Single Sourcing: Its Implications for Education and Business
Summary

Single sourcing is emerging as new information management technique that allows organizations to keep content in a single information source and use it across a range of information products. The content then only needs to be developed one time, and updates can be implemented easily by changing only the content at its source. Single sourcing offers a number of benefits for business, from a customer perspective, an internal-business-process perspective, a growth and learning perspective, and a financial perspective. In the technical communication classroom, single sourcing poses a number of challenges to our current conception of the roles of the technical communicator, as well as a number of practical challenges. Nonetheless, it will likely be increasingly important to teach the principles and processes of single sourcing in the technical communication classroom.

What is Single Sourcing?

Traditionally, technical communicators worked on one information product at a time: the company webpage, a print brochure, online help, a product manual. These products were typically composed from beginning to end—from the development of the content, to the design of the product, to the final production and delivery. Usually these products were tailored to a specific audience within a specific context for a specific purpose, but frequently the same information appeared in different forms across them.

Single sourcing emerges as a strategy to take advantage of the content overlap between information products. Single sourcing allows you to maintain content in a single source (such as an XML database) and put it to use in many different information products (such as print, HTML, PDF, and online documentation). In doing so, content only has to be developed once for the entire range of products it appears in, and it can be updated across this range of products by changing only the information at its source.

For instance, a database could hold the text and images that appear simultaneously in a company’s webpage, print brochure, and online documentation. Then when it comes time to revise or update these information products, only the database content needs to be altered. Since all of these products can be developed or revised at once, single sourcing offers considerable savings in time and labor.

As Ann Rockley notes, it’s important to realize that single sourcing does not mean just writing content and copying and pasting it into different documents. Rather, in single sourcing “[i]nformation elements are ‘referenced’ into the document for reuse or drawn from a database” (189). Rockley identifies at least four different levels of single sourcing:
1. **Identical Content, Multiple Media.** This refers to content that is identical across different media, such as a print and PDF form of the same brochure. This is the least flexible form of single sourcing.

2. **Static Customized Content.** This refers to content that is statically tailored for different media, computer platforms, product families, information products, audiences, or product releases. Static customized content requires intervention by the technical communicator in producing the information products.

3. **Dynamic Customized Content.** This refers to content that is dynamically tailored for different purposes and audiences. This includes things such as user profiles, user selection of information, and user personalization of presentation. Dynamic customized content does not require intervention by the technical communicator in producing the information products—it can be done automatically “on-the-fly.”

4. **Electronic Performance Support System (EPSS).** This refers to information that is provided in real time as the user needs it. An EPSS can determine and meet the user’s information needs even before the user is aware of it. This is the most flexible form of single sourcing.

**What are the Implications for Business?**

In their 2001 report, “Making a Business Case for Single Sourcing,” JoAnn Hackos and Tina Hedlund look at the implications of single sourcing in business as part of a “Balanced Scorecard” approach (Kaplan and Norton). This approach involves evaluating an initiative from perspectives that extend beyond a company’s typical preoccupation with the bottom line. These perspectives include: a customer perspective, an internal-business-process perspective, a growth and learning perspective, and a financial perspective.

**A financial perspective.** Hackos and Hedlund begin by noting that from a financial perspective, single sourcing promises clear benefits. Here they cite two examples from industry. J. D. Edwards, they note, were able to realize a 290% return on their investment on an in-house single sourcing initiative, saving $3.5 million per year (4). And at Tweedle Litho Company, which produces material in 20 languages, reduced the amount of translation they perform during each product release by 85% (4).

**Customer perspective.** Single sourcing offers not only cost savings, but potential benefits for the customer as well. Hackos and Hedlund note that customized content specifically can offer the customer an enhanced experience of information products, potentially offering the company a competitive advantage (4–5).
Internal-Business-Process Perspective. Single sourcing can also offer significant improvement in efficiency for a company’s internal processes. Hackos and Hedlund identify several ways that this can happen. The first is the expected efficiency gains that come from only needing to revise information at a single point rather than across a range of information products, as well as from having more efficient infrastructure for review and editing processes (6). Second, single sourcing makes internal processes more efficient by allowing for easier collaboration and information exchange between departments within a company (6–7). And finally, single sourcing improves internal processes by allowing for more quality feedback from customers after doing business with them.

Learning and Growth Perspective. Implementing a single sourcing initiative can offer a number of learning and opportunities for growth for a company and its employees. Hackos and Hedlund note that single sourcing challenges employees to

- Learn new technologies, such as XML.
- Become subject-matter experts in a knowledge domain.
- Learn to create more structured and usable information.
- Become specialized in specific areas like information architecture and Web-based production. (7–8)

What are the Implications for Education?

The adoption of single sourcing poses a number of significant implications for educating technical communicators. As Hackos and Hedlund note, single sourcing can present a challenge to new and existing technical communication professionals. However, it also entails rethinking communication on a theoretical level. As Michelle F. Eble puts it, “Single sourcing is more than a complex software package or XML tags; it is a way of thinking, a reconceptualization of the relationship between audiences, purposes, and contexts” (345).

With single sourcing, information must be developed to be reused extensively, which involves considerably more attention than when developing information products one at a time. Drawing from JoAnn Hackos, Eble describes two processes that authors must use in single sourcing: information modeling and structured writing. Information modeling entails sizing up the information requirements of the single source projects, including the required dimensions or attributes, information types, and content units (347). Structured writing requires authors to develop content apart from the final information product, providing meta-information for various pieces of content as they are developed (347–348).
However, the requirements of single sourcing may not be entirely positive for how we conceptualize and teach technical communication. As Michael J. Albers notes in his article “The Technical Editor and Document Databases: What the Future May Hold,” single sourcing may have a number of drawbacks. One drawback is that dynamically generated documents have to deal with multiple audiences simultaneously, presenting problems with developing effective content (199). Another potential drawback Albers identifies effects the role of the technical editor:

> Because information within a document database is constantly being added to and changed by multiple authors, technical editors must exert strong control to maintain information consistency. Moving beyond a responsibility for low-level grammar and terminology, the technical editor needs to enforce writing standards that range from word choice and sentence structure to paragraph and section organization. (203)

However, rethinking the roles of technical communicators in this way presents challenges as well as opportunities. As Flipp Sapienza notes, “technical communicators are uniquely poised to seize upon opportunities that integrate rhetorical craft with technical wizardry. Indeed, they will probably have to integrate the two areas of knowledge” (156).

In addition to sparking a conceptual shift, single sourcing presents a number of challenges to the classroom teaching of technical communication. As Sapienza notes, digital divide between classrooms that design for print and those that design for the screen may be exacerbated (165). In addition, the technologies involved have a large learning curve, may be unproven, and can be expensive (168). However, Eble notes some specific strategies for teaching single sourcing concepts that may not require extensive investment in technology, such as requiring two deliverables for a given project (348). What’s important, she notes, is teaching the principles and process of single sourcing (349).

**Conclusion**

Because single sourcing offers clear benefits from the perspectives represented in the “Balanced Scorecard” approach—that is, it benefits customers, makes internal-business-processes more efficient, provides opportunities for growth and learning, and makes sound financial sense—single sourcing is poised to emerge as vital component of technical communication in both business and in the academy. Although the implications for the conceptualization and teaching of technical communication are profound and not without drawbacks, it is clear that preparing the technical communicators of tomorrow may require at least a commitment to teaching the basic principles and processes of single sourcing.
Bibliography


Hackos, JoAnn and Tina Hedlund. “Making a Business Case for Single Sourcing”

