offline" model, where users can check availability and stock of items in a comprehensive catalog and pick it up at the brand's stores.

But despite these developments, there is still a tremendous difference between how much money is spent online and offline. While consumer habits take time to evolve, certain industries are more prone to a quick transition than others. For instance, while groceries and

assorted goods can be bought with minimal "trying out", 60 percent of the consumers still prefer to browse for clothes and souvenirs in high street stores rather than online.

There are also particular items that demand a more careful evaluation and are therefore not suitable for online retailing. Companies such as Blue Nile (for jewelry) and Made.com (for furniture) strongly rely on their physical stores ("webrooms") to allow consumers to look through their assortment before making a choice.

Then there are the customers for whom the tangible experience – seeing and feeling the actual item before the purchase – still rates highly. Today, several retailers are reversing the O2O journey and use brick-and-mortar facilities as showrooms for their online shops. This practice has its roots in China, where up to 86 percent of consumers head to the shop before they actually complete a purchase online. This is primarily driven by the lower prices and attractive propositions of online channels.

The golden age of the customer

Multichannel shopping today is associated with mobile experiences and an abundance of options. But according to a 2016 McKinsey survey, it is prompt service and a quick response that mainly attracts people to online services. When shopping on a website or an app, a contact link is usually no more than two clicks away.

Powered by viral content and immediate gratification, a new generation of consumers has grown to expect these conveniences when shopping. This was one of the earliest selling points of Amazon, and the company has focused on customer service and experience ever since. Amazon and other successful services heralded the golden age of the customer, in which the client is at the center of the shopping experience.

The newfangled "digital economy" is a good representative of this. Didi in China, and Uber in the West, are making inroads in dominating the private transportation industry. According to Uber, over 600 cities in 83 countries currently use the service, with a yearly total of around two billion taxi trips. This, despite

the fact that this service warrants no physical counter and does not even own its car fleet. Until the user actually gets into the car, every interaction with the service happens through the app.

In a perfect O2O world, the entire physical representation of a service is the product or the actual purchase. Booking, customer support, catalog browsing are all services that can be guaranteed through digital channels.

In the West, services like BookMyTable and FourSquare have served millions of customers in finding the perfect seat for their meals. Diners can have quality food delivered to their doorstep without the need to actually visit the establishment, thanks to delivery services such as Deliveroo, Just Eat, and Delivery Hero. This has transformed the restaurant industry, as it allows restaurants to serve more customers without the need for further seating and dining areas.

O2O has helped to redefine the traditional takeaway and shopping experiences by focusing on mobile channels and having the ease of a delivery service replace the richness of an in-person experience. Changing habits and a focus on comfort are quickly becoming the centerpieces of the modern eating experience: Over 26 percent of all delivery orders are made online, according to a 2016 McKinsey report. In this O2O logic, information is the main currency of the customer experience.

Catalogs, product information, and support articles should be kept in line with the users' ever-mounting expectations on information quality and availability. With chatbots, natural language processing, and search engines, it is essential that content is generated in a granular and metadata-enriched manner. Plus, procedural writing needs to have a more human and accessible tone: As more users are going online to get information even on the "best" brand of toothpaste, SEO becomes more important than ever.

The information from the distribution and marketing channels must be leveraged in a manner that respects the differences between the markets, yet keeps the consistency between channels and touchpoints intact. Luxury brands like Burberry and Michael Kors are already using social media like WeChat (in China) and Whatsapp to allow users to order items or book special appointments in stores, using these apps as their first point of contact



Image 1: IKEA practices a true O2O business model. The company emphasizes self-service, promoting a sense of autonomy and achievement as part of their customer experience.

Source: WikiCommons

with the company. How to integrate social media successfully in customer-centric content is the next biggest challenge of the industry.

Customized, omnichannel services

An omnichannel approach is essential in the modern customer experience. Starbucks, for instance, transformed the traditional coffee ordering experience by allowing orders through their app and pickups at the time and the coffeehouse of choice. This allowed customers to bypass queues and awkward exchanges about their milk of choice in their cappuccino, and just focus on enjoying their coffee. The company also implemented a loyalty scheme that relies on their apps, which encourages users to keep the Starbucks app on their phones, and uses the order history to promote recommendations for new orders and products. This individual customization allows brands to address the most sensitive pressure points of customers, by allowing their apps and websites to show more relevant options, serve appropriate content in the form of notifications and messages, and facilitate the path to purchase before the user has made a single click or tap. Given the breadth of today's choices, the average user does not have time to reflect on or wade through waves of products that do not

suit his or her needs. Therefore, personalization is a key component of a successful customer experience, with a direct impact on a number of levels:

- The website and app can feature key popular products in addition to recommendations based on past purchases and browsing history.
- CRM newsletters can leverage browsing and shopping history in order to recommend relevant items or advertise discounts on related items.

- Apps can send out notifications on recommended items.
- Users can subscribe to alerts on flash sales and new product releases (e.g. a new iPhone release).
- Specific push notifications and messages can be sent out for campaigns or retargeting.

All of these actions require a deep analysis of the audience and market. Companies like Acorn, Mosaic and Experian have collected a deep knowledge set that has allowed them to develop segmentation models based on geo-demographic factors like income level, media exposure, and age. This type of segmentation is useful for marketing purposes, as it helps to focus campaigns and actions meant for larger audiences.

Rather than a demographically based personalization strategy, you can achieve this personalization with big data, leveraging behavioral factors such as time on site, purchases, and click history to segment customers. However, the most successful personalization strategy is a hybrid between these two models: analyzing the behaviors of the different segments, but also complementing it with qualitative information like psychometric factors and consumer values. You can also rely on the production of customer personas using a process called clustering, which groups customers by behavior, purchases, and other factors.

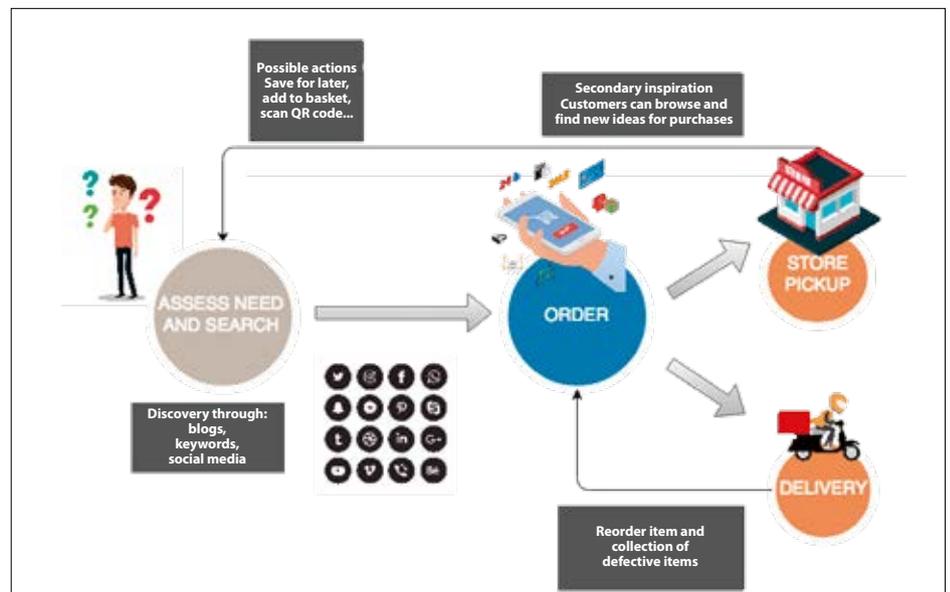


Image 2: A typical O2O flow includes several stages of discovery and inspiration. Source: Alberto Ferreira

Getting to know your customers

As content necessarily becomes more targeted, there is no blanket approach that can ensure success. It is not enough to design a great-looking website or app; these should instead be considered a touchpoint in the wider user journey. Adapting to the user's needs at every stage requires careful research and planning. Thinking about the user journey from a more holistic perspective involves communication teams to a great extent, and relies on a number of key steps:

1. Research qualitatively on customer habits with interviews and focus groups: Find out where your users actually come into contact with your brand and what they are looking for. For example, do they use websites or apps for inspiration, and if so, when and which ones? What is the motivating factor that will make them buy a product? What makes them abandon a purchase? From just a few interviews you can collect a mine of data.
2. Acquire quantitative data: Learn about key behaviors in between search and purchase, visit and conversion. What are the most common keywords that lead customers to your site and how can multilingual SEO leverage this? When do customers leave the checkout flow?
3. Design a user journey that accurately supports these touchpoints by mapping out touchpoints and moments of truth that match the user's actual needs and requirements with their interactions with different channels (or even your competitors). Map out each step of their purchase trip, and look into their emotional journey.
4. Strategize your decisions in line with the actual customer journey you have researched. While it will not serve as a complete diagram for segmentation and other more complex patterning, it will be essential in keeping a view on the wider user journey that your product or service is a part of, and how to leverage it.
5. Devise a content strategy that ensures the content on all of these platforms is consistent in tone of voice and style. The user should be able to access the company directly and conveniently on all channels, and to count on the same quality of reference material and support messaging regardless of location or channel.

Technical writers should bear in mind the challenges that come with omnichannel communication. Keep in mind that the physical and digital are part of the same journey, and will influence each other in the experience. From an infrastructure point of view, it is important that both your website and apps are ready to cope with the demand for information and traffic.

Customizing our world with VR and AR

The expansion of O2O services is far from restricted to the e-commerce arena. Instead, it applies to virtually every field of digital interaction. Geocaching, for instance, is a playful example of how online communities can grow by scavenging the physical world: This remarkable activity has participants from all over the world hiding items in "caches" located in random places, which can only be found by following a certain set of instructions.

As Virtual Reality (VR) and Augmented Reality (AR) grow to become standards of mediated digital reality for the average consumer, so does their market, projected to have a revenue of \$692 billion by 2025, according to GPS. Elements of these technologies have even seeped into cultural arenas, with the launch of AR apps that allow users to see content such as a time-lapse of a given area through their phone screen.

However, AR is also assisting a new wave of contextual marketing and O2O in the realm of e-commerce, helping to tailor experiences to specific situations. Thanks to this, the confusion of walking down a supermarket aisle, feeling overwhelmed by the number of tomato sauce brands on display, will soon be a thing of the past. AR can enable users to effectively filter the noise of choices. For example, by using an app or specialized glasses, AR can remove all irrelevant items and shelves from a supermarket, guiding you to the retail products you need, simplifying your path. It could guide you to the ingredients for a recipe you particularly liked from Facebook, and even check your pantry to find out whether you already had these items. Producing content for AR apps is a challenge and an opportunity, as it has to be flexible enough so that it can be used in a real-world scenario while still remaining consistent. And this is why communication should start with the tasks performed and the actual needs of the user, and be as platform-neutral as possible.

Although AR and VR might not be truly mainstream experiences yet, the costs are going down year after year, and will eventually become the norm. This will turn the O2O world on its head. The biggest e-retailers are plainly aware of the importance of a strong offline experience in order to stand above the crowd. Startups can be more specialized and sophisticated in their approach, and they often feature the best omnichannel experience, but the price war that impacted O2O companies in the Chinese market has already expanded to Europe and the U.S. This has prompted a new perspective in users: that online-only might pale in trustworthiness, solidity, and interest next to a business that successfully merges O2O in its business model. This omnichannel diversity prompted Amazon's move into brick-and-mortar shops like the bookstore at Seattle's University Village and the acquisition of Whole Foods. The company knows that an outpost in the local shopping mall is as important as a successful app. In the end, O2O reflects itself to addressing the dilemma of contemporary times: that, despite our increasingly immaterial and intangible digital surroundings, we are still tactile creatures, much more easily persuaded by having somewhere to go and something to touch beyond our phone screens. Our senses and physicality are not lost in a distant past of human evolution. They are here to stay, just like technology is.

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Software review: MadCap Flare 2017 r3

Reviewed by Jayna Locke

As a technical publications manager, I needed a tool refresh about three years ago. My team and I discovered MadCap Flare and launched a journey to adopt the tool and convert our large library of critical content from many different source tools to MadCap Flare. Our chief motivator was the need for an improved single sourcing methodology. The ability to quickly develop new material from existing material using conditions and variables was the main win from an ease-of-use perspective. We also moved to a model of creating both HTML and PDF outputs from the source for all of our documentation, with the exception of print documents such as quick start guides.

We continually watch for new features and functionality as MadCap Software enhances Flare.

New functionalities in Flare 2017 r3

Text analysis

MadCap Software added a Text Analysis tool to this version, enabling us to assess the readability of our content. Located in Flare's Tools menu, the Text Analysis tool allows you to check the

readability of any topic by clicking an Analyze button. The results include both Flesch-Kincaid reading ease score and grade level. Good results appear green, fair results appear yellow, and poor results appear red.

We have used readability scoring tools in the past. The free tool we used most frequently went to a paid use model and we discontinued use. Another option is to paste content into Microsoft Word and use its built-in scoring capability. But in practical terms, an entire team of writers developing many volumes of content will not take the time. There is a clear benefit to this functionality being built into the tool.

We like the fact that the tool provides two scores, as they have different ramifications. Grade level is as you would expect. If your content is consistently geared to the 12th grade level, for example, you are essentially assuming that users reading your documentation have successfully completed high school. While this may be the case, it might be an indicator that you are making the reader work to understand your documentation. Commonly, technical writers aim to maintain a grade level at or below 8.0.

The Flesch-Kincaid Reading Level is an indicator of the reading ease on

a scale from 1 to 100, with higher scores indicating better readability. Reviewing these two scores at a glance provides a quick indication if the writer should consider reducing sentence length and check for use of technical jargon.

Thesaurus

The built-in thesaurus available in this version of Flare enables you to find related terminology for any specific word. For example, starting from Flare, you can select a word within a topic and click Shift-F7 to open that word in the search window of the Thesaurus, which will list related terms. If applicable, the available related terms are listed in categories. You can then right-click a replacement term from the Thesaurus and select Insert to replace the term. Another option is to copy the related term from the Thesaurus to paste where needed in the topic.

Repeat Last Action Shortcut

Most technical writers find the use of macros or keyboard shortcuts to be an enormous time-saver. Many software tools come with built-in macros as well as the ability to create

additional macros to suit your needs. Then it's a matter of memorizing the macros for your favorite and most repeated tasks. A common repeat task is simply to do the same thing again that you just did. This is the function of the Repeat Last Action Shortcut. Using it involves pressing F8 after you've performed any action. This is useful for actions that require more than one keyboard key, as it shortens keys pressed to just one.

Style Inspector

MadCap Flare's character format styles are encoded in the tool's CSS. Our team has a style administrator whose role it is to establish and maintain our CSS in a global project that is available to all writers. If we need a style change, the administrator makes those changes in the stylesheet for the global project and informs the team. Then, the team members must pull the updated project into their local instance of the tool and update their individual projects with the enhanced styles.

We worked long and hard to refine our stylesheets, and fortunately we had the talent on our team to do so. For those who do not have the expertise, are just beginning the process of

establishing the look and feel of their documentation, or regularly update their styles, the Style Inspector is a very good addition to Flare's capabilities (see Image 1).

Rather than directly editing the CSS, followed by performing a separate review and analysis of the change, you can make the changes in the Style Inspector and view them immediately in the content. The Style Inspector shows the style's attributes, such as font weight and color, while the content displays the change in appearance based on style changes.

One of the most useful aspects of this tool is to find and fix local formatting. We highly discourage local style changes (also called "over-formatting"), as those changes cannot be fixed with global updates. For example, if you manually changed text strings to red throughout a document wherever you needed emphasis, but you then decide you want to indicate emphasis with black font and italics instead, you can't update all of the local changes with one stylesheet change.

However, the Style Inspector identifies local formatting for you. The tool indicates the local change with

strikethroughs in the Style Inspector window. If you want to, you can fix the local formatting in the tool. Alternatively, you can convert the locally formatted change to a style class from the Style Inspector if you prefer.

Advanced Microsoft Excel import

This feature enables you to import XLS, XLSX or CSV files. You can also add equations. Our content rarely involves equations or spreadsheets. However, we tested the functionality in the event that it may come in handy.

There are several possible ways to import a spreadsheet. For our purposes, we tested importing a spreadsheet into an existing project from the Project > Import menu.

Once you select the MS Excel Workbooks option, and specify whether you want to import the file(s) into a new or existing project, you follow the wizard prompts. Among the options available in the wizard, we found the following to be of interest:

- You can add multiple files at once.
- You can select to link the generated files to the source files in order to enable connectivity between

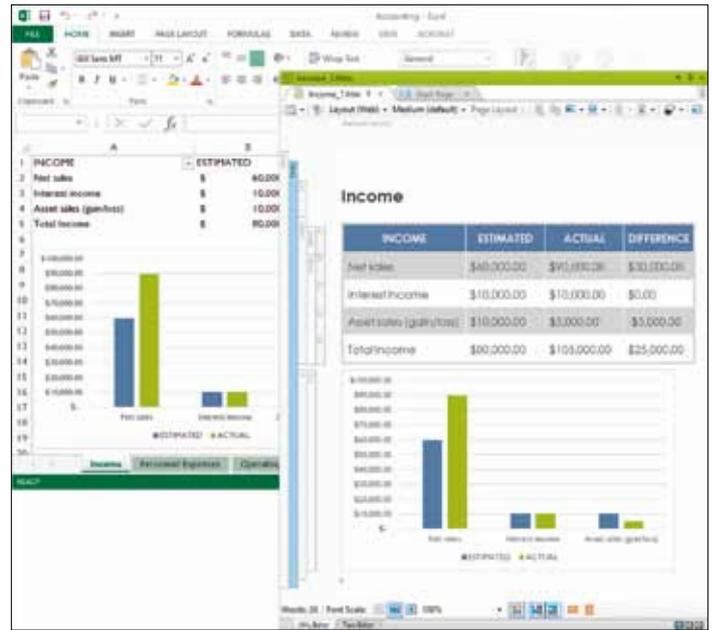


Image 2: The advanced Microsoft Excel Import feature

Source: Madcap Software

the spreadsheet in Flare and its original file.

- You can choose whether to import the files into topics or snippets.
- You have the option of splitting your Flare topics based on a set maximum number of rows, with a default of 30.
- You can enable automatic updates to the files before the output is generated.
- A small preview window allows you to review and accept the resulting files.

The import functionality worked well. The spreadsheets were imported seamlessly. Based on the selections made, the tool generated a new folder within the project, and split out the imported spreadsheet into 12 separate topics (Sheet1.htm, Sheet2.htm, etc.) within the folder.

Performance improvements

While this update is not a feature enhancement, it was one of the most noticeable benefits of our recent

upgrade to the new version of Flare. Everyone on my team spoke highly of the faster speeds and their improved efficiency.

ABOUT THE AUTHOR

Jayna Locke

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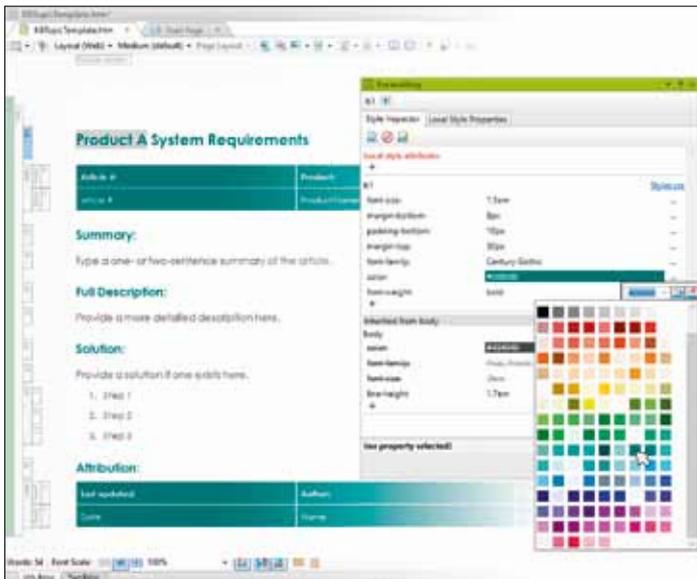


Image 1: Style Inspector added to the Formatting window pane

Source: Madcap Software

The curious case of mutual intelligibility

Any attempts at establishing a universally accepted standardized Serbo-Croatian language have ultimately failed. While Croatian, Serbian, Bosnian and Montenegrin are all understood by native speakers of any of these languages, localization remains a task more challenging than it first appears.

Text by Zana Čizmin



The modern independent states of Slovenia, Croatia, Bosnia and Herzegovina, Montenegro, Serbia, Kosovo, and the Republic of Macedonia have spent the greater part of the 20th century in common states (the Kingdom of Yugoslavia, 1918-1945; the Socialist Federal Republic of Yugoslavia, 1945-1991).

The different language policies of these states were shaped by ideological and political concepts based on mutual intelligibility between the four ethnic and national groups that together formed the majority of the population (Croats, Serbs, Bosniaks and Montenegrins).

Succinctly speaking, the linguistic policies in both Yugoslav states were built on the 19th century concept of a Serbo-Croatian language, albeit in different ways. However, all attempts to form such a standardized Serbo-Croatian language that would be accepted by the four ethnic groups ultimately failed and, following the dissolution of Yugoslavia, Croatian, Serbian, Bosnian and Montenegrin are regarded as four separate languages.

Today, the terms *Serbo-Croatian*, *BCS/BCMS* or *Central South Slavic Diasystem* are still used for academic purposes, by linguists who view these languages as a single polycentric language, as well as by certain institutions, almost exclusively outside Serbia, Croatia, Bosnia and Herzegovina, or Montenegro.

A dialect or a separate language?

There is no universally accepted answer to the question where a separate language begins and a dialect of an existing language ends. This is because the phenomenon of language includes

an array of extra-linguistic aspects such as the national and cultural identity of the speakers and political and social conventions.

The purely linguistic aspect of mutual intelligibility, highly important as it is, is simply not enough to establish this distinction. A group of mutually unintelligible or asymmetrically intelligible languages and dialects can be classified as a single language (for example Chinese), or mutually intelligible languages can form a group of separate languages with unique standard forms (such as Scandinavian and Central South Slavic languages). This is also the reason why the total number of the world languages remains estimated rather than determined.

Croatian, Serbian, Bosnian and Montenegrin are highly mutually intelligible, both for the reasons of linguistics as well as of history and culture. Cultural products such as movies, books or TV shows are actively exchanged between these four countries, mostly without any linguistic adaptation.

However, each respective native speaker of Croatian, Serbian, Bosnian or Montenegrin can instantly recognize the unique features of each of the four languages that include the mutual differences in syntax, morphology and vocabulary. While mutual intelligibility enables us to make friends or read a book from other nations, it brings particular challenges to localization as it bears the risk of false assumptions.

To illustrate this, we will take a look at a simple word that looks and sounds the same in all four languages, but whose meaning is different:

Spremiti - (verb in infinitive mode)

Croatian and Bosnian: to save

Serbian and Montenegrin: to prepare

It is obvious that a Serbo-Croatian localization of a simple software string "Save File" could cause a lot of confusion. In addition to numerous obvious differences in vocabulary, seemingly subtle differences such as this one are frequent among Croatian, Serbian, Bosnian and Montenegrin, and it is one of the reasons why localization projects for each of these languages must always be performed by separate teams of native linguists.

Language combinations

The best way to localize to any of the Central South Slavic languages, as has been shown time and again, is to work directly from the source language, i.e. from English or German to Croatian, Serbian, Bosnian and Montenegrin, rather than to adapt, for example, a Croatian translation to any of these languages.

Croatian and Serbian have distinctive structures and vocabularies that, although largely understandable among the native speakers of these languages, also feature increased risks of mistranslations between the closely related languages. For example, infinitive phrases are common in Croatian and Bosnian, but almost completely replaced with subjunctive constructions in Serbian and Montenegrin. Use of infinitive construction such as "*Želim ići*" (I want to go) is understandable and correct in all four languages. However, while it will feel natural in Croatian and Bosnian, it will sound mechanical in Serbian and Montenegrin, where a subjunctive construction "*Želim da idem*" would be more appropriate.

This is only a most basic example of what may result in awkward syntax and unusual lexical choices because translators working in these language pairs will always tend to retain the mutually intelligible lexical choices that are grammatically

1824

German philologist Jacob Grimm coins the term Serbo-Croatian after the bordering Serbian and Croatian nations as a collective name for the yet unstandardized Central South Slavic languages.

Previously, these languages developed independently, under different influences, and were given various regional names by different authors e.g. *S(c)lavonic, Illyrian, Slavic, Dalmatian* etc.



1850

Vienna Literary Agreement - Leading Croatian and Serbian philologists of the time (including Vuk Karadžić, Ivan Mažuranić, Dimitrije Demeter and Slovene Slavist Franc Miklošič) propose the common standardized language of Croats and Serbs.

1918

Kingdom of Serbs, Croats and Slovenes/Kingdom of Yugoslavia formed. The official language is called *Serbo-Croato-Slovene*, in line with the state's unitary ideology.

In reality, this language/standardized form never existed and terms **Croatian, Serbian and Serbo-Croatian** (and, of course, Slovenian) were used instead.



1945

Federal People's Republic of Yugoslavia/Socialist Federal Republic of Yugoslavia formed.

There is no official language at the federal level. **Serbo-Croatian/Croato-Serbian** is *de facto* the official language.



correct and understandable to them, but they will end up being “not Croatian enough” or “not Serbian enough”.

Different approaches to localization into these languages also have to be taken into consideration. For example, English loanwords are frequently replaced with Slavic equivalents or calques in Croatian, while they are often phonetically adapted in Serbian.

Some examples include:

English	Croatian	Serbian
January	Siječanj	Januar
machine	stroj	mašina
firm	tvrtka	firma

In addition, foreign names, cities and states are transcribed in Serbian, while they mostly remain unchanged in Croatian:

English	Croatian	Serbian
Washington	Washington	Vašington
John	John	Džon
Wagner	Wagner	Vagner

While translation between the closely related languages may at first appear to be a piece of cake, it actually brings additional risks and issues. This is the reason why translation from the direct source remains the best option that will yield the best results.



1954

Novi Sad Agreement – another proposed model for unification of the standardized Serbo-Croatian language, favored by the Yugoslavian government and composed by 25 mostly Serbian and Croatian linguists with several linguists from Bosnian and Herzegovina and Montenegro.

Criticized from the outset from all sides for various reasons and never implemented.

1991 – 1992

Yugoslavia breaks up into 5 independent states. Separate linguistic policies continue / begin and the notion of a common linguistic standard is no longer maintained.



2006

Montenegro declares independence. Independent linguistic policy begins and, after Croatian, Serbian and Bosnian previously, Montenegrin becomes the fourth standardized form of Serbo-Croatian.

2013

Croatia joins the European Union and Croatian becomes an official language of the EU.



CROATIAN	BOSNIAN	MONTENEGRIN	SERBIAN
Native name: hrvatski	Native name: bosanski	Native name: црногорски / црногорски	Native name: српски/српски
Script: • Croatian Latin	Script: • Bosnian Latin	Script: • Montenegrin Cyrillic • Montenegrin Latin	Script: • Serbian Cyrillic • Serbian Latin
Speakers: 5.6 M	Speakers: 2.5 M	Speakers: 233 K	Speakers: 8.7 M
Official language of: • Croatia • Bosnia and Herzegovina • European Union	Official language of: • Bosnia and Herzegovina	Official language of: • Montenegro	Official language of: • Serbia • Bosnia and Herzegovina • Kosovo
Language Codes: ISO 639-1: hr ISO 639-2: hrv ISO 639-3: hrv	Language Codes: ISO 639-1: bs ISO 639-2: bos ISO 639-3: bos	Language Codes: pending	Language Codes: ISO 639-1: sr ISO 639-2: srp ISO 639-3: srp



Localization is about the market

While any product localized to, for example, Croatian, will certainly be understood on the three remaining markets, it will also be recognized as a product localized for the market of Croatia, which may cause the product to underperform in the target market.

Regardless of the degree of mutual intelligibility, the three main aspects of localization include market, standard language and regulatory requirements.

As Croatia, Serbia, Bosnia and Herzegovina and Montenegro do not form a single market and have separate standard languages and separate national regulatory bodies, all localization efforts for these countries should be performed by professional human linguists trained for translation into and from each of these languages.

ABOUT THE AUTHOR



Zana Čizmin manages the business development department at Ciklopea, a role which includes sales, marketing and account management. She has been involved in collaborations with the academic community, for example as a regular guest speaker at regional universities. Her focus is on business development sales, process improvement and introduction of advanced solutions.

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The need for speed of global content

Within content enterprises, the continuous delivery of content in multiple languages has quickly become a basic need. How did we get here and how can we ensure we are meeting customer demands?

Text by Dave Ruane

Image: © rawpixel/123rf.com



In 1998, software releases for a large desktop suite could be separated by up to 18 months, and even more for an operating system. Translated versions of the software could take even longer. Simultaneous shipping (Sim-ship) of different language versions was a pipe dream. At the time, translated versions of software could ship three to nine months after the English product – a gap that was commonly known as the “language delta”.

Fast forward to the present day. Customer requirements have changed significantly and so has the ability to meet those demands. Audiences are used to receiving new content on an ongoing basis, and expect this. Companies like Hubspot and Marketo never stop producing content and constantly feed their audiences with updated and relevant information they can access through different channels. This “new normal” has driven investment and a focus both on customer experience (CX) as a way to propel brand interest, loyalty and revenue, as well as on continuous delivery (CD) as the mechanism to get products and content out there. In order to meet global demands, enterprises typically require continuous content delivery systems, which enable a predictable output of content 24-7.

Continuous localization

Continuous delivery (CD) is a way to optimize the delivery process and to ensure that product and content deployment happen predictably and quickly. CD is based on Agile methods of content and product creation and is extended to the overall delivery chain. For CD to work, it needs to be applied systematically throughout the entire product or content life cycle. *Continuous localization* extends CD

to global content while maintaining a seamless content workflow and user experience.

Some of the outcomes of a functioning continuous localization process include:

- Improved time-to-market for global content and products
- A “right-sized” output that ensures expected/predictable outcomes for customers
- Improved productivity and efficiency in the content process
- Improved customer satisfaction and a platform for creating improved global customer experiences
- A reputation for the brand that is associated with speedy delivery of content and/or product

The software industry has led the way in terms of driving new technologies and trends and in many cases has created customer expectations for continuous updates (think Microsoft Windows update as a platform and game changer from 2000 onwards). As software organizations took on Agile (The Agile Manifesto, 2001, <http://agilemanifesto.org>), which extended into Continuous Delivery (<https://continuousdelivery.com>) and DevOps (<https://en.wikipedia.org/wiki/DevOps>) methodologies for developing products and content, the ability to produce reliable output in a continuous flow took shape.

Continuous localization adds another layer of complexity to the agile content cycle, as shown in Figure 1. It means using automatic translation technologies, but often it also means live translations performed by humans. Take, for instance, the Facebook Safety Check. This social media feature makes it possible for people to mark themselves as “safe” during an event of crisis (e.g. a natural disaster or terror attack). People in the affected area need to be able to *understand* and

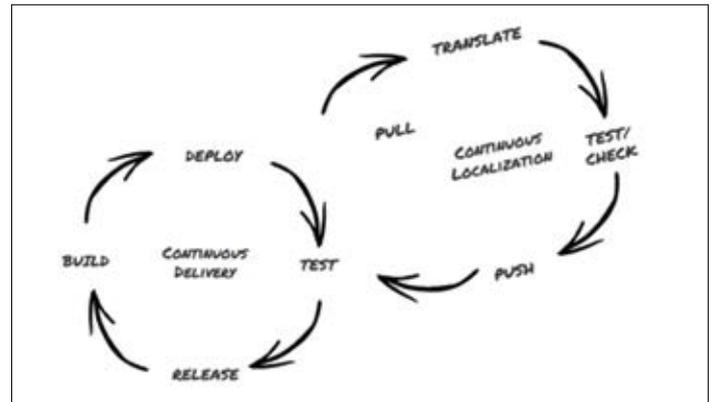


Figure 1: Continuous localization is a subprocess of continuous delivery

© Dave Ruane

know how to take action in their own language instantly; Facebook, on the other hand, needs to have the technology layer and on-call translation supply chain that makes this possible during such an event.

Evolution models and the constant of change

With his so-called Kano Model (as shown in Figure 2), Professor Noriaki Kano teaches us that “over time something considered a delightful innovation becomes another basic need”.

CD has come about due to the need to update products and content more regularly, thus generating a better customer experience. As of today, CD is a *delightful innovation* for some sectors, while for others, such as technology, retail, and travel technology, it has become a basic need. Revolutionary trends in content creation and digital marketing have made CD systems the “new normal” and, in effect, they demand that products and content are delivered in a continuous, speedy and predictable fashion.

The “content product” will continue to change and evolve in terms of volume and type of content,

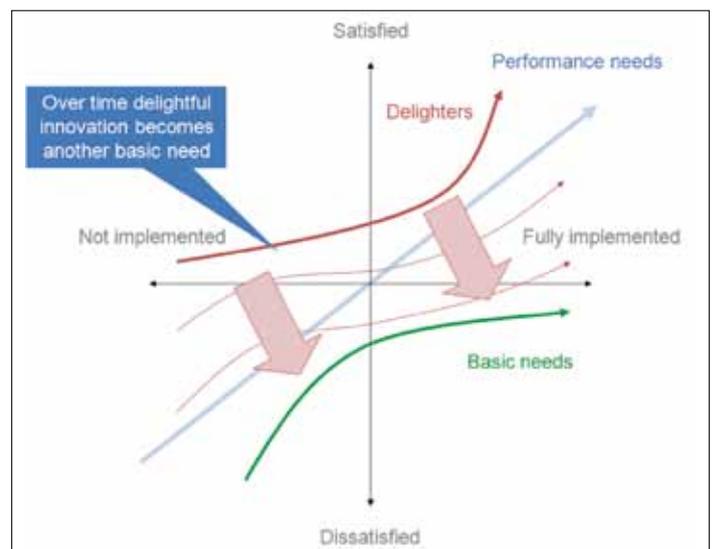


Figure 2: The Kano Model

Source: Wikipedia

the speed it is provided at, and the platforms on which it is published. A mere five years ago, manufacturing companies commonly used translated online PDFs for providing technical support or product guidance. Today, many are providing the same information via multiple channels, be it Augmented Reality demos, Virtual Reality training, chatbots for customer support, mobile apps, etc. The same information that resided in 100-page documents has been transposed to be modularized, dynamic, and connected. A fundamental requirement for employing CD practices is to produce a considerably greater volume of content over a set period of time. So, how can you ensure a fast and predictable turnaround of content? Let's start with the right technology.

Technological backbone and connected content

For their end-to-end digital infrastructures to maintain Intellectual Property (IP) requirements, organizations need localization cycles to be more efficient and secure than ever. As products and content have moved to the cloud, all content repositories (whether a Content Management System, Product Information Management, Product Lifecycle Management, Marketing Automation Platform, Software Configuration Management or other) will send content down the funnel in a fast, automatic, and consistent manner. The translation workflow has to pick up this content, process it, and deliver it back. All this must happen within an allocated *sprint* time. The approach requires newer technologies that connect to each other and have the ability to "level up" or transform as the "new normal" kicks in. While the Translation Management Systems (TMS) of today can cover some of these needs, the overriding feeling is that open connectivity has to be more standards-based to ensure it can cater to the growing platforms and volumes. One such current initiative is TAPICC (Translation API Class and Cases).

IBM, for example, has tried to stay ahead of the curve by building cloud services to enable the transformation, advocating APIs and SDKs as well as plugins and by deploying services that enable development teams to step back "and let translation happen". These interfaces are built into the DevOps toolchain so translation

processes are triggered automatically. Development teams, if they wish, can enable transparent translation updates of their applications – so they don't need to rebuild or redeploy. The key is a truly integrated development process where translation can happen without any disruption.

Customized and standard processes

Technology alone won't do it, though. The translation processes must reflect the values that underpin DevOps and CD. A one-size-fits-all, monolithic approach to translation no longer works. Take translation quality testing, for example – some applications still require rigorous review, others not so much. When you can fix a minor bug in a matter of moments, does it make sense to slow down the delivery of the language version to make sure everything is perfect? Decisions around the process by product managers in consultation with their teams must be data-driven – data that is gathered by rapidly deploying, measuring and adjusting. In an Agile environment, scope can change quickly and frequently. This leaves little room for improvisation; instead, CD requires that rigorous process plans and backup plans are already in place. This requires good resource management to maintain flexibility.

If you have your content classified in terms of user visibility, audience, frequency of use, and the like, you can make faster decisions regarding the approach you are going to take to translation: the CAT (Computer Aided Translation) and MT (Machine Translation) tools you use, the amount and timing of any review or whether you translate at all. This should be reviewed on a regular basis to ensure future-proofing for next-generation technologies and continuous adaptation to changing customer requirements; remember change is the constant here.

Asynchronous localization

Figure 3 shows the content lifecycle with the grey box indicating where the localization phase is currently integrated, and the blue box in the row below where it should be integrated.

The more you can automate translation, the better. This includes automated localization testing, pseudo-translation testing, creating translatable user interfaces (which is particularly important if

SUPERHEROES FOR SUPER CONTENT

Your software for content optimization

you are utilizing MT), using standard localization libraries, and the like. Building quality in from the beginning is critical when you are dealing with short sprint cycles.

The process should be simple enough that all a DevOps engineer or an agile content author has to do is press a button. APIs and plugins help you to create a pipeline flowing from the repository through the CAT tools to the application with human translators plugging in for review at any time in the cycle. Ideally, developers and authors are focusing on their core activities, while translation is happening asynchronously and *almost* invisibly in the background. By doing this, you are pushing localization further to the left of the content life cycle.

Continuous delivery is continuous adaptation

To spread global content, CD procedures across the content life cycle enable all stakeholders to work closely together. If we need to deliver a large amount of content in a short period of time, we have to step away from our traditional standard delivery terms and methods to make this happen. A flexible, yet reliable process will allow automation to be optimized, so the limited time that you have can be focused on the actual translation work. This includes modularizing content into smaller chunks, adding or modifying content on the fly, developing CMS connectors to automate translation ordering; the wheels have to keep spinning continuously.

What is global content quality?

In the age of CD, we have to broaden our views in defining quality. Quality needs to be impeccable for specific content and purposes. In other cases, prioritizing “urgency” over “total language and linguistic quality” is a trade-off required and motivated by business needs. Millennial companies have realized that users and consumers want immediate access to *the right information*. They are willing to adapt processes to meet publishing deadlines and articulate the quality levels required depending on content and audience. At today’s speed, translating “good enough” can work, in particular as tomorrow’s (or the next) release can bring any required fixes or translation edits. Many companies are testing these assumptions now in a way that was thought impossible a few years ago. They are “lev-

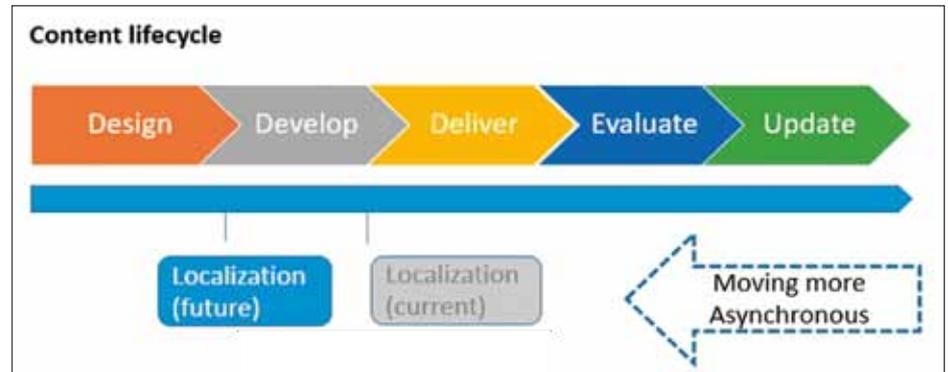


Figure 3: Is localization moving to the left?

Source: Dave Ruane

eling up” from linguistic quality metrics and looking at the bigger customer experience picture; “if it doesn’t negatively affect the customer experience, then it is a non-issue”. Linguistic issues, which in a previous release would have brought the delivery process to a halt, have now been reduced to “Priority 2” items in a continuous localization world.

Together with content publishers, translation companies assess quality output requirements for each iterative sprint cycle. It is only by becoming part of the content life cycle that shared mutual success can happen. Another consideration is that in five to ten years’ time, the buyers will be people who have grown up in a mobile world in which typos and shortcuts are tolerated as long as the message comes across. The localization ecosystem needs to get on board with the new quality paradigms that are driven by tomorrow’s buyers.

Holistic approaches

Technology alone, as we saw, won’t enable *real-time* continuous localization of content. A holistic approach is needed, involving a content development program that is modular and has a single-sourced content-sharing vision. Such approach can support next-generation platforms and content distribution technologies, including AR/VR and bots.

Strategies that work include a program of modularization topics, using smart platform-specific markup to enable responsive content, and single-sourcing all content so various delivery platforms can get a unique, rich, on-demand, consistent experience.

Smart workflows enable technical writers to get complete and translated modules in the CMS quickly and easily. On the global content side, they manage tasks like quality control of the linguistic process in a continuous delivery flow.

Key to keep in mind is an agile mentality and a culture of change, knowing that as content delivery platforms are shifting and changing, so should their approach. Short delivery cycles ensure that content can be adapted to new platforms and technologies such as bots for customer support and Augmented Reality for sales demos and training.

Some considerations when embarking on a continuous localization journey:

- Do you have continuous localization in place for the **full content spectrum**? You might have some core content built using Agile methods, but do you also use it for the technical guides and support material? Is your marketing team using Agile in their MAP system? Do you need to align various content teams to a common sprint schedule and a culture of CD?
- **Technology:** How old is your current workflow technology and stack? What does it not support?
- **Modularization:** How low can you go with your content topic size and still maintain good context and be able to repurpose the content easily?
- **Maturity model:** How mature is your Continuous Localization model? Is it tactical, measured or optimized?
- How **simple** is your Continuous Localization model? Do different content repositories need a separate translation workflow? Do you still copy and paste some content to send to translation?
- What **connections** exist between content, development and localization teams? Do they need to move closer together in terms of

technical connectivity, goals, and a shared culture to ensure the overall success of the global product?

The future is now

Much more content is around the corner. Enterprises will need strong and tuned continuous localization machines to cope with this

growth – which will include new sources, formats, and language requirements. Content will also get smarter (think chatbots and audio assistants), and the role and use of content will adapt. A strong, future-proof continuous localization methodology can mean moving from something that is a “delightful innovation” to it becoming a basic need.

Are you ahead of this curve?

ABOUT THE AUTHOR

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References:

Kano Model: https://en.wikipedia.org/wiki/Kano_model

TAPICC: www.gala-global.org/

tapicc-translation-api-class-and-cases-initiative

Further Reading:

- *Continuous Delivery: Reliable Software Releases through Build, Test, and Deployment Automation* by Jez Humble and David Farley
- “From Agile to Devops”:
<https://techbeacon.com/agile-devops-continuous-delivery-evolution-software-delivery>
- “Why every development team needs continuous delivery”: Sarah Goff-Dupont (Atlassian):
www.atlassian.com/blog/continuous-delivery/why-continuous-delivery-for-every-development-team
- TAPICC (Translation API Class and Cases):
www.gala-global.org/tapicc-translation-api-class-and-cases-initiative



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What drives our growth?

Most people are waiting for a new technology to trigger the next upswing. But it will be the knowledge workers who will promote prosperity in the future.

Text by Erik Haendeler



The unstable situation of the world and the economy are causes for concern. But zero interest rates and allocation conflicts are normal when a technological network is fully invested. This occurred, for example, in 1873 after the railway construction and in 1929 after electrification. With the proliferation of computer technology nowadays, we must look for the next upswing in the scarcity of today.

The next years could be uncomfortable – in spite of zero interest rates, spending programs like the one in Japan, and central banks' worldwide glut of money. Although computer technology generated a stormy growth and made us more productive over the decades, it has now exhausted its potential of handling structured knowledge work such as salary calculation, databases, and robotic control. This is the reason why the world economy is stagnating in relation to the potential of people who could work. Unemployment rates of more than 20 percent, primarily in Southern Europe, are the result. This leads to allocation wars and relapses into nationalistic and religious group ethics. People are insecure because they cannot comprehend the changes. Explanations will only cover certain aspects or might just look for a scapegoat such as the "system", the "EU", or the "West".

Anyone who believes that we would just have to wait for a new technology to trigger the next big upswing to cope with this instability will have a long wait ahead. Because the world is not transforming fast enough from an industrial society to an information-based society: The largest share of value creation in knowledge work of the future will take place in the imagined world: planning, organizing, analyzing and deciding, developing; understanding what the other means. However, as there is no "technology" available to make these fuzzy, unstructured thought processes more productive, the large reserves of prosperity can only be promoted within the intangible parts of value creation such as psycho-social health, a constructive work and debate culture as well as new organizational forms of work. Also, because economics until now has mostly considered monetary parameters instead of real economic processes, we are not yet sufficiently prepared for the success patterns required for this process.

Nothing new

History shows us that this situation is normal: In the years after the end of the railway construction and the recession of 1873, interest rates were

next to zero, profits were minimal and unemployment skyrocketed. Social problems grew. A similar situation occurred around 1929, at the end of the electrification period. Investments are profitable as long as a technological network promotes decade-long prosperity, as it saves resources and makes companies more productive.

The demand for money triggers high interest rates that can be paid well, because the new technology provides even higher profits. But once the railway network has connected all business spaces with each other and almost all factories have been electrified, productivity stagnates: There is nothing left for the entrepreneurs in which they can invest profitably. Therefore, they need less capital, and the interest rates drop towards zero; a construction boom follows as well as increased consumption because even the poor can afford loans. The freed-up money flows into assets and fuels the prices of real estate, stocks and gold.

When this bubble bursts, as it did during the panic of 1873 or on Black Friday at the New York Stock Exchange (and perhaps soon again), consumption also nosedives along with the prices. Investments that were stagnating until now collapse. What does grow, however, is unemployment, tariff barriers and the search for a scapegoat that the demagogues can present

to the people. For many years prices will drop slightly, due to the fierce competition among companies for margins in the stagnation; employees must work additional hours without pay and pressure is piled on suppliers. Deflation happens irrespective of how much money the central banks pump into circulation, because the speed of the monetary circulation is the deciding factor. And this will decline when the amount of money is boosted artificially.

Long structure cycles

The Russian economist Nikolai Kondratieff (1892–1938) described these long structure cycles of the real economy in 1926 [1]. Having studied the coal consumption, prices and industrial production of western countries since the end of the 18th century, he identified two and a half (47- to 60-year long) waves of economic dynamics, with the current third wave indicating a downward shift (Image 1). With the help of these dynamic waves, he accurately predicted the global economic crisis of the '30s long before the stock market crash. His statement that this was not the collapse of capitalism, as Karl Marx had always predicted, but just a deep cyclical economic slump between two techno-social cycles, led to his execution in 1938.

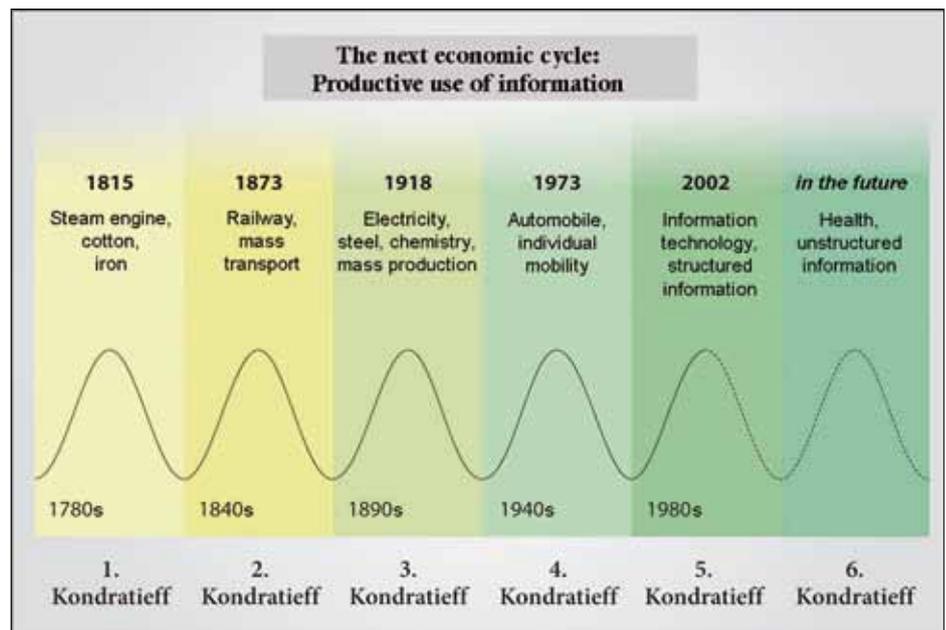


Image 1: The previous economic waves and what triggered them. The next waves define health and handling information.

Source: Erik Händeler

Kondratieff provided an explanation for the severe crisis that monetary economies were helplessly facing: Companies always work with a specific mix of production factors. However, these factors do not grow in the same proportion as the entire economy and thus change their relative cost ratios with each other. Eventually a specific production factor cannot be increased any more physically; it becomes too expensive. This is the point when the entrepreneur stops expanding the production, because it's not worth it. The industry stagnates, margins drop to almost zero, and layoffs are the consequence. Kondratieff referred to the scarcest production factor as the "real cost limit". By using this phrase, he highlighted that this is not a problem that can be solved with money. This bottleneck of production generates a strong pressure to change. It forces the economy and society to develop new ideas. A basic innovation with related technologies and organizational patterns requires vast capital investments. When it gains momentum, it breaks through the real cost limit and leads to a new level of prosperity. It spreads slowly at first, and then dynamically and finally reaches its maximum saturation. With the help of its S-shaped distribution, one can identify the course of a so-called long Kondratieff. The time of the highest growth impact of the computer was until the beginning of the 21st century. Where is the relative scarcest production factor now that is keeping growth low?

Knowledge work as the future

When transport was the greatest shortage, railways had to be built; the computer had to be promoted due to information overload. What is scarce now? Although many expect the future in new technologies, a major part of today's labor is immaterial thought work. And this means completely new rules for economic success. When English entrepreneurs were no longer able to drain their mines and blow bellows for the iron melt, they commissioned the scientific staff of the University of Edinburgh to develop a steam engine. James Watt tinkered with it for twelve years, until it was finally efficient enough. The railways were not built because people did not feel like traveling by carriage anymore, but because the lack of transport options was the greatest restraint on economic activity at that time. The

entrepreneurs had to enforce it against the initial opposition of society. When information overload was no longer manageable by using index cards, there was sufficient economic pressure to further develop computers.

According to Nikolai Kondratieff, inventions were made around the globe simultaneously, because people faced the same growth limits. The pressure to change can be found in the relative scarcest production factor and this indicates the future. And today? Renewable energies are good for the climate, but they are only replacing carbon-based energy sources with others and are not additional prosperity factors. Industry 4.0 is another step of development in information technology, but it does not address the present scarcity – our houses and apartments are filled from top to bottom, there is no shortage of goods. It is much more than just a technical problem: It is not enough to replace technology A with technology B, then lean back comfortably and continue as before.

Growth in the imagined world

It is primarily the mental performance of humans that prompts machines to control themselves and to communicate with spare parts and warehouses. Humans are the ones who determine what needs to be done, when and how. And there will always be paid work in this process, as work per se is solving problems. The radical change from the industrial society to the economy of knowledge also affects work: Work is no longer about directly working with your hands on the material world. Nowadays, to a great extent, robots perform the screwing, milling and mounting. In the imagined world, work now denotes creating value: planning, organizing, developing, analyzing and deciding, designing as well as understanding what the customer means; retrieving from the gigantic flood of knowledge the information one needs to solve a problem. Thus, there are limits to economic growth in terms of refrigerators or cars, but not for the economy itself: it grows in the imaginary world, and there are no limits for growth there. From the point of view of resource consumption, it makes no big difference if someone sits at home unemployed, works in research, or designs presentation slides; however, these are additional services for prosperity. Therefore, we do not need a new

economic system, but rather an economic policy and companies that develop value creation in the imagined world.

We know how to make material- and energy-related processes as well as structured information work more productive, but this has already been exploited to the greatest possible extent. Even emerging economies have accomplished a lot in these areas. We are now facing the task of making that part of work more efficient, where it relates to the use of fuzzy, unstructured knowledge. Because for economists who think in terms of real economy like Kondratieff, the economic cycle depends primarily on the degree to which resources are saved or the productivity of the entire society is increased.

This is an entirely different perspective as compared to most economic schools, which concentrate on the monetary indicators and variables: It was not the money for the construction of the railways or for tickets that drove the Railway-Kondratieff. Rather, one saved resources and time, in which one could work more – this was the growth. The economy is not driven by charges for cellphone calls. Rather, productivity is increased because one can use the smartphone to work or coordinate more efficiently, e.g. during a train ride. Thus, today's employees can use their time more efficiently. The real gains in efficiency generate the growth. It is not the payment for mediators that increases prosperity, but rather when two department managers communicate well and information flows freely, so that a great solution can emerge – this increases efficiency. And health does not become an engine for growth because we spend even more money for medication and support stockings for the abundance of senior citizens, but rather when we take the stress out of our working life and work longer and more flexibly with less work. Then the additional prosperity is the extra service that was provided: the longer and therefore more productive work life as well as a better amortization of human capital.

Stagnation due to passivity

However, long structure cycles are not just an economic reorganization process, but also a social one that involves the society as a whole: Each of them has its own success pattern to overcome the new real cost limit and to optimally use

the next technological network: Management methods, organizational structures, educational requirements. An example from England around the year 1800 shows this clearly: Anyone who used the new network around the steam engine and, later, the railways, was the most productive and advanced. But anyone who then stuck with the old success pattern, like England did, was rapidly overtaken by the German Empire, which invested in the new basic innovation around electricity. Cheap petroleum energy helped the Soviet Union to become a world power, but it collapsed when its rigid structures could not overcome the new real cost limit of the information flood, which the computer did. Japan advanced because it used and further developed computers. The country then stagnated because the scarcities of today lie in the intangible area of knowledge work, which cannot be developed with technology. For the first time we are faced with an intangible scarcity barrier in an increasingly intangible economy: Many indicators such as inner resignation or communication problems show that information work is not sufficiently efficient. Employed persons are under pressure to transform, primarily with respect to their social behavior, in order to work together more efficiently and to make better use of knowledge. This is the new paradigm that we must develop now to stabilize the global economy: Improve the work in the imagined world in such a way that it becomes much more productive than it is today.

New momentum

As work is becoming more and more complex, we are increasingly dependent on the knowledge of others. This affects hierarchies, the role of the individual, and the culture of cooperation: Only those who overcome pure individualism, develop a fair culture of debate and pursue higher goals will be able to live in a prosperous country in a knowledge-based society. We now have the task of making intellectual work in the imagined world more productive. The focus is not so much on individual achievements – as it has been before – but rather on the productivity of groups and their ability to cooperate. As individuals are becoming less and less proficient in a subject area, we are increasingly dependent on the knowledge of others. Instead of being the obedient, replaceable wheel of

the old industrial society, every individual will suddenly become an indispensable specialist for an intermediate step of production or for a field of knowledge. This individual is suddenly responsible for the entire organization, at least with respect to his field of expertise. One's actual relevance does not depend on a formal hierarchy anymore, but varies according to the competence required at that time. Thus, the employee who is allegedly lower in the hierarchy becomes the master of expertise and dethrones the boss of the old school. But this also provides the necessary space for the actual task of the new managers: The higher one's position within the formal hierarchy, the more one's tasks involve moderating resources and the information flow, analyzing people according to their strengths and weaknesses, and assigning them respectively. And to always ask: What do you need to complete this task in the best way?

New hierarchies are necessary

The step towards knowledge work changes existing hierarchical structures. All of a sudden, even co-workers who have the same formal rank must rearrange their relations with each other. No one can continue to master a project, a situation or a specialist area alone. After all, the volume of information to be considered has become too complex and too large. Instead of working in separate departments such as development, production or sales, and only meeting each other once a year at the company's Christmas party, now individual princes of the knowledge kingdoms are thrown together into teams. Only together can the task be completed: Someone knows the customer and knows what he needs. Another employee can handle the machine, and the third person can develop a prototype on the computer. These specialists now should work together on an equal, fair, and goal-oriented basis.

A new requirement emerges for employees that has nothing to do with expert knowledge or organizational structure. Rather, it has to do with how evolved a person's sense of responsibility is – even beyond his or her own cost center. Also, whether he is sufficiently self-confident to get along without status symbols and corporate power proofs. Price differences of the

same products by different companies are due to productivity differences – and these will be primarily behavioral differences in the future. This is the really new thing about this Kondratieff cycle: In a globalized economy capital, knowledge and machines are replaceable and available to everyone worldwide. The only crucial location factor will be the ability of local people to handle information. However, dealing with knowledge is always dealing with other people, whom we might know better or worse, whom we might like more or less, and with whom we have different legitimate conflicts of interest. The necessary teamwork creates a supposed power vacuum, because it is not obvious anymore who is in charge.

Destructive behavior comes at a cost

The flat organizational structures and project-related teamwork that are necessary for information work multiply the intersections within a company and thus the reasons for conflicts of interest and personal tensions. They not only cost time and money but also increase the number of sick employees. Differences of opinion transform into power struggles that continue right through to retirement and suppress the flow of information. Lots of energy is wasted on self-assertion. Suddenly bullying becomes an issue. In fact, inner resignation damages the German economy in the amount of the federal budget: Anxiety costs about 75 billion Euros.

Age-old problems rear their head in the working world of the information society: men and women often don't understand each other due to the different wiring of their brains; seniors stand corrected by the sometimes more current knowledge of the youngsters, but the youngsters fresh from the university and lacking experience are also not always right; plus the fact that we don't have a sufficiently objective and fair culture of dealing with one another.

Hiding and power struggles

We lack behaviors that promote knowledge progression rather than hindering it. If an employee suggests something ingenious, but errs about five percent, we nail him due to the



Image 2: Stress and anxiety cost economies billions.

five percent instead of accepting the good idea – because this could increase the status of the colleague. During meetings we signal the others subliminally: “Don’t you dare criticize me, or I won’t talk to you anymore”. However, putting someone down is highly unproductive. But those who step out of the cover and address undesirable developments in order to create a long-term healthy corporate climate and an honest basis for decision-making are quickly left alone. This is because we team up with those who appear to be more useful to us, or at least less threatening in case of arguments within the department, instead of boosting those who assume greater responsibility for the whole department beyond their own terrain.

We hide conflicts or eventually carry them out head-on, if necessary until the other is destroyed, using the law of the jungle or the power of better relations (who plays golf with the Executive Board on Sunday afternoons). However, the war at the office leads to a loss of productivity, which costs billions every year. Anyone who believes nothing will change in this regard because this is how people are misjudges the formative power of the market. Anyone who does not resolve information work with sufficient efficiency will evidently

have a cost problem in the future – and disappear from the market. Due to this pressure to change, new standards of behavior are emerging. They have less to do with organization or expertise, but rather with how evolved the sense of responsibility of a person is, and if he or she has enough self-confidence.

What is needed is transparency instead of scheming, reconciliation instead of eternal quarrels, authenticity instead of imitation, competence instead of status orientation, cooperation instead of power struggles, long-term orientation instead of short-term vision, and a sense of responsibility that extends beyond one’s own career and cost center.

Improvement in sight

When the dust of the structural change finally settles, those companies will remain that have come as close to reality as possible because they perceive information via all sensors. In order to mobilize the entire knowledge of an organization, a “servant”-management culture will prevail. People will no longer perceive fluctuating relevance as an insult to their self-worth but will rather encourage each other and enjoy each other’s achievements. They will not manipulate information according to

usefulness, but will truly pass it on. They will resolve conflicts fairly and reconcile their relationships. Instead of focusing on self-interest, they will be oriented towards the long-term and legitimate interests of partners, customers and suppliers – also because we can’t foresee the consequences of our actions in the long term at all.

Organizations will invest in further developments as well as in people and will provide the necessary time for some employees to mature in such a way that they will eventually advance the organization with groundbreaking discoveries. Dazzlers and free riders will increasingly have to retreat to any remaining reserves of major organizations. Once this new culture of cooperation prevails globally, the economy will gain momentum. Isn’t the world improving after all?

Related literature

[1] Kondratieff, Nikolai (1926): *Die langen Wellen der Konjunktur* (translated into English as *The Long Waves in Economic Life* in 1935/1979)

ABOUT THE AUTHOR

Erik Haendeler is an expert in economics with special knowledge of the Kondratieff theory. Against the background of this knowledge he sheds an unusual light on today’s working world and its potential for development. After his cadetship and work as an editor, he studied economics and economic policies. Today he works as a journalist, book author and futurologist.



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Successful integration of Asian satellite offices

Offshore offices – particularly in Asian countries – are a common and often essential part of many Western organizations. Cultural differences between home and satellite offices might be subtle; however, for successful collaboration and a prosperous work climate, a good understanding of these differences is vital. So how can companies bridge the cultural gap?

Text by Jacqueline White

Image: © istockdaily/istockphoto.com



The concept of the offshore office is nothing new within the world of business. As long as inter-regional or inter-continental commerce have existed, traders and companies have invested in offshore representation. While the notion of overseas staff has been a constant, one thing that has changed has been the purpose and location of that staffing. For centuries, offshore offices were either focused on establishing and broadening a company's foreign sales potential or managing and processing raw resources at the source, before importing the finished or semi-finished product to Western markets.

All this changed with the globalization of technology, standardized education and the growth of English as the commercial and technological lingua franca. Since the 1980s, a new and increasingly ubiquitous offshore office has developed. This office is neither a sales hub nor a warehouse or factory, but rather, a location employing highly educated, English-speaking engineers and technical writers working in a virtual world. These satellite offices, commonly based in Asia, are an appealing option for companies operating in an increasingly competitive global market, where a small edge can be a decisive edge.

With an educational curriculum modeled on Britain, India produces countless graduates each year with a grasp of the English language that comes close to that of native speakers. This makes tech and science graduates from the sub-continent extremely attractive in the global workplace. The question is: How can you integrate these geographically distant and culturally different groups into your team in a manner that is mutually beneficial?

Cultural awareness is key

When starting a new project in our Western home base, one of the first questions a good management team needs to ask is: "What competencies are needed?" Based on this question, a team is created that covers the required areas of expertise. We appoint software and hardware developers, testers, technical writers, and team managers. The overall balance of their skills will hopefully create a successful symbiosis. But when creating a satellite office, there is an extra consideration that is often forgotten, viz. culture, or better, cultural difference. A frequent problem that is identified by many managers, who have implemented satellite offices, is the cultural contrast between the head office and the staff in non-Western cultures.

Although globalization has helped to spread Western culture, values, and business practices, the

reality is that there are still significant cultural differences between the West and Asia. It is important that Western head offices realize that "difference" goes well beyond linguistic traits. Difference can be seen in etiquette, attitudes, behaviors, structure of the working day, and a myriad of other issues. Awareness, as well as the acceptance and embracing, of such cultural contrasts can make all the difference.

To achieve this, it is recommended that someone in the planning team has a deep awareness of the target satellite culture. By this, I do not mean that this person has been to Thailand on holiday, but that they really have a clear grasp of the target culture and how the people think, live and interact. It is not always easy to find such a person, especially in countries with negligible Asian populations. In Germany, for example, the Indian population is approximately 0.2 percent and the Chinese population 0.25 percent. In a country where the representative population of Indians and Chinese is almost invisible, cultural differences can be puzzling and a source of frustration or conflict. Having someone on board from the outset who is knowledgeable in the target culture will mitigate cultural miscommunication and help the local team in accepting the different (but equally valid) work practices of their new colleagues.

Don't let quick profit dictate lead-in times

One of the main reasons offshore offices fail is that the expectation of an immediate financial return is so central to planning that things are often rushed. Rushed implementation is commonly manifested in a lack of infrastructure and support for the new team. When things do go wrong, the recriminations begin and staff in the home country becomes vociferous in voicing the belief that an offshore office was never a good idea. Such dialogue is destabilizing and can only lead to increasingly fractured relations with both management and the colleagues abroad.

Although it sounds simple enough, staffing a satellite office is considerably more difficult than staffing a local office. One obvious difference is that, within an established company, staffing is added incrementally and can be smoothly integrated and inducted. It is less manageable when a whole team of 10, 15 or 20 employees are being appointed from scratch, arriving in a brand new office space on the other side of the world with no pre-existing colleagues (with all the institutional knowledge

preexisting colleagues have). It is not enough to simply think, "well, we need five technical writers and two software engineers".

Experience suggests that the best satellite offices are created through gradual development, not wholesale appointments all starting on the same day. We all know that "to make money you need to spend money". But it is equally right to say "to make money you need to spend time" and, in this context, this means building a team slowly over a period of several years.

Don't ignore your local staff's concerns

In the early stages of planning a satellite office, management must never forget the potential impact that the news of the offshore plant will have on local staff. If the local employees are excluded from the dialogue and then presented with the news of an office in Asia as a fait accompli, this will almost certainly engender resentment and fear. In our globalized marketplace, employees in Western countries are only too well aware that outsourcing to Asia or other parts of the developing world can mean layoffs at home. A management team that values its local staff must be aware of this fact and work to maintain morale. This can be done through transparency and liaison. Ideally, representatives of "shop floor" staff should be part of the deliberations, as they often have insights and institutional knowledge of the business that management is unaware of. They can highlight pitfalls and help develop structures that enhance the likelihood of the offshore office becoming a valuable element within the broader company.

As already mentioned, management must also be sensitive to the fact that local staff will worry about what this expansion means for their job security. They understand that offshore colleagues are likely to be paid less to do the same job. Ultimately, good management is honest with its staff about expected outcomes (at least in the medium term, as long-term outcomes are usually unknown). While all employees fear the prospect of layoffs, they are more likely to cope with it if management is open from the outset.

As uncomfortable as it is for management, it is important to spell out motives. In many cases, the aim of outsourcing is not to close or downsize local offices. But if it is, how does one manage this? Does the management team hide this truth by issuing denials every time they are asked, or do they put their cards on

the table in an effort to make a stressful situation less taxing?

Ultimately, extensive, consultative pre-planning and long lead-in times are crucial. Pre-planning needs to include a clear rationale as to why this step is being taken, an awareness of how this might affect local staff and a willingness to enter into honest and meaningful dialogue with local staff.

Satellites are not silos

Experience shows that bringing the satellite colleagues to your home base can be one of the most cost-effective ways of building team spirit and providing professional development. Such visits build competency, institutional knowledge and, above all, positive working relationships. Further, by investing in such travel, you make it clear to your satellite staff that they are valued members of your broader "family". This can only bear positive fruits for the company.

As for the visits themselves – "more is more". A visit of two to three weeks is unlikely to suffice if the satellite staff is expected to become familiar with your products and systems. To build any real competence – they should ideally be brought over for a period of several months.

By working with the local colleagues over a longer period and in the same office space, they become more than exotic visitors – they become part of the team.

Let Asians be Asian

Just as Westerners do not leave their Western culture at the door when they enter the workplace, neither do nor should non-Western colleagues leave their culture behind. It is an indivisible part of who we are. To expect satellites in Asia to conform to Western expectation of work hours, modes of interaction, team structure, etc. not only inhibits performance, but also shows an inappropriate, mono-cultural attitude.

Businesses in the West increasingly recognize the benefits of providing their staff with a flexible work environment. From flexi-time and home office to free bananas and climbing walls, companies are always looking for ways of matching the workplace to the personalities of their staff. Clearly, if a company can provide its staff with free video games and haircuts because research shows that it improves staff well-being, then it must also be accepted that a satellite in Beijing or Goa works more productively in an environment that is more comfortable to them.

Given the ubiquitous nature of Western culture, it is sometimes difficult to spot what "Western" culture actually is. Rather it is just seen as "the norm" – inferring that Asian culture is "abnormal".

So, what if a Japanese multinational set up a satellite office in Europe and required their European staff to work within a Japanese business mindset? This would mean only 18 days of annual leave. However, in line with Japanese work culture, the staff is expected to take less than half this leave. Furthermore, this would mean 40+ hours of unpaid overtime per month. How likely is it that the European staff would work at their optimum in such an environment? Chances are – they wouldn't. By the same token, there are elements within the Western workplace that feel alien and unreasonable for Asian staff. A good employer recognizes these elements and works to mitigate potential problems.

Racial stereotyping is never acceptable

As any child knows, when things go wrong it is easiest to blame the person who isn't there. Likewise, in business, local teams can be tempted to scapegoat the overseas team.

While such finger-pointing is often incorrect and the error lies closer to home, if the error does emanate out of the satellite, it needs to be handled with caution.

Statements such as "The Indians have messed up again" or "The Asians don't know what they are doing" are never acceptable. These are inappropriate on a variety of levels. First, it is a patronizing and a public declaration that the "Indians" or "Asians" are incompetent. But further, it places the fault on an entire racial group rather than on an individual. By extrapolating one person's mistake as that of the whole satellite team, there is a risk of critiquing work on a racial basis – which is both counter-productive in terms of creating intercontinental team culture and, more importantly, racist. When John at the head office makes a mistake, and perhaps makes the same mistake regularly, Western staff does not stand in the middle of the office and state: "The Europeans are useless" or "How many times do I need to explain things to the Europeans?"

It is vital that managers take a lead in creating culture. If a company has committed to a satellite office, then the assumption is that it is committed to the satellite succeeding. Therefore, managers must act as a positive role model. It is important

that they demonstrate positive and respectful talk about and with foreign colleagues. It is also important that managers challenge inappropriate comments wherever they witness them. It is not that satellite colleagues should be above critiquing if they underperform, but such criticism must take place in the right forum and in a respectful manner.

Conclusions

Clearly, satellite offices offer companies huge opportunities. But they also bring with them risks and obstacles that need to be considered in advance – not once the venture is up and running. If the intention of creating a satellite office abroad is to quickly make a lot of money by paying staff less, then you are setting yourself up for failure. If you want to be successful in such ventures, the right pace is essential, both in terms of the time spent pre-planning and in terms of the model used to employ staff. Problems can and should be expected in the first few years. However, if this is factored into the company's planning, these problems have a reduced impact on morale and performance. The differences between Asian and Western culture, or indeed between various Asian sub-cultures, are nuanced and often subtle. They are like metadata: insignificant to the casual observer – but still vitally important. While a satellite relationship, by its very nature, is not a relationship of equals, we must never view it as a master/servant relationship. We all know the idiom "success breeds success". But in a satellite dynamic, a more salient idiom could be "respect builds success".

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events

tcworld 2018

Outsourcing World Summit

- 📅 February 18-21, 2018
- 📍 Orlando, FL, USA
- 🌐 www.iaop.org/summit

Information Energy

- 📅 March 1-2, 2018
- 📍 Utrecht, Netherlands
- 🌐 www.informationenergy.org

“Needs in TC all over Europe – fit for the new trends”

- 📅 March 2, 2018
- 📍 Verona, Italy
- 🌐 www.comtec-italia.org

Italy will host the first European COM&TEC event in cooperation with tekcom Europe. The city selected for the venue is wonderful Verona, where in the Hotel Leopardi speakers and attendees will meet and talk about technical communication and intelligent information. On March 3, the tekcom Europe delegates of the different country organizations and Regional Groups will assemble to plan new initiatives and projects and set trends in the field of TC.



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tcworld India

- 📅 March 7-8, 2018
- 📍 Bengaluru, India
- 🌐 <http://tcworld-india.com>

Technical Communication Day

- 📅 March 21, 2018
- 📍 Aarhus, Denmark
- 🌐 www.teccom-frame.eu

GALA 2018

- 📅 March 13-16, 2018
- 📍 Boston, MA, USA
- 🌐 www.gala-global.org/all-events/gala-2018-boston

Intelligent Content Conference

- 📅 March 20-22, 2018
- 📍 Las Vegas, NV, USA
- 🌐 www.intelligentcontentconference.com

COMTecnica

- 📅 April 11-12, 2018
- 📍 Bologna, Italy
- 🌐 <http://comtecnica.it>

tcworld China

- 📅 May 15-16, 2018
- 📍 Shanghai, China
- 🌐 <http://tcworld-china.cn>

At tcworld China 2018, local and international expert speakers will share their experiences and best practices with solutions for China-specific challenges and to exchange the latest information in the technical communication industry. Participants have the opportunity to participate in presentations, workshops and interactive sessions.

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tekcom spring conference (in German only)

- 📅 April 19-20, 2018
- 📍 Koblenz, Germany
- 🌐 <http://tagungen.tekom.de/f18/startseite>

Content Connections 2018

- 📅 May 7-9, 2018
- 📍 Los Gatos, CA, USA
- 🌐 www.acrolinx.com

TAUS Executive Forum

- 📅 May 16-17, 2018
- 📍 Tokyo, Japan
- 🌐 www.taus.net

Madworld 2018

- 📅 June 3-6, 2018
- 📍 San Diego, CA, USA
- 🌐 www.madcapsoftware.com/conference/madworld-2018

UA Reloaded

- 📅 June 13-14, 2018
- 📍 St. Leon-Rot, Germany
- 🌐 <http://ua-reloaded.de>

Content Marketing World 2018

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

tcworld conference 2018

- 📅 November 13-15, 2018
- 📍 Stuttgart, Germany
- 🌐 <http://conferences.tekom.de>

tcworld conference 2019

- 📅 November 12-14, 2019
- 📍 Stuttgart, Germany
- 🌐 <http://conferences.tekom.de>



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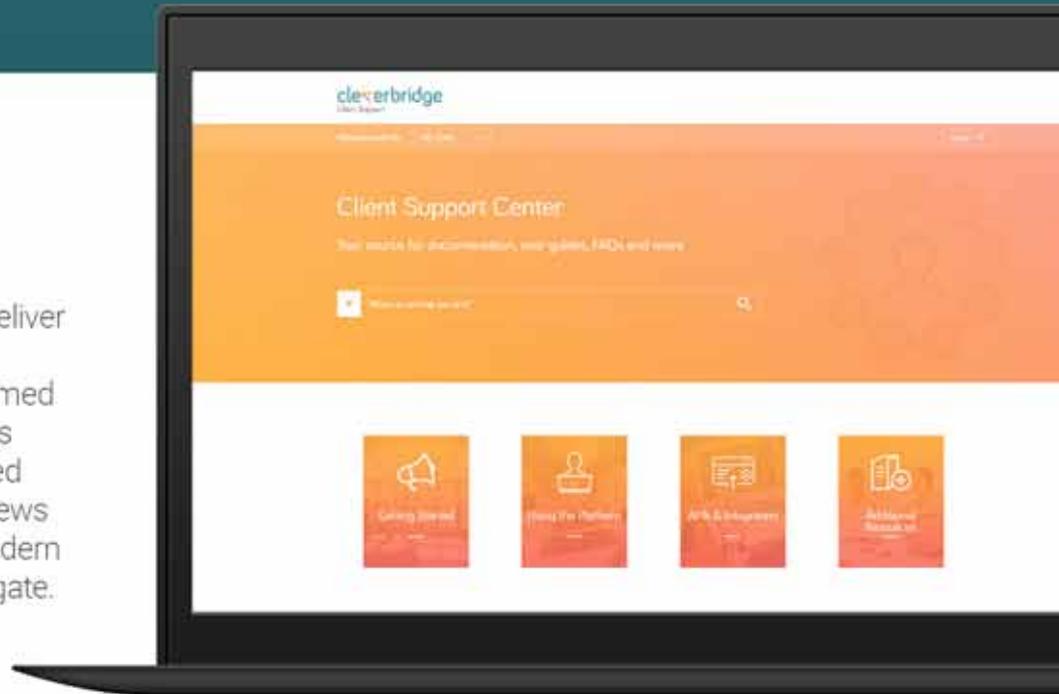
Global E-commerce Software Provider cleverbridge Creates Modern Client Support Center with MadCap Flare



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JULIANE KNOBLOCH | Technical Writer, cleverbridge

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