

Using Pareto's Rule for Focused Problem Solving: The 80/20 Rule

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Agenda

- Explain the 80/20 rule as a tool for focusing improvement efforts on the “vital few”.
- Case Example
- Brainstorm for other places you might use this in your organization.



If we're not happy with our results, what do we do?

- *We can't do nothing*
- *We can't fix everything*

The Pareto Principle or 80/20 Rule is a simple analytical technique to help us focus on actions that are most likely to make a difference.

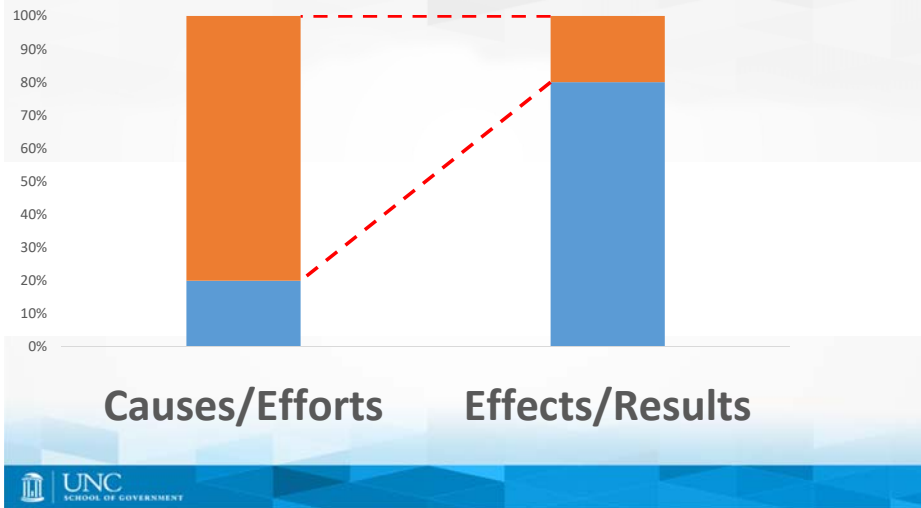


Pareto Analysis- Brief history

- Grew out of the work of Vilfredo Pareto, Italian economist
- Pareto rule first described by Joseph Juran, leader in quality improvement
- Commonly called the 80-20 rule



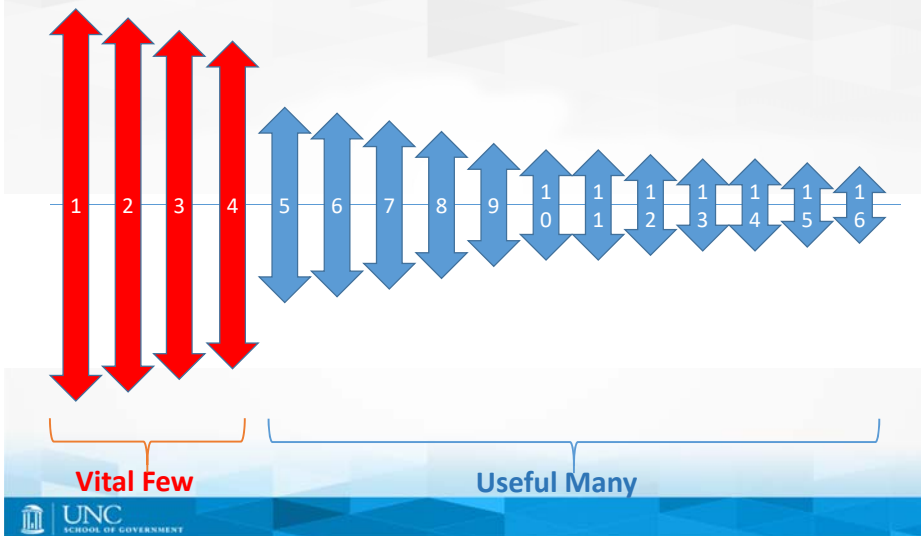
A small fraction of efforts will produce a large share of results.



Possible examples of the Pareto Principle in government.

- A large portion of crime is committed by a small number of people.
- Most of the financial issues come from a small number of bills or payors.
- Most of the breaks in a water system will come from a small portion of the system.
- Most of our service costs are for a small number of clients.

Focus on the **vital few** that are the biggest cause of problems.



What do you do when you have data?

- Slice and dice data by subcategories
 - Time
 - Cause Type
 - Geography
 - Organizational Unit
 - Other?
- Look at data by different measures of results.
 - Numbers of cases
 - Dollars
 - Severity
 - Degree of lateness

The case of the *Late Payables Accounts*

- Vendors providing services and products to the City of Dogwood Acres have been complaining about how long it takes the city to pay its bills. They are threatening to drop the city as a client.
- Some of these payments are taking over three months to pay after receipt.
- Finance Director William Overdue says “my staff is working hard but we haven’t made progress in bringing down how long it takes. We’ve tried different ideas but no success so far. Maybe I need more staff.”
- ***What could we do to help Mr. Overdue fix this problem?***

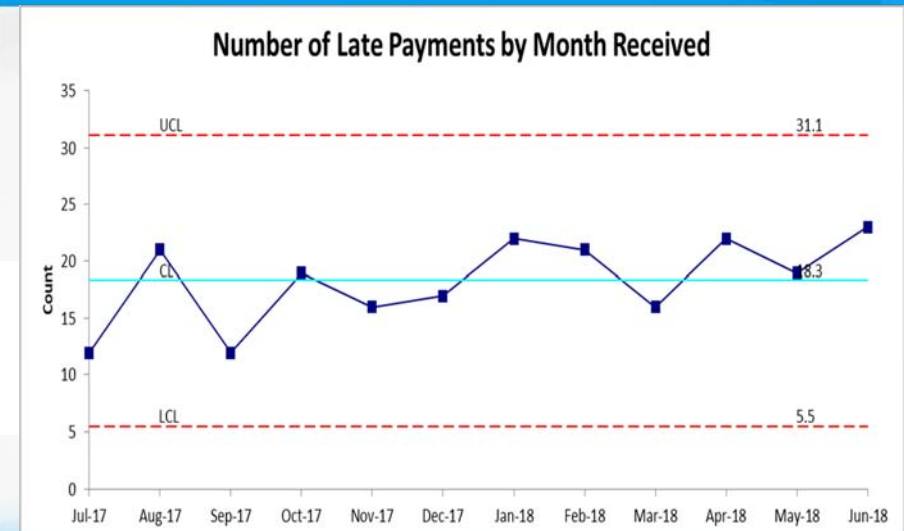
Dogwood Acres Late Accounts Payables

- The Finance Director decided that any bill that took more than 30 days would be considered late.
- 220 bills from the last fiscal year were “late”.
 - On average it took 66 days to pay these bills.
 - The shortest was 31 days and the longest was 98 days.
- These late payments were associated with all ten of the city’s departments and covered all ten of the key payables categories.
- What should the Finance Director do?

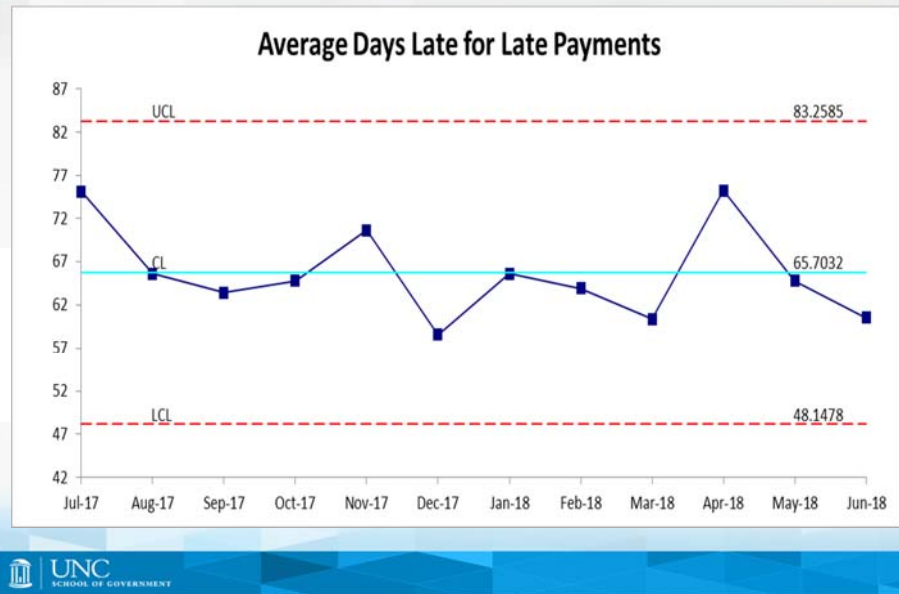
Vague problem statements risk producing vague results.

- Take a systems or big picture view. What can we do to help focus the effort to fix the problem and improve the late payments?
- Slice and dice the data to drill down.
- ***What factors might we look at to help Dogwood Acres focus their improvement efforts?***

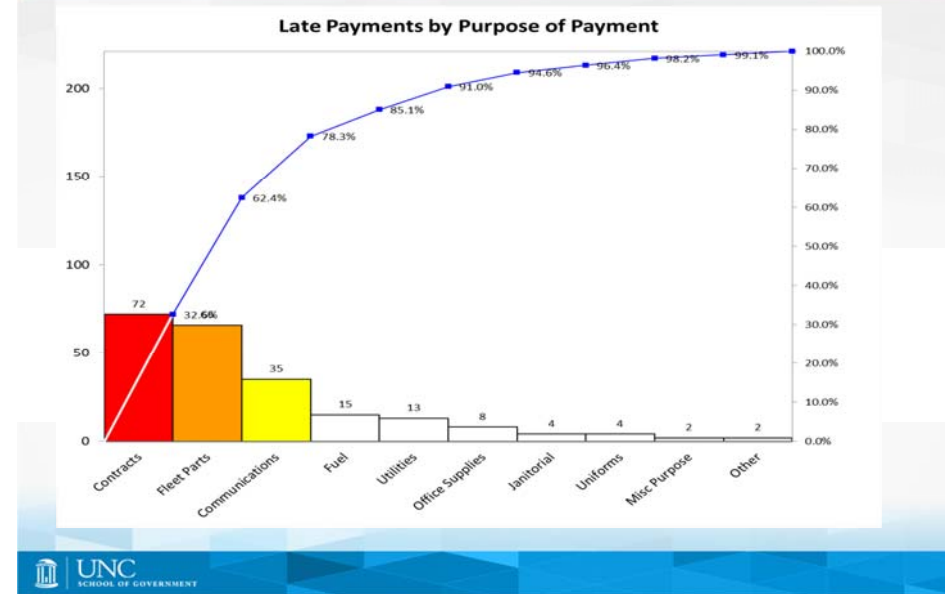
The number of late payments per month doesn’t show a clear trend, averaging about 18 late bills per month.



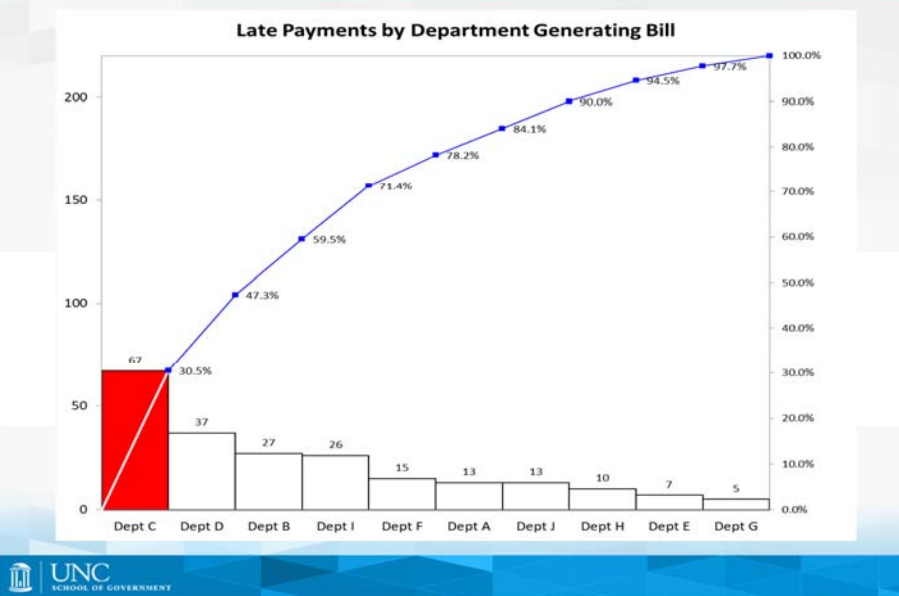
The average days late for late payments has not been changing despite efforts to fix the problem.



Payments for contracts, fleet parts, and communications dominate the late payments.



Department C has nearly one-third of the late payments but also note Depts D, B, and I.



Looking at Department and Purpose together we see a vital few areas where the problem is concentrated.

	Departments										Grand Total
	A	B	C	D	E	F	G	H	I	J	
Contracts	2	16	5	19	1	2	1	3	19	4	72
Fleet Parts	2	1	54	2	1	2		1	1	2	66
Communications	2	4	4	5	2	5	4	4	2	3	35
Fuel	1	3	1	5	2				1	2	15
Utilities	3	3	1	2		1		1	1	1	13
Office Supplies	3		2	1				1	1		8
Uniforms				1	1	1				1	4
Janitorial						3			1		4
Misc Purpose				1		1					2
Other Supplies				1							1
Grand Total	13	27	67	37	7	15	5	10	26	13	220

Targeted efforts to fix the problem.

1. Work with Dept C on Fleet Parts
2. Work with Depts B, D, and I on Contracts
3. Work with everyone on Communications

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What do you do if you don't have data to start today but need to do something now?

- Collect a sample, put together a tally sheet.
 - Dirty 30 (or 50)*

Date	Critical Event	Person Affected	Resolution	Cause for Incident	Tally
				Hazardous Condition	
				Inadequate Staff	
				Poor Training	
				Client Error	
				Other	

What do you do if you don't have data to start today and are willing to wait?

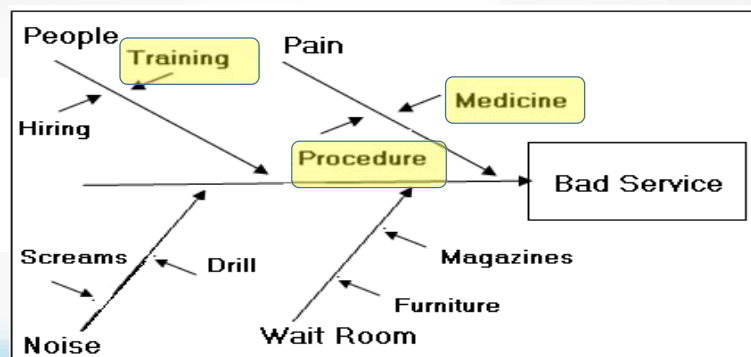
- Start tracking with an error log going forward.

Date	Critical Event	Person Affected	Resolution

No data and you can't wait? Create a cause-effect diagram and make your best judgement as to the critical causes not currently addressed.

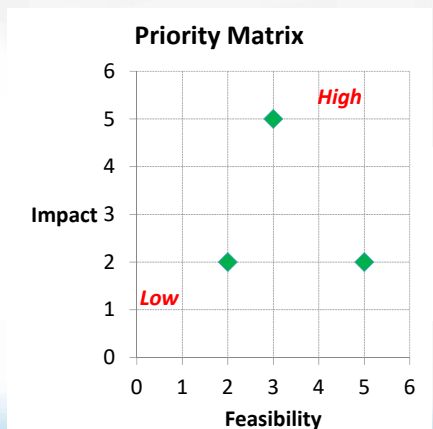
A riskier strategy that might not pay off.

Cause and Effect Diagram for what causes bad service in a dentist's office



Consider a priority action matrix as a way to select projects by probable impact but also feasibility.

Root Cause	Action	Feasibility or Cost (1-5)	Impact (1-5)
Root 1	Act 1	3	5
Root 2	Act 2	5	2
Root 3	Act 3	2	2



Put together an action plan and follow up with monitoring.

Action	What will we do?	What are the key steps?	Who will be lead?	What resources are needed?	What is the time frame?	Monitoring Plan
Action 1	Description	Steps	John Doe	None	2 weeks	Monthly control chart
Action 2	Description	Steps	Sandra Jones	New software	3 months	Part of weekly reporting
Action 3	Description	Steps	Kendra Smith	Finance Support	3 weeks	Monthly Finance Update

Where might you use the 80/20 rule to help focus your improvement efforts?

- Take a couple of minutes and brainstorm with the people sitting next to you on problem areas in your department or your jurisdiction that might benefit from using the 80/20 rule to focus problem solving?

Use the Pareto Rule to focus your improvement efforts.

- Find the “Vital Few” that cause the most problems.
 - Base this on actual data whenever possible.
- Make and implement a plan to address these vital few.
- Monitor to see if you have fixed them.
- Repeat again and again for continual improvement.

Contact information for follow up.

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