David Huer
Needle-in-the-haystack Business Investigator
Solving difficult, confusing, hard-to-grasp problems
Tenacious key-maker, unlocking butterfly effects

Type	OWNING MY TASKS WORK IMPROVEMENT PROJECTS - BROKEN OUT STEP-BY-STEP

Data Process 2.5 months	ELIMINATING 5-YEAR-OLD GLITCH BY END OF 3-REPORTING CYCLES **Recapturing $millions of dollars of data** **Recapturing missing data for 100+ assets (tablets, notebooks, printers)** By locating 5 un-captured Excel rows; after noticing a shifting 5-zero pattern over the first two cycles. Returning eight division budgets to plan. Delivering monthly reports early vs. the practice of 3 months late. First to deliver accurate data before deadlines. Eliminating review, inspection and rework tasks and an unwieldy 90-day reconciliation task. Eight Division Managers were again able to deliver accurate reports to Executive Board before their reporting deadlines.

Expertise:	**Business Investigator/Analyst** Tenacious key-maker, unlocking powerful competitive advantage Trusted for my ability to simultaneously look at all sides of complex problems
Contact Information:	https://www.linkedin.com/in/davehuer/
Skills & Strengths	• Experienced in industrial design thinking • Solving difficult, seemingly "impossible" problems • Synthesizing and distilling vast constellations of the tiniest of clues • White Hat systems gamer, unlocking rippling butterfly effects • Developing authoritative terms, their distinctions, and definitions • Polymath domains-combiner: Researching, editing, reporting • Applying my skills as a solo, team, and embedded investigator

TENACIOUS	SOLVING 5-YEAR-OLD DATA GLITCH OVER 3 MONTHLY REPORTING CYCLES

Image: Lorenzo Cafaro CCO : https://www.pexels.com/photo/close-up-code-coding-computer-239898/

Issue	Why is the data received during my WorkSafeBC task wrong, every month?
Results	• Recapturing 100+ misplaced assets • Recovering $millions of dollars of data • Returning eight division budgets to plan
Customer Outcome	Discovering 5 un-captured Excel rows after noticing a shifting 5-zero pattern over the first two cycles. Delivering eight monthly reports early vs. 90-days late. First to deliver accurate data before each monthly deadline. Eliminated data inspection and rework tasks and an unwieldy rolling repeating 90-day reconciliation practice. Eight Division Managers were again able to deliver accurate reports to the Executive Board by *their* monthly reporting deadline.

SCENARIO

Project Management Office [PMO] manages external contractors to provide services to other Divisions. Each consultant uses computer assets that go with them from project-to-project. *Project Support Analysts (PSA)* track the value of each asset every month. PSAs are to deliver accurate reports before deadline, but a hidden anomaly developed 5-years ago that could not be found. PMO developed a workaround that became standard practice.

**MY ACTIVITIES**   **Reviewing the task when executing the monthly reporting cycle**

1) Learn the Task   **Phase A – "As Is":** Each asset has a cost that shifts between 8-10 budgets. My new responsibility was to receive, collate and report for 800-1,400 assets before each manager's budget due date, using an Excel spreadsheet tool. Reporting was 90-days late, had been this way for 5-years, and managers had stopped asking for our unit's deliverables by deadline.

Value-stream mapping

No one had ever mapped the task before   The procedure was not flowcharted. No employee had ever mapped the task. I am a visual learner; my first step was to map the tasks as they were being verbally taught using tip notes, to ensure my actions followed the procedure.

Green box indicate a bottleneck revealed by VSM
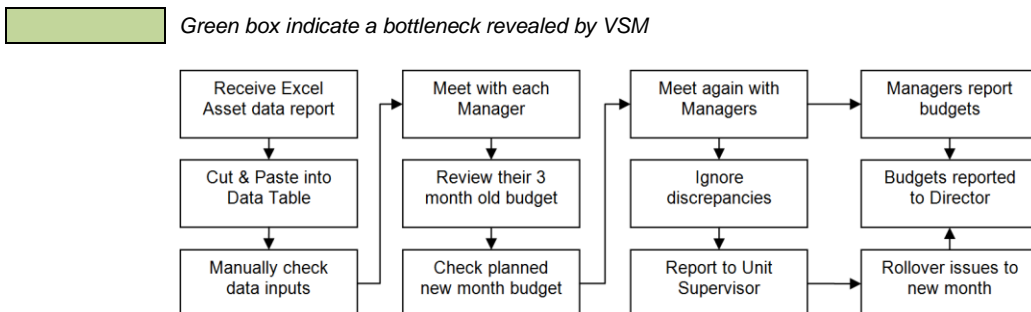
Mapping Process:

No one had ever charted the advice tips that were passed from new assignee to new assignee
- Review notes and verbal instructions passed to succeeding Task Holders
- Sketching work procedure and each sub-task procedure
- Review with/report to supervisor

Process: Receive reports, transcribe data from inflowing excel sheet to master sheet. Tabulate all reports, meet with eight managers separately twice during process, report monthly pre-budget costs, learn consultant's new assignments; confirm data validity of data (ignoring discrepancies as supervisor requests 90-day rollovers to adjust the budget each month); report validation to supervisor; upload report data to master monthly report—this is delivered to eight Division Directors who report to Executive Board.

Issues: (1) Inaccurate Data received every month. The unit dealt with discrepancies with monthly budget rollovers. (2) PSA instructed to deliver reports *before* the official deadline, but was simultaneously instructed to *ignore* the official deadline as the rollover practice worked. Reporting creep had created a 3-month accuracy gap; this had become accepted practice.

Noticing the tiny clue

Actions: Whilst performing the task to the accepted practice, noticing oddities in the inflowing data during the first two months – a shifting *5-zero pattern* that crept across incoming print-outs.
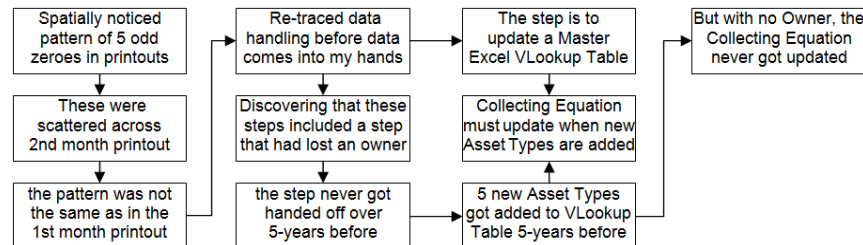
Asking the new question

Why does this pattern appear?

2) Investigate Process

Asked permission to investigate issue.

Obtaining Approval to Proceed

Investigated the inflows; flowcharting the process specific to my task.

Value-mapped stages of the process task, which led to value-mapping the tiny subordinate VLookup sub-task

Process discovery

Data producers were performing their tasks properly, and the PMO was handling its tasks properly, too. The VLookup Equation was working as designed, but it was not capturing the proper data. 5-years beforehand, a data management officer had not updated the VLookup Table when new Asset Types were added to the asset capture table. This sub-task lost an owner during duties' hand-off; and no PSA seems to have been assigned the task to double-check assets; during transfer of *their* tasks to a new assignee.
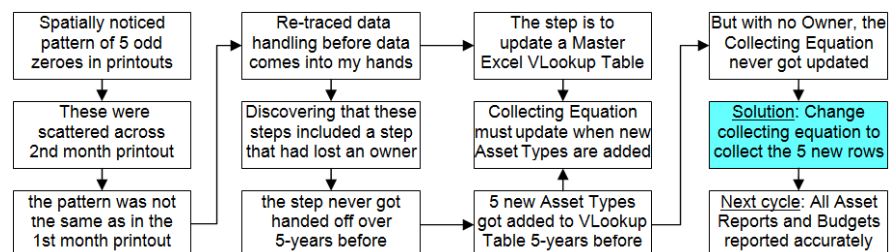
Asking the Question

What happens when we update the VLookup Equation's capture field (cells)?

Performing A/B Test

Put a copy of the master spreadsheet into a sandbox to test the hypothesis.

Obtaining Approval to Proceed

Results validated by Supervisor, who approved VLookup Updating Action.

| **3) Direct Results**	**Captured misplaced costs for 100+ tablets, notebooks and printers**

- Datasets returned to accuracy in the next reporting cycle.
- Eight division budgets returned to plan

4) Process Results	**Task Rework Eliminated**

- Workaround process removed.
- Eliminated data inspection, rework, and reconciliation sub-process.
- Accurate reports delivered to eight Division Managers every month.
- Division Managers able to deliver accurate reports by *their* deadline.

Green Blocks = Updating VLookup removes Green Steps from process
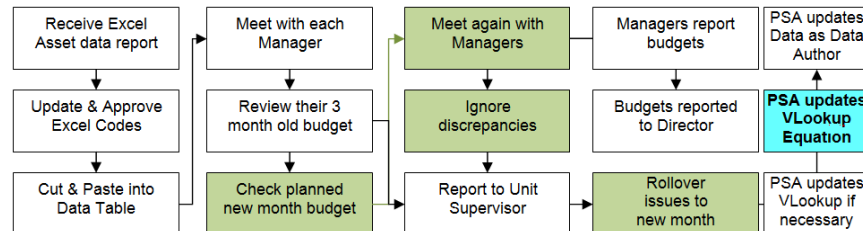
| **5) Process Audit**	**How did the error creep into the process?**

- Data received for review/hand-off was inaccurate every month
- Despite valiant efforts, there was inability to debug the reporting process
- PMO developed workaround process, to manage the discrepancies
- The workaround process re-set the data stream to an accepted standard
- Reporting creep created 3-month rolling accuracy gap (90-day overage)
- PSA Task Holders were unable to deliver reports by the official deadline
- Managing the anomaly to an accepted standard *became the standard*

6) Systems Upgrades	**How does this change Capital & Operating Costs?**

New Process: Receive reports, transcribe data from inflowing excel sheet to master excel worksheet. Tabulate all reports to corrected master sheet, meet with eight managers each once during process one month prior to manager's reporting deadline, for them to check against their budget plan. If needed, deal with minimal discrepancies with a second check-in meeting.

High-Level View:
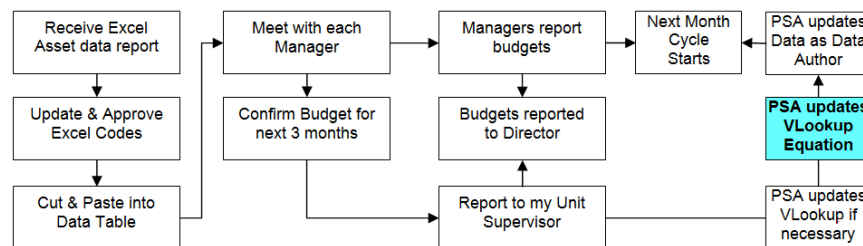
How Vetted: **Capital Costs:** Asset Values recaptured. Capital account reconciled.

Belief Level: **Operations:** First PSA to deliver accurate reports before monthly deadline. Delivering eight reports early vs. standard three months late. Eliminated data inspection and rework tasks and an unwieldy repeating 90-day reconciliation practice. All eight Division Managers were pleased. They were again able to accurately budget and deliver accurate reports to Board by *their* deadline.

PHASE B – FOLLOW-ON INITIATIVE (High Level view)

MY ACTIVITIES   **Investigating Larger Process to See How Owner Got Lost**

**1) Investigate Process**   Asked permission to investigate issue.

Obtaining Approval to Proceed   **Document & Report Approved "As Is" Process**
Investigated the inflows by Value-Stream Mapping the process.

Actions: The process had never been flowcharted or value-stream mapped, so this was followed up by figuring out how the errors had originally crept in. Mapping the "As Is" process, interviewing data holders, and forensically following data threads lead to identification of bottlenecks, which led to the idea to redesign process to minimize the risk of faulty data inputs and creep.
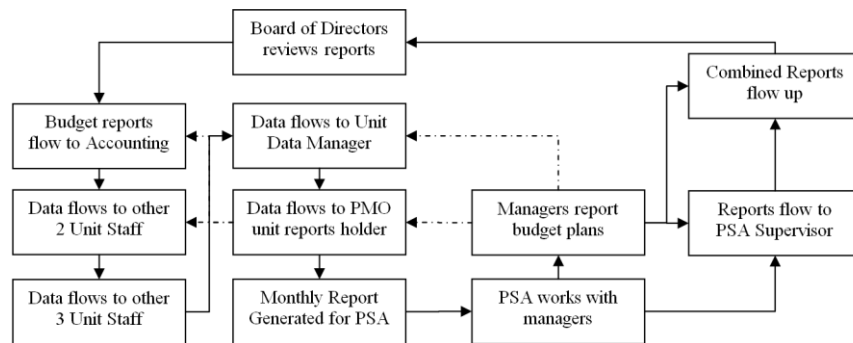
This "local" process sat within a larger process of data approvals. Process analysis led to discovery of several bottlenecks *that were not bottlenecks* when the workaround process was created to resolve the debugging problem. **Bottlenecks highlighted in green.**
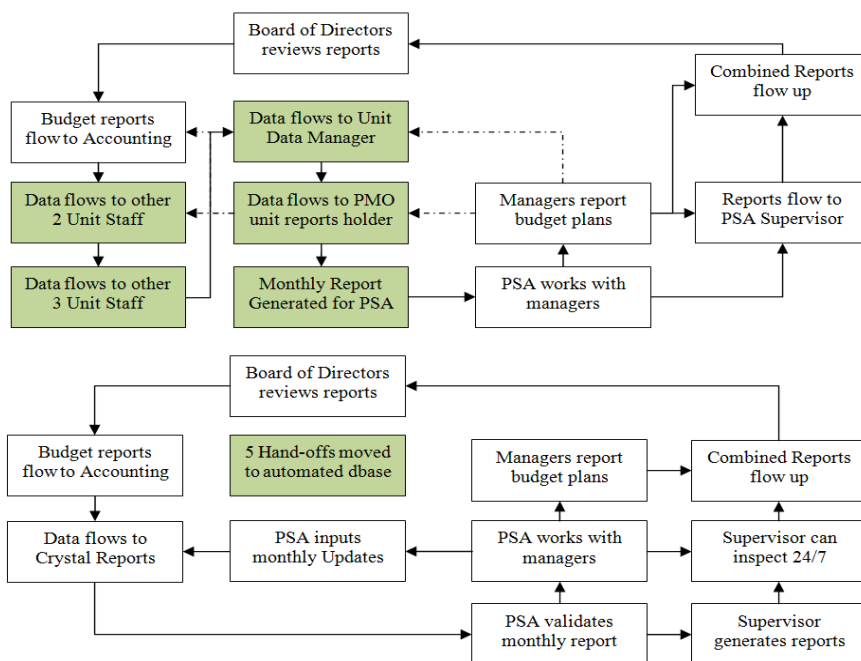

This led to the discovery that the Supervisor's day-to-day data oversight task of the now-removed bottleneck had become a millstone of time cost.
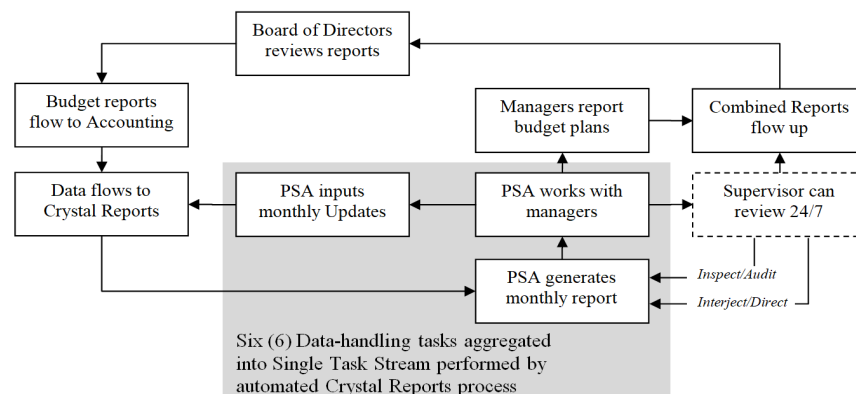
Reporting results to Supervisor
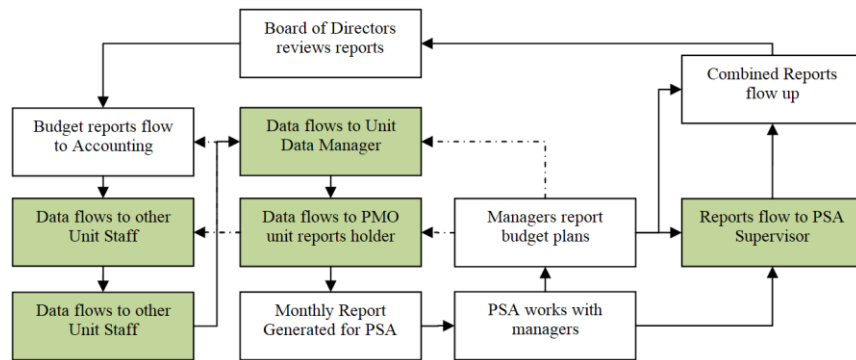
Reporting results to Division Manager & Controller with permission of Supervisor

This led to the proposal to hand off to data supervision task to the PSA, so that Supervisor would be freed from this lower hierarchy task. Soon after, this led to the proposal to collapse the larger web of tangled data workflows by consolidating six data processing positions into one position. The proposal was make the "final reporting person"—the PSA—*responsible for quality of the original data inputs* (tying reward structure to quality of the inputted data).
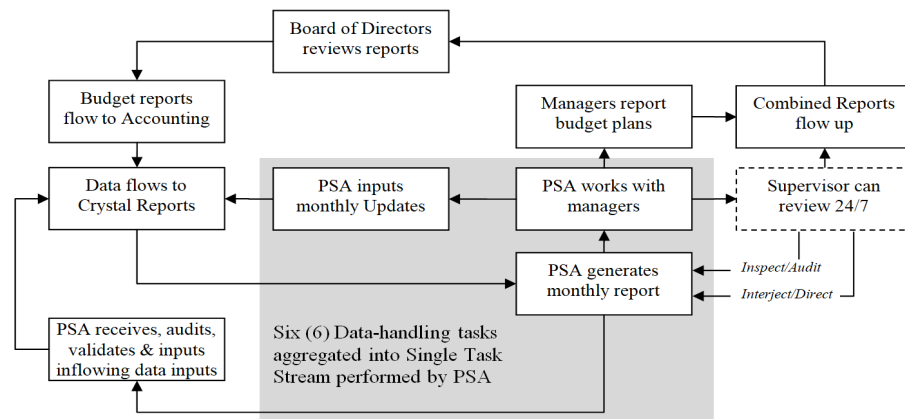
2) Process Results

Management did not make immediate staff changes, but assigned a Project Manager (PM) to create a Crystal Reports tool to automate the workflow and data quality checking. PM offered compliments, saying I had 'saved her months of mapping work'. The PMO's ability to provide budget-reporting advice to our manager-customers improved. Reports became timely and therefore useful. Accounting rework vanished, and after automation went live, the five data-handling staff obtained new positions within the company.

BALLPARK ESTIMATE - COST IMPACT OF SUB-TASK ERROR

BUDGETING UPDATE PROCESS — 12

h/w	w/m	m	h/y	WSBC Role	Count	Rate/y	Rate/y[1]	Hours/m	Labour/Year	Years	Net Cost
2	1	12	24	BoardExec	10	$ 120,000	5000.00	6.00	$ 360,000	5	$ 1,800,000
37.5	4	12	1800	DivMgr	8	$ 250,000	138.89	36.00	$ 60,000	5	$ 300,000
37.5	4	12	1800	Superv	1	$ 60,000	33.33	18.00	$ 7,200	5	$ 36,000
37.5	4	12	1800	PSA	1	$ 30,000	16.67	12.00	$ 2,400	5	$ 12,000
37.5	4	12	1800	ProjM	9	$ 60,000	33.33	486.00	$ 194,400	6	$ 1,166,400
37.5	4	12	1800	Admin	1	$ 120,000	66.67	108.00	$ 86,400	7	$ 604,800

LABOUR REWORK COST, DATA PROCESSING

h/w	w/m	m	h/y	WSBC Role	Count	Rate/y	$/h	Hours/m	Labour/Year	Years	Net Cost
37.5	4	12	1800	ReWorkers	5	$ 40,000	22.22	150.00	$ 40,000	5	$ 200,000
37.5	4	12	1800	ReSuperv	5	$ 60,000	33.33	60.00	$ 24,000	5	$ 120,000
			(1) Estimate: $10,000/Board meeting						$ 774,400		$ 4,239,200
			All Projects Reporting, Lost time, Opportunity Cost, etc.					20%	$ 154,880		$ 847,840
									$ 929,280		$ 5,087,040

Meetings per Month — 12

	Roles	#/M	#/People	Hrs/Matter	Net Hrs/Matter	Net/y
M1	PSA	2	1	0.25	0.50	6.00
	Superv	2	1	0.25	0.50	6.00
	#/year					12.00
M2	PSA	2	1	0.25	0.50	6.00
	DivMgr	2	8	0.25	0.50	6.00
	#/year					12.00
M3	Superv	2	1	0.50	1.00	12.00
	DivMgr	2	8	0.50	0.50	6.00
	#/year					18.00
M4	DivMgr	1	8	0.25	2.00	24.00
	BoardExec	1	10	1.00	0.50	6.00
	#/year					30.00
M5	ProjM	9	9	0.50	40.50	486.00
	Admin	1	9	1.00	9.00	108.00
	#/year					594.00
M5	ReWorkers	1	5	2.50	12.50	150.00
	ReSuperv	1	5	1.00	5.00	60.00
	#/year					210.00

Assets Lost per Year

	#Units	Value/Unit (Est. Average)	Total Months	Net Cost
Notebooks, PCs, Monitors, etc.	100	250	60	$ 1,500,000

Process Steps Costs

Top-Level Steps	Full Process	Key Missed Step	Lost Downstream	Net Steps (less 3 steps)		Net Steps = Failure	Process Error	(Lost Steps)	Est.Savings
	12	0	0	12		12		0%	
	15	1	2	12		12		20%	$ 6,587,040
	27			24		24		11%	

Key Sub-Process Steps	Failing Process	Recovered Key Step	Downstream Recovered Steps	Net Steps (Add 3 steps)	Net Rework Steps (Cut 4 steps)	Net Steps = Success	Process Savings	(Net Steps)
	12	1	2	15	4	11		27%
								Fixed Process

Summary	Stage	Data Cells	$/Cell	$Net Value	Net%	
Data Collection Cells, Structured Data, 100% Complete	Start	100	$1.00	$100.00	100%	$ 6,587,040
Data Error (5-zeros in moving pattern, per month)	Error	5	$1.00	$5.00	5%	$ 329,352
	Value Alert	95		$95.00	95%	$ 6,257,688

Summary	Process Cost	Est	Direct (5y)
1 lost audit step	11% of Total Process		
	20% of key Sub-Process		
	Net Process Cost	Est	$ 6,587,040
	+ Lost Productivity etc.[2]	17.5%	$ 1,152,732
	+ Inspection Cost at 5%	5%	$ 329,352
			$ 8,069,124

(Note 2) https://asq.org/quality-resources/cost-of-quality
15-20% of sales revenue
40% of total operations for weak/non-productive orgs
10-15% of operations in thriving companies
50% = our estimate for Crown Corp: