THE RUSH IS ON: 7 STEPS TO MINING YOUR WFM SYSTEMS FOR GOLD

WAM-Pro® Paper Series Volume 1 / Issue 9 07/10/15

A NEW PRECIOUS RESOURCE: DATA

Data is more critical now than ever and seems immune to the laws of inflation. In fact, cashing in early on data goldmines typically results in immediate *and* long-term value.

However, even though the data has a high profile and proven value, most organizations still do not have a plan or process around how to find, mine, refine, and cash-in on their workforce management data.

In this paper, we will use the gold mining process as a guide to converting data rubble into data gold.

THE ORIGINAL RUSH: GOLD RUSH OF 1849

Modern businesses could learn a great deal from the California Gold Rush of 1849. In the beginning, there was instant gratification; gold rushers simply picked up the gold nuggets strewn across the dusty soil and babbling brooks. Tales of such easy wealth caused sailors to abandon their ships, foremen to leave their farms, and travelers to risk a myriad of diseases and dangers, but in the end, more met ruin than riches. Times haven't changed much—businesses still scout for easy ways to strike it rich and still dodge the hazards associated with these pursuits—what has changed is what people covet: a new precious resource, data.

AVOID THE MISTAKES OF EARLY PIONEERS AND PROSPECTORS

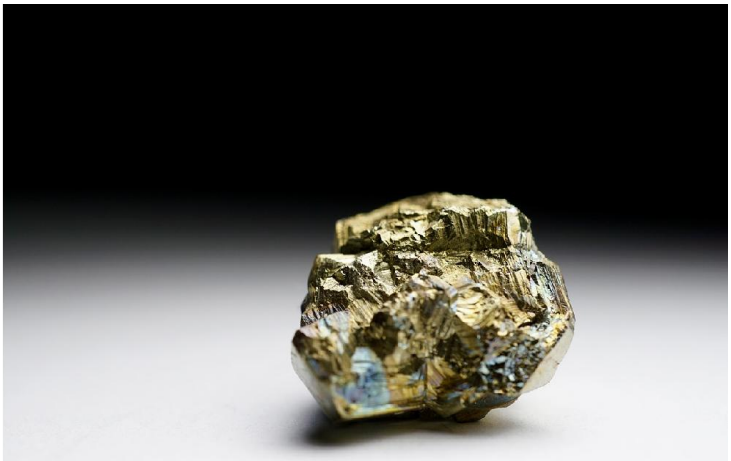
The headlines of 1849 cried: "Gold! Gold! Gold from the American River!" and people flocked to California. Between January 1848 and December 1849, the population of San Francisco increased from 1,000 to 25,000.[1] Similar rally calls and click-bait titles crowd social media, business meetings, and discussion forums, but business hasn't seen nearly the migration. The data dialogue ranges from delight to frenzy, but it's mostly

[1] Holliday, J. S. (1999). *Rush for riches; gold fever and the making of California*. Oakland, California, Berkeley and Los Angeles: Oakland Museum of California and University of California Press. p. 51. ("800 residents").

Rawls, James J. and Orsi, Richard J. (eds.) (1999). *A golden state: mining and economic development in Gold Rush California (California History Sesquicentennial Series, 2)*. Berkeley and Los Angeles: University of California Press. p. 187

circular. People talk about the intrinsic value of data and the importance of performing analytics, but these conversations don't convert to mass movement.

Some businesses see data as the jewel behind the glass, obsessing over it but never saving up enough to wear it. Others bandwagon and rush blindly after thin promises and possibility—*If I just visualize my data this way, I'll save millions of dollars! If I just collect more information on my employees, I'll increase retention!*—only to feel led astray after finding no treasure. It's not that these proclamations do not hold truths or that chasing down data is a blind pursuit, but data rushers shouldn't get carried away by the flamboyance or excitement. Organizations seldom pluck valuable data from thin air; finding something worthwhile is back-breaking work.



This is actually a piece of pyrite or "fools gold." Gotcha!

As the Data Rush continues, data rushers should avoid the gold rushers' haphazard method of acquiring their valued resource. Picks, pans, and patience worked in the beginning, but a sustained gold excavation effort required investment in technology and technique. It was the mining industry that sealed the fate of those early gold rushers, rendering their efforts not just inefficient, but also largely ineffective. Complex algorithms and analytic programs are doing the same to data collection today. To survive and compete in this current Data Rush, data rushers must learn to use advanced analysis tools and develop a thoughtful process for extracting their resource. Without these, data diehards could share the same plight as those panning pioneers—a wasted enterprise.

So let's explore a repeatable process used for finding, mining, and refining gold and apply this to a data governance and analytic model.

STEP 1 (FINDING): LOCATING A DEPOSIT

Finding a legitimate gold deposit requires geological maps or an examination of the physical and chemical properties of surface rocks to make an assessment of whether gold *should* exist. Organizations should also highlight areas where they would *expect* valuable insights from data. Start with overtime, absence, or turnover problems. Gold is often found in conjunction with other metals like copper, lead, and zinc, so use relevant datasets as indicators of a potential data goldmine. For example, data rushers could learn more about the cost of overtime by looking at the pay codes commonly combined along with overtime or days or shifts that have the highest customer or patient demand.

STEP 2 (FINDING): DRILL AND ANALYZE SAMPLES

Prospectors didn't know if gold existed until they tested the soil. Even with a claim, or a database labeled "rich," the value can't be known until it's tested. Prospectors should only work long enough to determine the potential. However, testing is an iterative process.

"Claim-jumping," or reworking land that had been previously claimed or tested, was popular during the Gold Rush and the idea may even be appropriate in business. A data sample might come from the wrong area or may be incorrectly analyzed or examined with the wrong context. For years, businesses looked upon payroll data as mundane and tactical, yet if payroll failed, so too did talent and labor. Savvy leaders now jump to payroll data for strategic analyses regarding incentives, labor cost, and even performance because they recognize the relevance and accuracy.

STEP 3 (FINDING): WEIGH THE EXTRACTION PROCESS TO EXPECTED YIELD

Mines operate like other businesses—if the production efforts don't yield a profit, then it's a poor investment. It's the reason no one mines the ocean for gold. Although there are nearly 20 million tons of gold available at sea, each liter of seawater only contains, on average, 13 *billionths* of a gram of gold. Concentration matters.

Businesses suffer a similar conundrum over whether to mine unstructured (unorganized and undefined) data because it might create more work than value. As data mining and analysis tools become more powerful and organizations get comfortable crunching more data, unstructured data could prove more useful. Perhaps someday organizations will be able to predict whether a person will be late simply by analyzing their pre-employment activities, interests, or GPS locations. But new confines may also exist like the legality of collecting private data or the proliferation of bunk data meant to confuse predictive algorithms. At least for today's data rushers, trying to glean informative insights or indicators from a massive, chaotic dataset is not a useful way to spend time.

WHAT DATA SHOULD YOU EXTRACT

Complying with ACA

Look at punch patterns, hours worked, schedule data, employee classification labels

Controlling Overtime

Set up alerts for when an employee's hours are approaching a threshold; evaluate upcoming or historical workload demands for predictions on future capacity needs

Correctly Classifying Employees

Look at hours worked, break down job role by tasks and activities performed, check access profile and user rights – are they called a manager but not given manager rights?

Improving Schedules

Compare scheduled vs. worked hours; check audit trails for last minute changes or assignments by managers

Reducing Unscheduled Absences

Assess leave requests (approved, denied, or unresolved); evaluate schedule instability – how often do shifts change for same employee?

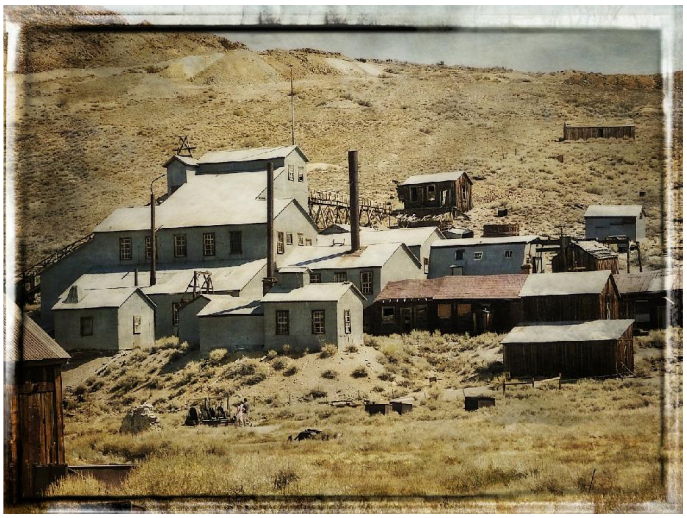
STEP 4 (MINING): PLAN FOR SUSTAINABILITY AND BUILD INFRASTRUCTURE

During the Gold Rush, exhausting the gold at the surface meant it was time to dig deeper. Since this wasn't something the everyday pioneer or prospector could do, they became miners. Mines produced exponentially more output, as expected, but they achieved such output through infrastructure—roads, wired electricity, processing plants, storage, and even towns. The most basic open-pit mines can take up to a year to construct before any mining occurs. Becoming rich overnight was no longer a reality.

Access seldom implies immediate value. Businesses wanting a sustainable yield from their databases will learn from mining companies and carefully plan their extraction processes; data rushers will need to become data miners. They'll need to map their business processes like a miner maps the layout of his mine. Where will we get the data? What do we do when we find it? How will we move it from place to place? Who will be in charge of managing it? How will they distribute it to the right end users? How will the systems and users know what to do with it when they receive it?

Mines had owners and operators to manage and run the mine. Businesses will need a similar governance structure to take responsibility for data processes and analytic outcomes. An entity like the workforce management office (WMO) can facilitate a concerted effort around workforce management data. They have the technical knowledge and strategic authority to understand both business and process necessities. They have the resources to effectively place the people on the project and communicate with vested stakeholders. Unlike a more generic project management office, the WMO specializes in workforce management business problems and issues, handling them from start to finish.

If the infrastructure or governance fails, there's often no coming back. Abandoned mining towns are eerie and skeletal. Few ever convert into vibrant cities; most simply fade into their rubble. If organizations rush through the process and fail to provide their data with the necessary infrastructure and support—meaning technology, governance, *and* process—then their data program won't be sustainable. And if it fails, they may never get the chance to reclaim it.



STEP 5 (MINING): PROCESS AND CLEAN RAW PRODUCT

Some gold rushers found gold in its pure form, but not for long. Most gold found below the surface was mixed in with other rocks. Extracting it required collecting ore, a type of rock containing enough of the desired elements. The ore's quality has direct economic effects. Low-grade ore has lower concentrations of desirable elements, making it more expensive to process and clean and producing a smaller yield.

Data miners know a similar struggle. They refer to their high-grade data as being clean or having good integrity. It's not that dirty data cannot be used, but consider the opportunity costs. It's more economical to start with something that's closer to the end goal or product. Businesses can waste precious time and money processing data. For example, an organization might gain great value from measuring employee schedule preference, but the only way they tracked this data was through freeform comments. A dataset may include: *Fridays or Saturdays*, *Weekends*, *I want more time off when my kids have off*, and *No Shift 1 anbd* [sic] *2*. Spelling errors, disparate terminology, and varied response lengths make it difficult to find or produce a consistent result.

Refinement must be thorough enough to remove impurities, but not take so long as to delay use and application.

Initial gold cleaning processes are rough; the ore is crushed, milled, and filtered. Initial data cleaning processes can be similarly coarse. Data miners might despair at the loss of data during the purge, but remember that the search is not just for any resource, only the most valuable.

STEP 6 (REFINING): TRANSFORM RAW PRODUCT INTO PURE FORM

If the mine separates desired elements from waste, then the refinery strips away the impurities and transforms crude gold into "pure" gold. With gold, refinement includes heating, melting, washing, and recasting. Refining small quantities takes less time, but yields fewer products.

Organizations can use similar data refineries to transform raw or abstract data into relevant and actionable information. These refineries work along with interfaces and integrations to manage and manipulate the data. They use filters, logic tables, and calculations or conversions to transform crude data into "pure" information. For example, simple punch times may be converted into missed punch alerts, indicators of future tardiness, or notifications of absences all viewable on a manager's dashboard. This may be made available and accessible on a mobile app or desktop portal.

Real-time data helps expedite decision and actions, but massive data loads can cause significant drains on system performance. When businesses have an exponential amount of data, the timeliness of refinement is critical. Refinement must be thorough enough to remove impurities, but not take so long as to delay use and application.

It's knowing when, where, and how to exchange that data for something of greater value.

STEP 7 (REFINING): CONVERT TO DESIRED USE

It's tempting to think that pure gold is the end goal, but actually it's determining how to *use* the gold. There are a number of ways to use gold beyond bars, coins, and fine jewelry. People use gold to make medical instruments and tooth fillings and crowns. Computer engineers prefer gold for its conductive properties and spaceship engineers sometimes employ gold as a metal lubricant. Doctors may even inject gold to treat some medical conditions. As the uses of gold continue to grow, so too will the value.

Organizations need to recognize that pure data isn't their end goal either. Instead, it's knowing when, where, and how to exchange that data for something of greater value. For example, actionable workforce data would provide real-time insight into how the organization deals with schedule demands, capacities, constraints, and other operational realities. Or it may even indicate how the organization could limit and control their labor leakage. If organizations align this data with their goals like improving attendance, productivity, and turnover, then a static report converts to dashboard intelligence.

CONCLUSION

This wealth of knowledge is a goldmine for front-line managers and schedulers looking to expand schedule flexibility or stability. By cashing in early and using workforce data to solve real business problems right now, businesses turn data into insight; a feat well worth its weight in gold.

"The price of light is less than the cost of darkness."

Arthur C. Nielsen, Market Researcher and Founder of ACNielsen

---

AWAM
Elevating the profession

Association for Workforce Asset Management (AWAM) is the new home for the WAM-Pro® Program - and CWAM designation. Our education and certification program support professionals and practitioners seeking a more strategic positioning of workforce management.

Contact Us

Association for Workforce Asset Management
PO Box 18596
Boulder, CO 80308
info@AWAMpro.com | 720-441-AWAM | www.AWAMpro.com
Twitter: @WAMPro
LinkedIn: WAM-Pro® Training and Certification

The Association for Workforce Asset Management's Member Paper Series is a part of our member privilege program. We ask that you respect the confidentiality and value of this content. We encourage you to reach out others who would benefit from this type of knowledge, and invite them to join AWAM. If you any questions, comments, or topic suggestions for the White Paper Series, please contact us at info@AWAMpro.com. We look forward to sending you the next issue!