

THE TRUE COST OF PAPER IN ENVIRONMENTAL CONSULTING

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WHITEPAPER

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Many environmental firms still use paper-based processes to conduct and report on inspections. Putting aside the irony that “environmental” firms use stacks of paper each month, there are real costs to paper forms in environmental consulting that have been ignored for decades because, to be fair, there simply weren’t great alternatives... until now.

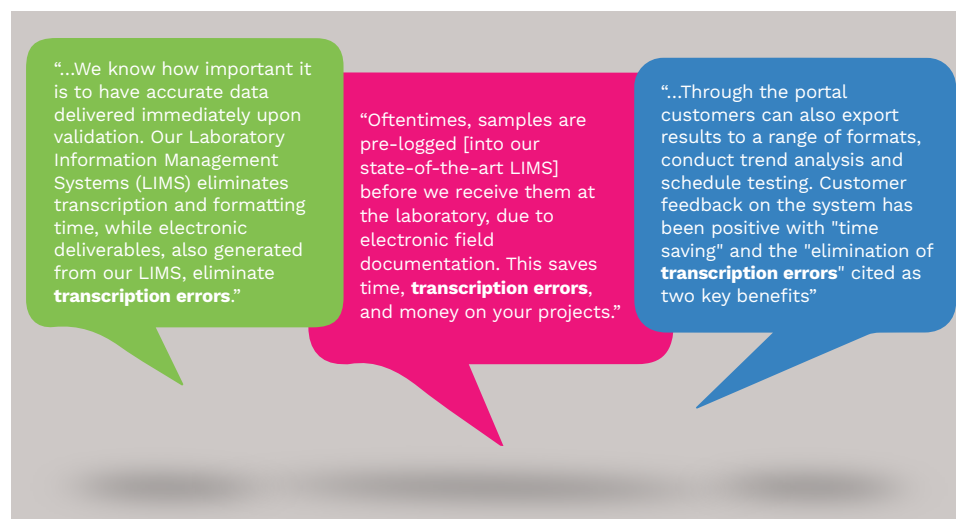
Let’s examine the costs of paper-based processes and how they impact you.

Liability exposure

First and foremost, a paper-based process increases the risk of errors and exposes you and your clients to liability. In a paper-based workflow, inspectors collect data in handwritten form and send a handwritten chain of custody to the lab (Handoff 1). The lab then deciphers the handwriting as best they can and transcribes the information into their Laboratory Information Management System (LIMS).

After running their tests, the lab then sends back the results to the environmental consultant and they are once again transcribed into report tables and/or a database. (Handoff 2). Each of these manual handoffs or touch points presents opportunities for error. In fact, transcription errors can happen as much as 3% of the time with such processes.

Labs certainly know this to be true. Don’t believe it? Based on a quick Google search, one can see that many environmental testing Labs, position electronic data exchange and their LIMS as instrumental in eliminating transcription errors. They would not be taking this position if transcription errors were not a real phenomenon.



If your team conducts hundreds or even thousands of inspections per year, no matter how diligent they are, sooner or later errors are inevitable, especially since the information often changes hands between different people in your team, and is not always controlled from beginning to end by the same person who conducted the inspection. Truth is, there is often so much detail that technical errors can easily go unnoticed, even with a robust internal review process.



In a 1992 study by researchers George Labovitz and Yu Sang Chang, entitled “Making Quality Work”, the 1-10-100 rule was born. The notion is that a mistake caught by a front line worker, like an inspector, requires 1 cost / time unit to fix. If an error is caught later in the process say by a manager, it requires 10 time / cost units to correct. Finally, an error reaching the customer, takes on average 100 time / cost units to resolve.

In non-regulated industries, the issue ends there. But in highly regulated industries such as ours, the consequences can be further reaching. If a regulator or lawyer uncovers an error, aside from it causing embarrassment, and a lack of trust, it can also lead to litigation. The law books are filled with these types of cases, such as a bank selling a property believed to be asbestos free, only to discover months or years later once the new owner starts a re-model, that the earlier sale was made on false information.

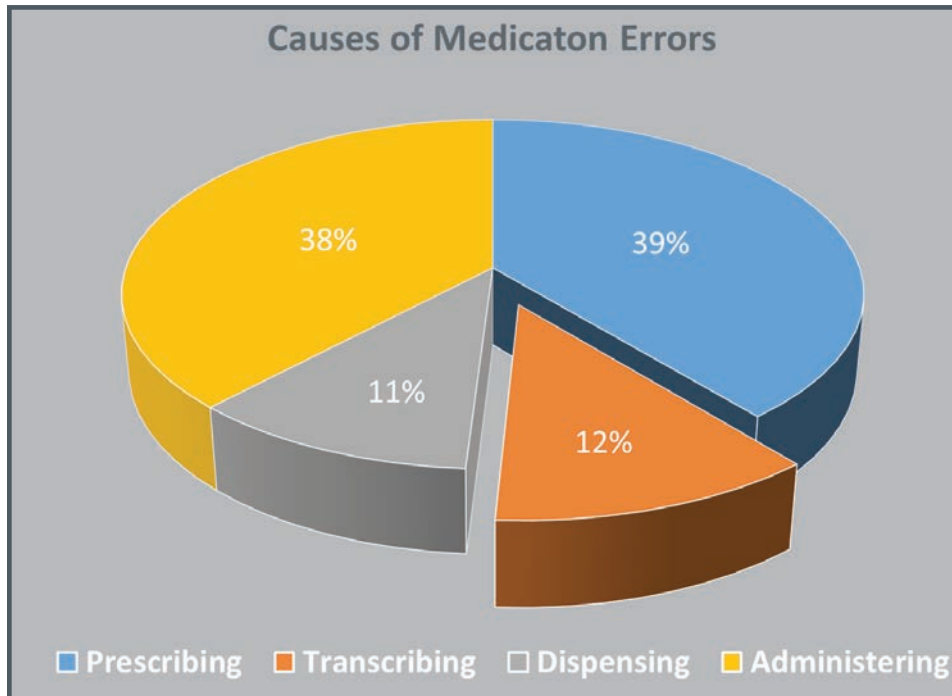
These are cases of negligence, but the same can happen with smaller errors too. With so many stakeholders in real-estate transactions, the environmental consultant at the beginning of the chain is invariably put in the spotlight. An error by the environmental consultant can dramatically change a real estate transaction.

Indeed, enterprise clients often hire environmental firms, rather than conduct inspections in-house, precisely to mitigate their own liability. If a mistake leads to litigation, the cost is many times more than the 100 time / cost units suggested by Labovitz and Chang! There may be incalculable damage to the environmental consultant's reputation.

Although many in the environmental consulting industry downplay the liability risk that might result from inspection and transcription errors, other industries have well documented cases where such errors have led to catastrophic problems.

In the healthcare industry, during the 1990's and early 2000's, for instance, a shocking number of patients actually died from medication errors and other mistakes due to transcription errors – resulting in multi-million dollar negligence and medical malpractice claims. This situation is one of the reasons, in addition

to patient privacy protection, why the global healthcare industry has been moving toward mandatory Electronic Health Records (EHR) for more than two decades. In fact, the US finally enacted EHR into law in 2014, and for good reason.



Competitive disadvantage

Potential liability isn't the only cost of clinging on to a paper-based process. Since clients hire environmental consulting firms primarily to comply with regulation as well as to reduce and hopefully eliminate liability risk, hiring a firm that has removed the chance of transcription errors from their process is perceived as a safer choice than hiring an old-school firm.

In the presence of modern digital inspection and reporting systems, the standard claims of "years of experience", credentials, past clients, and customer service, are starting to lose their luster. What matters to clients more than anything is 1-accuracy, 2-risk reduction and 3-speed.

A fully digital workflow trumps paper-based processes on all three counts.

Firms that demonstrate that they reduce risk and liability by employing a digital platform have a competitive advantage over those that don't. As more firms adopt

a digital approach, and it becomes the norm, having a digital process in place will inevitably become a key selection criterion. Then, the amount of lost business due to competitive disadvantage will really start to mount up.

One does not need to look very far at other knowledge-based industries to see the firms that have fallen by the wayside because they did not or could not adapt. Architects don't use drafting tables any more, they use CAD. Accountants don't use ledgers, they use QuickBooks.

Take the modern supply chain – not a clipboard in sight... not for 20 years, actually! Companies like Amazon, DHL and many others use robots to pick and pack products for shipment. As for tasks that robots cannot do yet, they are already moving on to their 5th generation of technology to help pickers and packers work faster and make fewer mistakes. We're talking augmented reality (think Google Glass). Why?, Because in this business every second counts, and errors involving returns are very costly.



Time is money

Transcription of inspection reports and checklists on paper simply takes longer than it does to capture data digitally once on a tablet, which removes the need to touch or manipulate information again. Consider even the simplest task of taking a photo – a digital camera requires an inspector to unload it from the camera and get it to whomever is compiling the report, versus a tablet that captures, labels and tags the image all in the same onsite inspection application as part of a continuous workflow. Photos taken on a separate camera lack context. That context must be recreated, and that means touching those photos not just once, but multiple times.

After obtaining photos from the camera they must be sorted, labeled and added to the report. This is especially difficult for someone to do if they never visited the site. Hence, it often consumes the time of inspectors themselves. Time better-spent

on another onsite assignment. For this reason, many inspectors skimp on photos despite their obvious value as visual evidence to support report assertions.

In contrast, using purpose-built inspection software in the field allows an inspector to capture an image, automatically tag it to an area and/or sample, and add comments that will become part of a report with no further steps required. One-touch, not multiple touches. Moreover, all data captured digitally can be shared with team members and other stakeholders almost instantaneously through secure cloud portals.

There are additional paper handling costs when it comes to filing, retrieving and reusing that data for other purposes, not to mention the cost of filing cabinet floor-space! It simply takes more time to find and repurpose paper-based report data. Even if you scan paper-based inspection reports into your office computer system, you can't simply search for a phrase to find the section of text you need.

Say you are revisiting a site and you'd like to see what was found previously, or you are developing a management plan or a remediation plan. It can sometimes take hours to track down a photo, the results from the lab or an important block of text. Whereas, searching a digital archive may only take a few minutes.

Recognizing this reality many firms have tried to digitize their records and create searchable databases. While this is a good start, it doesn't even begin to unlock the potential of digitizing the core processes of conducting building inspections and exchanging data with labs.

By comparison, adopting digital solutions built specifically for the environmental consulting industry, with all of its particular regulatory nuances, can offer a quantum leap in accuracy and efficiency. This advancement can allow an environmental consulting firm to take on more projects with the same resources, and maximize profitability.

In addition, digital platforms can enable environmental consulting firms to eventually become better custodians than their clients of the collective information pertaining to the hazards that exist within a given client's facility. This can potentially make them an irreplaceable business partner, rather than the easily displaced commodity service provider as they are now.

State of the Market

Change is often unwelcome and uncomfortable, but you can't stop progress. In every industry since the Industrial Revolution, technology and modernization have ravaged those slow to adapt and catapulted the early adopters to the top of the league. Just look at FedEx, Amazon, Airbnb and Uber to know this is true.

Industries that rely heavily on manual processes combined with high levels of knowledge are among the toughest to modernize. But "tough" does not mean, impossible. The age of artificial intelligence is upon us, and it is not just a buzzword. It is very, very real. IBM Watson winning Jeopardy, was a landmark event, but it

didn't end there! Today, Watson is fully commercialized in Healthcare and is helping doctors make better diagnoses and reduce medication errors. Digitizing healthcare was an essential first step toward making that happen.

If it can be done in Healthcare, it can surely be done in Environmental Consulting. And it is. Some consulting firms have augmented their process with do-it-yourself checklist tools in an effort to reduce missed steps. And that's a good thing. But it can take considerable effort to set them up, and they barely scratch the surface of what is possible. Furthermore, because they are an incomplete solution to a multi-step process, one is still left with the challenge of bringing everything together from multiple sources, in order to compile a report.

Others have taken it a lot further. A handful of the largest environmental consulting firms that had the foresight to invest in their future have spent hundreds of thousands of dollars to develop bespoke inspection and reporting tools for themselves. But this is a huge undertaking which requires deep pockets and a large team of software engineers.

Summary

If you want to evolve to streamlined digital inspections, cloud-based environmental consulting Software as a Service solutions are now commercially available, and very affordable.

For pennies on the dollar, these custom software solutions level the playing field between you and the big boys without you carrying the financial burden of software engineering or maintenance. Plus, you can easily differentiate your firm and rise above your contemporaries that still have their head in the sand.

Like it or not, the days of paper-based processes are numbered. The writing (or the mold) is literally on the wall and your fate is in your hands. Kick the can down the road at your peril.

About The Author

J. Brent Kynoch has been involved in the environmental engineering field for 33 years and with Kynoch Environmental Management, Inc. for 18 years. Brent is a sought after nation-wide expert on asbestos abatement. He has particularly relevant experience in providing asbestos inspection and design services in government and military facilities. He has personally designed asbestos abatement programs in a number of buildings with challenging constraints, such as the need to stay open while abatement is taking place, and abatement in an active elevator shaft.

Brent also serves on the boards of Kurado Inc., and a number of charitable and service organizations including the Bethesda, MD Fire Department, the American Subcontractor's Association of Metro Washington and the Chevy Chase Recreation Association.

