

# Structured Writing: Brain Software

## or... “Making Information Usable”

In the last issue of *Senior Executive*, we explored what structured writing is and why it is so essential for extracting the most value – not only from a Content Management System (CMS) but also from the knowledge assets spread throughout any organization. We concluded that for structured writing to work, all content developers in an organization must develop content in exactly the same way, turning vast swaths of textual information into precisely-defined LEGO®-like content blocks that can all snap together into any pattern

that meets any user’s needs.

This article looks at one structured writing methodology: Information Mapping®, the oldest and arguably the most robust and comprehensive such methodology. Originally developed in 1964 by Robert E. Horn of Columbia and Harvard, Information Mapping benefits from 40 years of research and practical application across all languages, cultures, and communication media. Indeed, it was Horn who first coined the phrase “structured writing” in his 1989 book *Mapping Hypertext*.

**“Modularity is a major concept in engineering, it has been thoroughly incorporated into software engineering as subroutines. This concept certainly influenced my work on developing information blocks... structured writing can claim to be the first to define and develop a precise modular concept (information blocks) that are firmly grounded in a taxonomy of information types”**

*Robert E. Horn, “Structured Writing at 25,” Performance and Instruction*



### What Makes Content Structured?

To understand how to structure content, it helps to understand what makes content structured. The following paragraph is an example of conventionally written, unstructured content:

**Common Errors on Forms:** The most probable source of a misspelled name is the input typist. This happens in Line number 14A on Form A79X5. Missing names on 14A of the form are frequently left off by the sales person. Wrong addresses in Line 15 have their most probably source in the failure of the salesperson to check on them. In Line 16, the error type “person not there” has as its most probably source the fact that the business has moved.

This is perfectly well and clearly written, but it is written rather than structured and that means it must be read rather than used.

Structuring the same information might look like this:

COMMON ERRORS		
This table locates the probable source and most common errors on Form A79X5		
Error Type	Most Probable Source	Location on Form (Line no.)
Mispelled Name	Input Typist	Line 14A
Missing Name	Salesperson	Line 14A
Wrong Address	Salesperson did NOT check	Line 15
Person NOT there	Business Moved	Line 16

A relational table like this is a clear and classic example of structured content. We can see the content without reading it; we can scan and use the table to quickly access details. The paragraph version hides the details in neutral-looking text that must be read and re-read every time.

To understand structured content, let’s analyze what it is about the table that structures content. First of all, tables can only present details about a single topic. The paragraph is flexible and open (*which is its virtue when I want to write a magazine article such as this one*) whereas the table is very restrictive and tightly defined (*which is ideal when I want to communicate information to users*). It cannot accommodate details about other forms or how the forms are used or what they’re for, all of which

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could be added to the original paragraph version without violating rules of grammatical structure. So, like the table, structured content must restrict itself to a single purpose, in this case the source and location of errors on form A79X5. Other topics that serve different purposes must be isolated in separate content blocks, each serving a single purpose.

Another key difference between the original paragraph and the table is the latter's usability. The table organizes all the details into a grid that makes the content scannable: headers identify the nature of the content in each column and details are contained in cells making it easy for the user to isolate each item.

And finally, the graphical display represented by the table accurately reflects what the content means. The original paragraph is a neutral rectangle of text that looks like every other paragraph; there is nothing in a paragraph's visual appearance that betrays what it means. Meaning is extracted by reading it. The table, on the other hand, gives up its meaning in how it appears, before it is read. The columns categorize the content areas related to the source and location of errors on the form and the four rows provide the details for each category. Where do you see the three categories and four error types in the paragraph?

### Applying Main Components

Structured content breaks information down into blocks, each block adhering to three main components. Applying these components is easy and obvious when dealing with content that fits into a table, but not all content lends itself to

**“Information has a topography like geographical terrain; information has peaks and valleys, cities and countryside, roads and superhighways that connect them. Like geographic maps, formats should relate to this topology on a point-to-point basis.”**

*Robert E. Horn, “Structured Writing at 25,” Performance and Instruction*

such presentation. What about other content? Can it be structured?

Let's examine the following sentence and see if we can apply the three components to it.

On September 1, the sales department will initiate a casual dress policy for every Friday, with the exception of those sales representatives, sales managers, and executives who schedule meetings with clients on Fridays.

### 1. Serves One Specific Purpose

How do we define purpose? Or, more significantly, how can all content developers in an organization, define purpose in exactly the same way? In *Information Mapping*, Robert Horn's answer is a taxonomy of information - break all information down into discrete types, each one serving a specific purpose. His research uncovered six *Information Types* that take in almost all information and the purposes to which it can be put.

- *Procedure* serves the purpose of instruction, providing steps to perform a task;
- *Process* describes how something works;
- *Concept* defines what something is;
- *Structure* shows what it looks like;
- *Fact* provides details around a subject;
- *Principle* dictates or guides behaviour with rules, policies, and guidelines.

Apply the *Information Types* to our sentence and it breaks down into three purposes:

- “On September 1” is a *Fact*, providing a measurable detail (a date).
- “the sales department will initiate a casual dress policy every Friday” is a *Principle*, dictating behaviour.
- “with the exception of those sales representatives, sales managers, and executives who schedule meetings with clients on Fridays” is a *Fact* providing details around exceptions.

The single sentence, after application of the *Information Types*, is restructured into three separate blocks, each serving a separate purpose.

### 2. Is Usable, Allowing Users to Scan for Details

How do we re-present the neutral text so it is usable? Or, again looking at the larger issue, how do we make sure all content developers make all their blocks equally usable in the same way? Horn's

answer: Have them apply a consistent set of cognitive principles to reshape the content so it can be readily processed by the human brain. These principles make content usable and scannable, by conforming it to the needs of our own hard writing and turning it into brain-ready material. That, simply put, is what cognitive means. Here's our information after we apply the principles:

<b>Casual Dress Policy</b>	The sales department will initiate a casual dress policy for Fridays
<b>Effective Date</b>	September 1
<b>Exceptions</b>	This policy does not apply to sales representatives, sales managers, or executives when they schedule meetings with clients on Fridays.

### 3. Graphically Reflects What the Content Means

Once we have used the six *Information Types* to determine WHAT the purpose of each block is, we can then use the Types to figure out HOW we can present that purpose. Each *Information Type* has its own *Presentation Modes* - or best ways of presentation - that graphically reflects the purpose of that Type. We do not present a procedure in the same way we present a process; different *Information Types* require different graphical *Presentation Modes*.

Looking at our casual dress policy, we present our *Facts* (the effective date and exceptions) with direct statements. Under *Effective date*, the original sentence is replaced just by the date itself; it, in combination with the label, clearly communicates the purpose. Under *Exceptions*, there is a list of three employee types; presenting it as a bulleted list rather than a serial sentence, immediately conveys what it means and allows users to scan the items. Our *Principle* (casual dress policy) must assert a policy and so needs to be presented in the active voice.

Our original, unstructured sentence is now three discrete content blocks,

<b>Casual Dress Policy</b>	Sales staff may wear casual dress on Fridays
<b>Effective Date</b>	September 1
<b>Exceptions</b>	This policy does not apply to the following employees when they schedule meetings with clients on Fridays: - sales representatives - sales managers - executives

each serving a specific purpose, each usable, and each presented graphically based on its purpose.

## Content Usable by People and Technology

This simple casual dress policy example can be multiplied many times over when applied to the massive amounts of information generated every day within any organization. Horn's methodology provides all content developers with the tools to structure information into blocks consistent with those of other content developers. That is the only way all topics and sub-topics contained in content blocks can be re-used, repurposed, and recombined with other such blocks.

These blocks of structured content serve two fundamental masters:

- **people**, in which a set of cognitive principles and graphical presentation modes makes content usable, accessible, and readily comprehensible; and
- **technology**, such as Content Management Systems, in which modular blocks can be tagged, searched, combined, and recombined to generate the precise level of detail needed by any user.

Imagine the same process applied to massive manuals, or long procedures, or busy, dense websites, each with its information chunked into blocks. Again, I

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**“We aren’t in the business of managing money. We are in the business of managing information about money”**

*F. Anthony Comper,  
Chairman & CEO, BMO Group*

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can scan or navigate my way through the labeled blocks or type in my search criteria, and the block and any related blocks appear in graphical formats that are easy to understand.

Once a critical mass of content developers within an organization structures information using such a methodology, then the benefits to the entire organization become as clear as the documentation in the Content Management System – time saved by readers and writers, errors reduced in job performance, regulatory compliance increased, time to market reduced, communications to all stakeholders (staff, customers, partners) streamlined and clarified, and ROI and adoption of CMS maximized. In short, every area and every function that depends on quick, clear, accessible communication benefits.

Structured writing is not a software program. It cannot be bought and plugged into your computer. Instead, it is software for the brain, a process people use to structure content, and a way of thinking that helps communicators answer the needs of their content users and maximize the effectiveness of the technology that manages and distributes the content. As such, structured writing must be learned rather than plugged in.

If knowledge is your key asset and communicating that knowledge your key function – which might serve as a definition of any business in this Knowledge Age – then a structured writing methodology like Information Mapping is essential to fully realize your organizational potential. Don't write it, structure it, so your users – both human and technological – can use it rather than read it. Intelligent people and intelligent technology need intelligent content. Assuming you have the first two, make sure you provide them with the third to truly capitalize on all that intelligence. ☒

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