

BASED ON BAD DATA: WHY MORE AND MORE PENSION FUND DATABASES ARE SUFFERING FROM SYSTEMIC INFECTIONS

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Pension plans—especially of the defined-benefits variety—present a peculiar set of challenges to corporations. When not properly acknowledged and addressed, these difficulties—which are utterly unlike any other that corporations face in the creation and administration of compensation and benefits programs—can be an enormous drag on profitability, damage corporate morale, divert attention from more pressing issues of innovation and competitiveness, and cause once-loyal employees to become embittered adversaries of their former organizations.

Many of these problems stem from one elementary reality that is, nonetheless, unique to pension-plan administration: Benefits are disbursed only after an employee no longer has any professional connection to the former employer.

This, in turn, means that—again, unlike any other forms of

benefits and compensation—errors in pension payments are not self-correcting. Consider: If, after a hard-fought salary negotiation, an employee receives a paycheck that is a thousand or even a hundred dollars less than the agreed-upon amount, there is virtually no scenario under which the company will not hear of the error in very short order.

But because pension payments are made to former employees who quite possibly have moved far away, very likely are no longer in contact with their erstwhile employers, in most cases are elderly, and in many cases are no longer physically or mentally competent to handle their financial matters, the likelihood that payment errors will go undetected, sometimes for years, is very high.

NOT A ZERO-SUM

Uncorrected pension-fund errors are not, incidentally, a zero-sum game. While it might be initially assumed that innocent errors are mathematically just as

likely to be in the corporation's favor as the retiree's favor, the reality is quite different. Human nature being what it is, to the extent that errors are detected at all, underpayments or missing checks are far more likely to be reported to the company's pension administrator than are overpayments, duplicate checks, checks sent to the wrong address, checks sent to deceased persons, or checks sent to individuals who never worked for the company at all.

Paradoxically, however, underpayments can actually cost a company even more dearly than overpayments, when one factors in the enormous amount of damage to a company's reputation that can occur when a systemic error causing large-scale payment shortfalls leads to widespread unfavorable publicity, as happened recently to the Chicago Public School system. The increasing likelihood that even older persons will understand how to use chat rooms, discussion boards, and e-mail means that once a systemic underpayment error is discov-

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ered, the chances are great that the company responsible for the error will be depicted online and in traditional media as, at best, heartlessly ignoring the needs of its most vulnerable constituents, its retirees.

At the worst, in this post-Enron era of greatly heightened scrutiny of corporate behavior, this negative coverage will spread beyond a portrayal of the plight of individual retirees to an examination of the company's very competence, integrity, and compliance with any of a number of laws and regulations. And all of these potential negative outcomes, of course, present exactly the same danger to a corporation even if the original source of the errors is an outsourcer.

Meanwhile, in the majority of cases in which pension payment underpayments have for one reason or another *not* been discovered—or discovered but not addressed—the consequences to recipients in terms of delayed retirements, unpaid medical bills, canceled relocations or vacations, arrearages or foreclosures, and untreated illnesses can be devastating.

STATIC INTERFERENCE

Still, all of these issues would be an uncommon complication of relatively negligible concern if not for yet another circumstance that, if not unique, is nonetheless particularly associated with pension plans—their static nature. Other forms of compensation are frequently negotiated and, because they are granted to current employees and not applicable to former employees, are usually to one degree or another “in play,”

closely examined, and carefully adjusted. On the other hand, pension plans, particularly of the defined-benefits variety, rarely change for individual employees, and certainly are rarely negotiated on an individual basis, as salaries and other benefits are.

It is true that, in some cases, the increasing use of intranet-based HR portals and other methods for enhancing pension plan transparency results in a small number of current employees becoming very closely focused, sometimes to the detriment of their day-to-day job performance, on the possibility that their *own* future pension payments could be inaccurate. Even in cases where pension-payment errors are not widespread and do not reach the mainstream media, this specific unease about one aspect of a company's promise can rapidly mutate into a more generalized loss of confidence on the part of these employees in the company's ability to deliver on the other things it has promised them in exchange for their loyalty and hard work. More problematic, the small number of those who investigate, and lose confidence in, the accuracy of their pension payments and their company's promise to them are likely to be the most vocal and persistent of employees, requiring substantial investments of staff resources and time to address their concerns.

But precisely because pensions are not actually paid out until after an employee retires, few active employees uncover, and complain about, pension problems. And those problems that *are* revealed by greater pension-plan transparency are almost always addressed on a non-systemic basis. So, except in the case of a vocal few,

these problems will continue to fester, untouched and unexamined, until employees retire.

The difficulties that result from the failure on the part of most corporations to examine and address pension data-quality problems on a systemic basis is exacerbated by another paradoxical circumstance: The more static a collection of data is, the more likely that database is to change, in the sense of accruing a greater number of errors.

This is because every time a company makes an acquisition, merges with another company, or brings far-flung or loosely affiliated operations into the corporate fold, it acquires, and consolidates, long-standing pension obligations for both current and retired employees.

But in integrating these pension plans into a single system, it also introduces and, in effect, validates and renders permanent, existing errors from these disparate databases. And because many of these errors are systemic to begin with, the new, consolidated database will be riddled with systemic errors from the very first day of its implementation.

Furthermore, the very process of integrating these databases creates yet more systemic errors that didn't even exist in the original databases. And the likelihood that the integration process will create brand-new systemic errors is increased by the huge number of more-immediate integration issues that attend a corporate merger, buyout, or consolidation; it is just a fact of life that, when two companies come together, the migration of pension plan data is likely to be given insufficient attention among all the other issues at hand.

There's another complicating factor that diverts time and attention from the proper maintenance and integration of pension databases. At most corporations, even though the pension benefits for individual employees rarely change, the specific pay-outs are arrived at by usually circuitous and convoluted formulae: There are few if any calculations that corporations must perform on behalf of their employees that are as vexingly difficult to perform (and, in a minority of cases, as likely to be subject to controversy and contentiousness on the part of a minority of activist employees and retirees) as pension plans. Accordingly, much of the finite time and attention expended on an activity that is, after all, a not a profit center for corporations to begin with, is spent dealing with the calculations, and complaints about the calculations, themselves, rather than with the underlying data and how it is integrated and maintained.

Thus, due to the inevitable limitations of time and staff resources and IT capabilities, and the underlying complexity of the plans and the calculations they are based upon, the status of pension-plan databases just isn't investigated often enough or thoroughly enough at the vast majority of corporations. Far too rarely is anyone in a position to do a meta-data analysis or examine the business rules that govern how data is stored, displayed, and extracted from company to company (every company does things slightly differently). Instead, in a well-meaning effort to inexpensively and expeditiously amalgamate all of these differing forms of data, innocent assumptions are made that are often wrong, and

these wrong assumptions create new sets of errors.

Incidentally, it doesn't even require a corporate acquisition for these systemic errors to spread. It requires, only, that a company outsource its pension fund, upgrade its systems, migrate from a legacy IT system to a new system, change a simple data-entry procedure, or add a new piece of HR software. In fact, any time that systems differ in even the smallest regard and are migrated to a new and consolidated system—indeed, in major corporations, pension plans can be filtered through as many as 15 different software systems over the lifetime of the plan—almost by definition systemic errors result. Like a gigantic game of “telephone,” every time the data is transferred, something is likely to go wrong.

Thus, errors in pension-fund data—which due to their static nature are rarely looked at to begin with, at least until calculations are performed at the actual retirement date—not only propagate throughout the system, but, in the case of overpayments, become a permanent drain on a company's coffers. And, again, underpayments are even worse: If discovered, they lead to hard feelings, loss of morale and negative publicity and, if not discovered, represent a blotch on a company's moral obligation to stand behind its promises and serve those who served them faithfully over the years.

Nor is it sufficient to get things more or less correct. There is yet another paradox in pension-fund administration: Computers, which are supposed to be “perfect,” are responsible for the vast majority of data errors, whereas humans, as imperfect as they may be, demand

(understandably so, it should be added, when it comes to their own paychecks, and their ability to pay their bills and support their loved ones) that things be not approximately but *exactly* correct.

NOT A CLUE

The human consequences of pension-fund data errors resulting from a new software implementation were vividly illustrated a few months ago by the experience of the Chicago Public School system (CPS) after it installed a new payroll software system at a cost of \$17 million. The migration of data to the new software system resulted in inaccurate data being reported to the schools' pension fund. This, in turn, resulted in retirees receiving checks that each were “short \$300 to \$1,000 a month,” according to the *Chicago Sun-Times*, which reported on the problem in 2007 and 2008.

The *Sun-Times* noted in its December 5, 2007 edition that the “independent Chicago Teachers' Pension Fund cuts the pension checks using payroll data from CPS. But those data remain ‘error-ridden,’ said fund CFO Patricia Hambrick, making it impossible to calculate final pension amounts.” Hambrick went on to state in the *Sun-Times* account that “(t)hey've sent us dozens of files—our problem is it's bad data ... I don't think they have a clue.”

The public relations damage was substantial. Consider these headlines from the *Sun-Times*: “Pay shortage ‘a cheap shot’: CPS retirees,” and “Retired teachers stiffed.” Blog headlines were just as bad. While most negative publicity about pension plans stems from underfunded or collapsing

plans, this very public backlash illustrates that any sort of negative publicity regarding a pension plan, regardless of the source of the bad news, is exacerbated by the inherently vulnerable nature of the plan's recipients.

Consider one of the retirees quoted in the December 5th *Sun-Times* article, who was receiving "an estimated monthly check of \$1,800, instead of the \$2,800 she was told to expect upon retirement." Having suffered a stroke earlier in 2007, the 56-year-old former teacher was unable to get another job to make up the shortfall. She was quoted as saying, "My dream was to be a teacher of teachers, but no way would I encourage anyone to teach if this is how they're going to treat you at the end ... I feel they don't care about me or the service I've put in."

Other teachers complained of late mortgage payments; as one retiree put it in a separate *Sun-Times* article, "I pray every time I write a check."

SYSTEMIC ATTACK

It happens that the CPS pension fund, as well as those for other Chicago city pension plans, is underfunded as well, and of course this represents still more daunting challenges for the city and its administrators. But unlike the case with underfunded plans, pension plans that are corrupted by seemingly intractable systemic errors can actually be fixed at a relatively low cost—as long as those errors are also addressed systemically. (Even if pension plans were inherently more self-correcting than they are, addressing errors on an individual, non-systemic basis would serve little purpose, because

they would solve only a fraction of the errors, and do nothing to prevent the generation of new errors when another data migration took place. And, needless to say, a non-systemic, case-by-case correction process would be unacceptably expensive and time-consuming for even the most free-spending of corporations.)

Cleaning up a pension database, particularly one that has been encrusted with multiple layers of old data from previous mergers, acquisitions, and corporate relocations, entails first of all conducting a metadata analysis in order to understand what's in a company's plans and, at an even more fundamental level, how many different plans there are. (For very large companies, this is not as simple a calculation as one might think; one large high-tech corporation my firm is familiar with has more than 150 separate plans or plan variations in its pension data warehouse due to multiple acquisitions, mergers and divestitures over the years.)

Then, the organization charged with cleaning up the data (whether an outsourcer, a data-cleansing specialist firm, or an in-house team) needs to systematically identify the rules that have been used to record pension information in each of the pension plans that have been accreted over the lifetime of the corporation. This requires an understanding not only of the data itself, but of the individuals who were responsible for creating the business rules used to classify and order the data, and usually entails conducting interviews and reviews of source data with external plan administrators, as well as with HR or IT personnel who are still employed by the corporation.

The reference to "still employed" is, incidentally, an acknowledgment of the unfortunate reality that, in cases of a recent merger or acquisition, staff members who are data experts, and who are most likely to understand the history of a company's pension plans and the business rules underlying the plans, might be among those let go. A meta-data examination and data-cleansing process will be accomplished much more quickly and efficiently if the staff members that are familiar with the data are retained and called upon for their expertise.

Once the interviews and the meta-data examination are completed, the organization can use this knowledge to conduct a pension data audit to determine the nature and volume of data quality problems, initiate an historical data cleansing program to correct them and use the cleansed data to correct benefit calculations, adjust payments to their proper levels, and determine, where necessary, reimbursements for retirees who have been underpaid.

Armed with an understanding of the business rules, the organization can systematize the recording of all *future* data from existing pension plans as well as, going forward, pension plans from yet-to-be-acquired companies and divisions. It also can create a customized, easily accessible legacy-data warehouse that allows qualified users to access, flag, and cross-tabulate data from the corporation's very first pension plan up to the present day.

ONCE AND FOR ALL

Needless to say, none of these actions will prevent a certain num-

ber of non-systemic errors (i.e., the kind that occur on a random basis as a result of human error, such as keystroke errors or the transposition of digits) from occurring. Nor will they have any impact on the endemic problem of underfunded or insolvent pension funds.

But consider that one major telecommunications firm was prepared recently to spend \$2 million to fix pension-fund over- and under-payment problems. That sum, of course, is in addition to the many millions of dollars it may have been losing in the overpayments themselves. Add to that the enormous amount of time expend-

ed by the company, its outsourcers and its consultants in dealing with the administrative, IT, and public relations problems engendered by pension-fund errors, and it's easy to understand why many companies are looking for ways to resolve the problem once and for all.

As it turns out, the telecommunications firm spent \$400,000 for a historical and ongoing data-cleansing process conducted by an outside consultant—i.e., about \$1,600,000 less that it was prepared to spend fixing the problem by itself. And, in future years, the amount of money it will throw away on overpayments will be drastically reduced.

IT and data-related issues are very rarely top-of-mind concerns for executives in the world of benefits and compensation—understandably so, given the relative paucity of systemic data-related problems in most other areas of HR. The exception is pension-fund data, but it is an important exception, indeed. Fortunately, reconciling and correcting a company's numerous pension-fund databases is a relatively inexpensive procedure that can save a company many millions of dollars over the years.

