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How would you know if your forms were failing?

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The First Western Business Form

Forms have been with us ever since Gutenberg printed indulgences for the Roman Catholic Church in 1454. The indulgence, preprinted with spaces for entering variable data, was driven by the technology of the day, a factor which has changed little in over 500 years. Most form design is still driven by the printing industry and the producers of technology, with the added arty approach of the graphic design world. Many think of forms as simply drawings, and since we learn drawing in kindergarten, forms must be easy to design. Yet, if you talk to the form fillers, you will find the assumed simplicity overshadowed by frustration, inefficiency and a vast array of human error.

Back in the 19th Century, the industrial revolution brought a great desire for increased productivity and the industrial engineering concepts of the factory were soon being applied to office workers. Coming into the 20th Century, we find the emphasis is still on treating people as machines. If they can fill out forms faster and minimise paper movement then increased productivity must follow. This concept of *people as machines* was to become the driving force behind much of the use of computers in the 1950's to 1970's. But by the mid 1970's it was obvious to many in the business systems world that something was disastrously wrong. Writers such as Keith London¹ in his excellent book, *The People Side of Systems*, were talking about the need to think about people in systems development. He likened the business system to an iceberg stating that:

"The bulk of the iceberg in systems terms is the people, their jobs and their attitudes."

System developers started to take an interest in computer-based forms with writers such as Wilbert Galitz² placing a great emphasis on the human aspects of screen design. Even governments around the world started to take an interest and in 1977 the US *Commission on Federal Paperwork* published its now famous final report. In the letter of transmittal to the President, Committee Chairman, Frank Horton³ made this telling

statement:

"Many people feel, and the Commission agrees, that a multi-billion dollar wall of paperwork has been erected between the government and the people. Countless reporting and recordkeeping requirements and other heavy-handed investigation and monitoring schemes have been instituted based on what we view as a faulty premise that people will not obey laws and rules unless they are checked, monitored and rechecked.

This situation and this assumption must be reversed if we are to restore efficiency within Government and confidence in Government by the people..."

The American Tax Form Experience

In 1991, I was invited to Washington DC by the American Bar Association to speak to members of the IRS about the success the Australian Government was having with the design of taxation return forms. The Australian Taxation Office, through the use of modern research and testing methods, had greatly reduced the complexities of the tax returns, was getting many more forms correctly filled in and had significantly reduced the problems people had with the forms. After explaining how this was achieved and going over the methods used, I was staggered by a comment from an IRS staff member whom I was led to believe was in charge of US tax form design. He said that the US would never go the way Australia did because it was US Government policy to **reduce paperwork**, whereas Australia had **increased** it. He was referring to the fact that the Australian form had increased to 6 pages to provide sufficient space for the questions to be in readable type and for people to give their answers in normal handwriting. I pointed out to him that we may have increased **paper**, but we had greatly reduced the **paperwork**. He was not convinced, claiming that there was nothing wrong with American tax forms—his friends told him that they were easy to use and since they were his friends they wouldn't lie to him.

Subsequent meetings with a number of forms and systems people around the country confirmed my suspicions that while analysts wanted to help people, for the most part they were heading in a totally wrong direction. Even at BFMA Symposiums, I have been told by a number of people that while they could see the benefits of the methods I was talking about, their organisational policies would not allow them to change their traditional ways.

The Failure of Traditional Methods

Traditional systems methodology places its emphasis on physical movement but virtually ignores the human mind. For example, the following extract from a book on systems development places the emphasis on machine performance as a test of system efficiency⁴, but provides no useful information about whether or not the data being produced is reliable.

"...today, the Accounting Department has to manually prepare a list of all overdue accounts...because the current system does not automatically produce a report with that information. The current system has obvious shortcomings. The new system's performance could be evaluated by comparing how soon this information is available or how much time was saved by automatically identifying all these overdue accounts.

*Both of these comparisons (how quickly the information is available and the amount of time saved) are objective and measurable, can easily be determined, and **would satisfactorily serve as an objective method of evaluating the new system's performance.**" [EMPHASIS MINE]*

The book is typical of the approach taken by modern 'information systems professionals'. Even when it talks about finding bad data in the system it takes a simplistic view of how to deal with it—*if people make mistakes, retrain them.*

Instructions may be easy to change—but to what? Communication is not just putting words on paper in the right sequence. This thinking is frequently transferred by the developers of computer systems to the development of manual systems. It's bad enough that it frequently fails with computer systems, but it creates a shambles when applied to the highly variable nature of human communication and business forms. It is human communication that is generally neglected with an almost total concentration on the physical matters such as effort, paper flow, aesthetics, equipment efficiency, movement and other aspects of ergonomics. Even when we come to language, traditional document testing methods include such things as grammatical correction, legal or technical examination and clearance, proofreading, opinion surveys and work study. But recent research is showing that many of these methods are often unsuccessful and are far from cost effective.

I have come across many so-called forms review procedures which involve nothing more than sending the form out to known users and asking them to comment on whether they would like to change anything. Such approaches rarely give any indication of the success of the form in collecting accurate data or in providing relevant information, yet this is the preferred method in many organisations.

WHAT ABOUT QUANTITATIVE METHODS?

Some organisations use so-called scientific quantitative methods such as readability scores and controlled laboratory testing of users—or even worse, measuring machine performance of computer systems. As has been explained by various researchers, applying readability scores to technical documents is generally a waste of time. While they may be a help in some circumstances in showing up bad text, they are not suitable for forms and instructions. Even using them for the purposes for which they were designed is of doubtful value.^{5,6} Experiments can play an important part in the development of our knowledge but to apply the results of laboratory experiments to other work situations in a different context is totally inappropriate. Some of these approaches have their place when used wisely, but even then, document quality control checks are a coalescence of many different factors.⁷ No single procedure supplies all the answers.

LARGE SCALE TEST RUNS

Another approach is to engage in large scale test runs, often referred to in the business world as "pilot studies". These studies are frequently expensive to conduct and tend to be superficial. Pilot studies help us with the physical processing and may even provide useful information for data sampling, but they don't tell us much about people's understanding of the form filling process.

OPINION SURVEYS

When I began learning about office efficiency some 25 years ago, I was told never to believe opinions and I soon learned how valid this was. People's recollection of the past is unreliable and their predictions about future behaviour of themselves or others is even more so. We soon learned that if a user claimed to have a "serious" problem with a procedure or document—and that it "happens all the time", then it most likely happened during the past couple of weeks. If it happened more than a few weeks ago—even frequently—then they "don't have a problem at all".

Our problem is that many market research people don't understand the issues, believing that the survey results show how successful the form has been—or will be once implemented. But asking opinions about a form gives only vague information about its performance and is often grossly misleading. A particularly outstanding example was the redesign of the Midwest Bell Telephone Bill.⁸ The techniques for testing the bill came largely from market research—questionnaires eliciting preferences and focus groups. While there were substantial differences among the various revisions when preferences were analysed, the test results revealed few significant differences on measures of comprehension. However, the primary goal of the redesign process had been to increase customer satisfaction; whether customers actually understood a new version better was secondary. The bill may have 'seemed' better, users may have been 'satisfied', but if they didn't really understand it, was it a quality document? An interesting follow-up to this study occurred in Australia. In 1987, Telecom Australia (the Government's telephone company) purchased the Bell billing system. The new system may have improved computer efficiency, but it introduced many customer complaints and enquiries. Telecom then commissioned a study of the way in which people used the bill and to develop a new format that would better suit the needs of the users. Reporting on the project, David Sless⁹ said:

"...Telecom devoted considerable effort to the management of human information; the result is a bill that has dramatically improved Telecom's relationship with the public. Overall satisfaction with the billing service has gone from 67% in September 1989 to 84% in April of this year (1990). Moreover, when asked about the causes of dissatisfaction, 47% volunteered the design of the bill as the reason in September 1989, whereas only 4% volunteered this reason in April 1990.

Significantly, there have been no major machine information management changes during the period in which the new bill was introduced. The data on the new bill is almost identical with the old. The major machine information difference is in the final output of the bill onto a high speed laser printer, a change made because of the needs of the human information system.

No other Telco in the world has reported such large improvements in its relationship with its public."

The redesigned bill not only had greater customer satisfaction (the main requirement of the MidWest Bell redesign), but it significantly reduced the number of enquiries from people who did not understand the bill. Significantly the decision on the most effective version was not based on opinion surveys, but on the methods discussed in this paper.

BLAMING THE WORKER—THE MYTH OF FUNCTIONAL ILLITERACY

Problems with forms are often blamed on the public itself. When management acknowledges that there is a problem, they frequently don't see the real cause—they blame the form-fillers, claiming they are either incompetent or 'functionally illiterate'. The December 1989 issue of *Business Forms & Systems* carried the following item in its *Newsline* column under the heading 'Verbiage':

"It doesn't matter how good your form is if someone can't read it. According to conservative estimates, one out of four adults in America is functionally illiterate. Taking this into consideration, verbiage should especially be eliminated from the design of forms to be used by public agencies..."

If we define 'functionally illiterate' as the lack of literacy capability to perform a required function, then we need to look at where the real problem lies. Perhaps 25% of the American public **appear** to be functionally illiterate because the functions themselves are poorly designed. Can we accuse the public of being functionally illiterate if the form designers don't know how to communicate effectively with their public? What is meant by functional illiteracy? Are form-fillers to blame when they make mistakes? Is the education system to blame for not teaching them how to fill in forms? Much of the answer comes from analysing the methods used to determine the extent of the problem. For example, consider the following statements from a billboard promoting the International Literacy Year:

"Two in ten people can't read a telephone book."

"One in ten people can't fill in a medical claim form."

"Four in ten people can't write out a job application form."

If the telephone directory is badly designed, uses poor typography, and is cluttered with visually distracting advertisements, where is the real problem—with the public or the directory designer? If a form is confusing and people get it wrong, where is the *real* problem—with the form filler or the administrator who doesn't know how to design effective forms?

We're lucky the 'experts' didn't use the Capita life insurance proposal forms for their study. They would have found ALL users to be functionally illiterate. Yet when the form was redesigned, the error rate dropped dramatically from 100% to 15%¹⁰. Does this mean that the users of Capita's forms suddenly gained their long lost literacy? I don't think so!

What We're Learning Now

Because of their high profile and frustrating nature, forms have played a major role in communication research since the late 1970's and a great deal has been learned about the way people work with them.

The most important and frequent reason for forms failure is the inability of designers to see forms from the user's point of view. This was one of the major findings of a review of administrative forms in British Government Departments.¹¹ We hear a lot about the need for designers to have empathy for users—to put themselves in the shoes of users—but designers and users don't necessarily think the same way. It is impossible to know how everyone else thinks. We each come from different backgrounds, different families, different schools, different generations and many other variables. Even if designers could have

empathy for all the users, there are so many different ways of thinking that it is impossible to arrive at questions on forms that will be understood by everyone in the same way.

Many people look on communication as simply the process of transferring knowledge or messages from one person to another. The emphasis is on the transfer process and the method of sending the message: so we have the common expression "getting your message across". But if communication was this simple—if we were all born with identical built-in coding and decoding devices—if we all spoke the same language and all understood every word in exactly the same way—we wouldn't have the problems that do exist. If communication is so simple, why do we have so many misunderstandings?

A 1953 LESSON

Charles O. Libby, wrote in the May 1953 edition of *The Office*:

"The forms analyst who writes on form design often assumes a wisdom which could hardly exist. In many articles our hero appears to know all about any form, its why—what—when—where—how—and—who, its life cycle and utility, its need and requirements, its background and all its relationships. It might appear to the uninitiated that all the busy executive has to do is turn his ideas over to this bright young man and all would be well. I am afraid that all would not be well. One man alone is only one man."

Libby explained how that after he had spent years in active forms design, he designed a form for his own section. Later, one of his own analysts whom he had trained, presented him with a redesign of his own form and he was pleased to find that without changing the data and purpose the analyst had improved the design and method. He went on to say:

"This episode taught me two things: First, that one has to work continuously in forms design to be alert to all possibilities; and second, that the person who has in mind the objective of the form and the person who works out the mechanics and method, approach the problem from two different points of view. A good form is the product of at least two minds.

The forms analyst must have the know-how, but he must also have the know-how-much. He makes progress by borrowing thoughts from others, applying them to his own purposes, and lending them to others in the relay race of progress. He cannot know all. His work is largely collaboration. He furnishes the techniques and methods, his client furnishes the objectives and purposes—each has a contribution to make. It is the meeting of minds that is forms coordination."

WHAT PEOPLE DO WITH FORMS

Modern procedures have revealed many interesting insights into the way people behave when using documents. A good example is the report by David Frohlich¹² in which he outlines 7 question principles for form design.

Principle of linear progression: work through the questions in the order they appear on the form.

Principle of least reading effort: only read what seems to be necessary to maintain form-filling progress.

Principle of question routing: jump directly to a new question if the form tells you to.

Principle of question omission: miss out questions which don't seem to apply to you.

Principle of question preview: if in doubt about the meaning of a current question, read the subsequent question.

Principle of question review: if in doubt about your interpretation of the previous question, review that question and the answer provided.

Principle of topic scan: if in doubt about the relevance of the current question topic, scan the local topic context."

My experience in testing has consistently shown these principles to be true and some long-held *traditions* of document designers don't necessarily hold true when examined in the light of actual results.¹³ What you need is a method whereby you can find out why people are going wrong—where you can highlight specific user problems and fine tune the design to get rid of them.

FINDING OUT WHAT PEOPLE DO

Dr Walter Shewhart of Bell Telephone Laboratories was looking into these same issues as far back as the 1920's and he proposed the idea that the way to improve quality in the workplace was to use an iterative style of useability testing: plan a change what you believe will be an improvement, test it on a small sample, observe the results, and finally, study the results and decide what you've learned from the change. Then, in an iterative manner, repeat the cycle a number of times, each time incorporating the improvements. The methods we use today are similar, though more refined, and are proving extremely valuable in reducing errors, often to insignificant levels. Using structured observational studies we watch users filling in or using the forms and, with appropriate questions, we can learn why they make mistakes. This helps us eliminate the problems on subsequent rounds of testing to give us the confidence that we are on the right track with our design.

If you want a document improved, how do you know it is better if you don't know how bad it was before you started? This is why you need to measure the old form's performance before you start on the new design. It is common practice in the Information Systems field for analysts to totally ignore the old (possibly manual) procedures and documents when designing a replacement system. The system and procedures may be different; the new forms may have dropped some of the old data and they may be collecting new data; but if it is a change, statistics about the success or otherwise of the old form could be very valuable. In some cases, I have also found it a great advantage to conduct observational studies of the old form as well. They help you to find out where some of the language problems may be before you start on the new design.

With repeated application, these methods have never failed to dramatically improve the performance of a document. They allow you to measure changes in behaviour, to actually see the document improving and to obtain documentary proof for management—an important step in dealing with the seemingly endless problem of forms politics.¹⁴

THE PROBLEM OF ETHICS AND TRUTH

The whole business world knows that ethics and truth are a major issue in form design. Admitting that we live in a lying and cheating society is hard for many people because it implies that we all have the propensity to lie—it reflects on the character of our fellow citizens. But in form design we must face reality; if people generally aren't this way, why do we have signatures on forms, witnesses, statutory or notarized declarations, and proof of identity? Of course, much of this is not malicious—it may be just self-preservation, the survival of the fittest—or simply, "everybody else does it so why shouldn't I?"

THE PROBLEM OF COOPERATION AND MOTIVATION

Dr Robyn Penman¹⁵ made a salient point in the conclusion of her paper, *Discourse in courts*:

"...with the intent of maximum efficiency of information gathering, the court has neglected a critical feature of all human talk-exchanges—that the information given is a function of the nature of the relationship in which it is given."

Why do people fill in the form? A tax form may be regarded as a legislative imposition, a symbol of government coercion; an insurance claim, as an opportunity to get something for nothing; a betting ticket, as an opportunity to become rich legally. You need to recognise that you are frequently dealing with hostile form-fillers and when you present them with a form that even remotely looks like deception, there is no guarantee of honest answers.

ASKING JARGON-BASED QUESTIONS

For many years, one of the major problems with forms has been the use of jargon and acronyms that are not understood by the form-fillers. Back in the mid 1970's I was asked by one of our accountants what I meant by the word "system" in a written procedure. He had a valid point because, while our procedures analysts used it to refer to the total business system, the computer people, with whom he dealt frequently, used it exclusively for the computer component. Even then, the computer people differentiated between "application systems" and "operating systems". We subsequently became much more careful about the words we used.

People do interesting things when they don't know what a question means. There are three problem reactions that you need to know about. The first is when the person knows they don't understand the question, are possibly embarrassed about not knowing, and answer with fiction. A second, common problem is when the person knows they don't understand and assumes that, since they don't understand, it couldn't possibly relate to them. These people leave it blank. The third group are those who don't know that they don't understand and, once again, give fictitious information. If it is right, it's just chance.

A common problem with government forms occurs when legislation-based words need to be used in a form. For example, recent Australian legislation and regulations dealing with occupational health and safety require departments to report to a central authority details of work-related incidents resulting in "*Serious Personal Injury*" and "*Dangerous Occurrences*". These terms have specific meanings under the legislation. For example, Serious Personal Injury is considered to have taken place when a person was taken to hospital, or had emergency treatment by a doctor. That may be fine for the legislation, but a person being asked if there had been a "*serious personal injury*" is not necessarily going to only think of those specific situations. To some people, virtually any injury is serious.

Of even greater concern in the development of the forms, was the "*dangerous occurrence*". This is an event in which no one has actually been hurt or killed, but was so serious that a person could have been hurt or killed. That is, the incident had the potential to hurt or kill. One person, when asked: "*Was the incident a Dangerous Occurrence*" in reference to a light fitting falling from a ceiling and just missing someone said: "*Dangerous? They could have been flattened*". The same question caused a number of humorous remarks from form-fillers. These types of questions need a great deal of care and analysis in their development to ensure that they get the correct answers.

THE "PLAIN LANGUAGE" TRAP

It may sound like heresy to say that "plain language" is a trap, but there is a commonly held belief that the most important thing you should do with a form is to write the questions in clear and simple language. But Dr Robyn Penman¹⁶ pointed out in a recent paper on insurance documents that there is no sound evidence for this belief.

Many people in the Plain Language movement base their case primarily on a false perception of the problem—on a lack of understanding of the principles of sound human communication. They follow the traditional concept that all you have to do is write better messages and you will have communicated successfully. But communication is much more than the sending of messages. Now there is certainly a strong case for writing in clear language, but with forms, the problem is greatly magnified by the inclusion of the graphics and visual structure within the forms grammar.

An example from recent work with Comcare Australia, (a Government body involved with occupational health and safety) illustrates the problems we can have with language.

To process the forms, information is needed on the following details:

1. The **parts of the body** which were injured or affected.
2. The name of the **actual injury or disease**.

Initially, the questions seemed simple enough and structured as shown in Figure 1.

Through repeated rounds of testing form fillers wrote the answer to both questions in both places. Questioning of form fillers showed that people who had been injured could not separate their injury from the part of the body affected. For example, if a person dropped something heavy on a foot and broke a bone, "broken foot" would have been entered in both places.

14 What **parts of the body** were injured or were affected by the illness?

broken foot

15 What was the **injury** or the **illness**? Include the medical name if known.

broken foot

Figure 1

Finally, testing showed that combining the two questions and adding a couple of examples obtained correct answers in all cases without the problem of duplication. See Figure 2

Figure 2

A related set of questions concerned the cause of the incident. Again the problem of people separating parts of events in their minds was a major component of how they answered the questions. Comcare wanted to know:

The thing which **started** the sequence of events.

The events which **led up to** the final cause.

The **final thing** which caused the injury or disease.

In the first version of the form, two questions were asked as shown in Figure 3.

Figure 3

Observational testing showed that people could not separate the two questions when thinking about the events. It was assumed that the cause was the separation on different pages and the question sequence was changed to deal with this.

Subsequent rounds of testing showed a slight improvement, but still there was substantial confusion with form fillers providing the answer to both questions in both places. It gathered the correct information, but involved duplication of effort. After many rounds of testing it was obvious that separating the questions to gather data in separate boxes was not working, so the questions were combined.

The system required two similar forms to be completed. One was filled in as an insurance claim by the affected person. The other was a report filled in by another person with knowledge of the incident, usually a supervisor or manager in the area. The people directly affected had the most difficulty in separating the concepts. Figure 4 shows the version used for the report and Figure 5 shows the version used on the insurance claim. In the latter case, the equipment and machinery component was extracted as a separate question.

21 Describe how the incident happened.
We need to know:

- What **started** the sequence of events
- The **sequence** of events
- The **final thing** that happened
- The name of any particular chemical, product, process or equipment that was involved

Figure 4

23 Describe in detail what events contributed to your injury / illness.
If there was a sequence of events, we need to know:

- what **started** the sequence of events
- the **sequence** of events
- the **final result**

(if not enough space attach another sheet)

--

24 Fully describe any equipment or machinery involved in the injury / illness.

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Figure 5

The same series of questions caused problems in an unexpected way. Early in the testing, the question shown in Figure 6 was used.

30 How was the injury sustained or the disease contracted?
Include the name of any particular product, process or equipment that was involved.

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Figure 6

One form filler misunderstood the intent of "sustained" taking it to mean what happened after the accident. It was used in the sense of "persisting", a legitimate interpretation. The problem was eliminated in the rewording of the question as shown in figure 5 above.

The key point about these examples is that they show the need for proper testing before you can be certain a form will work. Appropriate language **IS** important, but remember that forms are not read in the same way as prose or advertising. For example, in prose a person may read straight through. This paper is a good example. If you want to know what it is talking about you will need to read all of it. Taking sections out of context will be quite misleading and you will not understand the points I am proposing. My intent is that you will read the whole paper and, **if you agree**, act on the newly gained knowledge. On the other hand, if you see an advertisement, you will probably read it because it has some attention-getting device (pleasant or otherwise). You may or may not read the whole advertisement—and the advertiser may not care as long as you buy the product.

Form filling is different. You are expected to read a question—stop reading—act by answering—and then start reading again at a specified point that is usually immediately after the previous question is answered. Then the cycle continues until the whole form is completed. To compound the problem, people only read what they want to read or what they perceive to be the next appropriate question.

THE ROLE OF GRAPHICS

This is where the graphic component plays such an important part in forms language and where so many form designers get it wrong. For example, in an endeavour to speed up forms processing, designers developed the idea of placing captions in the upper left corner of boxes. Now this works well with internal forms that are easily understood by the users, but it produces vast numbers of errors when used on public-use forms or internal forms used by large numbers of employees who are unfamiliar with the content. I know that there are many traditional form designers who don't like being told that their cherished ideas are wrong—and they may think I am arrogant for saying this—but the hard, real-world evidence shows that they are wrong.

Along with this is the antique use of all capital letters for captions. In spite of all the scientific evidence that this decreases legibility, some designers persist to the detriment of form fillers.

GRAMMATICAL CONSISTENCY

Given that a form's language includes the layout and graphic components, it is important to consider how this affects form's users. Do people understand the grammatical structure on a particular form? Is it the same as, or similar to, the grammar on other forms they are familiar with? Are they even aware that there is a special forms language grammar?

Studies conducted on public-use forms around the world have shown that most people's approach to form-filling tends to be habitual. People will follow styles they have encountered on similar-looking forms, especially if they have filled in the form recently. The first few questions, especially on the first page, may change past habits but will set the style for answering the remainder of the form.

This particularly applies to routing and question-skipping devices. You need consistency throughout a form or group of related forms. Research projects continue to show that any break in consistency will introduce some errors. This is one of the most important principles in the design of public-use forms. It applies to all areas of the form's design and

should be checked thoroughly before the form is implemented.

Consistency is a complex area of form design and there isn't space in this paper to discuss all the technicalities. These are covered in detail in my book, *Forms for People* and to a lesser extent in *The Form Designer's Quick Reference Guide*.

THE "RELIGION" OF FORM DESIGN

Many form designers still follow old ideas from the days of letterpress printing and punched card computing. You might even call it 'blind faith'—a religious-like belief in tradition. If the high priests of the forms world say it is so, then it must be so. But worldwide research has led us to the point where we know much of the traditional approach is producing bad forms and placing an almost impossible burden on the form fillers and readers.

As a result of the research over the past fifteen years, we can now establish some general guidelines on graphics and visual structure, especially in relationship to question routing and guiding the form-filler through a form. These give us a high degree of confidence in our approach and significantly decrease the errors in the first attempt.

Conclusions

GOOD DESIGN RULES ALONE DO NOT LEAD TO GOOD FORMS.

Quality is often seen as conformity to rules and accepted practice but does this measure **successful** performance and **understanding**? Does the use of 'plain language', traditional typographic principles and appropriate rules of layout mean that a document will **work**? Are the traditional methods of document testing and evaluation really successful, or do we just blindly follow them and hope that nobody asks too many probing questions?

Many researchers and document designers have a blind, almost religious-like 'faith' in the traditional methods. Yet the empirical evidence shows that these methods are usually inappropriate and based on a primitive understanding of the realities of human communication. 'Plain language', appropriate typography and good layout may be very necessary for a document to succeed, but these characteristics alone are not sufficient to guarantee that a document will work. Modern research is showing that most documents, even those evaluated 'according to the book' as good quality, are abject failures. They may look good, they may follow all the 'rules', but they don't carry out the task for which they were designed.

MOST PUBLIC-USE FORMS ARE ABJECT FAILURES.

If you were to analyse the errors on any major public-use form, I predict that you will find a high proportion of the forms incorrectly filled in. It wouldn't be unusual to find an error rate as high as 90% or even 100%. It could be argued that this is just an Australian phenomenon, but reports coming in from around the world highlight the same problems.

THE REAL COST OF PUBLIC-USE FORMS IS VERY HIGH

Management spends a great deal of time making decisions based on the data it receives and much of this comes from forms. Management time is costly and forms should be designed to reduce labour content as much as possible. Yet forms cost far more than most people realise.

Managers frequently see only the printing cost and because they haven't been trained in the value of good form design and the cost effectiveness of sound forms management, they just don't understand the real issues.

EMPIRICAL EVIDENCE FOR THE MANAGEMENT OF MEANING.

I do not believe in document designer 'faith' in generalised 'laws' of information management or in the validity of the reductionist scientific method for document quality. I do however, believe in the value of empirical evidence for the management of meaning.

This has not been the place for a full discussion of the approach and I have only been able to provide an overview. But in the final analysis, the practical results justify the methods.

I do not claim to know all there is to know about communication, human behaviour, document design or testing—we still have a great deal to learn—but I would like to challenge you to challenge your traditional concepts.

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