

Gilbane Beacon
Guidance on Content Strategies, Practices and Technologies

Structured Content for Innovation

Driving Business Value in the Digital Economy

By Geoffrey Bock and Mary Laplante, Senior Analysts

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Why Structured Content Matters

The Gilbane Group and JustSystems are working together to crystallize the business benefits of structured content – documents that have been chunked into meaningful component parts and tagged in a systematic fashion. In this report, we will consider how structured content can be used to foster innovation of business operations and processes, and thus drive promising and profitable business opportunities.

What is structured content for innovation? We believe that you need to focus on business results. To our way of thinking, structured content for innovation enables an organization to do what has not been possible without structure, and without the processes that structured content enables.

Innovation brings fundamentally new capabilities to an organization. Innovation derives not just from how structured content is used, but also from where it is used.

Innovation and the ROI Blueprint for Structured Content

Structured content is a means to an end. We need a way to link the results to the predefined components. To bridge this gap, JustSystems has developed, with support from Gilbane Group, the ROI Blueprint for Structured Content. Available in print and online, readers can access the interactive Flash application at http://na.justsystems.com/files/ROI_Blueprint.swf.

Simply put, the ROI Blueprint is a tool for analyzing the business value of structured content. (See the illustration on the next page.) We anticipate that content professionals, information architects, and systems designers will use this blueprint as a guide to examine how “unstructured” documents can affect current activities and business processes.

As an analysis tool, the ROI Blueprint describes how structured content can be used to benchmark current capabilities, and to highlight emerging applications that deliver real value today. In addition, it is a useful for strategic planning. Using the ROI Blueprint, we can identify what’s eminently possible with structured content, and how structured content applications can foster truly innovative solutions that drive business value.

It’s important to keep the evolution of structured content in context. Structured content has long proven its value in technical communications as a strategy for increasing revenue, reducing costs, and mitigating risk. These benefits are available to the broader enterprise, and not just for the technical publications group.

As companies recognize this opportunity, XML-based practices for creating, managing, and publishing technical documentation as structured content are spilling over to other enterprise domains, including research and development, manufacturing, sales and marketing, service and

support, and corporate administration. The tools, technologies, and experiences of a technical publication group can be applied to address a wide range of general business issues.

ROI Blueprint For Structured Content	JUST. SYSTEMS				
	Contact Center	Maintenance & Repair	Technical Support	Training	Legal/KepOps
Research & Development Manufacturing Sales and Marketing Service & Support Corporate Administration	Sample Documents	Manuals, procedures, technical parts catalogs, reference files, knowledgebases, and generally the content that supports maintenance and repair operations.	Structural requires, collateral, procedures, and other technical content directed at customers who are attempting to diagnose and repair product themselves.	Multilingual customer training and documentation, including on-line training modules and both formal and informal instructional content.	Patents, policies, legal agreements and administrative, and/or documentation, and/or documentation.
Views ▶ Show All In Practice Leadership Innovation	Grow Revenue	Companies increase profitability via through maintenance and repair operations supported with structured content. This includes doing research through dealer and reseller content, and syndicating structured content through some partner-oriented networks.	Structured content helps to increase customer loyalty and enhance the value of their relationship by ensuring call center and self-service applications have accurate, consistent and high-quality support information readily at hand. Some of the structured content developed for general customer can be repurposed for seminars, technical support.	AWK standards for structured content, such as with SCORM and CDAs, help companies to avoid duplicated content by reusing training, documentation to third party providers. Customized content components can be easily embedded training, cross-training, co-branding, and targeted offers.	Structured content has substantially improved accountability of sales or documentation for a growth and protection program drivers.
How to use the ROI Blueprint	Reduce Costs	When developing customer documentation, structured content helps to reduce time to market by reusing content. Structured content also reduces support costs by reducing customer change on device components. They can easily submit type and add back practice information.	Structured content helps to reduce editorial and production costs through content reuse and lower translation costs.	With structured content, mass customization of training materials, targeted to specific markets and geos, helps to reduce training costs. Content reuse also helps to reduce the cost of publishing, hosting, and maintaining training materials.	Structured content has enabled significant cost reduction through reuse to the ISA and XPS in the SEC. The key was to include costs for build and high-quality and content management in a program build.
Developed in conjunction with the Gilbane Group	Mitigate Risk	Structured content helps to reduce consistent customer miscommunication and confusion. Structured content helps to reduce the risk of customer deflection by routing call center personnel to self-service applications and accurate, consistent information, delivered consistently in the point of sale.	Here again, structured content helps to reduce the risk of customer deflection and miscommunication by ensuring call center personnel and self-service applications have accurate and consistent content dynamically.	Structured content reduces the risk of noncompliance and ensuring all training materials are consistently published, administered and maintained over time. Structured content helps to ensure that the training materials serve as an authoritative source for learning, promotion and performance.	Structured content has reduced risk of error in the review process and throughout regulatory demonstrating that a company has complied with all applicable regulations. Structured content helps to speed attention to product content.

Five Enterprise Domains: R&D, Manufacturing, Sales & Marketing, Service & Support, Corporate Administration

Three Functional Areas in each, plus sample documents

Three Business Levers: revenue, cost, risk

Three Views: In Practice, Leadership, Innovation

Selling Points for structured content in each cell, plus resources

Refer to the User Guide on "How to Use the ROI Blueprint" for details

Identifying Opportunities for Innovation

There's a familiar pattern at the frontiers of structured content. To be sure, it's important to focus on how companies can grow revenue, reduce costs, and mitigate risks by investing in structured content. But it's not simply a question of bigger, faster, better – and being able to stay abreast of changes within the current business environment. There are also practical business opportunities.

The trick is being able to recognize situations where reasonable business investments will pay off, and that will lead to concrete results. Thus it's important to have a holistic perspective – to consider the end-to-end business processes and the overall business results. Structured content can help to transform how an organization functions.

We need to focus on the fundamental business drivers that cut across the organization, and to broaden the number of people within an enterprise who are involved with structured content. Here are three examples for how the ROI Blueprint can guide your analysis of options for innovation.

The Grow Revenue Perspective

Our first example concerns research and development activities. The functional area is strategy and planning, and the documents are those related to intellectual property, including plans, documentation, and sometimes the raw content itself. According to the relevant cell in the matrix,

Structured content dramatically improves the discovery of information that can lead to new product innovations through new applications of existing intellectual property.

Let's focus on the publishing processes for producing guides in the travel industry.

Reengineering the Publishing Process

The publisher produces content for hundreds of travel guides, initially rendered as printed books and also distributed on the Web. There are significant business opportunities for publishing additional guides and syndicating content to many other Web sites. However, a linear publishing process – from manuscript editing, to production editing, to desktop publishing and finally to Web production – stifles growth opportunities. The publisher needs to reengineer its publishing process by introducing structured content.

Of course the publisher does not control the authors – many are freelancers and insist on using their familiar authoring environments. But the publisher can introduce structure into its own manuscript editing activities, and proceed to unlock the value of its travel content. Here's what happens.

- The publisher adds a QA step to manuscript editing – where an editor uses an XML editing tool to chunk and tag the linear documents, received from authors, into component parts.
- Once the publisher has transformed its travel information into content components, it can proceed with its varied publishing activities in parallel.
- One group can continue with the production editing and desktop publishing while another can pursue varied Web publications.

Key to the publisher's efforts with redesigning the process is its ability to define the content components. In this case the publisher defines "points of interest" (or POI) as an atomic element and assigns XML tags to the various descriptive attributes (such as name, address and phone number). This rich structure enables more process automation and easier data selection to meet the new business goals.

As a result of its investment in structured content, the travel publisher is able to grow revenue by syndicating its content across the Web and capture revenue from third parties. It is also able to produce and maintain additional specialty books. Furthermore, structured content leads to faster time to market. Content appears on the Web more rapidly and easily – many production steps are automated. And there's an impact for traditional publishing as well. Some aspects of book publishing can be automated, which in turn accelerates production and provides for added revenue opportunities.

When Just Enough Structure Is Remarkably Useful

In this example, we can readily identify how and why reengineering the travel publishing process grows revenue.

- Just enough structured content is remarkably useful.
- The publisher begins by focusing on the outcomes – all the varied ways that its travel content, once digitized, can be used.
- Electronic publishing and producing printed guides is only one outlet.
- There are many other electronic and Web-based venues – including multiple Web sites owned by the publisher as well as syndication opportunities and travel-related knowledge bases maintained by third parties.

The key step is being able to tag the components for meaning. The publisher defines the information architecture and identifies the atomic elements and XML tags that provide the foundation for the entire effort. The publisher introduces the QA step where an editor chunks the linear content, received from writers, into component parts. Adding this step early in the process enables the publisher to unlock the value of its content and repurpose it for many different venues.

Of course, the publisher is changing a core business process and there are probably substantial upfront costs. We do not want to minimize the ROI equation. But when amortized over multiple projects and publications, the revenue opportunities exceed the initial cost outlay. In this case, the publisher can invest in the reengineered business processes that lead directly to innovative digital products and services.

The Reduce Cost Perspective

Our second example focuses on manufacturing. The functional area concerns contracts. Typical documents that need to be managed include proposals and content related to statements of work. The value proposition is:

Structured content reduces the cost of contract creation and review and heads off the downstream costs of legally binding mistakes introduced into contracts when content is produced “on-the-fly” or through ad hoc reuse of information. This is especially valuable in regulated industries where different domains require specialized content.

Manufacturing Contracts

Let’s focus on a traditional manufacturing firm that has already invested in structured content for its technical publication efforts, and now can apply the same approach to its contracting efforts. The business problems and the opportunities for an innovative use of structured content to reduce costs are similar. The current process of one-off contract creation results in:

- High legal and administrative costs where expensive lawyers have to spend the time and effort developing contracts.
- Loss of favorable terms by not knowing what has been previously negotiated.
- Risk of unrecoverable costs due to lack of warranty and liability protection in the contract terms.
- Cost exposure due to incorrect pricing.

The opportunity for innovation is to develop a single-source library of structured content, containing approved contract clauses and templates. The templates are expressed as DITA maps.* Lawyers can then automatically create new contracts out of existing, approved content components. They use a forms-driven user interface and a customer profile that identifies the components required for the contract to query the library. Lawyers assemble the components into draft contracts – containing standardized sections and placeholders where additional content is required. They then make the necessary additions, within the range of parameters specified by the DITA map, and produce the final contract.

The business drivers are comparable to those for structured publishing of technical manuals. Cost reduction begins with the simple fact that the hourly rates for lawyers are higher than those for technical writers and authors.

For technical publications, we have seen a 30% – 50% cost reduction and we should certainly expect comparable saving in other repetitive content management activities. Similar results for automatic statement of work (SOW) production systems show reduction in losses due to pricing and other discrepancies of at least 20% - 30%. We believe that structuring contracts into atomic elements based on DITA will reduce the costs of operation.

Innovations that Reduce Costs

This example highlights the importance of content standards. Different industries and companies have various XML standards. We can point to DITA as an important horizontal standard, one that is initially designed for technical documentation, but is now being applied to a variety of other business situations. In fact, what separates structured content for *innovation* from the other levels of maturity captured in the ROI Blueprint (in practice and for leadership) is the applicability of standards. Often it is going to be important to innovate around standards where none yet exist. As content designers and information architects, you should consider how standards designed for one purpose can be extended or adapted to support another.

* The Organization for the Advancement of Structured Information Standards describes DITA maps as “documents that collect and organize references to DITA topics to indicate the relationships among the topics.”

The Mitigate Risk Perspective

Our third example concerns corporate administration. The functional area is finance and operations, and the sample documents are related to financial and environmental documentation, due diligence documentation, and market- or customer-facing information subject to regulation. According to the relevant cell in the matrix,

Structured content helps to improve visibility across business units and functions, can reduce the risk of non-compliance, penalties, brand and reputational damage caused by inaccurate or out-of-date content appearing within critical documents with visibility to investors and regulators.

Let's focus on a corporate policies and procedures example.

Corporate Policies and Procedures

Companies manage operations by developing and maintaining corporate policies and procedures. Keeping the documentation up to date is a challenge, particularly in fast-moving industries such as financial services. As we have witnessed with the ongoing crisis within the global financial system, key players such as banks, brokerage houses, insurance companies, and bond rating agencies depend on policies and procedures for risk management. Global organizations have to modify their operations to take into account regional and national requirements.

Many companies currently maintain these policies and procedures in a document-centric fashion. Often administrators are making updates to complete documents, perhaps only changing the pages in loose leaf binders (or their equivalent electronic artifacts, ubiquitous word processing and PDF files) and thus introducing substantial risk of inaccuracies into the publishing process.

To mitigate the risks, we can take the lessons learned from structured publishing for technical documentation and apply them to structured publishing for corporate policies and procedures. A solutions approach entails:

- Maintain global policies in XML with explicit role/region profiling.
- Maintain region-specific policies in each region, with role profiling.
- Through a common information portal, support search, browse and dynamic delivery of policy information filtered by role and region.

We can manage structured content on corporate and regional levels by paying attention to the structure of the underlying tag sets. Again, the key is developing an appropriate information architecture.

The end result is a solution for maintaining corporate policies and procedures that mitigates risk by managing the content components in a systematic fashion. Many existing solutions deliver dynamic technical documentation filtered by product, role, region and other parameters – resulting in the range of 50% - 60% improvement in accuracy, consistency and timeliness of information. We believe that a similar approach can be applied to the production processes for corporate policies and procedures, with the expectation of yielding comparable results. The innovation is being able to identify the atomic elements and tag content components for meaning.

Innovations that Mitigate Risk

This example demonstrates the importance an information architecture that is developed from the outside in – in terms of the end results, what the customers need, want, and expect. A critical step is identifying the tags and terms that span departmental and enterprise boundaries. It is important to define and recognize the current terms of art within one organization or another. Obviously, different organizations or business units within an enterprise operate in different ways, and utilize a variety of terms. We need to recognize and capture these differences. Harmonizing terms and term sets across an enterprise is an arduous task, perhaps even insurmountable in some organizations. Better than trying to come up with a canonical set of terms for an entire enterprise or industry (an impossible undertaking to be sure) is to leverage the differences. We can develop and manage taxonomies of terms within functional business units, and then map the differences across the enterprise.

We also need a flexible environment that can stay abreast of changes in the business environment. There are a number of innovative approaches that might be incorporated into an information architecture – blending top-down taxonomy management with bottom-up social tagging and folksonomy management. It is important to ensure that tagging maintenance and update processes are in place. The information architecture needs to identify how the tags are going to evolve with the speed of business.

Innovation by Balancing Opportunities

Structured content for innovation draws directly on what has been learned and proven in prior situations. Technical publishing is a good sandbox for identifying promising opportunities that can be applied to other business functions across an enterprise. We can identify the patterns that drive business results, and see how lessons learned in one situation can be applied to another. To foster innovation, we can offer two guidelines.

- Loose structure goes a long way. What we want and need to succeed is just enough structure. The underlying structure needs to be driven by business objectives, and defined within the information architecture.

- We need to tie tags to known business objectives. It helps to keep tags descriptive and meaningful. For example, “topic” is a more useful tag than “heading level 1.”

We also need to focus on the power of process. Structured content is essential to developing automated, integrated processes that meet the scale of global business requirements. Along the way, it is important to design for structured content through an outside-in perspective. Companies need to create and manage their content based on the needs of the end-consumer of that content. The days of the book model are gone forever. Structured content is essential to ensuring customer satisfaction, which is a new basis for long-term, sustainable competitive advantage.

In sum, structured content for innovation is becoming a practical reality. We can begin to develop the solutions that exploit the underlying meaning of content. Content is at the heart of how organizations interact with customers and partners. It is now time to exploit the tools that grow revenues, reduce costs, mitigate risks, and facilitate effective business processes within today’s digital economy. Change is possible, and it’s all about harvesting the power of process.

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