INFORMATION POLLUTION:
A DISASTER WAITING TO HAPPEN

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INTRODUCTION

Over the years, the role of information in industry has evolved significantly – from simple human-to-human exchange of knowledge, to the current state of information-as-business-environment. In the past, information was an *enhancing* factor that could improve the effectiveness of business decisions and processes. Today, information is such a basic requirement – easily created, stored, and exchanged – that it has become an embedded business requirement. Information is not just the spice that enhances the ingredients – it **is** the main ingredient.

When the information use environment was simple human-to-human "how-to" knowledge, individuals originated and stored information through their own unique experiences. Individuals then codified and exchanged their own experiences with others on an as-needed basis via simple, direct, conversational exchanges of information. As the use of information in industry gained momentum, we began treating information as a *product*, and gave the cost of information priority. In fact, an entire industry came into being, literally overnight, to manage the cost efficiencies of information by unbundling the various phases of information creation: origination, storage, transport, and analysis. Today, dedicated companies in the information industry cost-effectively manage these dimensions of information..

In today’s industrial environment, information has become much more than a factor of production. It has become so pervasive in use, and so deeply embedded in business processes and transactions, that it has evolved into the role of an **on-demand utility**. We don’t just need or want information – we *expect* it.

INFORMATION POLLUTION

While the obvious benefits of information use have driven the exponential growth of this industry, there has not been a similar attention paid to the inevitable risks of mis-information. Just as the benefits have grown exponentially, so too have the dangers of misinformation. We can easily address the issue of misinformation when it is a unique, definable problem. However, good information can turn into misinformation for a broad variety of reasons, including: design or development errors, data contamination in data warehouses, byproducts of system conversions, corruption of information due to accidental failures, and deliberate fraud and security problems. These are just some of the wide-ranging causes of misinformation.

It is becoming increasingly obvious that the potential for misinformation lurks throughout an organization’s business environment. Adding to the problem is the fact that the detection, verification, and correction of information errors does not work very well. To state this simply, *we don’t just have information errors, we have information pollution*! The difference between information errors and information pollution is that the former is strictly local in domain impact, and is usually the result of a single

failure. On the other hand, information pollution is the accumulated effect of multiple uncorrected errors that may cause unpredictable misinformation, in multiple domains.

Dealing with an information-polluted business environment is vastly different in concept and practice than dealing with limited information-errors. Industry can deal with information-errors in specific ways such as security, data scrubbing, audit and control, and data quality monitoring. However, more and more information errors are occurring due to business environments that are afflicted by information pollution.

The environmental pollution problem is the social price that we are collectively paying for the benefits of the industrial age. As a society, we have finally accepted this issue as an environmental pollution problem, rather than multiple industrial hazard problems. This is a giant step, as it permits government and private industry to fund a new industry – the environmental industry – to deal with the problem, rather than focusing exclusively on specific landfill or air-quality problems.

Unfortunately, in the information domain, we still haven’t fully comprehended the concept of information pollution. We are still treating local information errors as though they are all isolated situations. We must begin to recognize that the information environment in business organizations is becoming polluted, which in turn is manifesting itself as unrelated information errors. Left unattended, information pollution will lead to costly business errors, such as the customer that walked away because of poor

customer service. The shareholder who lost money due to corporate misreporting. And, the professional buyer who did not expect substandard manufacturing quality. They all are unrelated in a way, but the common thread here is that they are all manifestations of an information-polluted business environment.

The information pollution problem is causing numerous breakdowns in business environments all over the world. These breakdowns are manifesting themselves as business performance breakdowns. For instance, in the healthcare industry the Institute Of Medicine reports that more than 60,000 deaths occur each year due to preventable causes. Careful thought reveals that these are not medical breakdowns per-se, but rather decision breakdowns happening in information-polluted organizational environments.

A SOLUTION FRAMEWORK

First, an awareness of information pollution problems has to be cultivated. Businesses need to develop a healthy respect and fear of what information-pollution can do to their organizations.

Second, information errors have to be identified and solved independently of information pollution problems. Information pollution is an enterprise-wide challenge, while information errors are generally localized problems.

Third, information pollution solutions will be vastly different in nature than those needed to correct information errors. At the heart of the information pollution problem is the matter of *information integrity*.

If we can manage information integrity at the enterprise level, then we will have found a way to manage information pollution in that enterprise. If we can manage information integrity at the national level, then we will have found a way to manage information pollution for the society.

Information integrity is the dependability or trustworthiness of information. More specifically, it is the accuracy, consistency, and reliability of information content, processes, and systems.

CONCLUSION

Businesses, industry sectors, and entire nations have reaped huge windfalls in terms of growth due to the advent of the information age. We have all blithely bought into the promise that the digital age can render benefits of several orders of magnitude without additional costs. But now, reality has hit. We see increasing breakdowns in the functioning of businesses, markets, sectors, and entire nations. From the Enrons of the world, to the tens of thousands dying in hospitals, we are at a loss to comprehend the situation. Left untended, this information pollution problem will create disasters of magnitudes we cannot even imagine. By embracing the problem, and seeking a systematic approach to manage it, we can unleash the long-delayed benefits of the information age.

The choice is ours.