



## Predicting Cost Savings—Backing Up Your Claims



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Most technical publications organizations today have either implemented a content management system and topic-based authoring or are thinking about how to make a business case for senior management support. At the heart of the business case is the prediction that spending all that time and money on new structure, processes, and tools will result in significant cost savings. In this article, I discuss how to predict cost savings and how to back up your claims so that they exert positive influence on the decisions makers.

Let's start with a list of possible predictions that we hear from many publications managers.

If we move to topic-based authoring and acquire a content management system, we can expect the following time and cost reductions:

- ◆ Decrease the cost of desktop publishing or other formatting for both source content and multiple languages
- ◆ Decrease the cost of translating text and graphics into multiple languages
- ◆ Eliminate the need to support multiple authoring and production tools
- ◆ Reduce the time required to update existing content
- ◆ Reduce the time required to create new content and reduce its time to market by sharing content among product types and deliverables
- ◆ Reduce the time required for technical reviews of content
- ◆ Reduce the backlog of desirable projects that you have not had time to pursue

This list is certainly not exhaustive but it's a good starting point for a manager to begin the calculations needed to back up a business case. Let's look at these claims in order of their difficulty of implementation. Some of the claims are relatively simple to implement, primarily through tools changes. Others require process changes that may face resistance from both the information developers and the larger organization. However, I argue that the process changes will have the longest lasting affect on time and cost and most likely allow you to continue reaping benefits over the long term.

### LEVEL ONE: DESKTOP PUBLISHING: THE SIMPLEST COST SAVINGS TO MAKE

The simplest cost savings to predict occur when you implement XML-based authoring and publishing to replace 25-year-old desktop publishing practices. In the mid 80s, publications organizations become enamored of desktop publishing systems (DTPs). Along with laser printers, DTP provided a convenient and cost-effective way to make documents look professional without the cost of typesetting. Unfortunately, desktop publishing also turned every writer into an independent publisher, consuming, by some estimates, between 30 and 50 percent of total writing time manipulating the look of a document rather than its content. In one recent study, we found engineering writers reportedly spending 50 to 75 percent of their time struggling with desktop publishing.

Authoring in XML, with the automated process of styling documents only at publishing time, goes far toward eliminating time devoted to or wasted on desktop publishing. By eliminating or reducing desktop publishing in the source language, considerable time can be saved and costs reduced, leaving more resources for real content.

As Keith Schengili-Roberts notes in response to my inquiry to the DITA Awareness Linked In group: "... if a doc team does XML "properly" so that they separate form from content, all of the time wasted on tweaking things like header levels, window/orphan control, page breaks, font settings, etc. goes away, and the writer ends up having more time to write than to format."

We also find that organizations spend additional time and resources generating output in more than one format, sometimes by painstakingly moving text from desktop publishing to systems that output HTML or various help systems. With XML processes in place, all the output types can be produced through automation. A single XML source can be developed to output PDFs, HTML, help systems, on-device systems, and others by creating appropriate style sheets using processing such as XSLT, XSL-FO, and CSS.

### Reducing DTP costs extends to translated documents

For many publications organizations, the possibility of reducing the cost of translations is the overwhelming deciding factor for

both XML-based authoring and the implementation of a content management system. With the addition of new languages and more documents in those languages, companies have experienced great increases in translation costs. XML-based authoring promises to reduce those costs.

The total cost of translation is based on three primary factors:

- ◆ the cost of translating individual words and sentences
- ◆ the cost of extracting text from formatting in desktop publishing systems like Word and FrameMaker and reconstructing the format after the translations are complete
- ◆ the cost of translating the text in graphics or replacing screen shots with appropriate language versions

Localization service providers also include basic administrative costs in the bill. Creating text using XML, whether using the DITA or Docbook standards or proprietary systems, eliminates the formatting embedded in DTP, allowing the text to be translated without having to separate it from the format. XML-based text means that the format is added to the text in every language at publishing time rather than after translations are complete. As a result, the reconstruction of the desktop publishing environment for each new language is eliminated. The entire publishing process for all languages is automated. Since the cost of desktop publishing typically represents as much as 30 to 50 percent of the cost of translation, moving to XML and automated style sheets can result in a significant reduction in costs. One correspondent reports a \$10,000 lower cost for translating for four help systems into five languages even with little topic reuse.

To calculate Level One savings, you need to learn how much you are paying for desktop publishing for your translations, and you need to estimate the cost of DTP among your authors. A small research project in which you ask authors to account for their DTP time will help you estimate the potential savings.

Consider also the cost that you pay to translate text in graphics. By using Scalable Vector Graphics (SVG), which use XML-based text in the graphics, you extract the text from the graphics, send it for translation, and automatically import the translated text back into the graphics. No longer do you have to pay the cost of having your localization service provider open graphics files to extract the text and then recreate them after the text is translated.

In addition to calculating the DTP costs, consider also the cost of acquiring, supporting, and updating the numerous tools required to create output from proprietary sources.

It is common for publications organizations to employ multiple tools to support various output types. Tools usually include a desktop publishing system, a help-development system, a system to generate HTML, and so on. One correspondent

reported a 75 percent reduction in tool costs, commenting that he found most XML editors considerably less expensive than desktop publishing tools. In addition, it costs less to support a single tool than a complex tool set, especially if you include costs for troubleshooting, deployment, and upgrading.

But what happens, you may ask, when your publications are not translated? Can you still justify a move to XML- and topic-based authoring and content management without relying on translation savings? Levels Two through Four of potential cost savings point to the very significant advantages if you're prepared to change the way your organization works.

### LEVEL TWO: A BASIC CONTENT REUSE STRATEGY

Eliminating desktop publishing costs is only the tip of the iceberg in terms of cost savings. The most significant long-term cost savings occur by eliminating duplicate content. However, doing so is not necessarily the result of a tools change, although XML technology and content management systems can help. The cost savings primarily result from changes in process. They require that you develop a strategy for how content will be created throughout your information-development life cycle.

A good strategy may start with eliminating the annoying problem of updating the same content in more than one place. When I first learned about content management systems that let me store a piece of content once and use it multiple times without literally (or electronically) cutting and pasting it, I thought I had reached publications nirvana. No longer would we have to use spreadsheets to track instances of content strewn across content sets. One of the best examples of asserting costs savings in an XML business case came after a manager who tracked the huge cost sink required to update a warranty statement in hundreds of source publications.

With content management, you can store standard content and update it in one place. With XML, you can include standard content chunks in different outputs without having to worry about carrying unwanted formatting with it. As you calculate your Level Two cost savings, research how long it takes to update standard content in numerous locations. And, consider the translation cost and quality problems you create when some of the standard content is missed or changed differently. One senior manager calculated that the cost of maintaining a single bulleted list differently in various outputs and multiple languages spiraled into hundreds of thousands of dollars a year across the enterprise.

DITA XML makes storing and reusing small sections of content very simple. By using content references such as the DITA conref mechanism, publications groups can create collections of hazard statements, warranty and copyright notices, simple procedural steps, or any other frequently repeated content. The collections are easy to update in one place and, if changed, will change everywhere automatically when new content is output.

A similar process makes it equally simple to swap standard content at the word or phrase level. You can set up a reference collection so that you can apply a different brand name or detail variation by inserting it at publishing time. If your marketing group keeps changing the name of your product, the process of swapping variables is invaluable.

With XML, you can assign metadata attributes to various parts of a master topic, allowing you to swap details while maintaining unified content sources. For example, you can avoid duplicating a topic that is nearly but not exactly the same as another topic by creating the variations within a master topic, assigning them attributes, and selecting the correct variation at publishing time. You maintain the topic in one place, avoid undesirable variations, and reduce the number of different topics you are translating.

To calculate Level Two savings consider how much time your team spends updating the same content in multiple places. In the past, I've assigned the task fulltime to one junior writer in a team of three or four. You may be surprised at the time devoted to such maintenance tasks, in addition to the potential errors in customer information that occur when something is missed.

Also calculate the cost of translating multiple topics that are nearly the same but could easily be made exactly the same or produced with managed variations in master topics. Even a resulting 10 to 20 percent reduction in word count for translation can be substantial.

### **LEVEL THREE: A COMPLEX CONTENT REUSE STRATEGY**

The basic content reuse strategies and cost savings in Level Two may already be part of your cost savings calculations. They are often familiar to users of DTP systems like FrameMaker, which facilitate conditional publishing, text insets, and variables. If you're already using these strategies effectively in your existing system, you may not show as much potential Level Two cost savings from a move to XML- and topic-based authoring and content management. However, writing in topics, using a structured information model, and creating a collaborative planning and authoring environment may lead to progressively improved cost savings and superior resource allocations over a long period.

One organization I have followed for years has steadily increased its productivity, measured by hours per topic and percentage of new writing to revisions, over nine years. Each move increased the level of project management, collaborative authoring, and new roles, enabling the organization to increase its output significantly with almost no staff increases. Other organizations have reported increased output with drastically reduced staff, all because of improved information management.

Achieving similar increases in productivity in your organization requires a significant change in the way your team

members work. In fact, they have to become a genuine team, rather than a group of individual contributors. It is typical of technical publications and training organizations to assign information developers to a book or set of products. Once the assignments are given out, everyone is on his or her own. Rarely does one information developer know what anyone else is working on. As a result, work is not coordinated and duplication of effort is the norm rather than the exception.

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We have worked with one organization for the past three years, enabling them to change their information-development process from the traditional individual-contributor model to a collaborative, well-integrated one. As a result, they have experienced truly spectacular increases in productivity.

The first step in changing the process was to create a uniform information model, which establishes clear rules on how to write particular types of information, including tasks, concepts, references, and other types common to the Information Mapping™ standard. Next they established standard outlines for each set of document types. For example, every installation manual has the same sequence of content, allowing them to reuse entire sections, such as standard hazard statements, virtually intact throughout the product libraries. Third, they instituted a planning process that required that every new project begin with an analysis of user tasks and existing content in the repository. The information architect and information developers collaborate to decide what new topics will be written, what master topics will be carefully modified, and what existing topics will be used in tact. As a result, a new project for a new product might require less than 10 percent new content. Not only does this reduce writing time, it reduces translation costs and eliminates inconsistency problems for the customer.

I have long argued that the productivity advantages of using XML, DITA topic-based authoring, and content management really come from long-term process changes rather than new tools. These Level Three changes are not easy to implement but they result in steadily increasing cost savings long after the translation cost savings are exhausted.

They also, of course, result in additional translation savings. Because you develop fewer new topics, you translate fewer new topics. Because information developers work together carefully to plan exactly how existing content will be used and what new content will be developed across product libraries, they produce fewer new words to be translated. One of the best ways to measure the resulting productivity increase is to count all the words in your active content management repository and all the words in your deliverables. The higher the ratio of output to input, the more efficient and collaborative your organization is.

Once you find yourself on a path to process changes, all sorts of additional opportunities may open before you. One organization transforms key information from its engineering source material into reference topics in the documentation by using database transforms. Information developers no longer need to type tables or figures. Another organization moves basic product data from a sales and marketing database so that parts lists are always up to date.

Calculating Level Three cost savings isn't easy. It requires that you look at the potential for planning, organizing, and integrating content development to a level you may have never considered before. Start with your existing hours/page calculation. Transform it, if necessary to hours/topic. Then, consider what the cost savings would be if you moved from 5 hours/page to less than 1 hour per topic.

You have to keep in mind, of course, that such productivity increases could mean losing staff. That's certainly what your management may have in mind when you present your calculations. Be careful to detail the backlog of projects that you have never been able to accomplish, the possibility of increasing customer knowledge and feedback, and the number of new products coming down the pike. You can easily gain in productivity without reducing staff numbers if you produce more work with the same people.

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As Keith Schengili-Roberts points out, items like “reducing the time required for technical reviews of content” or “reducing the backlog of desirable projects that we have not had time

to pursue” likely has less to do with authoring in XML in and of itself but with improved processes that can also be put into practice at the same. Keith argues that, in his experience, doing things in XML finally makes this possible, but it is not a \*necessary outcome\* unless there is a real push to improve documentation processes at the same time.

**LEVEL FOUR: A HIGH-LEVEL COST-REDUCTION STRATEGY**

Reviewing Levels One through Three of your cost-reduction strategy, you should find yourself predicting cost savings in desktop publishing in source and translations, tools investments, maintenance of duplicate content, reductions in new and updated content development, and possible mashups of content from sources outside your group. Such predicted cost savings might already be sufficient to pay back the cost of your content management implementation in two to three years.

But my correspondents for this article promise more. If you are going to ask for significant investment in new tools, it makes sense to consider making major changes to your processes to increase your predicted savings. Too often, managers sell content management on Level One cost savings without looking at the move to XML-authoring as an opportunity to sell real change in the way you produce and manage content.

The starting point I generally recommend to publications managers is minimalism, soundly based on a much better understanding of what customers are looking for in your information. Certainly minimalism is about word-count reduction but it is not an exercise in editing. Rather it means providing information that customers really want to use, rather than lots of information that they don't care about. Better decisions about customer content almost always lead to word- and topic-count reductions. In fact, we just completed a minimalism project that reduced the page count from 600 to 300 pages by focusing on customer needs. Now it will be ready for a move to XML.

The topic- and word-count reductions, of course, save translation costs. If, at the same time, you pursue consistency in wording, possibly using one of the excellent quality information tools now available, you can further reduce translation costs by increasing the number of 100% matches. Once a sentence is in translation memory, the cost to translate the same sentence again is negligible. More consistently written content may even become a candidate for automated translation.

If you produce fewer topics and use more of them in multiple outputs, you may predict additional cost reductions in your larger organization. Fewer unique topics mean fewer topics for subject-matter experts to review; more master topics with variations embedded also mean less to review. Reviews that can be handled through an automated workflow and electronic review systems mean that fewer reviews are lost or delayed. Individual

topics that can be updated incrementally on your information website may lead to fewer service calls. Better information, updated more quickly can lead to more satisfied customers. Each of these arguments can be worked out using a typical case study with well-researched and conservative cost-savings predictions.

A few correspondents pointed to the advantage they had gained through key operational efficiencies. Better planning, better control on authoring topics, and more collaborative content development all lead to reduced time to market in all languages. Getting information out on time has always been a critical goal of publications organizations. But getting that information out in multiple languages so that marketing opportunities are extended globally can produce better corporate sales results.

Consider also that your content may be part of a corporate strategic investment. Bjorn von Euler of ITT Fluid Technology succeeded in selling their global enterprise content management project to senior management because he associated it closely with the corporate initiative to consolidate numerous acquired brands around the newly emphasized central corporate brand.

Eric Kuhnen of Astoria pointed out that better written, more consistent information can lead to better compliance and less risk exposure. Better content management may allow a corporation to reduce its reserves for litigation, which can amount to millions of dollars.

As you can see, Level Four opportunities to predict cost savings are exciting and challenging. You have to investigate what will appeal to your management at the time you are building your business. The better you understand your management and are able to make conservative calculations of potential savings, the more likely you will be successful.

I would be pleased to hear your ideas about cost savings that can be realized by both straightforward tools changes and by significantly changing the way your organizations does its work. The big changes are never easy and may not be simple to quantify, especially if you don't already have good metrics on your operations. However, the savings at Levels Two through Four can lead to huge increases in productivity and effectiveness in your organization. They can also increase your importance and credibility to the larger organization, helping to preserve resources and jobs.

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*Correspondents: Scott Wahl, Michele Marques, Sophie Hurst, Bill Tilley, Bjorn von Euler, Mirhonda Sturdevant, Joe Gelb, Mike Austin, Eric Kuhnen, Buddy Lee, Jr., Howard Schwartz, Pat Yoshihiro, Keith Schengili-Roberts, Michael Trombly, Bob Sima, Daphne Walmer, Charles Johnston, Julio Vasquez, and Bob Thomas. □*