



Policy Administration: Moving Beyond Legacy Systems

To remain competitive, insurance companies must control costs even as they race to market with new products and services. This strains their legacy systems to their limits, leading insurers to explore a growing array of new IT technologies that can help them succeed in a highly charged industry.

About the Authors

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How much does poor data quality cost your company?

We review some best practices for quantifying your data quality problem and fixing it.

By Carol Weiszmann

When your data is accurate, both operational and decision-support systems can work smoothly. But when data is inaccurate, out-of-date or needlessly duplicated, the effects can be costly indeed – bad decisions (based on bad data), irritated customers (some of whom may cease doing business with you), lower revenues, pinched productivity and higher expenses.

According to a 2002 Seattle-based Data Warehousing Institute survey, U.S. businesses lose more than \$600 billion a year to poor data quality. Some of this is easy to measure; a lot isn't. If you suspect that your organization's bottom line suffers due to poor data quality, it's worth your while to quantify the extent of your data-quality problem. Only then can you decide whether the benefits of improving your organization's data quality outweigh the costs of muddling along with poor data.

What you can measure

Of course, some of the impacts of poor data quality are easier to spot and calculate than others. Costs associated with duplicate mailings based on list redundancies, for instance, are easy to count.

Harder to measure are productivity slowdowns due to employees having to duplicate efforts, soothe angry customers, correct erroneous

information, undo work already done, re-do failed processes – all because of bad data. Similarly difficult is tracking the effects of poor data quality on top-line revenues: How many customers have withdrawn their business in part or completely because your bad data left them with a bad feeling? How many potential new customers have become tougher to attract because they've heard that doing business with your organization is problematic? And how many products could have been more successful if they had not been conceived and designed using flawed data?



According to a 2002 Data Warehousing Institute survey, U.S. businesses lose more than \$600 billion a year to poor data quality.

Finding your data problems: best practices

Taking the time to count the costs of poor data quality can help you determine where some of your worst problems are – and where lurk the greatest opportunities for improvement. Here are some suggestions:

- **Figure out your enterprise information flow.** You won't get far if you don't know what data your organization uses, who uses it, where it comes from, what its structure is, which operations and systems use it, how it gets transformed – and so on. But by carefully mapping information details – including the business processes, systems and people associated with the data – you'll be able to begin matching errors and problems to the data sets that spawn them.
- **Talk to your workers and customers.** Employees in the operational trenches will be able to show you the effects of faulty data on processes and decision-making, including pretty solid estimates of the time they spend handling problems and creating workarounds. Employees can also be a tremendously valuable source of ideas and suggestions about how to improve data quality and related processes. Customers, meanwhile, will let you know how much your data-quality



problems are costing in lost (or never-seen) revenues and how your data problems affect *them*.

■ **Identify bad data.** What you've learned from employees and customers can help you spot the greatest data-quality issues – and the problems they set off all across your enterprise. Overlay employee and worker feedback onto your map of enterprise information flow, and you'll begin to see how the tentacles of bad data sets slither into operations and decision-making. The more quantitative this effort, the more confidently you'll be able to find the flaws in your data and understand the effects of these on your organization's information systems, processes and decision-making.

■ **Look for origins and then patterns in your data quality problems.** Now that you have a sense of which data are problem-prone, you can see what operations, data sources, systems, etc., are affected by them. Study the relationships between these – are your worst problems coming from a particular business process? An old legacy system? You'll also be able to get a sense of both the business impact and the costs of your data-quality problems.

■ **Isolate opportunities for data quality improvement.** You may find that just a few flaws in your data or data collection practices are causing some very expensive operational and decision-making problems. By determining the costs of fixing these flaws and comparing these costs with the price your organization pays for doing nothing, you'll have the underpinning you'll need to design and deploy cost-effective data-quality improvements. ♦

Some Methods against the Madness

A primer on continuous improvement methodologies

By Carol Weizmann

Before you can begin refining business and technology development processes, before you can attempt quality improvements or delineate best practices, your organization needs to commit to a single, consistent approach to be used by all – that is, a methodology.

Over the years, a number of continuous-improvement methodologies have been created. Among the best-known and most widely used are these:

Balanced scorecard – translates overarching business strategy into specific, quantifiable goals and assesses performance in four ways: financial analysis (operating costs, return on investment, etc.), internal analysis (production, innovation), customer analysis (retention, satisfaction) and learning/growth analysis (IT performance, employee retention/satisfaction). Goals are described in terms of vision/mission, strategies, tactics and metrics. Developed in 1992 by Robert Kaplan and David Norton.

Lean and Six Sigma – combine two complementary, process-oriented methodologies long used in manufacturing operations. Lean focuses on improving process speed, reducing waste and eliminating activities that don't add value (as determined by customers). Improvement sessions called "kaizen events" – generally a week long – are used to identify opportunities for improvement, which are laid out using value-stream mapping rather than a traditional process map.

Six Sigma targets those parts of processes that are essential to quality and aims to purge process variations that compromise quality.

The goal of Six Sigma improvement programs is to reduce quality failures to “six sigma” levels of very few defects (in manufacturing, Six Sigma demands fewer than 3.4 defects per million). At the heart of Six Sigma are a couple of formal process methodologies:

■ **DMAIC** improves existing processes (*define* out-of-tolerance ranges, *measure* internal processes critical to quality, *analyze* why defects happen, *improve* processes to remain within tolerances, *control* processes to meet goals)

■ **DMADV** is used to introduce new processes that meet customers’ needs (*define* processes and where they could fail customers, *measure* and determine whether processes satisfy customers, *analyze* various options, *design* in changes to processes to better address customers’ needs, *verify* that changes have met customers’ needs.

Total quality management (TQM) – the creation of W. E. Deming in the 1940s and made famous by Japanese firms, where it was adopted and resulted in substantial improvements in product quality. Deming’s famous “14 points” (synopsized here) are the crux of TQM:

1. “Create constancy of purpose toward improvement of product and service”
2. The embrace of change must be led by management.
3. “Cease dependence on inspection to achieve quality”
4. Buy based on minimized total cost, not just the pricetag, and seek long-term single-supplier relationships built on loyalty and trust.
5. Never stop trying to improve quality and productivity.
6. “Institute training on the job.”
7. “Institute leadership.” The goal of all supervision is to do a better job.
8. “Drive out fear, so that everyone may work effectively”
9. “Break down barriers between departments.”
10. Seek zero defects and new levels of productivity; “the bulk of the causes of low quality and low productivity belongs to the system and thus lies beyond the power of the workforce.”
11. Leadership should replace work quotas, management by objective and management by numbers.
12. Shift focus from quantity to quality, so lower-level employees may enjoy pride in their work.
13. “Institute a vigorous program of education and self-improvement.”
14. Transforming the company is *everyone’s* job. ♦

Why service-oriented architectures are worth it

A new way to extract value from legacy systems can keep you competitive while saving you plenty

By Carol Weiszmann

It's not an accident that IT people are always talking about "the enterprise."

In a typical corporation, specific databases and information systems serve largely independent divisions, departments, operations and decision-makers. Often these systems and databases exchange data and messages only clumsily, if at all.

At the same time, the demand for both cross-organizational and interorganizational links is becoming a clamor. Customers, partners and agents want smoother, faster interactions and easier collaboration; managers (including IT managers) need more-consistent (and automated), end-to-end operational control and better support for decision-making.

Hence the intensifying strain on traditional corporate IT environments and architectures, which were designed only to enable isolated departmental and operational "silos."

What's needed

Just about everybody understands that the solution lies in integration – of systems, databases, networks, processes. The challenge is how to pull it off without either incurring the prohibitive cost and upheaval of throwing out all the legacy systems or, alternatively, getting legacy systems to work together without

imposing on them a mind-numbing and failure-prone complex of middleware functionality.

Service-oriented architectures (SOAs) implemented with Internet Protocol-based Web services are meeting this challenge. How? By extracting, or "exposing," and then re-integrating crucial chunks of legacy application logic and data – now dubbed "services" – via mechanisms that seek and find information about these services and how to use them.

Since the idea is to more easily enable exchange between siloed applications – both within and between organizations – service-oriented architectures provide:

- A uniform way to represent and exchange data, using the Extended Markup Language (XML), which employs self-describing syntax and semantics
- A standardized meta language that describes available services, via the Web Services Description Language (WSDL), which is based on XML
- A standardized means of communication, provided by the Simple Object Access Protocol (SOAP), which is based on the Internet's HTTP
- A uniform mechanism to register and locate Web services applications, via the Universal Description Discovery and Integration standard (UDDI), which acts as a kind of Web services "yellow pages"

Are you being served?

It works like this: You sit down at your desktop computer and open up the company's service locator, then look up the services you want (i.e., the business functionalities needed to run the corporation) and retrieve information about how to use them, assuming that the corporate security service authorizes your access. After the first time, you can forgo the locator and simply engage the service directly.

Because service-oriented architectures are both modular and generally implemented using open, XML-based Web services standards, usually with off-the shelf components, they're easily customized.

Changing how you do business

Arguably, a service-oriented architecture will be the means by which your enterprise can fully exploit the potential benefits of the Internet, sharing business processes, as well as exchanging information with customers, partners and agents. Consider these SOA virtues:

- **Standards-based.** Legacy-based services using standardized common components can be rolled out in discrete phases, which controls costs, avoids business disruptions and enables IT staff to learn the SOA ropes.
- **Easy to use.** Employees and customers can use these services without significant training, since they don't need to know anything about how services work, where they're located or how to communicate with them.
- **Secure and auditable.** Service-based transactions are secure and can be audited end-to-end.
- **Bottom-line savings.** Larger organizations spend a great deal on IT application integration – up to 40 percent in some firms. These costs can be substantially reduced with SOA's standardized, re-usable components and tools. What's more, SOA makes it easier to eliminate duplicate functionality. With SOA, creating new services is straightforward, enabling the enterprise to generally tighten its business process cycle times and speed to market with new products. ♦

In your future: BPM

Chances are your organization can benefit from business process management systems

By Susan Messenheimer

Properly used, business process management (BPM) systems can save your company a bundle. That's because BPM systems separate business process logic from the applications that use it. Further, BPM integrates internal and external process resources (say, a database), monitors process performance and manages relationships among process participants.

The result: Business processes can be streamlined, automated and more effectively managed, which cuts costs and improves quality and customer satisfaction. Surveys, case studies and anecdotal evidence point to potential operational cost savings for insurers ranging between 25 percent and 50 percent from improved management of business processes – and even more when manual tasks are automated using BPM.

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What BPM delivers

By combining application integration and automated workflow capabilities on a standardized Web-based platform, BPM offers:

- **Agility.** Abstraction of business process logic from application logic means that each can be changed and adapted with minimal effect on the other, making both more robust and flexible.
- **More business insight faster.** Business performance can be measured granularly – even down to the task level – thanks to an ability to design key performance indicators (KPIs) for particular processes that can be monitored using a BPM dashboard, so managers know quickly how processes are performing and can respond to problems in more timely fashion.
- **Support for continuous process improvement.** Visibility into business processes (as well as business process logic) and the feedback provided by KPI tracking means that processes can be iteratively adjusted as business dynamics demand.

When you need BPM

So how can you tell if it's time for BPM in your enterprise? Chances are that BPM can help if your organization needs to:

- **Monitor and manage process performance**



- **Automate repetitive tasks**
- **Integrate departmental and line-of-business applications**
- **Integrate back-end processes with self-service capabilities**
- **Change business process logic without help from IT staff.**

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