

Research Report

Multilingual Product Content:

Transforming Traditional Practices into Global Content Value Chains

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THE GILBANE GROUP

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Table of Contents

Executive Summary.....	3
Study Highlights	4
Using This Report.....	5
Research Methodology	5
Study Demographics.....	6
Market Context	9
The State of the Product Content GCVC.....	11
The Business Case for Multilingual Product Content Investments	12
Content Utility as the Value Proposition	15
Principles of Emerging Product Content Ecosystems	18
Expanding Champion Roles: Locating Expertise Deep and Wide	19
Cross-Domain Collaboration: The Road to Alignment.....	22
Service Providers as Strategic Partners	24
Trends in Product Content Technology Infrastructures	28
Achieving Quality at the Source	28
Content Management Integration.....	32
Translation Management Systems	35
Metrics and Measurement	40
Gilbane Conclusions.....	43
Best Practices Profiles.....	47
Sponsor Acknowledgement	79
Gilbane Group Project Team	82

List of Figures and Tables

Figure 1: Language Outputs of Survey Population	6
Figure 2: Respondents by Department Type	7
Figure 3: Number of Peer Departments	7
Figure 4: Global Content Value Chain for Product Content.....	12
Figure 6: Product Content Support for Business Objectives.....	13
Figure 7: ROI from Product Content Programs.....	14
Figure 8: Impact of the Current Global Economic Climate.....	15
Figure 9: Language Support/Volume Decision-Making	19
Figure 10: Making the Business Case Experience	20
Figure 11: Outputs Directly Responsible for Producing	22
Figure 12: Outputs Reused Outside Area of Responsibility	23
Figure 13: Proactive Sharing of Content Assets.....	23
Figure 14: Obstacles to Product Content Collaboration and Sharing	24
Figure 15: The Evolving Service Provider	25
Figure 16: Perceptions on High Value Services	26
Figure 17: Approaches to Standardized Content Creation	30
Figure 18: Terminology Management Approaches	31
Figure 19: Types of Content Management Implementations.....	32
Figure 20: CMS/TMS Integration Levels	34
Figure 21: Adoption of Translation Management Standards.....	36
Figure 22: The Value of Translation Memory.....	37
Figure 23: How Organizations Manage Translation Memory.....	38
Figure 24: Machine Translation Use by Product Content Type.....	38
Figure 25: Perceptions on Machine Translation	39
Figure 26: Multilingual Product Content and Customer Satisfaction.....	41
Figure 27: Measuring Product Content Value	42
Table 1: Content and Competitive Advantage.....	16
Table 2: Transforming Traditional Practices.....	44

Executive Summary

Decades of processes and practices have grown up around the creation, management, and delivery of technical content that enables customers to derive value from the products and services they buy. As the manufacturing age gives way to the information age, as “global” becomes an adjective that describes more and more businesses, and as the basis for competitive advantage shifts away from manufactured products, established content practices are undergoing profound and fundamental changes to support the new global order of business.

An organization’s ability to produce and deliver quality multilingual product content has direct impact on global business success. Content globalization practices can be assets that create competitive advantage—or they can be liabilities that compromise performance and put global success at significant risk. The challenge facing most companies today is adapting these practices to the realities of global business in the 21st century. Traditional practices no longer work because they have evolved over decades to deliver traditional, product-based value. Doing more of what companies have done in the past will lead to dead-ends. The new bases for competitive advantage—customer experience, brand, and process know-how—demand new business practices that deliver new kinds of value. Companies who are not adapting to—or better yet, embracing—the changes are at significant risk.

In spring 2009, Gilbane Group conducted in-depth, qualitative research on the state of global product content practices and progress towards transforming traditional practices into Global Content Value Chains (GCVC). To our knowledge, this is the first study to focus on end-to-end globalization of product content from two perspectives: from that of the content management professional and that of the language professional. We believe that it is also the first to be presented by an independent voice, separate from supplier-produced case studies, informative though they may be.

This study extends the work that we published in 2008 in our report entitled *Multilingual Communications as a Business Imperative: Why Companies Need to Optimize Their Global Content Value Chains* (referred to herein as “Multilingual Communications 2008”). Observations and conclusions from that work are referenced throughout. Readers will find it useful to download *Multilingual Communications 2008*, available for free from Gilbane, as background to this report.

We cannot thank our study respondents enough for the time and effort they contributed to this research. They represent the very best of the pioneers in content globalization—talented, passionate, and dedicated to improving practices in their areas of expertise. We are grateful that they chose to share their stories with us and, more importantly, with our readers. We also extend sincere appreciation to our sponsors, who made this important market education possible.

Study Highlights

Based on in-depth interviews with mid-level and senior management, this study finds:

- **Progress towards overcoming the language afterthought syndrome.** We see slow but steady adoption of content globalization strategies, practices, and infrastructures that position language requirements as integral to end-to-end solutions rather than as ancillary post-processes.
- **Lack of cross-functional collaboration and overarching business processes as primary obstacles** to aligning corporate business objectives and content globalization practices. Regarding collaboration, there is broad belief that people and process are the primary issues, not technology.
- **Product content ecosystems replacing siloed functions.** Autonomous groups are beginning to interact to create an ecosystem around product content, even as companies struggle with collaboration. Evidence includes the emergence of the cross-functional champion and the role of service providers as strategic partners.
- **Global customer experience and satisfaction as the center of gravity** for content globalization in 2009. Cost savings will always be part of the product content picture, but in uncertain economic times, engaging and satisfying customers is paramount. One result is a shift in the value proposition for investments in content globalization. The business case is now about outward-facing customer impact, not just inward-facing operational efficiencies and cost reductions.
- **Key trends** include advancements in improving the quality of source content, the absorption of translation management technologies into global content infrastructures, and proven benefits derived from standards-driven component-level management of content destined for delivery in multiple languages.
- **The next set of opportunities** lies in addressing the multilingual multiplier problem (e.g., the escalation of costs due solely to producing product content in another language), and identifying best practices for measuring and monitoring the impact and value of multilingual product content.
- **Relatively mature adoption** of product content globalization strategies, practices, and infrastructures (people, process, and technology), as embodied in Gilbane's concept of the Global Content Value Chain. Not surprising, as technical publications as been a core requirement and competency for many decades. What is surprising, though, is that every organization interviewed for this study recognizes the pressing need to improve and advance their content globalization practices. *No one* is doing *nothing*.

Using This Report

This study is designed for two primary audiences:

- For enterprise adopters and buyers of technologies and services for producing high-quality multilingual product content. The study is meant as a tool for educating executives and staff who might not be aware of the significant impact that investment decisions in multilingual product content have on the organization's ability to compete effectively. It will help program and project managers learn from the experiences of other companies, and it will provide insight into making the business case to upper management for more and better investments.
- For suppliers of technologies and services. The study is meant to help develop offers that alleviate pain points and address obstacles and challenges, and to market and position those offers in ways that make their value clear to buyers.

The profiles included in this report illustrate what leading practitioners are doing to align their content globalization practices with business objectives. Their experiences can be universalized for companies looking to solve similar problems or create similar opportunities.

We hope that the study, the underlying research, and related reports will serve the industry well by providing a basis for dialog that moves content globalization practices forward and grows the market for technologies and services, which benefits all constituents.

Research Methodology

Gilbane conducted a series of in-depth interviews with 22 translation/localization and content professionals in multinational organizations. Using a case study approach, we probed respondents on:

- How product content stakeholders are making the business case for increasing people, process, and technology investments in content globalization practices.
- How initiatives in product content domains—technical documentation, training, localization/translation, and customer support—align with and support corporate objectives.
- The levels of collaboration between product content stakeholders and domains to support practices such as shared content and language assets, content reuse and repurposing, and cross-functional governance.
- The technologies that are enabling an agile, efficient flow of product content from creation through localization/translation to end-user consumption.
- The commitment and approach to measuring the effectiveness of multilingual product content on global customer satisfaction.

We also conducted interviews with study sponsors for the supplier perspective on technologies and services for quality-controlled authoring, component content

management (CCM), machine translation, business content development, and localization/translation strategies.

The result of the research is a collective view of strategic and tactical approaches to content globalization. This study reports the outcomes in the following sections:

- Market Context
- The State of the Product Content GCVC
- Principles of Emerging Product Content Ecosystems
- Trends in Product Content Technology Infrastructures
- Gilbane Conclusions
- Best Practices Profiles

Study Demographics

Organizations included in this study have headquarters or major divisions in more than 150 countries, covering geographic markets including Africa, Asia Pacific, Canada, Europe, Latin America, and North America. Representing a range of manufacturing industries including automotive, consumer goods, high technology (hardware and software), industrial equipment, medical devices, marine propulsion engines, and textiles, 50% of our respondents are producing multilingual product content in over 20 languages:

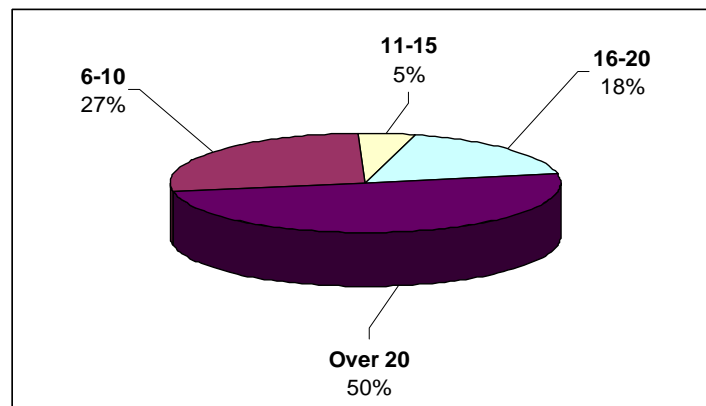


Figure 1: Language Outputs of Survey Population

The operational roles of our respondents included technical documentation, localization/translation, training, and customer support product content stakeholders.

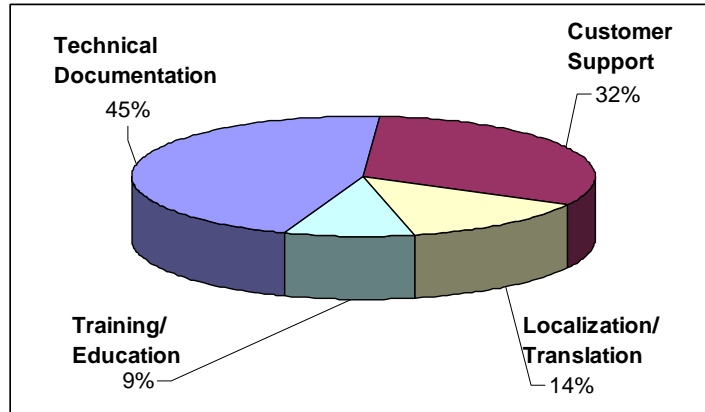


Figure 2: Respondents by Department Type

Although most respondents represent large companies (5000+ employees), it is important to understand that the majority of these organizations operate within a matrix management model, usually according to product line or market segment. In these cases, there are multiple instances of product content stakeholders and departments, particularly across technical documentation and training domains. The impact of mergers and acquisitions in large organizations exacerbates this situation, despite inevitable restructuring programs to reduce redundant resources and processes.

To underscore this trend, we asked respondent to identify the number of peer departments across their organizations—in effect, “the number of departments with the same names and product content objectives as your own.”

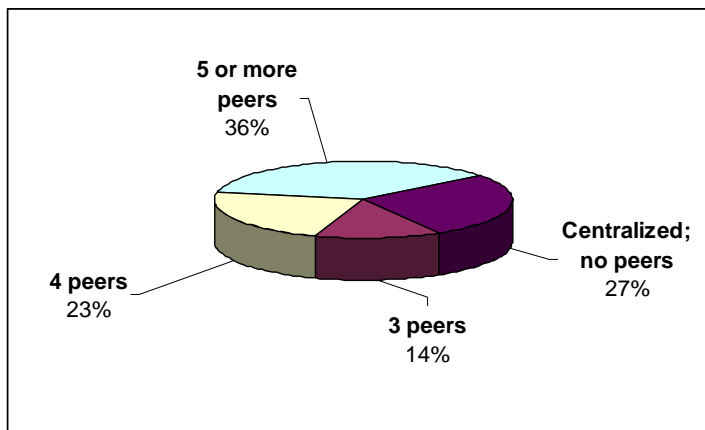


Figure 3: Number of Peer Departments

From the perspective of peer departments, operations within the survey population are more akin to mid-size organizations due to high degrees of autonomy within multiple product content domains. It is also the case that purchases of technologies and services are made at the division or departmental level, rather than the enterprise level. Many respondents cited significant cultural, organization, and operational differences across the divisions within their organizations, noting:

- “Our company has multiple cities; some are aligned with each other and some never venture outside their boundaries.”
- “Our culture and organization is design-dependent; there is no top-down mandate to change the product-line centric environment.”
- “We are a centralized service team for three of four divisions; one just does not want to (or need to due to revenue success) ‘get on board.’”

To combat the “silos within silos” phenomenon, some large organizations are moving toward centralizing functions such as localization/translation, quality assurance, and technology governance independent of IT operations.

Market Context

Investments in global content practices and the people, process, and technologies that enable them are ideally considered within what Gilbane calls megatrends—trends in the broader business environment that have direct impact on strategies and tactics that help global 2000 companies remain competitive.

Gilbane sees three megatrends shaping global content practices in 2009.

1 Shifting world economies. There is no doubting the worldwide impact of the economic uncertainty that erupted full force in 2008. It is the case, however, that some economies continue to expand, while others (notably North American and Western Europe) contract. Even if the pace of growth is slower in 2009, it is growth nonetheless. This is causing global 2000 companies to move into more or different geographic territories, or to shift investments into growth regions where they already have presence. The business emphasis is on finding, attracting, and serving the most profitable customers.

2 Managing tension between innovation and fiscal responsibility. Global 2000 companies cannot afford to stand still. Customer expectations are recession-proof. Customers are not willing to accept less because corporate budgets have been slashed. A 2008 poll by Harris Interactive and RightNow Technologies indicates that 87% of surveyed consumers indicate that they have ceased a customer relationship after a bad experience, up from 80% in 2007 and 68% in 2006.¹ Across all functions and departments, managers are facing unprecedented tension between the need to innovate business practices while acting with fiscal responsibility. Companies are prioritizing spending by looking at the “must-have” investments to remain competitive.

3 Evolving basis of competitive advantage. Global 2000 companies can no longer create long-term, sustainable competitive advantage on the basis of products and services alone. The pace of technology innovation is very rapid, which means that product lifecycles are getting shorter and shorter. It is very difficult, if not outright impossible, to compete for any reasonable period of time on the basis of Version ABC of Product XYZ. The basis for competitive advantage in the 21st century is moving to *customer experience, brand, and process know-how*. This fundamental shift in competitive power demands the same fundamental shift in business practices. Traditional processes no longer work because they have evolved over decades to deliver traditional, product-based value. Doing more of what companies have done in the past will lead to dead-ends. The new bases for competitive advantage—customer experience, brand, and process know-how—demand new business practices that deliver new kinds of value.

¹ <http://www.rightnow.com/crm-news-6139.php>

These three megatrends are having urgent and profound effect on the shape of global content practices:

- A stronger emphasis on continuous improvements to *content utility*, the usefulness of information to support the end user task at hand. This shifts the value proposition of enterprise investments in content globalization from inward-facing operational efficiencies to outward-facing, demand-based customer experiences.
- A growing recognition that global content is tied to measurable business success through stronger and targeted customer satisfaction measurement.
- A continuing evolution in the definition of mono and multilingual product content itself, creating more dynamic information linked to specific corporate goals and broader business trends.
- The transition of departmental silos and traditional processes to contemporary infrastructures and cross-functional commitments that enable flexible, agile delivery of global content.

The megatrends and their impact on content practices are ushering in a new era of product content practices. Customers are embraced as part of the content lifecycle. Value propositions for investments are tied to the top as well as bottom lines of corporate balance sheets. Content agility is becoming recognized as a competency. Instead of functioning as cost centers, product content domains are evolving into centers of excellence. Service providers are viewed as strategic partners.

This study looks at how companies are developing global content strategies, practices, and infrastructures that enable success within this new, exciting and challenging context.

The State of the Product Content GCVC

Despite decades of organizational experience, language issues are still rarely considered integral to the flow of content *any* kind—product, web, operational, or enterprise. Within many companies, language remains an afterthought, even when it comes to producing consistent, brand-worthy content in the core native language. Perceptions that high-quality multilingual content just “appears from a function” somewhere deep within the company are rampant.

This *language afterthought syndrome* plagues a number of global product content processes, particularly content creation and localization/translation. The megatrends impacting the necessity for targeted global product shine an uncomfortable light on the consequences of neglecting to address afterthought syndrome. As organizations grapple with what Gilbane calls the multilingual multiplier—the phenomenon of financial impact due solely to the cost of delivering content in another language—the syndrome can devolve into true dysfunction.

In *Multilingual Communications 2008*, Gilbane described the emergence of the Global Content Value Chain (GCVC) within global 2000 companies as a response to the megatrends, the subsequent reshaping of content management practices to better deal with multilingual business communications, and the recognized need to address the afterthought syndrome.

The Global Content Value Chain is a strategy for moving multilingual content from creation through consumption according to the needs of its target audience. The strategy is supported by practices in disciplines such as content management and localization/translation management. The enabling infrastructure for the strategy comprises people, process, and technology.

The central premise of the GCVC is that value can be added to content as it moves through the chain by applying people, process, and technology elements at each phase. Organizations implement slightly different GCVCs for different content applications, such as product, brand, enterprise and operational content.²

² See pages 14-22 in *Multilingual Communications 2008* for a detailed description of the GCVC.

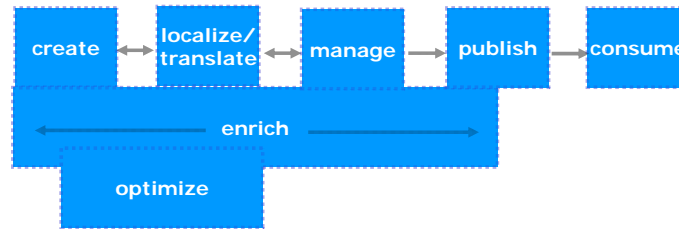


Figure 4: Global Content Value Chain for Product Content

This report focuses exclusively on product content, defined historically as information supporting the use of manufactured products. Its outputs can include technical documentation, online help, training materials, customer support information, and pre- and post-sales materials such as datasheets. Product content supports consumer services in addition to manufactured products within industries such as financial services, education, and healthcare.

The Business Case for Multilingual Product Content Investments

We begin with business context for GCVC adoption by examining the underlying drivers for choosing and prioritizing investments in people, process, and technology for content globalization. How are the organizations represented in the survey responding to the megatrends from a business perspective?

We asked respondents to identify their companies' high-level business objectives for 2009.

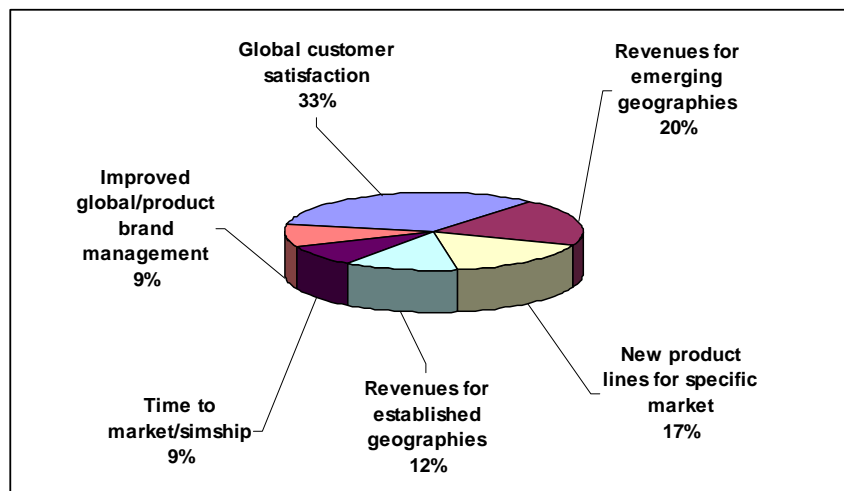


Figure 5: 2009 Business Objectives

The results show that global customer satisfaction is a clear strategic and operational business priority, outpacing the next most commonly-cited driver—revenue from emerging geographies—by a significant margin. Customer satisfaction remains the top priority even when we combine revenue growth from both emerging and established

markets (if only slightly). New product lines, faster/simultaneous time-to-market, and improved global/product brand management are decidedly second-tier concerns.

Each of these business objectives ties directly back to the megatrends, especially the high rankings of customer satisfaction and revenues from emerging markets. New product lines for specific markets can be interpreted as an objective tied to process-know how—understanding how to leverage an organization’s core competencies to open new revenue sources.

We next asked respondents to identify the product content practices, programs, and initiatives that support their companies’ strategic business objectives.

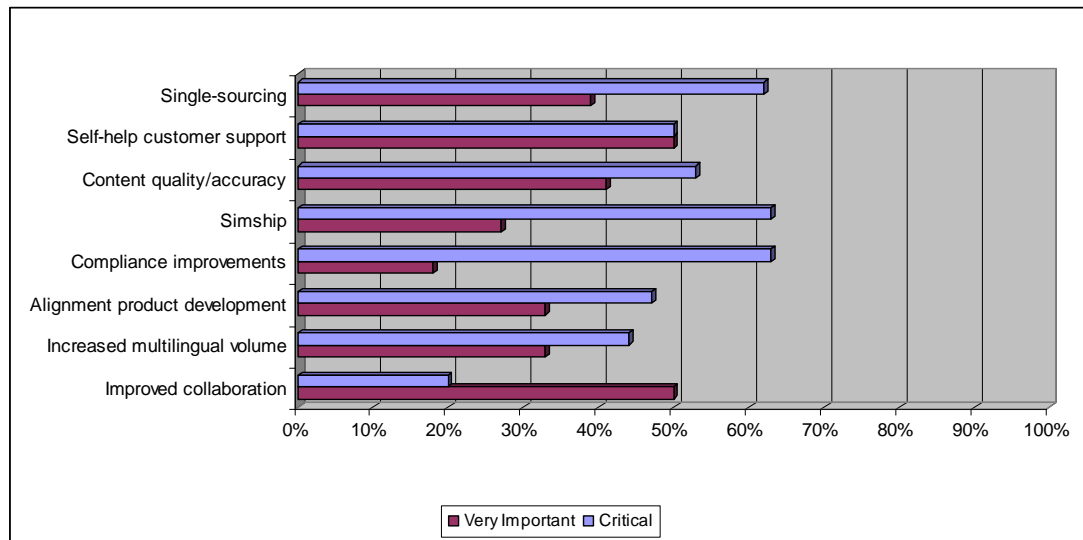


Figure 6: Product Content Support for Business Objectives

Figure 6 shows the range of programs and initiatives that respondents rated as critical or very important to their company’s ability to meet its business objectives. Single-sourcing and self-help customer support are the two types of programs that are ranked as at least “very important” by 100% of the respondents to this question (that is, the percents of “critical” and “very important” total 100). We can say, then, that these two initiatives are viewed as the most important to achieving business objectives.

The mix of vertical or industry factors (compliance improvements, alignment with product development), horizontal factors that are universally applicable (single-sourcing, content quality and accuracy, increased volume), and operational factors (simultaneous shipment, customer service) indicate the breadth of impact that global product content can have on achieving business success. Cost savings underlie the intent behind most if not all projects, with most respondents discussing cost reduction as a *status quo* requirement.

On what ROI factors are these programs and initiatives based?

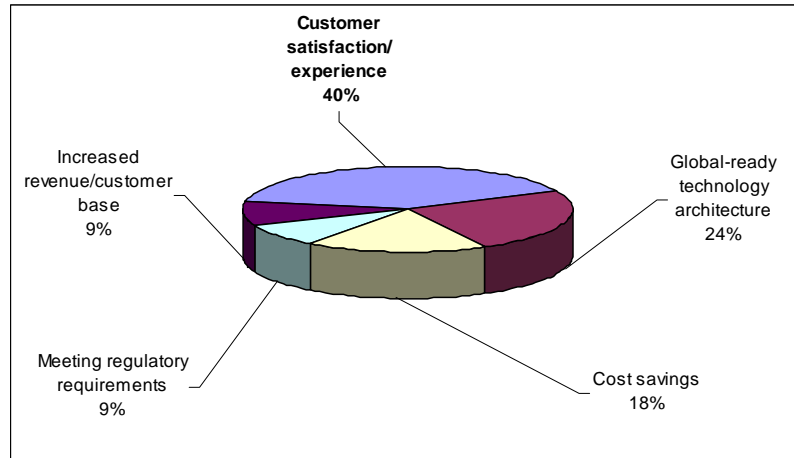


Figure 7: ROI from Product Content Programs

Once again, customer experience figures prominently in assessing and proving the business value of global product content. 40% of respondents indicated that customer satisfaction/experience is the primary ROI delivered by or expected from their practices, programs, and initiatives. The next most commonly-cited ROI measure is quite interesting. The perception that the payoff will be in a globalization-ready technology architecture indicates that respondents understand that they need to evolve content infrastructures to support corporate business goals and transform traditional practices into more contemporary approaches. Although cost savings weighs in at 18%, it is important to note that this issue was prevalent within respondent conversations, with many citing cost reductions as a gating factor for proving ROI.

The 2009 worldwide economic climate is a major factor influencing business strategies, as indicated in Gilbane's megatrends. We probed respondents on its impact on content globalization initiatives. We asked them to describe their experience as follows:

- Extreme impact (projects on hold indefinitely)
- High impact (ROI justification re-initiated)
- Moderate impact (projects re-prioritized by region, cost, dates pushed back)
- No impact (moving forward as planned)

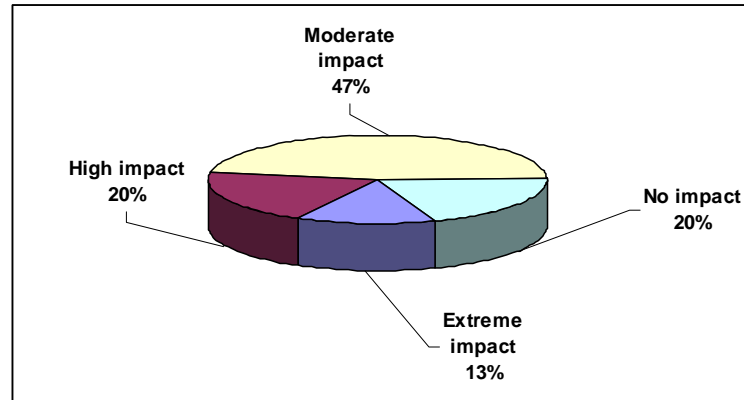


Figure 8: Impact of the Current Global Economic Climate

We were surprised to note that nearly two-thirds of respondents claim moderate or no impact on their projects. Why are some programs sustainable or immune?

- The pattern throughout our interviews reveals that the level of impact is highly dependent on the success of investments made to date, whether in the category of hard or soft ROI.
- Those with current or projected metrics and measurements for cost savings (including discretionary spending or headcount reductions) or increased customer satisfaction levels were more likely to place themselves in the “lesser impact” categories.
- Those who had yet to make a business case or were still in solution evaluation or pilot stages were more likely to be experiencing a high impact.
- Finally, those with clear vision, but little strategy were almost always experiencing an extreme impact.

The nature of necessary response to the megatrends and the implications of the business overlay data—particularly the emphasis on global customer experience and satisfaction objectives and the product content initiatives that support them—point to a significant shift in the value proposition for investments in the product content GCVC.

Content Utility as the Value Proposition

By its very nature, product content is customer-facing. Product content not only enables buyers of products and service to derive value from using them (which is why they bought them in the first place), but also drives revenue, influences brand perception, and impacts customer satisfaction. Now consider the third megatrend shaping global content practices—the need to create a new basis for competitive advantage based on customer experience, brand, and process know-how. These factors, in turn, put certain demands on the product content that companies deliver to the marketplace.

Competitive Factor	Content Requirement
Customer experience	Content utility
Brand	Content consistency
Process know-how	Content agnosticism

Table 1: Content and Competitive Advantage

Ensuring positive customer experience demands that content is useful to the user at a specific point in performing a task. We refer to this characteristic as *content utility* in this study. Reinforcing and managing brand throughout all of the geographic territories in which a company operates and across all channels that touch the customer demands *content consistency*. Competing on the basis of process know-how requires business agility—the ability to move quickly to respond to threat or opportunity. This demands *content agnosticism*, which means content that is not dependent upon any one software application, hardware device, business use case, audience, language, or even point in time (as is the case with product content, which in many cases has a very long lifecycle). Content must be readily available for use in any context and ideally without friction that negatively impacts global business agility.

If we connect the strong emphasis on customer satisfaction indicated in the business overlay with content utility as a requirement for customer experience, we identify a key finding from this research. *Content utility is clearly a value proposition for investment in improving global content infrastructures*. This has important implications for an organization’s product content GCVC.

Practices and infrastructures for product content have traditionally focused on the phases on the left and center of the GCVC—create, localize/translate, and manage. Delivering the output to customers was something of a “send and forget” process. Until now. Content consumption by end-users appears to have come into its own in the product content GCVC, transforming from an end-point where a product operations manual is tossed over the wall to customers to a function that interacts with, informs, and enhances the entire value chain. This study indicates that the Consume phase has become an “equal player” with the other processes in the GCVC.

Behind the growing importance of “Consume” are the high-level business objectives, most prominently global customer satisfaction. The emphasis is evident in initiatives across product content domains— technical documentation, training, localization/translation, and customer support. Information has become an essential part of the product, often directly facilitating stronger relationships with consumers:

- A supplier of textile manufacturing equipment articulated this link as “Our products are not usable without the manuals, and the market wants manuals translated into the local languages.”

- An executive at one of the world's leading software companies remarked, "Content has a big role to play. Content is the key link between the actual product and the consumer."
- A large agricultural manufacturing firm with a mature product line is customizing and personalizing products based on customer needs, and, to support this, evolving from the "information unit paradigm" to "personalized product information."
- A large multinational auto company shifted to customized operator's guides that include data only on customer-requested features rather than generic capabilities information.

Companies are also focusing on the internal value of Consume, assessing product content in terms of the value it brings to operational functions across the enterprise. Do the product data sheet and brochure help the sales person to articulate product value? Can the pre-sales subject matter expert (SME) more quickly design and configure a product solution to meet customer needs? Can the customer support engineer diagnose and resolve a performance issue faster and more effectively?

As illustrated in Figure 5: 2009 Business Objectives, respondents report that revenues from emerging geographies are also an important corporate focus. With that goal comes the recognition that companies must adapt their offerings to meet local market conditions, again putting the spotlight on Consume in the GCVC. 85% of respondents report that their companies make decisions about language support and product content localization/translation depth based on multinational revenue goals. All practitioners believe that localization/translation based on how locale-specific information will better meet customer needs and increase satisfaction is paramount.

Principles of Emerging Product Content Ecosystems

Current and prior research tells us that many large multinational companies are straining to produce global product content in 25 to 40+ languages. Small to mid-size companies typically feel a comparable tension at 5 to 15+. Regardless of company size, respondents report that expanding the creation, management, and delivery of multilingual product content often exposes process and scalability issues in traditional methods for content authoring, content reuse or repurposing, and multichannel publishing.

It appears inevitable that operations largely dependent on siloed people, processes, and technologies cannot keep pace with corporate objectives for global customer satisfaction. Isolated changes within a specific product content domain or technology are usually not sufficient by themselves to realize the benefits of global opportunities. As respondents from technical documentation, training, localization/translation, and customer support domains described multilingual product content lifecycles, it was quite clear that individual efforts—resulting in both obstacles and successes—were often independent and redundant.

The picture emerging from Gilbane's research is one in which product content practices are redefined to extend beyond conventional approaches. Taking the place of isolated practices is what Gilbane calls a *product content ecosystem*. Borrowing a definition from biology domains, an ecosystem is a collection of independent communities that function together as a unit. In the product content ecosystems, independent communities from across the enterprise interact around product content, whether creating it in technical publications, delivering it in a training course, incorporating it in marketing materials, or using it to solve customer problems. Today, product content no longer "lives" solely in the technical documentation domain. How are these ecosystems developing? Who is giving them life and sustenance? How are they growing beyond their early stages?

As it takes a village to raise a child, it takes a dynamic mix of subject matter experts (SMEs) to evolve traditional product content processes. Although respondents heartily agree, conversations about bringing a mix of SMEs together quickly turned to a set of common frustrations, centered on a lack of collaboration as the overriding obstacle to achieving cross-domain alignment with corporate business objectives. As we noted in *Multilingual Communications 2008*, achieving a balance of centralized and regional operations for multilingual communications processes can be a challenge. Respondents indicate the need for a greater emphasis on getting executive management, cross-domain SMEs, and regional product content stakeholders "on the same page." A frequently cited source of frustration included varied approaches to making joint decisions on language support and the volume of localization/translation required for a particular market.

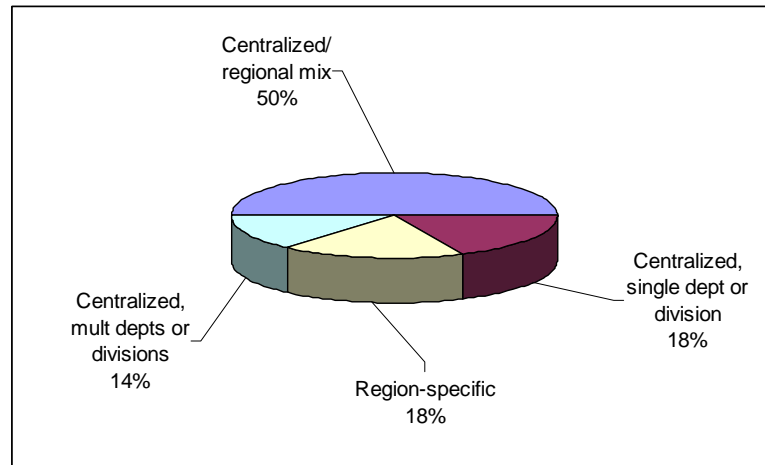


Figure 9: Language Support/Volume Decision-Making

Respondents understood that making prudent decisions about localizing product content can have a huge impact on business. One described a situation in which a reduction of language support as a cost control measure negatively impacted multinational revenue goals. Respondents felt strongly about the need for product content creators to take a more proactive customer-driven approach to understanding expectations for the depth of language support.

Although constrained by traditional organization structures that did not include departments such as technical documentation and training in customer relationship management (CRM) programs, these product content stakeholders nevertheless found ways to insert their voices in CRM efforts. Some results and approaches were quite interesting:

- “Several customers in China told us we are over-localizing; they don’t use the localized content because their IT staff reads English well, and they don’t trust the localized content due to perceived quality issues and that it is a subset of the English content.”
- “We know we are part of the online customer experience for technical support. We’re now including web page-specific online surveys to be ahead of the curve when our call centers begin to request this data on a regular basis.”
- “We’ve gotten sponsorship for a formal, centralized ‘strategic quality group’ as part of our customer advocacy mission. The goal is to achieve continuous improvement of product content no matter who creates it.”

Expanding Champion Roles: Locating Expertise Deep and Wide

Gilbane began talking about operational champions in 2007, describing the role as one that often serves as the “glue” between two or more departmental areas, working to achieve executive and cross-functional visibility for global content through a bottom-up process. Operational champions comprise the respondent population for this 2009

research, representing technical documentation (48%), customer support (30%), centralized localization and translation (13%), and training (9%) departments.

Operational champions have a clear perspective on how content globalization activities support corporate goals and a distinct vision of the business drivers and expected ROI for organizational investments. However, our 2008 research revealed that creating an effective business case for those investments was “extremely difficult” without a relationship with an *executive champion*. Although that remains true in 2009, respondents indicate that closing the gap between executive awareness and product content initiatives can be a far more concise process than it used to be due to increasing corporate requirements for global customer satisfaction.

77% of respondents have made a successful business case for improvements to their company’s product content GCVC with the help of an executive champion. Some began the effort years ago; some shared more recent experiences. All respondents could easily recall how easy or difficult the process was.

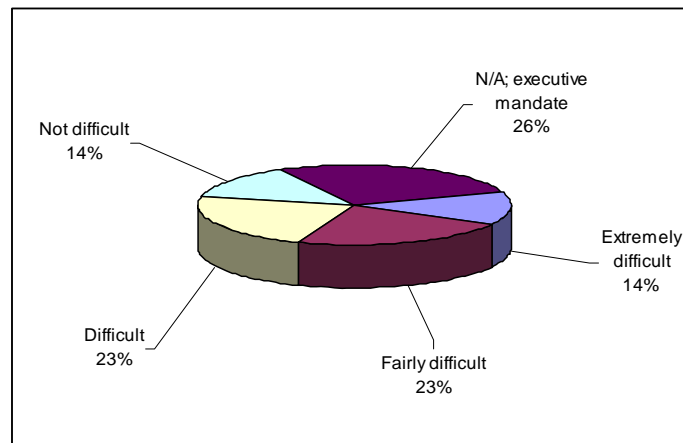


Figure 10: Making the Business Case Experience

While operational champions literally have departmental process know-how in their back pockets and executive champions understand strategic corporate direction, creating a product content ecosystem requires a shared understanding of product content value across a broader community. As such, our research reveals the emergence of two other champion roles that enable the ecosystem to function. Consider their perspective, understanding that collaboration between all champion roles is fundamental.

Regional champions. Traditional roles such as in-country product and marketing managers are critical to the acceptance and success of geographical products. Although undoubtedly the local SME, 2008 research revealed that they were either not directly involved in corporate decision-making on language support and translation depth or they were left “to their own devices” in terms of support, budgeting, and technology investments.

Regional champions understand that increasing localized/translated content volume as the sole means of global expansion strategy simply does not work. Embedded in and usually native to a particular region and culture, they often crave more content relevancy than more volume. Historically, however, they too have been victims of the afterthought syndrome, characterized by little collaboration with source content creators and minimal corporate collaboration. Given a stronger corporate focus on region-specific revenues, the influence of regional champions appears to be increasing. This trend was especially apparent when respondents discussed initiatives to shift language-tier models according to 2009-2010 sales projections, consolidate Language Service Provider (LSP) service level agreements, and adjust localization/translation depth to reduce costs.

Cross-functional champions. Perhaps the most interesting result in the area of emerging product content ecosystems is the materialization of the cross-functional champion. Born out shifting market economies and the link between global product content and customer satisfaction, the role takes the coordination of consistency, message, and timeliness to new levels.

Cross-functional champions are facilitating, influencing, and building people, process, and technology approaches within the product content GCVC. They usually gain the role from key accomplishments as an operational champion, whether recruited or simply through organic evolution. They understand how to navigate critical processes that are complimentary (or redundant) across traditional product content domains. They are forging more direct links with finance, sales, and IT. Some control budgets, or have influence over spending in one or more functional areas. Most critical of all is their role as facilitators, with expanded responsibilities that affect numerous traditional departments. Examples would include those who take responsibility for:

- Designing and enforcing quality management programs for content creation and localization/translation processes.
- Using customer feedback mechanisms to create internal training programs on market expectations.
- Implementing structured authoring technologies from the business and use case perspective.
- Standardizing tool sets and coordinating the integration of content and localization/translation management technologies.

Given that 2008 and 2009 research shows that overall, a lack of interdepartmental collaboration is a significant GCVC bottleneck, these talents will come in handy indeed.

2008 research revealed deep organizational challenges in achieving a balance of centralized and regional operations focused on multilingual communications. 2009 reveals an emerging role that focuses on centralizing the vision and maturing the balance. Within the broader product content ecosystem, cross-functional champions understand the impact that regional champions can have on the success or failure of a global product and are tapping their cultural expertise more and more.

Cross-Domain Collaboration: The Road to Alignment

Independent communities have to collaborate if they are to interact as an ecosystem. Although the research reveals that many product content stakeholders are finding ways to work together successfully across two or more functions (due in no small part to cross-functional champions), it is clear that cross-domain collaboration remains a challenge and an obstacle to improving product content GCVCs. In fact, 70% of respondents rate a lack of collaboration between departments and divisions as a major obstacle in advancing their company's product content GCVC to a higher maturity level. 82% cite a lack of an overarching business process.

One of the paradoxes emerging from the research, however, becomes clear when we compare these results with the value respondents place on reusing content within their own domains and repurposing it to others. Respondents cite fairly high levels of reuse and repurposing, but at the same time, report that cross-domain collaboration is sorely lacking. The answer to this may lie in a distinction that respondents make between technology-based sharing and people-driven collaborative processes.

Although respondents referred to "getting to the golden ring of single sourcing" and establishing a "single source of truth," they acknowledge that a concentration on technology-centric solutions are not overcoming people and process issues. It appears that companies are putting effort into applications that enable reuse (e.g., single-sourcing), but collaboration-driven business processes to fully utilize these foundations are perceived to be lacking.

To understand how content created for one purpose is applicable to other objectives, we first asked respondents to identify the content types for which their group is responsible.

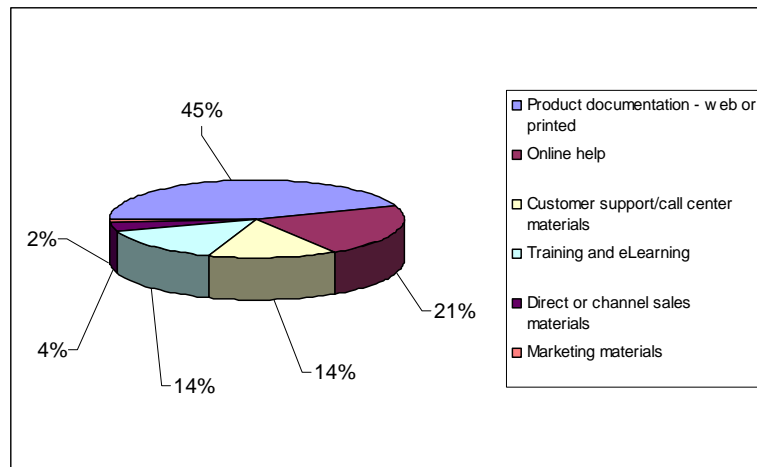


Figure 11: Outputs Directly Responsible for Producing

We then asked respondents where and for what applications that content is reused or repurposed.

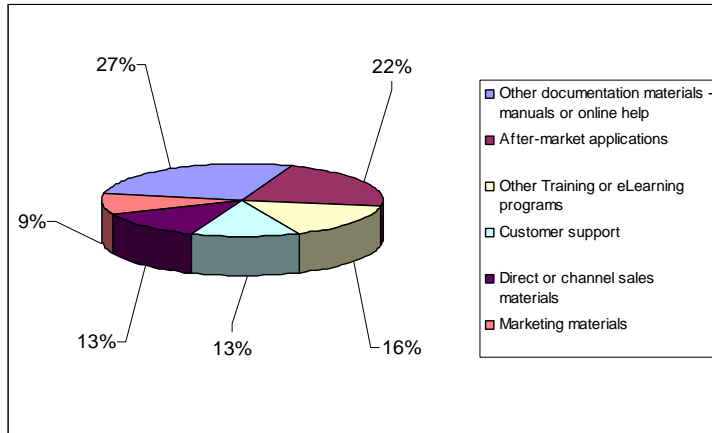


Figure 12: Outputs Reused Outside Area of Responsibility

Respondents report formal or informal content reuse and repurposing to peer or related departments (i.e., technical documentation to customer support) as well as to sales information, marketing, and after-market applications such as interactive service manuals and embedded displays in manufactured products. The applicability of product content to *applications closer to the customer* is evidence of the impact that technical documentation, training, localization/translation, and customer support domains can have on customer engagement and satisfaction.

However, 50% of respondents report that sharing content assets through reuse or repurposing activities is informal, administered by collaboration “guidelines” and driven by manual file sharing. Here again we see the paradox of significant effort to established shared content foundations without a universal understanding of how to *utilize* them.

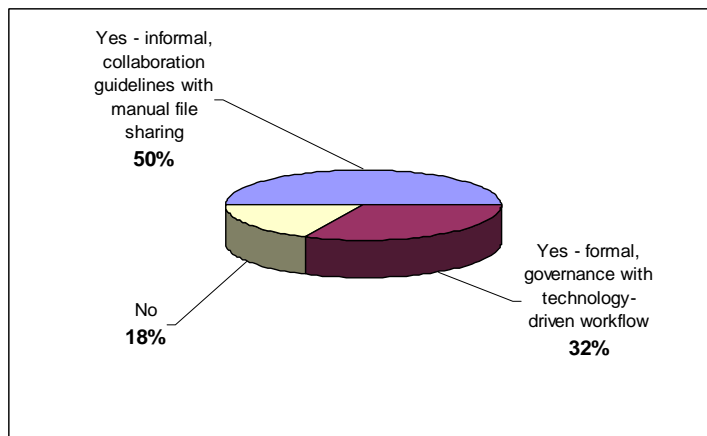


Figure 13: Proactive Sharing of Content Assets

Most respondents report that obstacles to sharing content assets have more to do with people and process than with technology. The end-goal remains overcoming traditional organization structures and cultural biases toward department or product-centric initiatives.

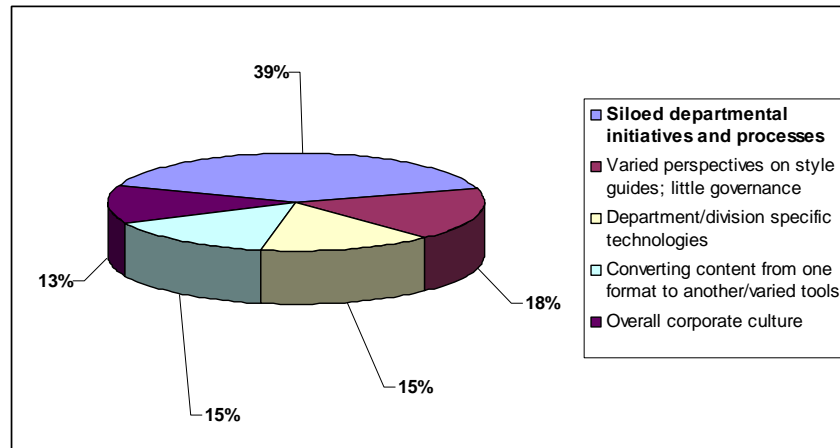


Figure 14: Obstacles to Product Content Collaboration and Sharing

Many are championing a transition from the “vision of one” to the “vision of all” through more proactive collaboration across the full range of product content domains in addition to critical external resources such as strategic consultants and Language Service Providers (LSPs). This signals a move toward a true product content ecosystem, in which stakeholders function as participating communities rather than independent silos.

Service Providers as Strategic Partners

In an environment of worldwide competition, organizations are compelled to deliver greater and greater value. In a traditional context, companies managed functions that represented their high-value core competencies internally, and then outsourced the lower value operations to third parties. With customers demanding high value in everything a vendor delivers however, it is no longer possible to divide the work in such simplistic terms. Although some high-value functions are outside an organization’s capabilities and competence, that organization remains accountable for delivering that value—should they wish to remain a trusted vendor (and as we will see later, becoming trusted is the name of the game). Delivering high value “across the board,” then, requires companies to reach beyond their boundaries. It means bringing outside communities into the product content ecosystem.

Our interviews indicate that companies are continually striving to better manage their service providers—with a twist. As organizations attempt to meet rising customer expectations and deal with the tension between innovation and fiscal responsibility, we see two paradoxical trends in how organizations are using service providers: service divergence and service convergence.



Figure 15: The Evolving Service Provider

Service divergence represents the divide between services provided for operational efficiency and services that deliver high value.

- **Operational Efficiency:** Focus on improving and streamlining existing operations. These include traditional services yielding faster turnaround and lower costs, such as translation and technical writing. Customers view such services as commodities, and readily outsource them, often switching vendors for lower costs, better terms, or faster execution. Many firms are consolidating service providers around these services. One global computer and peripheral company has a central team that evaluates and assesses vendors, and then makes their services available to the greater enterprise.
- **High Value:** Services that draw on specialized and deep subject matter expertise and capability to enhance the client's customer's experience, tying the role of the service provider to the third megatrend and positioning their expertise as more strategic and less tactical. Respondents' perception of the value of these services is reported in Figure 16. Examples from the research interviews include a high technology firm that tapped a service provider based on its in-depth knowledge of digital video. In another case, a large equipment manufacturer is evaluating service providers to provide a strategy for the selection and implementation of quality standards.

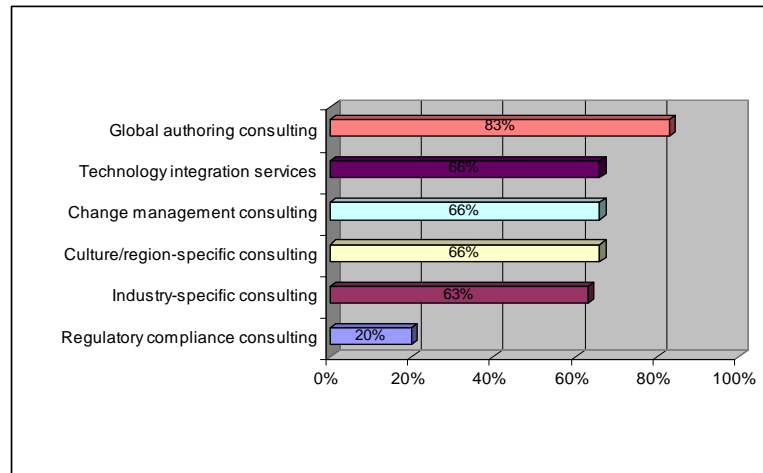


Figure 16: Perceptions on High Value Services

The need for both classes of services (operational efficiency and high value) often exists within the same customer. A medical device company outlined how it was reducing the number of LSPs and minimizing LSP transactions and translation costs, but then later explained that it needed change management consulting on global content governance.

The second trend is service convergence. Although not reported in the survey data, our view, drawn from anecdotal evidence, is that the pressing need for collaboration is compelling customers to simplify and converge services. As a medical company manager explained: “After ten years, we’re still striving for collaboration and still attempting to reduce the number of business silos and separate P&Ls.”

Key attributes of service convergence include:

- Selecting and aligning vendors based on their ability to support strategic corporate objectives.
- Relying on trusted, long-term relationships for core services, especially those vendors with deep knowledge of the customer practices.
- Increasing collaboration between internal and external resources for service delivery to optimize and streamline operations.

A global textile and automotive manufacturer shared that it had been working with the same service provider for four years. The manufacturer treated the service provider as an extension of its internal team, providing the company with extensive product training and expecting greater quality and faster turnaround.

One service provider explained how it helped a client address both service convergence and service divergence. First, they secured customer trust on the basis of delivering commoditized localization/translation services. The customer then engaged the service provider to help with collaborative planning, in which the service provider proposed high-value global authoring consulting. The service provider was later engaged to deliver this same high value service.

As service providers become trusted advisors, clients are more apt to come to them with their biggest challenges, such as change management and strategy. Organizations gain confidence through a foundational relationship based on traditional services for operational efficiency. The relationship grows stronger and more expansive when trusted advisors collaborate with clients to help with change management, areas of specialized expertise, and corporate strategy. In this way, service providers evolve through client relationships into strategic partners.

Trends in Product Content Technology Infrastructures

Our interviews with respondents included detailed questions about how companies are implementing technologies within each phase of the product content GCVC. Because siloed practices are giving way to product content ecosystems, it is impossible to isolate the key findings for each phase. In addition, the relationships between some phases of the GCVC—create and manage, for example—have long been established for product content applications. Hence, looking at individual technologies does not accurately represent the transformation of traditional practices into GCVCs.

The insights on technology adoption are instead presented herein as the major trends and issues that emerged from the research, including achieving quality at the source, content management integration across the GCVC, translation management, and measurement and metrics for assessing the value of global content.

Achieving Quality at the Source

Quality has long been a vexing issue; content creation—including writing and translation processes—is inherently both art and science. What is clear to one content creator is complex to another. Consistency metrics applicable to a single language break down when applied to a full range of multilingual outputs. Universal interpretation does not exist from the content consumer point of view. As one respondent summarized the dichotomy, “Information needs to be clear in all languages, but we cannot create content with a ‘one size fits all’ approach.”

There are three facts upon which all respondents agreed.

- Quality product content is a universal goal.
- Achieving quality takes a shared understanding of and commitment to standards.
- The optimum stage to introduce and reinforce quality is at the beginning of a “blank page.”

Clearly a traditional metaphor for any process and interface that writers and translators use to create information, the blank page refers to the content creation stage for source content, regardless of the language in use. While most respondents cite English as the source language, respondents with headquarters in non-U.S. countries as well as regional SMEs forcefully reminded us that source content comes in many languages and is often translated to English rather than from English.

The pursuit of quality at the source has been a recurring, strategic theme during conversations with Gilbane’s research respondents and clients for multiple years. With this report’s focus exclusively on product content, our goal was to deepen the discussion, asking respondents to pinpoint the people, processes and technologies

critical to implementing specific and measurable methods for agreeing upon and most importantly, *achieving* quality.

These methods include standardizing content structure, standardizing content design (including topics, product names, terms, phrases, etc.), using content technologies to automate governance, and in some cases, centralizing responsibilities for content quality control (akin to the quality assurance function in software development). As with the product content projects discussed in previous section on *The Business Case for Multilingual Product Content Investments*, cost savings was the underlying intent of most of these initiatives. Many programs and initiatives focus on better controlling the quality, consistency, and accuracy of content from the authoring function forward. As one respondent noted, “The old adage of garbage in, garbage out still applies; if the source content is hard to understand, the translated content will be even worse.”

The following discussion describes the technology approaches that are driving the realization of these methods:

- Structured content authoring
- Terminology management
- Technology-driven governance, including quality-controlled authoring and translation-guided authoring

It will be no surprise to readers that the research reveals a mature adoption of structured content authoring. Over the past two decades, technical documentation practices have been firmly shaped by the lengthy history of SGML (Standard Generalized Markup Language), the introduction of a more contemporary approach with XML (eXtensible Markup Language), and the rapid adoption of DITA (Darwin Information Typing Architecture) since 2005. Our respondents’ use of structured content reinforces this market maturity:

- 74% of respondents create structured source content.
- 60% have been creating structured content for six or more years.
- 68% use a proprietary DTD (Document Type Definition) or schema, indicating well-established implementations preceding the advent of DITA.

Another sign of mature practice is the capture of reuse metrics for structured content authoring. Of those respondents creating structured source content, half claimed to have measured estimates of reuse (as opposed to “guessed estimates”). 71% of this group is seeing greater than 50% reuse levels within their domain. Again, these results are not surprising, particularly given a 45% respondent population focused on technical documentation and the longevity of their structured content investments.

The more interesting results come from the value respondents see in the ability to bias source content (*structured or unstructured*) for localization/translation processes and ultimately, for global customer satisfaction. To explore this perspective, we asked respondents to indicate technology approaches or methodologies in place for source content standardization.

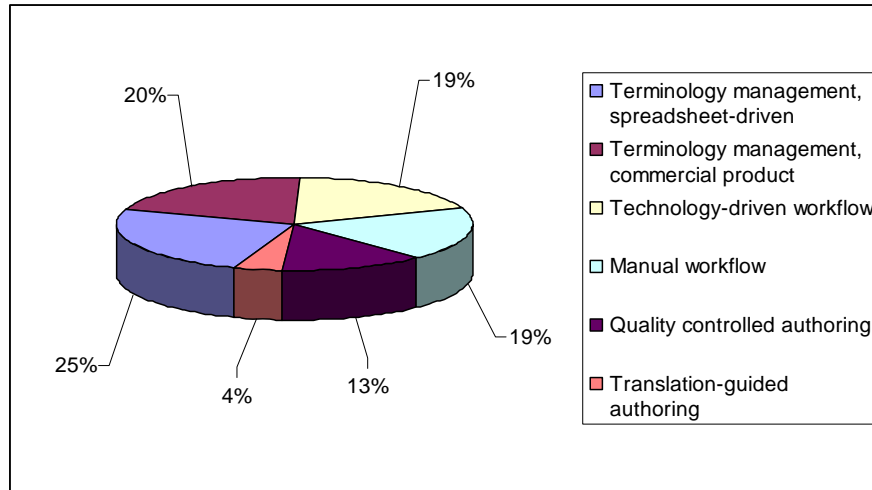


Figure 17: Approaches to Standardized Content Creation

As Figure 17 illustrates, terminology management is the most commonly cited methodology for standardization. Establishing generalized product names, terms, and phrases for product content and identifying their preferred equivalents in other languages was an ongoing topic during respondent discussions of product content quality, accuracy, and consistency. Over 80% of respondents consider terminology management key to global customer experience, brand management, and quality and consistency.

Certainly, operational champions have promoted the use of cross-industry style guides and defined corporate-specific glossaries for some time. Respondents agreed, however, that distribution of standards as paper-based guidelines did little to encourage real adoption. Most have turned to online design and distribution for terminology management, with 82% of respondents citing the use of commercialized solutions or spreadsheet-based glossaries. *All* who have implemented a terminology management approach consider the following business drivers as “Critical” or “Very Important”:

- Global customer experience
- Mono- and multilingual content quality
- Product-specific consistency

Respondents also cited global brand management, adherence to regulatory compliance requirements, and language-specific consistency as drivers for expanded terminology management efforts.

As illustrated in Figure 18, respondents report a mix of approaches to the ongoing maintenance of terminology assets, ranging from in-house or LSP centralization to a “combined ownership” approach in which LSPs and organizations jointly manage department or product-specific terminology databases or spreadsheets. A number of respondents noted the latter as time-consuming and prone to inconsistent usage due to version control.

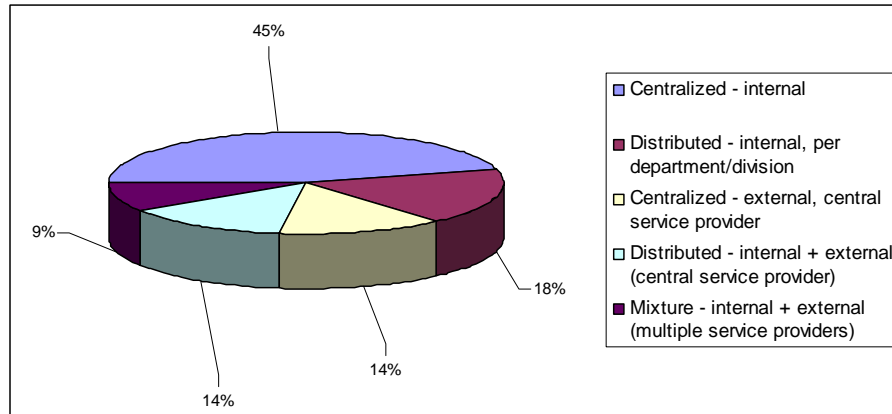


Figure 18: Terminology Management Approaches

As discussed previously, however, the inefficiencies of traditional practices often come to light as organizations grapple with the multilingual multiplier. Although the implementation of structured content authoring and terminology management approaches in this respondent population is significant, most cited the need for *technology-driven governance*. As one respondent noted, “Deciding on guidelines is one thing; getting people to use them is another. We will not see efficiency gains or cost savings until content is auditable.”

For some respondents, a recognized need for more comprehensive approaches to content quality has resulted in implementations of technologies integrated directly into authoring and localization/translation environments. Described as examples of more efficient ways drive consistent use of terminology assets while encouraging content quality, these tools include:

- **Quality-controlled authoring:** uses a specific language subset based on industry standards and a corporate-defined rules engine to ensure consistency and clarity.
- **Translation-guided authoring:** checks the availability of specific language and multilingual equivalents in a translation memory repository.

Our research reveals that perceptions on the value of these tools are increasing, largely through the strategic efforts of cross-functional champions who have made successful business cases for focused implementations. As one respondent noted, “Our centralized ‘strategic quality group’ provides information standards that are now enforced by integrating the guidelines right on the author’s desktop.”

Various respondents referred to such technologies as “electronic style guides” and “ambiguity checkers.” Each was determined to make stronger and more tangible contributions to helping their companies realize global customer satisfaction objectives. As a group, all respondents understood that global product content accuracy and consistency is a *risk management* issue, with avoidance as the goal. They felt strongly about reducing the corporate risk of inconsistent branding, documentation, and instructions within technology-enabled, self-help customer support environments.

Operating within a highly regulated industry, another respondent noted the immediate improvements realized during a quality controlled authoring implementation with a bit of wistful hindsight. “We should have implemented this approach ten years ago as part of our content architecture; we are trying to catch up on quality at the source issues now.” This comment speaks to the dominant research theme that the obstacles to improving “a, b, or c” have more to do with people and process than with technology. Although many respondent conversations revealed quality-controlled or translation-guided authoring is the right cure, they noted that adoption can be seriously hindered by significant cultural, organization, and operational differences across departments and divisions.

Content Management Integration

Content management practices and technologies have been core to product content development and delivery since the mid-1990s, as adoption of structured content expanded and as specialized systems for managing structured content made their way to market. As a result, “Manage” is a mature and well-developed phase of the GCVC for product content. Our respondents reinforced this maturity. Nearly all claim to have a content management system (CMS) in place. They use a variety of solutions approaches, including engineering design systems (PLM or source code control), web content management, full-featured CMS, and XML-based component content management (CCM)³ systems for managing content at granular levels.

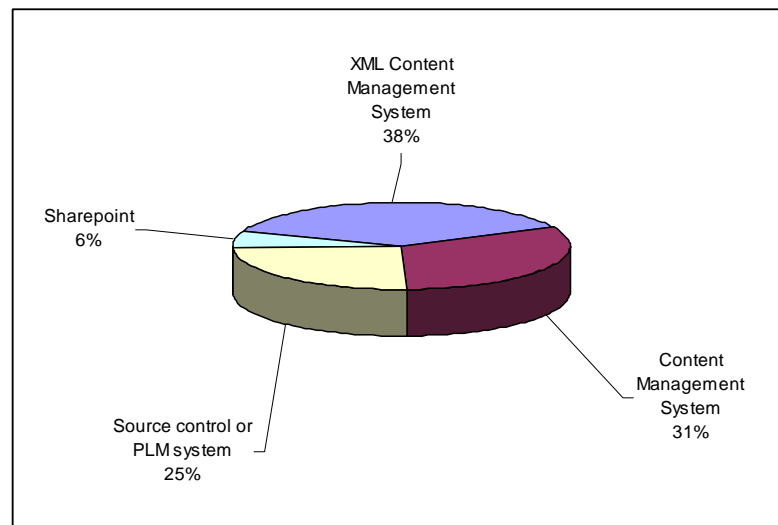


Figure 19: Types of Content Management Implementations

The perceived value of structure and component-level management for product content applications is reflected in the relatively high number of CCM systems in use within the

³ A CCM provides the core features of a content management system (repository for content and metadata, workflow capabilities, and library services such as tracking, versioning, and check in/out) plus to ability to manage content at a granular level.

survey population. Based on the research and on Gilbane's broad industry experience, leveraging structured content across the GCVC with content management has become an organizing principle for global content practices. One respondent told us, "I don't think we could have evolved our GCVC without an XML content management system."

The use of engineering design systems as content repositories reflects an evolution in technical documentation practices. Several factors have drawn product engineering and technical publications closer in recent years, including broader adoption of lean manufacturing processes and agile software development methodologies. As products are developed and manufactured as components, so too can documentation be modeled as components. Rather than recreate the content already captured in engineering systems, organizations can streamline processes by treating those systems as repositories for content destined for inclusion in finished-form product documentation. This approach can be especially useful for content published in online and embedded help systems.

Although engineering systems serve a purpose within the product content GCVC, they are rudimentary when it comes to the capabilities required for true component content management. Engineering systems make it possible to align content with product or code development in their early stages. But these systems typically lack features for component-level workflow management, robust library services tuned to granular content, and complex metadata management (for tracking links to component usage, for example). In addition, their integration with translation management technologies is virtually non-existent today. As a result, a dependence on engineering systems for product content management can negatively impact the pressing need for collaboration across the GCVC. Our research indicates that most companies who have come from this direction have not yet successfully transitioned from the repository within the source control system to the robust CMS needed to streamline their GCVC.

Given the emphasis on global content value chains, our interest is not only in the adoption and implementation of content management itself, but also in the extent to which the practice is integrated with other GCVC functions like create, localize/translate, and publish.

Authoring tools and content management systems. One-third of respondents report that their authoring and content management systems are not integrated. Although rather surprising at first glance, we note the variety of types of content (including unstructured content and graphics) and the variety of types of repositories (including engineering systems and SharePoint) in use within respondents' organizations. Based on broad industry experience, these types of content and systems are typically not integrated in automated workflows to the extent that structured authoring tools and XML/component-content management systems are.

Content management systems with localization/translation technologies. We asked respondents to characterize the extent of CMS integration with translation

management systems (TMS). We mapped their responses to levels as defined by Gilbane Group in 2007.⁴

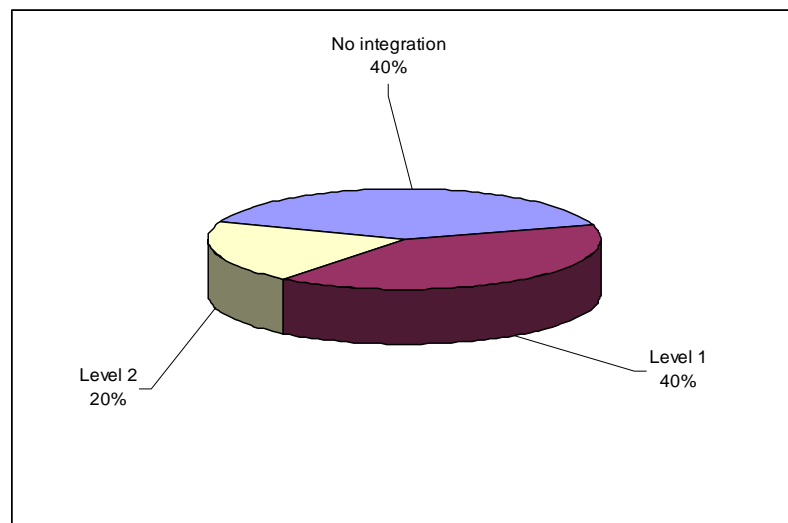


Figure 20: CMS/TMS Integration Levels

LEGEND

Level 1: Autonomous workflows; manual email/FTP transfers; some level of automated assembly of required content objects for translation.

Level 2: API-level integration; user interface commands to kick off workflow; auditing on state changes; automated server/FTP transfers.

Level 3: Level 2 plus visibility/queries into TMS PM and process; access to or combined reporting/auditing.

The results indicate that this point of integration within the product content GCVC is ripe for improvement. 40% said they had no CMS/TMS integration in place, which means that source content files were being moved manually from the content repository to internal resources or external LSPs for localization/translation, and the content in the target languages returned to the CMS in the same way. Another 40% claimed a basic CMS/TMS integration, with workflows mutually exclusive but some assembly of content objects(s) that require translation with automated email notifications for auditing. Only 20% had a level 2 API integration, and no one claimed a level 3 integration. 70% of those reporting some level of integration, however, referred to the process as “difficult at best.”

Content management and publishing integration. Historically, one of the core value propositions for content management systems is multichannel publishing.

⁴ http://gilbane.com/globalization/2007/02/integrating_translation_and_co.html

Repurposing content for output to multiple delivery formats was a primary motivation for early-market investment in these systems. Respondents acknowledge the business value of multilingual multichannel publishing, tying it to meeting time-to-market goals and attracting more customers.

It is not surprising, then, that almost two-thirds of survey respondents report that their CMS system is integrated with a publishing engine, and that 59% report that their publishing tools and processes are not bottlenecks. Although “web-first, print-second” is a reality for 58% of respondents, printed product content remains a requirement, especially in regulated industries and when selling into emerging markets where IT infrastructures are weak.

Given the historical adoption and strength of content management for repurposing and multichannel publishing, we puzzled over data revealing that one-third of respondents have not integrated their CMS and publishing processes. Based on qualitative evidence from the research and on Gilbane’s experience in the market, we see that companies are still struggling with desktop publishing in order to meet requirements for page-formatted product content. The multilingual multiplier is again the culprit. It increases the cost of producing formatted output significantly, remaining a major challenge for many organizations.

Our interviews uncovered story after story about organizations that expend tremendous capital (both in-house and with service providers) on multilingual content formatting and graphics adjustment as part of localization/translation processes. One company told us that publishing savings alone justified the purchase and rollout of a CCM, the move to a new LSP, and the acquisition of an XML publishing solution.

Translation Management Systems

Characterized by technologies such as translation memory, terminology management, process management and workflow, finance and resource management, and increasingly, machine translation engines, those in product content domains have a deep investment in TMS utilization, whether outsourced through LSPs or internally implemented.

The use of translation management systems within global product content processes continues to mature. Of those surveyed, 94% have a translation memory solution in place, 82% are using terminology management, and most companies are actively managing their translation assets, internally and/or externally. The acceptance of and dependence on translation management technologies—and in some cases, standardization on platforms—is undoubtedly driven by increasing corporate intentions to penetrate global markets where customer expectations for native language communications are steadfast.

As one respondent remarked, “The creation of multilingual product content needs to be a line item requirement for product launches in countries such as China and Brazil.” Another respondent offered similar observations, but noted the need to avoid the

“translate it all” approach: “We need to understand our global customers better and deliver content that matches business needs, which differs from market to market.”

The acceptance and adoption of standards is another indication of maturation, but the results here are less promising, and mixed. In general, half of respondents or less expressed awareness of key multilingual standards for translation memory and terminology management, and an equal or less share indicated that these standards were now in use.

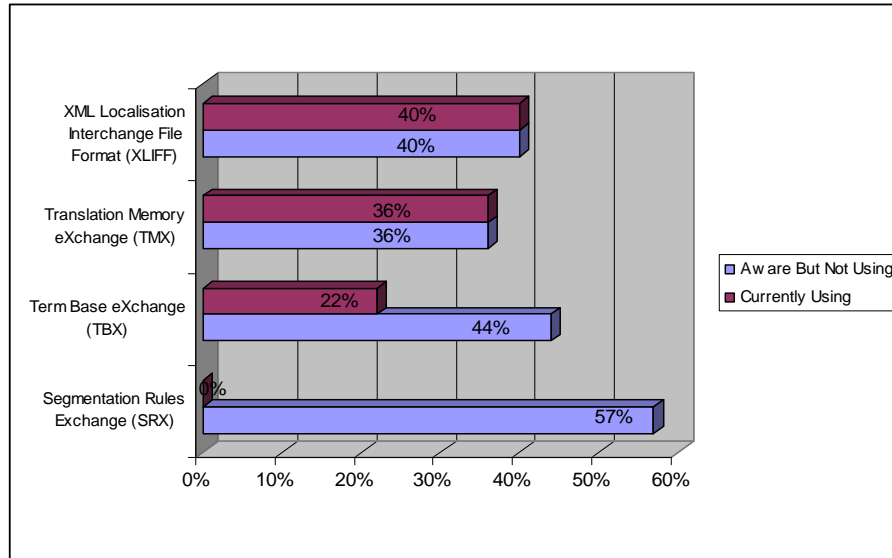


Figure 21: Adoption of Translation Management Standards

Historically, the implementation of standards typically lags behind both industry awareness and general acceptance of need. For some of these technologies, there is still a lack of universally accepted standards—translation memory has been available for over 20 years, terminology management for over 15. In general, adoption is impacted by market education, perceived value delivered to the organization, support for the standards in products and services, and ease-of-use for end-users of standards-enabled tools. These factors contribute to the low adoption rates reported in the research.

The TMS technologies that surfaced most often in our research are translation memory, terminology management, and machine translation. This is not to say that they are the most widely adopted—only that companies are finding proven and new value in their roles within the product content GCVC. This section looks at translation memory and machine translation; terminology management is discussed earlier in this report in the section on *Achieving Quality at the Source*.

Translation memory (TM) is essentially a database that stores previously translated sentences and phrases for reuse. TM helps companies reach a larger number of international markets without exponential increases in spending due to rising translation volume. Integration with content management and authoring applications is becoming more common, which increases corporate collaboration and helps streamline and automate the product content GCVC. And, finally, the level of reuse,

cost savings, and impact on customer satisfaction can be clearly measured. Organizations gain greater visibility into the impact of multilingual product communications, and can more effectively manage the tensions between innovation and fiscal responsibility.

TM is the grandfather of all translation tools, and has been widely used for over twenty years. Today, however, it is evolved into a prominent role in global product content practices. Respondents could easily identify the value of TM, as illustrated in Figure 22.

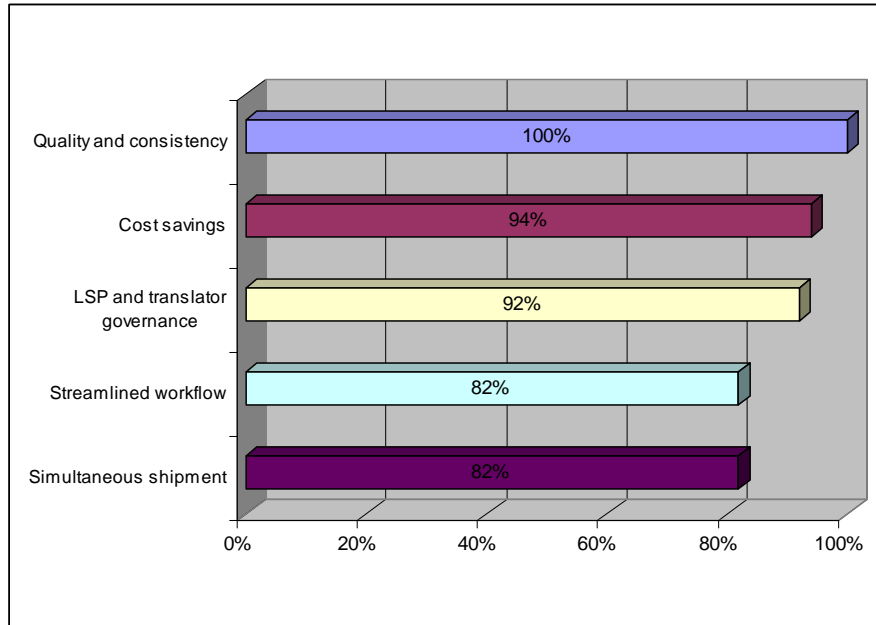


Figure 22: The Value of Translation Memory

Over 80% ranked the five key areas of value as “Critical” or “Very Important.” Particularly noteworthy is the balance between operational value, such as cost savings and governance, and strategic value like quality and consistency, simultaneous shipment programs, and streamlined workflow across the value chain.

Support for both operational efficiency and strategic value is evident in how companies grapple internally over how much to centralize and distribute their TM management. Two-thirds have centralized their TM. A little less than a third have distributed management of the TM. LSPs are involved in both centralized and distributed TM.

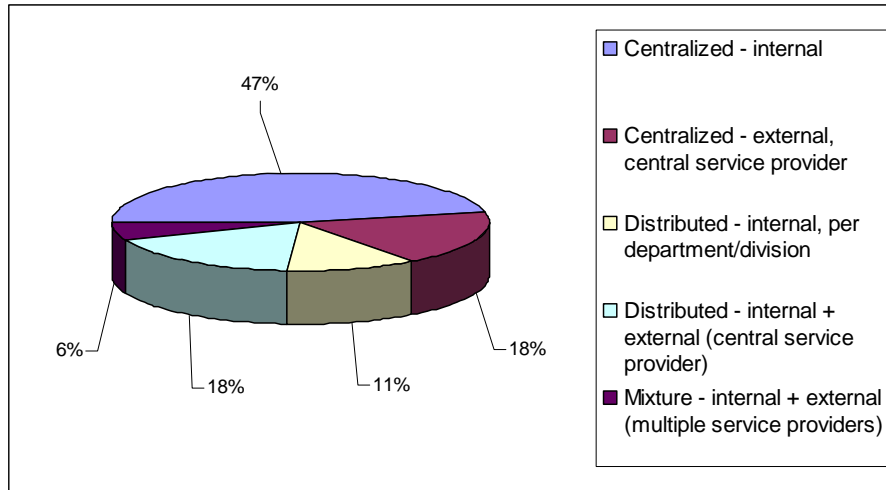


Figure 23: How Organizations Manage Translation Memory

The third of three TMS technologies delivering proven and new value is machine translation (MT), the automatic translation of text from one language to another. Research for *Multilingual Communications 2008* indicated that companies were looking at MT as one of the three technologies of greatest value for the future. This 2009 study shows that 30% of respondents are using MT, evenly split between technical documentation and customer support domains, as illustrated in Figure 24. Most of these companies are long-time users and deploy MT in conjunction with translation memory and terminology management.

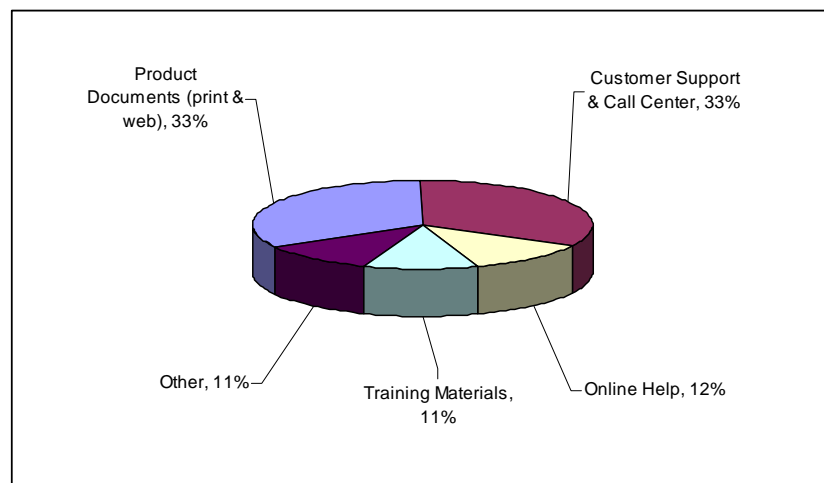


Figure 24: Machine Translation Use by Product Content Type

Respondents who have integrated MT with production processes report operational efficiencies in localization/translation processes, with 75% citing MT as a driver of increased multilingual product content volume and 50% noting its ability to improve internal or external translator throughput. From a strategic perspective, the primary business driver is reducing the cost of post-sales support.

60% of MT users are using a hybrid process approach that merges MT and human translation. Here MT is used in combination with translators fulfilling a post-editing function (that is, they edit the translations that are output from the MT engine). One respondent provided a good hybrid example, mixing statistical and rules-based MT engines with translator post-editing to deliver customer support sites for Japanese, Spanish, Portuguese, and Russian.

MT clearly appears to be gaining ground and momentum, particularly among organizations with mature localization/translation management operations. However, even respondents with deep investments in fine-tuning rules-based and/or statistical engines are still working to establish operational processes around MT use, such as improving dictionaries and fine-tuning quality assurance practices. In some cases, a focus on process issues outweighs concerns about performance of the technology itself, with one respondent remarking that “the technology is sound; we are applying it one language at a time, learning from each implementation, and making process changes as we go.”

From this perspective, it is interesting to note respondent views on MT concerns, with 42% citing operational issues rather than solely focusing on historical questions of technology viability and quality.

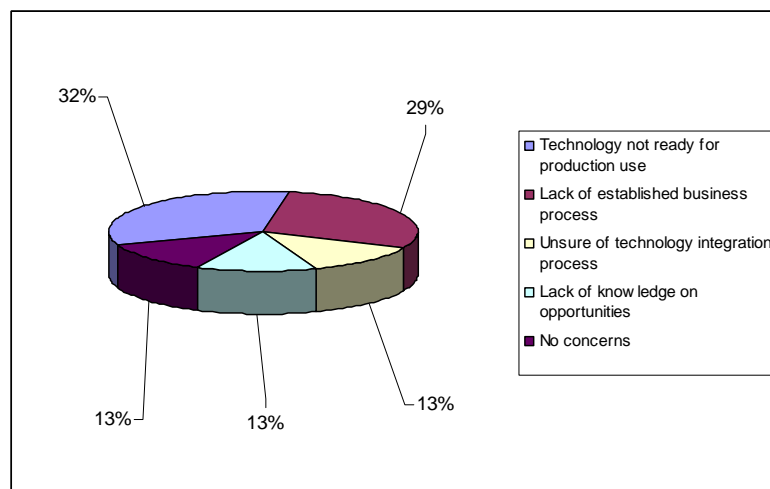


Figure 25: Perceptions on Machine Translation

Overall, organizational awareness and implementation of translation management technologies is significant within product content domains, where terminology management and translation memory are viewed as proven workhorses. The successes of those who have invested in incremental implementations of machine translation solidify this technology as an essential component of proactive strategies for meeting increased demands for multilingual product content, particularly in the area of technology-driven, self-help customer support.

Metrics and Measurement

The research for *Multilingual Communications 2008* found that operational champions were frustrated because they could not successfully articulate and persuade key decision makers of the value of multilingual communications. However, the approaches to measuring content value were fragmented across a range of metrics and the results often isolated according to tactical concerns. In many cases, there was a serious disconnect between stated corporate objectives and what the metrics were measuring.

This 2009 study presents a more focused picture of measurement and analytics, partly because product content domains are more closely aligned with well-established organizational structures (engineering, manufacturing, and customer support) and industry-adopted process methodologies (agile software development and lean manufacturing strategies).

To our respondents' credit, however, it is also partly due to more coordinated and comprehensive approaches. When driven by a cross-functional champion as described in the previous section on *Principles of Emerging Product Content Ecosystems*, these efforts are most successful when he or she has:

- Working knowledge of corporate objectives with tangible responsibilities for achieving one or more specific key performance indicators (KPIs).
- Deep expertise in the market objectives, performance to date, and the technical architecture of one or more product lines.
- Strong relationships with director or executive level personnel in other product content domains
- Access to metrics-generating systems in finance, accounting and customer support call centers.
- A perspective that understands that establishing, monitoring, and reporting performance is central to good business governance.

As we noted in the section on *The Business Case for Multilingual Product Content Investments*, respondents with current or projected metrics and measurements for cost savings (including discretionary spending or headcount reductions) or increased customer satisfaction levels were less likely to experience negative impacts from the current economic climate. Those who further segment measurement data from a multinational perspective (both qualitative and quantitative information from regional champions) and product content type (i.e., technical support instructions versus online help or traditional owners' manuals) have a distinct advantage when it comes to sustained product content investments. These are the product content stakeholders that can prove value with measurement beyond simply perception or word of mouth.

As we expected, the majority of respondents agree that multilingual product content increases customer satisfaction and loyalty.

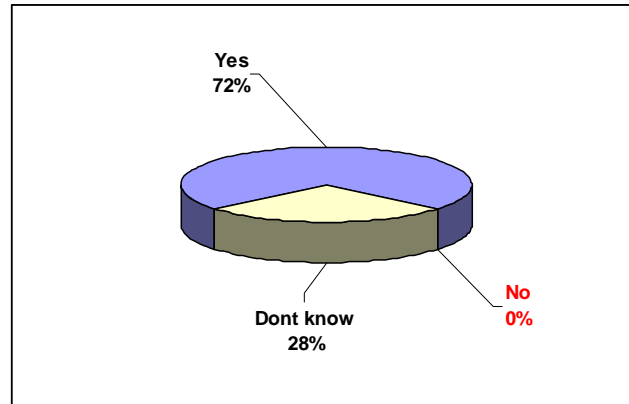


Figure 26: Multilingual Product Content and Customer Satisfaction

However, the 28% of respondents who “don’t know” indicate that a significant share of companies have not been able to effectively link performance to this key corporate objective. Respondents in this group discussed their challenges in this regard, clearly struggling with measuring the influence of *both* mono- and multilingual product content.

- “We do get feedback from the business operations, but we have to wait months.”
- “Quality is always hard to measure. It’s a subjective opinion.”
- ‘We don’t formally measure satisfaction with product documentation.’

Still, the lack of formal business processes for metrics and measurement are not decreasing respondent perceptions of the impact of multilingual product content on global customer experience. 89% of those surveyed stated that it was “Critical” to “Important.” *No one* said it was “Not Important.”

How are companies designing specific metrics that measure the value of product content? The most effective approaches tended to relate to the customer support domain, as roughly half of respondents cited either a decrease in or faster resolution of customer questions and problems, albeit with anecdotal relationships to specific product content deliverables. A common practice was supplementing quantitative data with product content domain-specific initiatives, including:

- Cross-analysis with department-driven surveys from technical documentation and training.
- Product content stakeholder representation in customer-centric channels such as regional or worldwide sales meetings, channel partner events, and user conferences.
- Increased collaboration with LSPs through region-specific reporting requirements on translation memory reuse and linguist-specific feedback on cultural sensitivities.

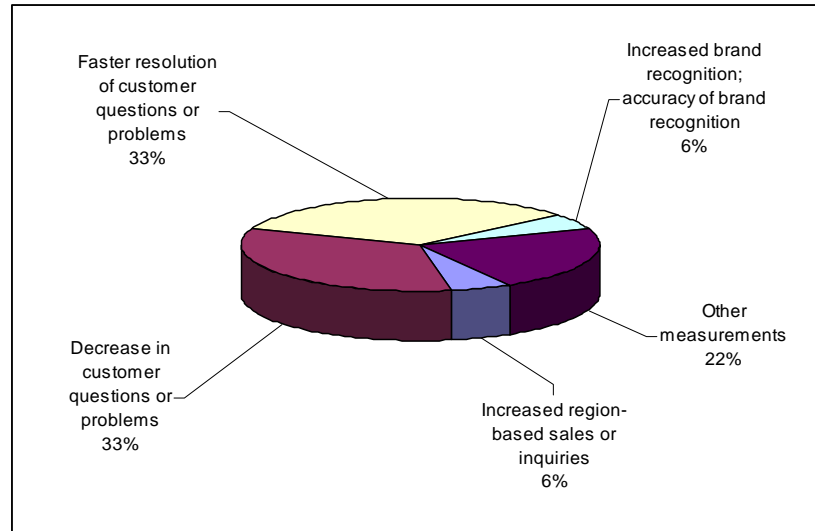


Figure 27: Measuring Product Content Value

The dearth of measurement across the enterprise has led some product content stakeholders to become creative in gathering customer feedback and data. One networking product firm used the number of customer certifications as a core metric; they now have a goal of tripling the number of certified individuals within three years.

A high-tech manufacturer has developed and implemented a range of measurements to assess the impact of multilingual education. These include annual and real-time surveys that look at quality, accessibility, and usefulness; customer support metrics on the level of user issues and customer satisfaction; and input from online communities and social media, in which SMEs are expected to play an increasingly larger role. Regarding social media metrics, one respondent noted, “The primary challenge in this area is on tracking contribution against ROI to sustain resource commitments.”

As companies make slow but steady progress towards more effective measurement of the impact of global content, a key to good results will be defining and reporting metrics that are directly linked to business impact and recognized corporate initiatives.

Gilbane Conclusions

There is no question that the early 21st century is a time of great transition for product content practices. The book paradigm that long defined technical documentation has been broken by a shift to structured, component-based authoring, content management, and publishing. Customized content delivered to the customer just-in-time is a reality. The ability to output content in a specific language virtually on-demand is becoming real, making language just another output of multichannel publishing. Customers are becoming part of product content ecosystems through web-driven interactions and community feedback. Mergers and acquisitions are putting pressures on companies to create flexible architectures that minimize the amount of time to meld people and processes.

It has become obvious that traditional product content practices are no longer able to deliver value that matches today's global business requirements. Companies need contemporary infrastructures—comprising people, process, and technology—in order to deliver product content that creates competitive advantage with positive customer experience, strong brand, and solid process-know-how. This is a very tall order for even the largest companies. Building GCVCs to adapt to and keep pace with these changes is extremely daunting, to say the least.

The research reported in our studies and our experience working with global 2000 companies with content globalization practices clearly tell us that whole new systems, approaches, GCVCs, and product ecosystems are not built from new cloth. They emerge over time, growing organically, usually from a specific pain point. In reality, nearly every company embracing the transformation is doing so by identifying the most useful components of their practices, pulling them forward into new environments, and infusing them with new technologies and processes along the way.

Which practices should be left behind, and which pulled forward into product content GCVCs? We suggest some starting points for consideration in Table 2.

<i>Pull Forward</i>	<i>Leave Behind</i>
Parallel product and source content development based on use cases; iteration-driven training modules and localized/translated content.	Sequential development; agile development teams without trainers and linguists.
Structured content and componentization as a best practice; user assistance as a core part of product design and competitive differentiation.	Book paradigm; technical documentation as a necessary evil and localization/translation as an afterthought.

<i>Pull Forward</i>	<i>Leave Behind</i>
Content management that supports topic-driven product content at a granular level, integrates with localization/translation processes, and enables reuse and automated assembly of content objects.	Source control systems for product content management.
Evolving roles for product content SMEs that meld traditional and customer-facing responsibilities; Centralized roles or functions that facilitate cross-functional collaboration.	Department-based content creators, siloed product content domains, and barriers between afterthought operations and customer-facing activities.
Automated multichannel publishing processes that account for and support multilingual formatting requirements.	Manual or single process publishing processes for specific outputs.

Table 2: Transforming Traditional Practices

At a high-level, companies who want to begin actively managing programs and practices towards the “Aligned” phase of Gilbane’s GCVC maturity model can begin by take the following steps:

- Conduct a content globalization capabilities assessment. Take an honest inventory of capabilities, competencies, strengths, and weaknesses.
- Decide which current practices deliver the kind of value required within a contemporary GCVC. Identify those that will be left behind, and develop strategies for replacing them with new capabilities.
- Map the organization to the GCVC Maturity Model. Determine how the current state can be strengthened, and lay out the requirements, strategies, and tactics to move up the slope.⁵

We conclude the report with individual commentary offered by the three Gilbane analysts who lived and breathed the research for half of 2009.

Leonor Ciarlone: The Product Content Ecosystem Perspective

The emergence of what we call the product content ecosystem has as much to do with increased value of content itself as it does with the expanding roles of product content

⁵ See pages 64-65 in *Multilingual Communications 2008* for a detailed description of the GCVC Maturity Model.

stakeholders . For many content and localization/translation professionals, the wait for information to take its rightful place within the list of corporate priorities is over—partly due to individual diligence, but mostly due a shift in customer expectations and behaviors. Today, it would be difficult to find an organization that does not rely on information to support a compelling global customer experience. It would be equally difficult to find a consumer that has patience for content that is hard to find, irrelevant, or in language they do not understand.

From this perspective—that content has proven value which drives revenues and reinforces brand—it is a necessity that investments in the relevancy and usability of mono and multilingual product content are continuous. Although the obligation is intrinsic to the work of technical communicators, trainers, language professionals, and customer support representatives, reinforcing the message corporate-wide requires the efforts of an operational champion. Or many.

Much of the work of advancing product content’s role in customer-facing operations lies in building a community from the “bottom-up.” But as respondents this year show, *sustaining* product content’s strategic importance requires a facilitating, cross-domain role—a.k.a the cross-functional champion— that influences and coordinates “top-down” awareness and commitment. The foundation of a product content ecosystem, where the organizational community includes regional expertise and direct links with departments such as finance, sales, and marketing, does not discount the need for a strong technical infrastructure; rather, it provides the foundation to design, implement and continuously improve it.

Karl Kadie: The Language Industry Perspective

As the demand for multilingual product information has escalated and the world economic downturn has deepened, the language industry is being transformed in how it delivers as localization and translation solutions. Particularly evident is the industry’s challenge in responding to a growing trend in service divergence. On one hand, LSPs are under pressure to improve their operational efficiency to meet the growing demand by providing greater volumes of multilingual content at less cost, with higher quality and faster turnaround. At the same time, these same vendors are providing higher value services, which take them out of the traditional translation space, in some cases delivering change management consulting for the GCVC, global authoring consulting to architect multilingual content creation solutions, regional and cultural specific consulting to heighten the customer experience, and technology integration services that integrate localization/translation processes within the GCVC. LSPs that recognize this trend are pursuing parallel but very different business models.

The product organizations that use these services and technologies are, of course, striving to add new languages and new publishing media at a faster rate without significantly increasing their costs. Here’s the rub: in order to transform their operations into an effective GCVC, they must also make changes to how they address their language requirements. These changes mean incorporating into their infrastructure new or additional technology capabilities, such as end-to-end

terminology management, machine translation, or translation-guided authoring, as well as adopting new processes to streamline the GCVC and better integrate translation. In other words, they must—as their business deems necessary—embrace and incorporate the innovations facilitated by high-value services within their localization and translation operations. The overall “language” function, then, evolves to provide a more complete range of value, rising to full partnership across the GCVC along with content creation, content management, publishing, and consumption.

Mary Laplante: The Market Readiness Perspective

We attempted to present a fair and balanced view of the current state of companies’ efforts to reinvent multilingual content practices and bring them into the 21st century. We were conscientious about making sure that we understood what is working and what is not, how companies are failing as well as succeeding. As an analyst, it is sometimes easy to lose sight of the fact that while there is pioneering work being done, many companies are still struggling to solve the very basic problems of getting good content into the hands of customers who need it to accomplish the task at hand, regardless of where they live in the world. Companies spend years and millions in their native currency on addressing these problems. Ultimately, our goal with this project is to provide guidance on spending that time, money, and effort in ways that will move organizations forward, rather than keep them bound to processes that are not viable in today’s global economy.

In the opinion of this analyst, technology *per se* is not the barrier. The core technologies for innovative content globalization practices, many of which are discussed in this report, are market-proven (in the case of mature technologies such as structured authoring, component content management, and translation memory) or market-ready (in the case of new and better tools for baking in quality at the source). In our experience, companies tend to be their own worst enemies when making the businesses cases for investments in them. An important outcome of this research is the articulated tie between good multilingual product content and great customer experience. Organizations that can measure the value of that connection and leverage it will be in a position to use global content to create long-term, sustainable competitive advantage. In that sense, we hope that this research will serve as a catalyst for transforming practices within many organizations.

Best Practices Profiles

In this final section, we provide stories from individual companies that illustrate how leading practitioners are aligning content globalization practices with business objectives. They represent operational and cross-functional champions from all product content domains—including technical documentation, training, localization/translation, and customer support departments.

Sharing perspectives specific to their product content domain, the respondents discuss experiences related to building product content ecosystems and highlight various content technologies and services important to fulfilling their mission. Since all represent large companies with varied content globalization practices, it is important to note that the applications profiled in their stories represent only a portion of the technologies deployed within their organizations.

The aggregation of their initiatives and results with the broader respondent population naturally formed a set of best practices that can be universalized for companies looking to solve similar problems or create similar opportunities. The following themes comprise a list that is not exhaustive by any means, but does represent key and common ingredients for success:

- Promotion of “global thinking” within their own departments, across product content domains, and between headquartered and regional resources.
- Strategies that balance inward-facing operational efficiency and cost reduction goals with outward-facing customer impacts.
- Business cases and objectives carefully aligned with corporate objectives, creating more value in product content deliverables and more influence for product content teams.
- Initiatives characterized by a holistic focus on people, process *and* technology requirements.
- Commitment to quality at the source, language requirements as a status-quo requirement, and global customer experience as the “end goal.”
- Focused and steady progress on removing collaboration barriers within their own departments and across product content domains, effectively creating a product content ecosystem that will grow over time.
- Technology implementations that enable standardization, automation, and interoperability.

We sincerely thank the individuals cited in these best practices profiles for the additional time and effort needed to create a synopsis of their company’s achievements. Most of all, we thank them and their companies for agreeing to share their stories publicly.

Adobe Systems

A leader in design and publishing technology for over 25 years, Adobe Systems has \$3.5 billion in revenue and over 7,100 employees. It offers business, creative, and mobile software solutions that focus on how the world engages with ideas and information, including the well-known Flash® Professional, Adobe® Reader®, Photoshop®, Dreamweaver®, FrameMaker®, InDesign®, and After Effects® products.



Adobe generates over 50% of its revenue from outside the United States. Its products are in use on 98% of the world's Internet-enabled desktops. With its large, global customer base, and long commitment to localization and translation, Adobe has developed a truly global infrastructure with the people, processes, and technology necessary for multilingual product communications.

Focus on the Globalization Team

Globalization is a team of 100+ people around the world responsible for the internationalization standards and best practices across the company. The group delivers Adobe's localized products, and the corresponding marketing, operational, and support information, including global product and brand content (packaging, collaterals, web and interactive). The Globalization team has the distinction of playing both tactical and strategic roles for Adobe.

The group leads efforts to promote corporate-wide global thinking, improve product "world readiness," and support Adobe's geographic expansion strategy, ultimately enabling Adobe to grow and scale to address the needs of all customer types in the global marketplace.

In its work with engineering, the Globalization team drives the development of Adobe's localized products through a unique offering of localization/ translation tools and services. Major deliverables from the Globalization team include operations and best practice guides. Additional deliverables include global product content for Adobe websites, online help, and customer support materials, as well as specialized materials like scripting guides and product release notes.

This team is part of the larger Adobe Experience and Technology Organization (XTO), which authors technical documentation in addition to managing web content, digital imaging, design layout, and video production. All of XTO is tasked with ensuring a high level of quality and accuracy for product communications.

Content Globalization Challenges

Underlying all Adobe activities are the key corporate drivers of reducing costs, increasing customer satisfaction, and improving quality. These drivers are common to many large, multinational corporations, all of whom must figure out how to build efficiencies into their operations as they continue to innovate.

Because the Adobe brand and reputation is directed at “creative” users around the world, the Globalization team faces major challenges in delivering these creative applications for use in the local languages. In this context, the team must add new languages to their portfolio at the same time they are tasked to address a greater number of geographic markets at varying levels of maturity and financial health—and they must do this (like most other global enterprises) in an environment where there’s increasing pressure to reduce resources and expenses.

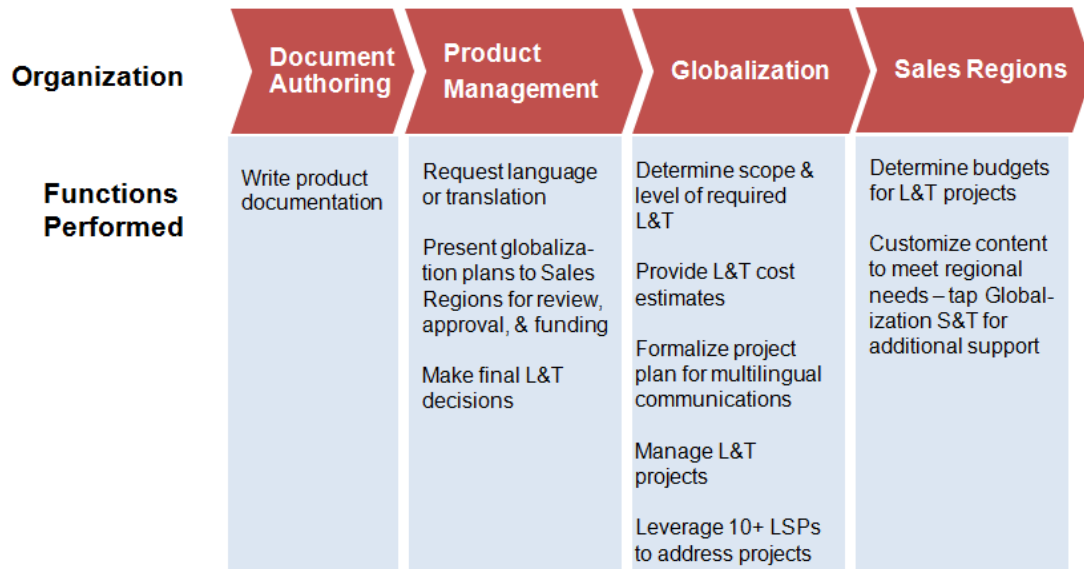
The Solution

Adobe’s Global Content Value Chain (GCVC) addresses a solid set of the people, processes, and technology required for a flexible, scalable infrastructure. The technologies deployed by Adobe are evidence of the breadth of capabilities and competence residing within Adobe:

GCVC Function	GCVC Technologies
Create	<ul style="list-style-type: none">• Structured authoring software• Terminology data base
Localize/Translate	<ul style="list-style-type: none">• Translation Memory and Machine Translation• Multilingual terminology management• Language Service Providers (LSPs) for translation and value added services
Manage	<ul style="list-style-type: none">• Web content management software• Document management software
Publish	<ul style="list-style-type: none">• Multi-channel publishing software

In addition, the Adobe GCVC is enriched through feedback from customers—derived from surveys, as well as input from blogs and wikis—which helps ensure that product communications are clear, timely, and effective.

What’s more, Adobe has personnel spread across the globe, with particular organizations headquartered in different locales. Managing their GCVC with a global workforce is a challenge unto itself. To ensure success in this context, Adobe has formalized and institutionalized the GCVC as it relates to different organizations, clarifying the ownership and expected deliverables from each organization, as highlighted in the graphic below.



Globalization, then, apportions out the work to its distributed team. The group that does all the product internationalization, for instance, has two international group program managers in the United States (not at the headquarters location) supported by engineering/program management teams in the U.S.A., China, Romania, and India, and vendors and outsourcers in many countries.

Results

Adobe’s GCVC evolved significantly when the Globalization team focused on departmental goals that supported higher level corporate goals:

Corporate Goal	Division Deliverables
Cost Savings	<ul style="list-style-type: none"> Increased revenue/customer base Decreased localization/translation costs Increase in translation volume without cost increases
Customer Satisfaction	<ul style="list-style-type: none"> Improvements in “simship” for product information Improvements in customer experience
Quality Improvements	<ul style="list-style-type: none"> Single sourcing Better alignment with product design, development, and manufacturing Improved content consistency and accuracy

In terms of localization and translation, the team has also achieved excellent results through the innovative use of LSPs. They tapped Jonckers Translation & Engineering,

for example, because of its in-depth knowledge of Adobe requirements and additional expertise in localization engineering. Jonckers assumed a major role in localizing Adobe's digital video products, and then was able to carry the translation memories and term base forward for reuse in the localization/translation of product documentation.

The team also keeps track of globalization performance through metrics on localization and translation from their translation management technology. They also conduct surveys to obtain feedback from many sources, including physical product packages (enclosures), trade conferences, customers, and user and translation communities.

Gilbane Group Perspective

The GCVC utilized by Adobe's Globalization team is durable and robust enough to accommodate a wide variety of geographic, market, and economic requirements. There is a working balance between central and regional resources in both decision making and project execution. There is sufficient alignment between executive sponsors, sales regions, product management, Globalization, and other XTO departments.

The GCVC includes a complete infrastructure with technology covering core GCVC functions; processes driving enterprise interaction and collaboration; clear policies for governance; and sufficient resourcing of internal and external personnel. Most impressive is that the infrastructure is not only robust, but also scalable, and can handle increased volumes of translation, new languages, and product introductions without buckling under the strain.

One key factor in making this possible has been the "stratagical" nature of the Globalization team, which has succeeded at both its strategic and tactical charters. Strategically, the team has been pivotal in communicating the value of product globalization across Adobe (as cross-functional and operational champions), and in architecting the infrastructure necessary to achieve good outcomes. Tactically, the team has provided localization and translation services and for delivering localized product content. It is a remarkable accomplishment.

BMW Motorrad

BMW Motorrad is the largest manufacturer of motorcycles in Europe, and a leader in the motorcycle market worldwide. It is a division of the BMW Group, headquartered in Munich, Germany, with \$82 billion in sales and 107,000 employees. BMW Motorrad produces 104,000 motorcycles annually—with over 80% sold outside of Germany—and provides a premium, high-quality product.



Focus on Technical Writing

The technical writing department at BMW Motorrad has a long history of producing technical documentation for motorcycles sold on a worldwide basis. The team's main output is a printed "rider's manual," which is customized to the particular model and features, a vital part of the "premium" offering. The team also delivers a broad array of product documentation (print and web) for customer support, repair, and warranty management. Over time, there has been a steady evolution toward structured content authoring.

In recent years, the technical writing team had seen the volume of documentation rapidly expand due to advances in machine complexity and the growing volume of motorcycle configurations (there are now over 150 variants). They were also under pressure to reduce documentation costs, advance the team's productivity, and improve the level of quality and accuracy.

Meanwhile, product development cycles were getting shorter and shorter. The team needed to capture technical product content earlier, and extend the usable lifecycle of product documentation longer and longer. The goal was to create content that was accurate and understandable, and could be retained for greater time periods, used for different documents, and published in multiple media.

Underlying these changes was a recognition that technical documentation should reflect the premium, high quality nature of BMW motorcycles. Customers buying an R, F, or K Series bike expect that the documentation will support and enrich the premium experience with information specific to their vehicle, factually correct, and easily understandable. The goal was for technical documentation to help BMW Motorrad deliver a premium customer experience.

Content Globalization Challenges

A key ingredient in delivering a premium customer experience was for BMW Motorrad to publish product documentation, especially rider's manuals, in the local country languages. To meet consumer requirements, multilingual technical documents had to be ready early enough to launch a product in multiple language markets simultaneously. To ensure a high level of quality in these markets, the content needed to be at the same level of granularity as that delivered in the German source content. Moreover, when it came to ongoing product changes, Motorrad faced challenges with

tracking multilingual product updates against changes in both the source language data and target language materials. Inevitably, the multilingual multiplier had come into play, expanding and intensifying the problems associated with producing accurate, high-quality content, and ensuring that customer experience was not compromised.

As multilingual communications played a progressively more important role in BMW Motorrad's business, localization and translation costs escalated dramatically. The technical writing team was compelled to decrease these expenses at the same time it was adding languages and increasing the volume of technical content.

The Solution

BMW Motorrad chose to address these challenges by introducing a complete multilingual publishing solution that relied on single sourcing and media independence. Motorrad ensured the success of the implementation with clear business processes and careful resource planning.

To begin with, the new system was a major change in the way Motorrad produced technical documentation. The team worked hard to educate and train writers in the practice of structured authoring, who were then able to regularly follow the paradigm of single sourcing in writing technical content. To maximize reuse, Motorrad produced content in a way that was media independent, that is, the information was never written for a specific document, like a rider's manual, but instead for accuracy within a specific context and usage. As a consequence, content components could be readily accessed and shared across the enterprise, leveraging component content management to reuse approved source content for many different documents in multiple languages.

The individual countries owned the budget for localization/translation, and determined what content was translated in what timeframe. The highest priority for translation decisions was motorcycle sales volume, although the resellers and importers sometimes presented other rationale. Once the decision was made, the writers outsourced the localization/translation to three LSPs that actively used the Motorrad publishing system for translation management. The LSPs returned the localized/translated product information to the technical writing team, which then leveraged the same system to publish it.

To ensure consistency, Motorrad installed policies and procedures for formal governance, which were typically driven by software-generated workflow. Additional governance was provided by the corporate style guide and the terminology management process.

BMW Motorrad implemented this approach using a multilingual publishing system from the STAR Group, which contained four main software programs. GRIPS is an information management system that leverages SGML/XML technology. STAR's Transit is a translation memory system for storing and reusing translated content, as well as managing the localization/translation process. TermStar and WebTerm are terminology management systems for managing specific terms, tracking source language words and phrases and their equivalents in target languages. The translation

memory and terminology management systems tied closely to GRIPS from the creation of source content through publishing. The GRIPS information management system remains the sole, contextually accurate information repository for the value chain—including text, terms, and translations for all languages and across all functions. This common repository eliminates unnecessary conversions of information from one format to another as the data moves through the chain. According to Mr. Andreas Hahn, a technical writer at BMW Motorrad, “Conversion is always fault-prone and often linked with dramatic losses of content.”

Results

By implementing this new infrastructure (people, process, and technology) BMW Motorrad scored a significant increase in productivity. They now delivered product documentation in 18 languages. In terms of ROI, the team reduced documentation costs by 30%, and localization/translation costs by 30%.

They are successful at producing customer- or vehicle-specific rider’s manuals, and have automated processes for delivering personalized documentation. Motorrad has taken a lesson from engineering in that a document may be composed of individual, self-contained logic components in the same way a technical product is comprised of separate subassemblies (as an engine is a subassembly of the motorcycle). The team is now publishing more documents in a shorter time, with greater information depth and higher overall quality. In addition, the structured authoring and single sourcing enabled them to easily produce derivative documentation, so that, for example, content from a rider’s manual could be repurposed for use in a customer service or repair manual.

Motorrad believes that their solution’s greater modularity and flexibility coupled with higher quality helps them to “future proof” their documentation, significantly extending the lifecycle for approved product content.

Gilbane Group Perspective

Customer-specific rider manuals, along with derivative maintenance plans and customer support manuals, are a solid advance in delivering a rewarding customer experience. As Mr. Hahn noted, “If a customer receives product documentation in their mother tongue, it makes it much easier for them to understand how to operate the vehicle.” In addition, this enhancement increases customer satisfaction, accelerates and expands product use, and lays the groundwork for repeat business.

The technologies and processes across BMW Motorrad’s GCVC are comprehensive and well integrated. They provide a great example of the benefits that can be wrought from the end-to-end single sourcing and terminology management. Because the technology ensures that the same content and the same terms flow across the value chain, and because of the links between content management and localization/translation and multi-channel publishing, the publishing process has become highly automated. And this automation speeds time to market, along with increasing flexibility and responsiveness.

Cisco Systems

Founded in 1984 by a small group of computer scientists from Stanford University, Cisco is a worldwide leader in networking that transforms how people connect, communicate and collaborate. The company's offerings span the full range of hardware, software, and services used to create the Internet solutions that make networks possible. Cisco revenue for 2008 totaled \$39.5 billion, up 13 percent from fiscal year 2007.



Bringing more than 250 new products to market in 2008, Cisco boasts more than 66,000 employees worldwide that serve five geographic theaters—United States and Canada, European Markets, Emerging Markets, Asia Pacific, and Japan. Focus on expanding presence in the Emerging Markets and Asia Pacific theaters is strong, China and India in particular. 92% of all Cisco's customer orders arrive through the Internet.

Ranked number #2 in the Silicon Valley 150 Cisco's 2008 foreign sales accounted for 47% of its business. International sales represented a growth of 20%, a rate four times higher than the company's overall 5% sales growth.⁶ As such, it is no surprise that the company's commitment to multilingual product is comprehensive.

Focus on Customer Support

*Providing customer satisfaction is one of Cisco's core values.
Creating sustainable customer partnerships is a crucial part of our strategy
and provides invaluable insight into market transitions.*

Cisco established its first customer support domain in the late 1980's, calling it the Customer Advocacy organization. Its mantra was to ensure global customer satisfaction and "smooth the rollout of Cisco technology through support services."⁷ Before a restructure in 2001, one in five Cisco employees worked within this organization. In 1994, the company launched its first customer support online community, enabling customers to quickly access technical support databases, known problem reports, software updates, and configuration examples. A Chinese version launched two years later.

Fast forward to 2009, in which the customer advocacy mantra still holds true as well as a compensation model that ties global customer satisfaction to personal accountability. This applies to all groups in Cisco services, including the Smart Web Technology Group, chartered with the design and maintenance of mono and multilingual customer support web sites. Over numerous years, a combination of the team's dedicated customer support writers and technical writers from product documentation groups have produced more than 25,000 documents.

⁶ The Mercury News Silicon Valley 150. http://www.siliconvalley.com/sv150/ci_12109399

⁷ John Kevin Waters, *John Chambers and the Cisco Way: Navigating through Volatility*. (Wiley, 2002)

Ongoing support for seven languages adds a continuous multilingual overlay across the Smart Web Technology Group's Global Content Value Chain (GCVC) strategy, critical to serving the full range of Cisco geographic theaters. As such, Cisco has been a pioneer in balancing the art of translation with science and technology through calculated and steady investments in machine translation (MT) to sustain the commitment to multilingual product content.

Content Globalization Challenges

The Smart Web Technology Group's objectives, budgets, and processes are tied directly to case avoidance metrics. From this perspective, the customer support experience must deliver usability, relevancy, and actionable content to global users on a daily basis. A growing base of global customers, products and the sheer volume of content required for customer satisfaction make achieving this goal an ongoing challenge.

The team must anticipate and react to customer issues simultaneously, using data mining principles to understand the problems that have been solved, should be solved, and most importantly, those that should never occur. The creation, management, and delivery of accurate, geographically-applicable product content is critical. Customer support writers, editors, and image producers are integral.

Strengthening the group's GCVC means:

- Maintaining alignment with the Cisco global Web strategy for Cisco.com and enterprise Web Content Management (WCM) initiatives.
- Ensuring quality at the source with XML-driven structured authoring as well as a strong technology-driven governance program with ongoing focus on global authoring guidelines and a terminology management foundation.
- Constantly improving the accuracy and efficiency of the Smart Web Technology Group's hybrid approach to MT processing, which combines statistical engines with translator post-editing.
- Consistently measuring mono and multilingual customer support content usage on a topic by topic basis to hone the strategic information from the legacy.

The Solution

Cisco's approach to global customer satisfaction through case avoidance within customer support operations is comprehensive. With multinational sales accounting for 47% of company revenue, the focus on technology is strong, but does not exclude the ever important people and process factors within each of three themes that drive operations – quality at the source, optimized localization/translation processing, and closed-loop measurement.

As discussed in this report, a focus on quality at the source is critical to the overall success of the product content GCVC. Combined with a commitment to structured content as standard business practice, the upstream value to the GCVC is indisputable, increasing exponentially when companies account for the multilingual multiplier. In

the Smart Web Technology Group's case, over 80% of customer support content is in XML with an estimate of 30% reuse for the foundation of source English content. Using a division-based style guide that includes localization/translation principles, customer support writers focus on accuracy, consistency and clarity when documenting support scenarios. Development and approval processes include reviews from engineering and language-specific linguist resources.

In-house, centrally managed translation memories and terminology databases are critical, and each has a dedicated technology management resource. Valued as quality and brand management drivers, these assets are continuously consolidated to a central repository upon completion of internal and services-driven localization/translation processing. According to a Smart Web Technology Group technologist, this organization achieves 70% translation memory reuse.

Optimized localization/translation processing is an impressive reality due Cisco's deep heritage in developing a hybrid approach to integrated machine translation technologies. A long-term program, the approach has evolved from an agenda to reduce costs and increase satisfaction in post-sales support to an integral part of the Smart Web Technology Group's global case avoidance strategy. The core intention to view MT-driven localization/translation processes *in the same context* as structured authoring and content management business practices has been an important criteria for success.

Cisco lexicographers have invested significant energy and time creating dictionary assets to drive statistical MT since 2000. Beginning with their first major MT-driven outputs in 2003 for the Japanese customer support site, continued efforts over the years have expanded to include Spanish, Portuguese, and Russian sites to serve strategic theaters. Building a core competency together with specialized terminology linguists and post-editing translators focused on quality assurance, the maturity of MT-driven operations is now institutionalized for multilingual customer support content and relevant application data.

Building process know-how is certainly a step toward competitive advantage. However, making sure one can measure its impact is quite another. The Smart Web Technology Group addresses this truth at the corporate and operational levels by 1) tying customer support localization/translation budgets directly to case avoidance metrics per theatre and 2) using meticulous metrics to monitor content usage, increasing or decreasing volume as appropriate. As one Smart Web Technology Group technologist stated, "If we can avoid 75% of calls by having multilingual customer support content online, our path is clear. But, we must constantly mine the data to focus our improvements."

Results

Today, 82% of Cisco customer support issues are solved via Internet-driven self-service. This is quite an impressive fact when compared to the 19% industry benchmark

estimated by the SSPA (Services and Support Professionals Association).⁸ , This metric was surely not overlooked when SSPA honored the Cisco multilingual environment with 2009's "Best Online Community" site award. As of June 1, 2009 (for the 3 month average ending May 31, 2009), the site also boasts:

- 306,000+ issues solved online per month
- 2 million+ unique users per month
- 3 million+ software downloads per month

Additionally, the Smart Web Technology Group is processing more than one million words per month based on its hybrid approach to integrated machine translation technologies. The investment in dictionary assets, the tuning of machine translation technology from providers such as SYSTRAN, prototypes, and phased implementations continues to deliver results.

Analytics-driven measurement is continuous, focused on coupling case avoidance with achieving savings and streamlining processes for content creation and publishing. Statistical extraction of access frequency details at the word and phrase level creates a feedback loop to constantly drive better content analysis and increasing levels of MT accuracy.

Gilbane Group Perspective

At the corporate level, Byte Level Research ranks Cisco number three in its annual Web Globalization Report Card for 2007 and 2008, behind only Google and Wikipedia.⁹ Cisco's longstanding commitment to excellence in global customer support is clearly facilitated by the value the company places on having relevant content available at the right time in the right language.

Combining the expertise of customer support writers with technology enablers such as XML, terminology management, translation memory, and machine translation strikes the process balance required for successful content globalization strategies. Finely-tuned metrics and measurement programs for mono and multilingual product content ensure that the case avoidance mantra is consistently achieved while simultaneously strengthening global customer satisfaction. The approach is an excellent example of Gilbane's view on the 3rd megatrend shaping global content practices in 2009: an evolving basis of competitive advantage based on customer experience, brand, and process know-how.

⁸ John Ragsdale, Vice President of Technology Research, SPAA. *Building a Business Case for Communities*. <http://www.thesspa.com/sspanews/April09/article2.asp#1>

⁹ Byte Level Research, *The Web Globalization Report Card 2008*. <http://www.bytelevel.com/reportcard2008/>

Cisco Systems

Founded in 1984 by a small group of computer scientists from Stanford University, Cisco is a worldwide leader in networking that transforms how people connect, communicate and collaborate. The company's offerings span the full range of hardware, software, and services used to create the Internet solutions that make networks possible. Cisco revenue for 2008 totaled \$39.5 billion, up 13 percent from fiscal year 2007.



Bringing more than 250 new products to market in 2008, Cisco boasts more than 66,000 employees worldwide that serve five geographic theaters – United States and Canada, European Markets, Emerging Markets, Asia Pacific, and Japan. Focus on expanding presence in the Emerging Markets and Asia Pacific theaters is strong, China and India in particular. 92% of all Cisco's customer orders arrive through the Internet.

Ranked number #2 in the Silicon Valley 150 Cisco's 2008 foreign sales accounted for 47% of its business. International sales represented a growth of 20%, a rate four times higher than the company's overall 5% sales growth.¹⁰ As such, it is no surprise that the company's commitment to multilingual product is comprehensive.

Focus on Learning

Cisco has long demonstrated a deep commitment to facilitating learning and knowledge sharing across the global workforce that designs, implements, administers, and expands networking technologies. From a business perspective, an investment in the support and expansion of the networking profession is a natural characteristic of the company's widely-recognized customer advocacy and satisfaction mantra.

From the perspective of corporate responsibility, the investment in creating and sustaining highly skilled technical workforces represents far more. Worldwide economic growth across all industries is at risk without the professional development of the human resources to apply various technologies within profit, non-profit, and government entities. IDC predicts a 40% "talent gap" between the demand and supply of technical networking skills by the year 2012. At Cisco, addressing the global networking skills gap is a commitment driven by an obligation to foster industry growth.

To that end, the launch of the Cisco Learning Network in June of 2008 was a significant milestone in the evolution of the company's forums for mass market education, certification, and professional mentoring programs. As described in a press release launch, "Designed for both the seasoned professional as well as individuals considering a career in IT, the Cisco Learning Network is a collaborative Web 2.0 site that enables the creation of a global networking professional community that shares, discusses and

¹⁰ The Mercury News Silicon Valley 150. http://www.siliconvalley.com/sv150/ci_12109399

exchanges ideas in a dedicated online environment.” In just one year, the community had proven its worth:

- Over 100,000 members and 1.7 million unique visitors
- Membership demographics that span 229 different countries
- A Jobs Portal that serves as a resource center for 100,000 IT industry job searches, resulting in activities such as 5,000 job applications

The Learning@Cisco organization develops and manages the training content that drives Cisco Certifications globally, as well as the Cisco Learning Network (<http://www.ciscolearningnetwork.com>). Chartered with providing resources critical to accelerate the productivity of customers, partners, and employees, the group’s overriding objective is to address the global networking skills talent gap. Doing so requires the creation, management, and delivery of “terabytes of content” for use in instructor-led and virtual training courses, certifications, and self-assessments. The Quality Assurance Services (QAS) team within Learning@Cisco ensures consistency, accuracy, and usability of the content in this vast library.

Content Globalization Challenges

A foundation in editing, production, and web services expertise provides the QAS team with a content-centric perspective on supporting the business and industry objectives for the Cisco Learning Network. The team champions the role of information quality in defining customer experience and in turn, facilitating strong customer relationships. Marc Asturias, a QAS Team Lead notes, “The adoption, growth, and impact of the Cisco Learning Network are intrinsically linked to the value of the information it provides.” From this perspective, the ability of the Learning@Cisco group to meet or exceed corporate requirements for measurable customer satisfaction, expanded global reach, and decreased time to market is highly dependent on information quality and depth.

The QAS objective is clearly linked to customer-driven business goals with a mission to “enable Learning@Cisco client success by providing editorial, desktop publishing, graphics, web, new-media, and rich-media services that deliver quality built on scalable and efficient processes, tools, and best practices.” However, the pervasive growth of the Cisco Learning Network presented new challenges to delivering consistent results. To ensure the quality of an ever-expanding content library, the QAS team combined editorial process know-how with content analysis to identify a core set of scalability challenges:

- Internal style guides represented admirable efforts over many years, but resulted in “ungainly resources” for content developers.
- Although style and terminology guidelines included overall usage criteria, content deliverables such as assessments and marketing resources, for example, required different conventions than courseware.
- Editorial focus on copyediting (i.e., sentence structure, punctuation, or grammar) had escalated to a level that prevented focused developmental editing (i.e., clarity, information flow, and consistent branding.)

- Ensuring the continuous improvement of source content was impossible without ongoing evaluations, but processes to do so were subjective, inconsistent and expensive.

In effect, traditional processes for ensuring content consistency, accuracy, and usability had diminished the value of editorial processes.

The Solution

A Strategic Editorial Quality Initiative (SEQI) endorsed by a cross-functional group of Learning@Cisco executives provided the QAS team with an organizational foundation for a cohesive, centralized approach. Clear business objectives for the global expansion of the Cisco Learning Network served as metrics for driving improvements. Process and content analysis revealed the groundwork required to deliver results.

Armed with responsibility and focus, the team set out to formalize a program for continuous information quality management that would provide internal and customer-facing benefits. The first step toward infusing quality throughout the organization's Global Content Value Chain (GCVC) started at the source, or point of content creation. Removing the inaccessibility of terminology, style, and editorial guidelines during the instructional design and development processes was key. In fact, one of the primary productivity issues facing courseware developers and editors was not the absence of quality guidelines; it was the abundance of them. Process analysis also revealed that although content creators had knowledge of various Cisco-specific quality guidelines, it was difficult to know which rules to apply in various contexts.

Integrating quality standards directly into content creation environments, or implementing quality-controlled authoring, provides technology-driven governance from the authoring function forward. The team felt strongly that this approach—providing real-time, in-context, and automated feedback to content creators on linguistic rules, best practices style guidelines, and Cisco-specific terminology—would enable *accessible* quality control. At the same time, the approach would eliminate costly and lengthy editorial cycles overburdened with monotonous tasks such validating the proper use of networking terms and phrases. Finally, it would enable third-party developers to meet Cisco quality standards for learning content.

The QAS team selected and is currently piloting acrolinx IQ and other technologies to improve information quality and implement a technology-driven governance software solution. Guided by the three C's—Compliant, Correct, and Consistent—the team aggregated sources such as Cisco corporate guidelines, courseware and assessment-specific styles, and the “Networking Master Terminology List (NMTL)” to design a rules-driven knowledge base of information quality conventions.

Combining the knowledge base with the terminology management and natural language processing capabilities of the technology-driven governance software solution provides a scalable foundation for an evolving information quality management program. The solution also enables the team to track and report on Cisco-specific quality control metrics specific to global customer satisfaction levels through

integration with content creation environments such as Microsoft Word and PowerPoint.

Results

According to Asturias, the implementation of technology-driven governance aligns intrinsically with the core business objectives of Learning@Cisco by supporting a “controlled focus on quality to help learners absorb information consistently and most importantly, learn quicker.” Measuring the customer-facing impact of this focus is a realistic and manageable activity given ongoing collection of customer satisfaction data within Learning@Cisco and enterprise-wide.

The QAS team expects to further increase the organization’s impressive customer satisfaction levels through quality-controlled authoring and terminology management. The team has also projected internal cost savings through operational efficiencies within Learning@Cisco. Based on the delivery of thirteen new courses for Cisco Certifications, for example, process analysis pinpoints a projected 28% cost savings from increased efficiency. Enabling editors to concentrate on substantive editing such as logic and flow rather than on low-level edits related to style, grammar and terminology rules produces what Asturias refers to as an “immediate ROI.”

Initial results have garnered attention throughout Learning@Cisco and across other product content domains, centralized organizations such as the Enterprise Translation Services Group, and Cisco’s Globalization Board. As a result, the QAS team has begun pre-pilot efforts with other teams to create “a viral approach to quality.”

Gilbane Group Perspective

Quality assurance as a formal operation within product design, development and testing arenas has been status-quo for decades. Ensuring the quality of the content that supports manufactured products and consumer services, however, has traditionally been a “grass-roots” effort driven by one or more operational champions. For many organizations, “quality assurance for product content” consists of ad-hoc, reactive, and inevitably expensive editorial tasks. The challenges of transforming these kinds of practices into coordinated and measurable processes can seem insurmountable.

Efforts within the Learning@Cisco organization at Cisco demonstrate that a proactive approach is the key to establishing a formal information quality management program. Establishing QAS as a services organization, linking its mission directly to customer satisfaction objectives, and supporting its activities through the executive-sponsored SEQI agenda are the building blocks for enterprise-wide awareness. In turn, the QAS team’s ongoing implementation of centralized, technology-driven governance provides the foundation for measurable quality improvements driven by content creators. Through proactive cross-functional collaboration with teams such as Enterprise Translation Services, there is little doubt that these benefits will further strengthen an impressive enterprise commitment to global customer satisfaction.

Hewlett-Packard

Founded in 1939, Hewlett-Packard (HP) is among the world's largest IT companies, focused on simplifying technology experiences for all its customers – from individual consumers to the largest businesses. The company's offerings span IT infrastructure, software, services, business and personal computing, and imaging and printing. Ranking #9 in the 2009 Fortune 500, HP revenue for 2008 totaled \$118.4 billion, up 13 percent from fiscal year 2007.



HP serves over one billion customers in 170 countries on six continents. The company strives to make it as easy as possible for these customers to do business with HP. The company's content globalization strategy is specifically designed to provide HP customers with the right information, at the right time and in the right way. These goals include a strong focus on multilingual product content to convey a single, consistent corporate voice that adapts to global customer expectations.

One of HP's most successful product lines is HP ProCurve, with an industry-standards-based Adaptive Network that represents the fastest-growing business unit within the company. Providing a full portfolio of wired and wireless infrastructure solutions, HP ProCurve reported year-over-year worldwide revenue and port growth for Q3 2008 that outpaced the growth rate of the networking industry.¹¹

As is the case with HP worldwide, the HP ProCurve commitment to multilingual product content is deep. Exceptional performance on a worldwide scale is paramount, as global expansion in areas such as Europe, the Middle East, China, and Africa is critical to sustaining the unit's position as the world's second largest enterprise LAN networking vendor.¹²

Focus on Global Education Services

Two core beliefs define HP's holistic approach to content globalization and, in turn, to global product content. One, that content (including images and rich media) is a core corporate asset to be shared and reused regardless of its final destination, i.e., technical documentation, training, marketing collateral, or web and print product catalogs. And two, that localization and translation processes are of equal priority and value within content authoring, management, and delivery.

For the HP ProCurve unit, this approach is exemplified by the fusing of traditionally separate subject matter experts (SMEs) under one "roof." Global Education Services (GES) Manager Rebekah Harvey's team of 11 technical writers (5 fulltime, 6 contracted), 8 program managers, and 4 courseware developers sits within HP ProCurve's marketing organization. Team outputs include technical documentation (web and printed), online help, training materials, and customer support information. Ensuring content quality, consistency, and accuracy is an overarching mandate.

¹¹ Dell'Oro Group, "Q3'08 Switched Ethernet Report," December 2008.

¹² Dell'Oro Group, "Q1'08 Switched Ethernet Report," May 2008.

GES has direct linkages to engineering, sales, marketing, and global partner learning through their participation in cross-functional project teams, service level-agreements, and direct deliverables. Team members are viewed as critical to product launch success, with technical writers participating in agile development processes and often contributing critical usability feedback to project team leads. In this unit, collaboration and product content repurposing is achieved in multiple directions.

Content Globalization Challenges

Like most operational champions, Harvey's goal is to "get to that gold ring of single sourcing." Her mission is bolstered by the fact that the team creates and owns a full range of product content, providing the foundation for the inevitable emergence of the "cross-functional" champion role, defined earlier in this report. Harvey's challenges include issues that many organizations can relate to in terms of strengthening the unit's Global Content Value Chain (GCVC):

- Migrating from unstructured to structured content creation and management processes to enable single sourcing and remove redundancies in content creation and publishing.
- Transitioning writing approaches from procedure-based book paradigms to user assistance-driven topics and learning guides. As she noted, "It's not about what the product does anymore, it's about how to use it."
- Improving strategies for increased multilingual product content volume.
- Reducing the cost of post-sales support.

The GES team produces product content that is translated into seven core languages, with a greater emphasis on training materials than on technical documentation. Additional languages are sometimes added based on business requirements. Traditionally, a significant portion of HP ProCurve's localization/translation requirements have been managed regionally, without the benefit of balanced centralized and regional decision-making. Knowing this is not scalable in the long run, Harvey's team has initiated transition planning with the help of HP's centralized Translation and Localization (T&L) department.

The Solution

There are three critical principles embedded in the HP ProCurve Global Education Services team's approach to content globalization challenges – simplification, leverage what's available, and focus on scalability.

Simplifying content creation and management processes is an ongoing, phased initiative. Historically, GES training materials were created separately from technical documentation, leading to double-expenses for the same product launch. Completing a full redesign of the curriculum for HP ProCurve's Sales and Technical Certification programs is enabling courseware developers to leverage 70-80% of existing technical documentation for repurposing. As a whole, the GES team is moving quickly to redefine which content chunks are created by training and which are created by the

technical documentation SMEs, thus ensuring that single-sourcing is achievable. Harvey estimates that 71-80% of the *entire* GES product content foundation can be reused or repurposed.

Simplification also includes a shift to XML-based authoring for technical documentation. Understanding that structured authoring is an established best practice, the GES team is determined to make the move to XML as per their 2009 strategic development plan. Based on strong templates in place for the team's unstructured authoring environment and past collaborations with Lasselle-Ramsey and other external and internal resources on business content development strategy, the team has a strong foundation. And with an average technical writer tenure of 22 years, Harvey notes the team has a "depth and wealth of knowledge in product content development."

Here's where the team's second principle, "leverage what's available," will ensure success. There are many teams within the larger HP organization that are well on their way to XML-driven single-sourcing. Harvey's plan is to leverage the in-house knowledge that exists in other business units to shorten the learning curve for the GES team. "There are in-house tools and best-practices already in existence" Harvey says. "My team's job is to figure out how those can work for us." This effort will include a focus on existing implementations of component content management (CCM) solutions to determine their applicability to GES.

The leverage principle will also include direction from the HP's centralized Translation and Localization (T&L) department on integrating translation memory technologies into CCM workflows. Tapping into centralized guidance and governance will also allow Harvey to develop solid working relationship with 1-2 key Language Services Providers (LSPs) who have been evaluated and assessed by the T&L team.

Harvey's ultimate goal is to gain efficiencies that 1) enable the re-use of source product content across documentation, training, and customer support processes, and 2) support increased demands for multilingual product content. The "focus on scalability" principle will surely come in handy in this regard.

Results

The GES team has moved from somewhat passive participation to active business ownership through the implementation of new prioritization and committed deliverables processes. By assessing each new product and the requested deliverables against critical business elements such as revenue expectations, product complexity and strategic value, the team has been able to reduce the number of required deliverables in many cases and increase committed deliverables in others. This process has not only helped the team grow in terms of individual business knowledge, it has often also pushed product teams to reconsider required spend for launch success.

Consistent collaboration within the team and across domains such as engineering, sales, marketing, and global partner learning have led to an impressive focus on

measurement and analytics, a key component within Global Content Value Chain (GCVC) strategy for product content.

Results from both annual and “real-time” GES surveys provide the team with ongoing customer perspective on areas such as content quality, accessibility, and usefulness. Integrating these results through cross-domain feedback loops, GES will have metrics on distinct content chunks that drive decreases in customer questions or problems and increases in customer satisfaction. An initiative to measure ROI on the effectiveness of internal sales training reveals that sales personnel that have completed training and certification programs realize significantly more sales than those who have not.

As the team delivers more product content to technology-enabled post-sales support systems, the level and volume of customer feedback will increase through online surveys accessible from individual web pages. The plan for continuing to secure product content metrics is strong. As Harvey notes, “We will be ahead of the curve when our call centers begin to request this data on a regular basis.”

Gilbane Group Perspective

The GES team is extremely aligned with its divisional and corporate-level goals. While it benefits from an organizational hierarchy that fuses product content roles and deliverables, hierarchy alone does not define success or create vision. The team’s commitment to internal and cross-domain collaboration is what sets it apart.

As a whole, the HP ProCurve unit also boasts a strong use of internal shared workspaces for collaboration and external online communities for customer support, including country-specific social networking accounts. Again taking a proactive approach, GES team members are often contributors to the unit’s wiki and Facebook pages. However, as Gilbane notes in the *Beyond the Research* section, it is not unusual that their contribution is not yet a formal team responsibility. As social media emerges as a product content channel, Harvey expects a growing number of product content SMEs to play an “official” role in community content creation and monitoring. As Harvey noted, “The primary challenge in this area is on here is tracking contribution against ROI to sustain resource commitments.”

GES clearly needs – and is working toward – a stronger GCVC technology infrastructure. Harvey’s strong understanding of the need for CCM to support XML-based authoring will likely avoid the alternative path, hitting the “source control ceiling.” Plans to prioritize GES’ specific requirements into “must-haves” and “nice-to-haves” will also minimize the CCM investigation and implementation. Finally, the team will undoubtedly benefit from a stronger relationship with HP’s centralized T&L team, whose best practices are profiled in Gilbane’s 2008 *Multilingual Communications as a Business Imperative* report.

Mercury Marine

Mercury Marine is the world's leading manufacturer of recreational marine propulsion engines, providing engines, inflatable boats, service and parts for recreational, commercial and government marine applications. With over \$2 billion in annual sales, the company's global brand portfolio includes Mercury outboards, MerCruiser sterndrives and inboards, and MotorGuide products.



Founded in 1939, Mercury Marine is a division of Brunswick Corporation, a market leader in a number of recreational industries, including marine, fitness, bowling and billiards, with \$4.7 billion in revenue and over 20,000 employees.

Focus on Technical Documentation

Mercury Marine's technical communications department is the largest publisher in the Brunswick Corporation family. The team publishes a broad range of documents, including operations, installation, and service manuals, service bulletins, and instruction sheets. Most documents ship with the products; dealers receive service manuals and bulletins independently.

The technical communications department has a long and rich history of producing quality documentation, and is living evidence that organizations can continuously evolve to incorporate new technology and processes to advance product communications. The team simultaneously ships multilingual documentation that accompanies the introduction of new product updates and models. But it wasn't always this way...

Content Globalization Challenges

Early on, the manual production process was so labor intensive that it took two months to write and publish a single instruction sheet. Authors hand-wrote the content and used a Polaroid camera to photograph the product. The art department managed typesetting, layout, and final photos. The publishing group printed the physical manuals.

The first stage in the evolution of technical communications was to prototype and later standardize on desktop publishing tools to automate much of the layout and publishing and provide greater creative capabilities. This foray into desktop publishing exceeded expectations for automation, but did not achieve the desired level of consistency for the department, instead becoming a "playground" for writers. In addition, the desktop publishing application was unable to readily publish in multiple languages.

In parallel, the costs for translation and desktop publishing continued to escalate each year, reaching nearly \$2 million annually. Mercury Marine was dissatisfied with the process and the results. Outsourcing translation and post-translation editing to a Language Service Provider (LSP) to leverage translation memory for reuse, Mercury Marine found they were unable to extract reuse levels from the provider.

Meanwhile, the team struggled with controlling consistency in the English source content, exacerbating publishing costs. Without the benefit of XML authoring or management technologies, they manually tracked content components as chunks, submitting only new content for translation.

When the technical communications team assumed responsibility for managing service manuals, they quickly realized that the existing process and technology infrastructure could not effectively scale to meet the demand. Operations manuals were generally about 125 pages in length. Customer service manuals were six times longer and sometimes extended to over 1,000 pages. The team knew they would need to improve and better automate how they managed and published content “chunks” before they could effectively manage and produce customer service manuals in multiple languages.

The Solution

Manager of Technical Communications, Gary Fenrich, was tasked with finding more effective and less costly alternatives for the preparation and publishing of multilingual product documentation. Fenrich brought in a Systems Integrator (SI) who conducted an investigation of product communications processes. The SI made recommendations and developed a plan for how Mercury Marine could advance technical communications through a combination of XML-based structured authoring, component content management (CCM), and more automated, streamlined translation and publishing.

To acquire and implement this new technology infrastructure would be expensive and require dramatic changes to how Mercury Marine managed people, process, and technology. Underscoring the potential impact to productivity and time to market, the SI recommended fundamental change management processes.

The first step in this endeavor would be to make a successful business case to senior management, one that demonstrated greater control of costs, resources, and translation processes to deliver a substantial business return. Translation costs were at the core of the business case: if an owner’s manual or customer service manual changed only 10%, then the translation costs should only be 10% more.

Although the team presented two business cases for custom SGML solutions to senior management, both were rejected due to high costs. With the help of the SI, they identified a new XML-based solution that included:

- A commercial CCM solution from Vasont Systems that would help contain costs and avoid the trappings of custom software (which require a level of support that can be protracted and expensive.)
- A structured authoring application.
- The introduction of a new LSP that fully embraced Mercury Marine’s new approach and help the technical communications team gain control of translation assets while containing costs.
- An automated, multi-channel publishing system.

This time, senior management approved the proposal on the condition that it would deliver a positive ROI within a year, and reduce the internal headcount and external costs for translation and post-translation processing.

As an operational champion, Fenrich was fully aware of the challenge in orchestrating change management across the company to meet these goals. Implementing the solution required new skill sets and cross-departmental processes, requiring several related efforts:

- Establish consistent collaboration and alignment with executives at the director and VP levels.
- Establish a multinational, cross-departmental team with reliance on the regional, in-country management who were responsible for local market success and owned much of the translation budgets.
- Secure additional in-house technical resources to guide and assist in the implementation. Knowing from the outset that corporate IT could not provide sufficient resources, Fenrich added a computer science professional to the team.
- Establish new process, guidance, and roles for a successful adoption of structured authoring. As Fenrich stated, “The goal was to get the writers to think about writing for publishing. Instead of writing for a book, they would need to write for the content database and for discrete processes.” Enlisting the help of a lead technical writer on the team, Fenrich created a new role with responsibility for XML authoring guidelines, team leadership during implementation, and solution testing.

Results

Mercury Marine achieved the ROI and headcount reduction goals in just eight months. Today, content reuse for both source and translated content is high, as much as 90% for existing operations manuals, and 50% for new manuals. On an annual basis, Mercury now supports documentation in up to 23 languages, including:

- 50 owner’s guides
- 30 service manuals (each between 600 and 1,000 pages)
- 200 technical bulletins
- 600 instruction sheets

With infrastructure and cross-departmental processes in place, Fenrich has moved the focus to the accuracy and quality of source content stating, “It’s all about clean – clean English source and clean translated content.” With glossaries in place to support all languages, the approval process for localization/ translation is closely monitored, as once translated text is checked into Vasont, it becomes available for reuse. “We were lucky,” remarked Fenrich, “in that Vasont’s tagging and workflow made it simple to track, express multilingual equivalents, manage, and reuse text in all languages.”

Summarizing the journey, Fenrich remarked: “In snowy Wisconsin where our headquarters is, you’re always following the snowplow. To move forward in technical

communications, we needed to own, drive, and maintain ‘our snowplow.’ So that’s what we did.”

Gilbane Group Perspective

Mercury Marine has a globalization strategy that drives the continuous improvement and evolution of product communications. What is most striking is the high level of maturity within various processes, characterized by a spirit of teamwork and individual contribution. Mercury actively shares language assets in both the source and target languages. There are no product content silos. Collaboration pervades the company, particularly evident in how different departments are individually competent yet work closely together. As Fenrich noted, “We needed a team effort, not just a mandate, to get the job done.” This approach is distinguished by:

- A high level of centralized and regional balance that includes language decision making.
- Streamlined globalization processes and workflow across different company functions
- Well-enforced corporate style guide to ensure content consistency
- Established practices for tracking the reuse of multilingual content

Mercury is also quite mature in the competency of its subject matter experts (SMEs) and approach to resource management. With multiple operational champions and key executive sponsors in place, the company has achieved vertical and horizontal alignment across the Services organization, along with consistent functional interaction and engagement.

A solid, XML-based technology foundation serves the team well, incorporating structured authoring, component content management, translation memory and LSP-driven workflow software, and multichannel publishing software. These solutions are effectively integrated and linked to technical communications’ processes.

Microsoft

In 1975, 19 and 22 year-old Bill Gates and Paul Allen founded Microsoft with the sales of their first program, BASIC. Revenue for this inaugural year totaled \$16,005. Fast forward 34 years to current state in which fiscal 2008 year-end revenues totaled \$60.42 billion. Within this total, Microsoft reported significant revenue increases in numerous regions including:



- 64% across Central and Eastern Europe.
- 54% in Brazil, Russia, India, and China.
- 30% in Latin America.
- 25% or more in well-established regions including Norway, Spain, Australia, Canada, and Germany.

Five business segments comprise this global software company, including Client, Server and Tools, Online Services Business, Microsoft Business Division, and Entertainment and Devices Division. Ranking #35 in the 2009 Fortune 500, Microsoft employs 95,029 personnel worldwide and has offices in more than 100 countries.

Focus on User Assistance

“Great software is of little use unless people know how to use it. That’s the purpose behind User Assistance & Education at Microsoft. This team empowers our customers by letting them know how to get the most out of Microsoft products and services.”

Microsoft’s User Assistance & Education groups employ over 1,500 content professionals, including executives, project managers, technical writers, and editors. Defining user assistance (UA) as a mix of conceptual, task-focused, and reference content, each Microsoft product across all five business segments is aligned with a UA team. Outputs can include books, online help, training and e-learning curriculum, troubleshooting, and customer support materials for web sites such as MSDN (Microsoft Developer Network) and Microsoft TechNet. Audiences vary from end users to IT professionals and developers.

Ben Jackson, Senior Director, User Assistance, manages a UA team within the Server and Tools segment, an organization that employs over 10,000 team members across six business groups. Charged with meeting corporate objectives for global customer satisfaction and increased product adoption, Jackson leads a team of approximately 250 UA professionals dedicated to three of this segment’s product line of businesses. The team subscribes to the philosophy that “whatever users need *at the moment* is what we need to provide.”

As Jackson notes, “Content has a large role in the success of products; it is the link between the product and the customer.” This perspective inherently includes multilingual product content, critical to serving Microsoft customers across 100 countries. The company produces product content in 17 languages for server products, largely for the IT professional and developer audiences, and increases to 30-40

languages for client products. MSDN and Microsoft TechNet provide product content in over 28 languages.

Content Globalization Challenges

Microsoft needs little introduction in terms of its influence on the field of technical communication, particularly within the evolution of product documentation and embedded user assistance. In its 3rd edition, the Microsoft® Manual of Style for Technical Publications is considered an industry standard.

Like all global organizations however, Microsoft experiences the challenges inherent to managing complex projects across multiple divisions, organizational structures, and product lines. With respect to multilingual product content strategies, it is not immune to the challenges of cross-functional collaboration and governance nor the issues of process-driven technology integration. And lacking that immunity means that the company's User Assistance & Education groups strive for incremental, continuous improvements to corporate and divisional Global Content Value Chains (GCVC).

Jackson's efforts within the UA team for the Server and Tools segment focus heavily on sustaining and expanding the people and process ecosystem that enables product content to measurably influence global customer satisfaction. As he notes, "Constant advances in our own internal technologies coupled with the power of the Internet provides the computing infrastructure required for great user assistance. The continuous challenge is to *fundamentally* bind processes with our objectives."

From this perspective, consistently leveraging corporate commitments to global product content can be both challenge and opportunity. Addressing challenges in the areas of quality at the source, collaborative language support decision-making, and the measurement of content value in product experience is paramount. Strengthening the GCVC within the Server and Tools segment includes initiatives to:

- Minimize style variations within the segment's UA teams and across product lines through increased governance and collaboration.
- Consistently utilize centralized terminology databases from the Microsoft Language Excellence team¹³ and the [Microsoft Language Portal](#)¹⁴ while increasing cross-functional sharing of product-driven glossaries.
- Extend XML-driven structured authoring strategies to increase the impact of an estimated 51-60% reuse level to repurpose content to customer support communities.
- Meet customer expectations and compliance regulations through "continuous publishing," an approach that delivers a subset of the total mono and multilingual content deliverables at Release to Manufacturing (RTM) with subsequent, continuous web-based publishing.

¹³ Microsoft Terminology Blog: <http://blogs.technet.com/terminology/default.aspx>

¹⁴ Microsoft Language Portal: <http://www.microsoft.com/language/en/us/default.mspx>

- Contribute to corporate language support decision-making by moving UA to the *front-end* of the process as customer experience specialists.

The Solution

Microsoft UA teams are fortunate to have significant internal resources to facilitate a corporate-wide commitment to content globalization. The focus on the creation and delivery of multilingual product content is strong, amounting to 60%+ of product localization/translation costs. The company uses a mix of centralized and regional revenue expectation metrics and known regional expectations to make internationalization investments.

Even so, Jackson's UA group is striving to avoid the costly "translate it all" approach. "We need to be smarter about what we localize," says Jackson. "That means understanding our global customers better and delivering content that matches business needs, which differs from market to market." A commitment to product content relevancy has become decidedly multilingual, with UA-driven customer feedback loops poised to help drive localization/translation volume, depth, and locale-specific relevancy:

- Feedback from several customers in China has already revealed a level of "over-localization" for traditional product content deliverables, providing a potential investment shift to new types of multilingual product content including podcasts, animations, and multimedia.
- A Director-led International Strategy Team within the Server and Tools segment's UA organization has executive sponsorship to establish more formal marketing and product engineering partnerships.
- The extension of relationships with Microsoft's international/localization teams is resulting in joint decisions regarding process, timing of multilingual "hand-offs," and a shared view on the extent of localization/translation. Given the corporate use of machine translation (MT) to internally "back-translate" customer feedback gathered from surveys and quality reviews, this collaboration will result in enhanced value propositions. A prime example is increased MT use for content that receives the most customer traffic according to usage data collected in specific geographical areas.

In many ways, these collaboration efforts model longstanding agile software development processes across the segment. Product design teams rely on UA team members for usability expertise, customer expectation guidelines, and the ability to determine how, when, and what customers need to optimize their experience with products and technologies.

Results

Strengthening the people and process ecosystem for multilingual product content is enabling Jackson's team to set the foundation for taking user assistance "to the next level." Today, UA-driven initiatives are utilizing infrastructure technologies to solidify the alignment of corporate objectives with group projects in measurable ways.

Utilizing the company's business intelligence foundation for continuous product content improvements, the group is mining information from a comprehensive mix of web analytics (including content usage and relevancy statistics), Customer Relationship Management (CRM) systems, call center databases, and survey data from multiple product teams. Subsequently merging the results with customer-facing knowledge from surveys, sales feedback, and user conferences is creating a stronger framework for unified customer satisfaction metrics.

In tandem, face-to-face global customer meetings are bolstering a focused global customer engagement strategy in which UA expertise and value is prominent. "Increasing product adoption requires understanding global markets and focusing on localized product content that is specific and critical to those markets; there is no "one size fits all" product content approach."

Aligning UA strategy with Microsoft's vision for cloud computing is also well underway. Describing a convergence of information and product, Jackson foresees embedded user assistance as a part of a "dynamic online experience, synchronized with the context of work processes and relevant to the product state, channel, and customer." As software enters the cloud, so too will product content, realizing the vision of delivering exactly what the customer needs at exactly the time when he/she needs it.

Gilbane Group Perspective

Microsoft has a longstanding commitment to multilingual product content, evident through broad language support, thought leadership in localization/translation requirements, and investments in language-centric research and development. Although it is too soon to tell how Bing Translator will impact the marketplace, it is clear that "language as a priority" will continue to heavily influence the company's content globalization strategies.

By consistently applying user-centric principles to product content deliverables, the Server and Tools segment's UA teams are facilitating stronger links between language requirements and global customer experience. Culling customer requirements and satisfaction levels from multiple data sources will certainly strengthen the influence of user assistance in product development cycles and validate strategies for what Jackson notes as plans for "taking user assurance to the next level." Microsoft clearly has the technology infrastructure to implement the vision. Proactively combining product content domain expertise with cross-functional and regional collaboration ensures that the *definition* of the vision is distinctly customer-driven.

New York City Department of Education

The New York City Department of Education (NYCDOE) serves the largest system of public schools in the United States, striving to meet the needs of 1.8 million parents and families, about 1.1 million students, and 80,000 teachers across 1,500 schools.



Headed by Chancellor Joel I. Klein since 2002, the NYCDOE operates on a \$21-billion budget and employs over 136,000 professionals. Based on the mantra he developed with Mayor Michael Bloomberg, the DOE and all 1,500 public schools subscribe to the principles of the 2007-2009 Children First program: leadership, empowerment, and accountability. Children First is a comprehensive education reform program and according to Klein, “is transforming the nation's largest public school system into a system of great schools focusing on all factors of excellence.”

Consider the enormity of educational reform and the environment for it. The fourth most populous city in the world, NYC is home to over eight million residents and explodes to over 19 million in the entire metro area. Then consider the city's demographics and diverse heritage. The terms “melting pot” and “city of immigrants” were born here and remain true to date. According to the NYCDOE, 43% of students in the city's public schools speak a language other than English at home.

The NYCDOE is the epitome of a communications-centric services organization. Its overarching goal is to provide families the information and access they need to be informed and involved so that their children do better in school. The organization's product *is* content. And to serve this diverse community, those products are most definitely multilingual.

Focus on Customer Support: The Translation and Interpretation Unit

Building bridges between schools and parents

The DOE's Translation and Interpretation (T&I) Unit was created in 2004 as a resource to help schools and offices communicate with limited English proficient families. A critical part of the DOE's language access initiative, the unit boasts a staff of 40 including 28 full-time translators.



Its operating goals are parallel to those of the private sector: customer satisfaction and brand management are paramount. From the perspective of operational champion Gentian K. Falstrom, Language Access Specialist, the unit's initiatives, projects, and ROI expectations are also parallel: an overriding focus on content quality, accuracy, and clarity to achieve excellence in family engagement experiences.

The T&I Unit provides a free internal resource to the full range of DOE administrative offices and all 1500 schools in the five boroughs. Ultimately, the primary customers are

parents, with customer satisfaction monitored by DOE staff delivering any form of parent communications. The unit supports the eight most common primary languages other than English spoken by persons living in New York City based on school population:

- Arabic
- Bengali
- Chinese
- Haitian Creole



- Korean
- Russian
- Spanish
- Urdu

Covering 95% of limited English proficient families, content outputs in these languages provide critical information for parents about their child’s education. From this perspective, translated product content can include registration information, school handbooks, standards and performance expectations, meeting notices, and safety and health information.

The unit also provides on-site interpretation services for system-wide public events in addition to one-to-one, over the phone interpretation services to schools and all DOE personnel that need to facilitate conversations with limited-English-proficient parents. Language support covers 150 languages through a DOE partnership with a specialized Language Service Provider (LSP).

Content Globalization Challenges

The T&I Unit has an overriding objective to help schools continuously meet communications-driven regulatory requirements. Doing so has its challenges; each is common to public and private sector organizations.

The first fits squarely in the governance category, as the unit must balance the need to educate schools and administrators on *how* to achieve compliance with the need to *make sure* that they do. Since compliance levels vary, the unit delivers language access training on a regular basis, but compliance measurement and monitoring can be a challenge. Year over year increases in requests for multilingual content adds another level of complexity; requests by word count grew from 915,693 words in 2005-2006 to 2,214,322 words in 2007-2008.

Technology infrastructure can also be an obstacle. Like many centralized localization/translation organizations, the unit has technical requirements that are often outside of a typical IT organization’s domain and skill set. The unit manages its own translation memory, terminology, and project management databases in addition to multilingual versions of the NYCDOE web site. However, they must also balance technology interoperability with the generalized IT platform.

In addition, the unit has little to no control over source content formats, as documents are submitted from a wide range of requestors. Common formats include unstructured word processing files, desktop publishing outputs, and spreadsheets. Structured content submissions are rare. Hence, converting content from one format to another is cumbersome.

Finally, the economic impact on the education industry continues to be extreme. Budget cuts dating back to September 2008 limit the services the unit can provide above and beyond the eight supported languages. Project managers must review incoming translation requests more closely for prioritization.

The Solution

The T&I Unit takes a proactive approach to managing the people, processes, and technologies it requires to serve its customers. Working with a range of offices that produce city-wide content, standard translation outputs include a base of central content applicable to all limited English proficient families.

The unit has also standardized on translation management technologies including terminology databases for all supported languages. Glossaries are publicly accessible through the NYCDOE web site. Increased sharing of language assets is a primary goal. According to Falstrom, “Most language teams have built their own terminology databases from scratch and we are just starting to share with service providers. Since DOE jargon is a language in and of itself, we need to facilitate this to constantly improve consistency.”

Working with census and NYCDOE research data, the unit makes centralized decisions on the current and future state of language support according to school population. Regulatory compliance mandates schools to gather and maintain data on parents’ language preferences and indicate the availability of language access services through proper signage. The T&I Unit has established formalized governance processes including standard services request forms and documented quality assurance workflows. Relationships with DOE-approved LSPs such as LinguaLinx in Cohoes, NY, are collaborative and ranked according to project management and quality factors.

The T&I Unit also provides ongoing guidance and training on language access issues, so critical to the success of any compliance program. Training audiences ranges from in-school parent coordinators across the district to new principals and schools. To balance the economic impact, the unit continues to educate schools on their ability to use federal or city funding to obtain additional services through DOE-approved LSPs. As Falstrom notes, “Compliance does not work without education; everyone involved in family engagement is trained on language issues on a regular basis.”

Results

“All limited-English-proficient parents are provided with a meaningful opportunity to participate in and have access to programs and services critical to their child’s education.”

The T&I Unit’s commitment to language access is fully and *legally* supported by two executive champions, in this case Chancellor Joel I. Klein and Mayor Michael Bloomberg. It is fair to say that without top-down support, mandatory and consistent language access services would not exist. Legislation such as the 2006 Chancellor’s Regulation A-663 (excerpt above) is critical. Bloomberg’s 2008 Language Access Executive Order 120 furthers the commitment by establishing a uniform policy and standards for translation and interpretation services for all city agencies.

Although parent satisfaction is difficult to measure, the T&I Unit couples a strong governance program with ongoing measurement of school and office satisfaction levels. A yearly attestation form requires compliance verification from all principals and in-school parent coordinators. A yearly quantitative and qualitative survey tracks the unit’s timeliness, professionalism, and quality of translation services. Consistent feedback on customer experience cites the unit as among the most professional, responsive, and reliable DOE offices in operation

As the unit matures and education widens, its scope is expanding. In conjunction with the city’s Office of Compliance Services, the unit monitors that parent language preferences are included in a centralized database so that schools receive reports on missing data. An ongoing partnership with the School Safety Division of the NYPD provides training to new recruits on language access services.

Gilbane Group Perspective

The NYCDOE’s Translation and Interpretation Unit is a solid example of results that are achievable within the public and private sectors when the value of multilingual product content is well understood. Although NYC population numbers speak for themselves in terms of language services requirements, knowing what should be done is different than actually doing it. Credit certainly goes to a DOE administration that includes multilingual communications as a core principle and a language access services staff that facilitates the family engagement process across administrative offices and NYC public schools.

The unit’s operational champions are clearly focused on content quality and process efficiency. Their allied executive champions are steadfast in protecting and prioritizing language access services. The combination of both is demonstrative of a foundation for sustained collaboration and increased satisfaction levels across the limited English proficient family population.

Sponsor Acknowledgement

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