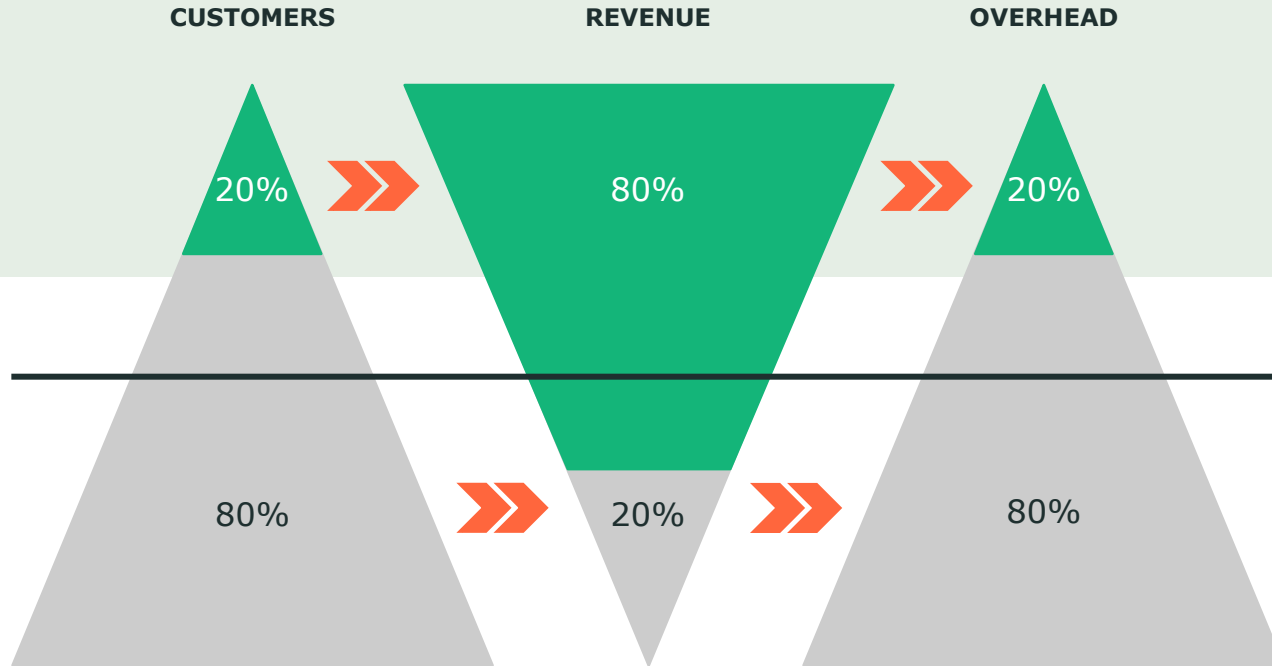# An 80/20 Overview

The Origin Of 80/20

- 80/20 was discovered in the early 1900's
- Italian Economist – Vilfredo Pareto
- Pareto Principle – The Law of Imbalance
- Early 1980's – ITW applied the process to business

Vilfredo Pareto
July 15, 1848 – August 18, 1923

Nichols Pyramids

CUSTOMERS   REVENUE   OVERHEAD

20%   80%   20%

80%   20%   80%

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80/20 Key To Success

TREAT THEM **DIFFERENTLY**

FAIRLY - NOT EQUALLY

Quartile Analysis: Customers

How well are we serving them?

QUARTILE	# OF CUSTOMERS	% OF REVENUE	% OF OH/EFFORT	% PROFIT
	1 - 250	89%	25%	150%
	251 - 500	7%	25%	BE
	501 - 750	3%	25%	($$)
	751 – 1,000	1%	25%	($$$$$)

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Quartiles Example

CUSTOMERS

Customer Range	Percentage of Sales	Sales Range	
1 - 350	93.7%	$ 16,471,467 75,757	1
351 - 700	4.7%	17,448	2
701 - 1,050	1.2%	4,904	3
1,051 - 1,400	0.3%	67	4

- 24 (2%) are 50% of Sales, worth $2,431,995 or more.
- **117 (8%) are 80% of Sales, worth $369,454 or more.**
- Bottom 50% of Customers worth only 1.5% of Sales!
- Excludes 10 customers w/ 0 or lower sales worth -$99,007.

PRODUCTS

Product Range	Percentage of Sales	Sales Range	
1 - 877	89.8%	$ 14,595,894 42,750	1
878 - 1,754	7.4%	12,026	2
1,755 - 2,631	2.3%	3,663	3
2,632 - 3,509	0.5%	7.95	4

- 90 (3%) are 50% of Sales, worth $555,124 or more.
- **460 (13%) are 80% of Sales, worth $103,668 or more.**
- Bottom 50% of Products worth only 2.8% of Sales!
- Excludes 21 products w/ 0 or lower sales worth -$123,502.

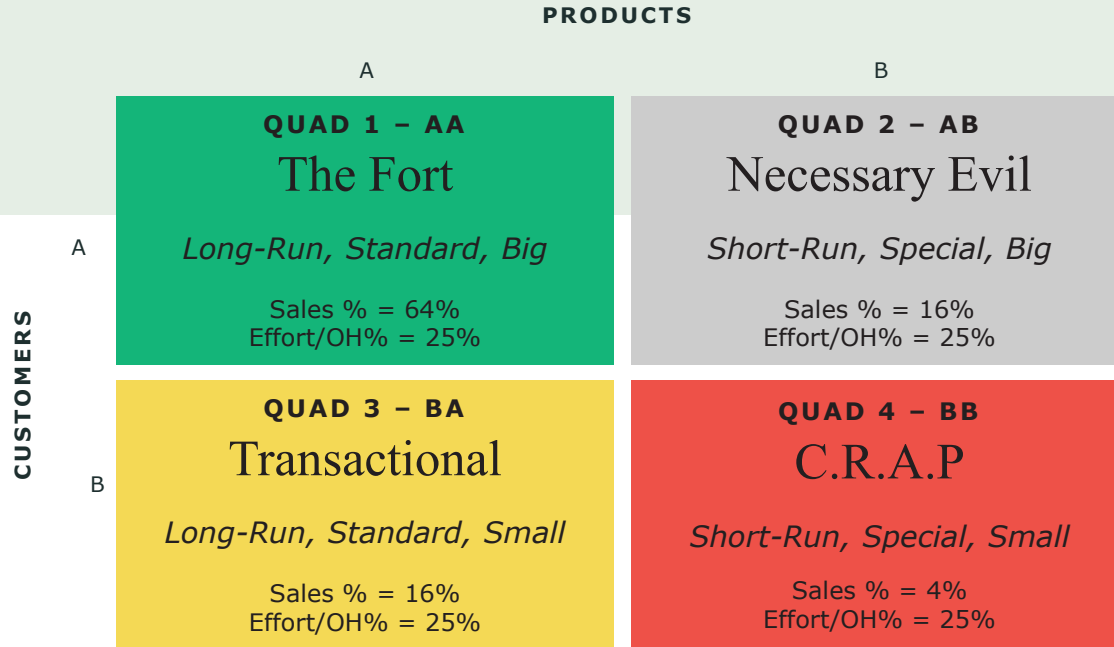Strategex

Quartile by Customer and Product

Customers = 1,000

	# OF CUSTOMERS	% OF REVENUE
1	1 250	89%
2	500	7%
3	750	3%
4	1,000	1%

Products = 400

	# OF PRODUCTS	% OF REVENUE
1	1 100	89%
2	200	7%
3	300	3%
4	400	1%

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Quadrant: Customers and Products

A : 80's (Customers and Products that yield 80% of revenue)
B : 20's (Customers and Products that yield 20% of revenue)

PRODUCTS

	A	B
A	**QUAD 1 – AA** **The Fort** *Long-Run, Standard, Big* Sales % = 64% Effort/OH% = 25%	**QUAD 2 – AB** **Necessary Evil** *Short-Run, Special, Big* Sales % = 16% Effort/OH% = 25%
B	**QUAD 3 – BA** **Transactional** *Long-Run, Standard, Small* Sales % = 16% Effort/OH% = 25%	**QUAD 4 – BB** **C.R.A.P** *Short-Run, Special, Small* Sales % = 4% Effort/OH% = 25%

CUSTOMERS

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Quad Example

Products

	A = 933 Products	B = 13,277 Products
A = 31 Customers	**1** Sales = $55,823,554 Sales % = 66.1% Material Margin = $32,486,864 Material Margin % = 58.2% Customers = 31 Products = 826	**2** Sales = $11,883,926 Sales % = 14.1% Material Margin = $7,782,514 Material Margin % = 65.5% Customers = 31 Products = 10,292
B = 344 Customers	**3** Sales = $11,747,586 Sales % = 13.9% Material Margin = $7,086,042 Material Margin % = 60.3% Customers = 273 Products = 486	**4** Sales = $4,996,618 Sales % = 5.9% Material Margin = $3,158,432 Material Margin % = 63.2% Customers = 300 Products = 3,963

Customers

- There were 2,985 'B' Products that were only purchased by 'B' Customers.

- There were 71 'B' Customers that only purchased 'B' Products.

Sales for Full Year 2020 were $84,451,685 with a Material Margin of $50,513,852 or 59.8%.

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The Magic Formula

The Magic Formula

$$A \text{ (ANYTHING)} = .8x \text{ (The Critical Few)} + .2y \text{ (The Insignificant Many)}$$

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The Magic Formula - Inventory

BEFORE 80/20: 4 MONTHS ON HAND

$$A = .8(4) + .2(4) = 3.2 + .8 = 4$$

AFTER INITIAL 80/20:

$$A = .8(1) + .2(8) = 0.8 + 1.6 = 2.4$$
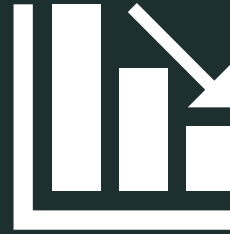
A (ANYTHING)	=	The Critical Few .8x	+	The Insignificant Many .2y

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Accounts Receivable

MOST PEOPLE DO IT BY INVOICE AGE

THE CORRECT WAY IS TO START ON BIGGEST INVOICE

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The Magic Formula – A/R

Company xyz is a $20MM company with 65 days of DSO despite having 30-day terms.

By the Magic Formula, here is how it gets to 65 days.

A = .8(65) + .2(65) = 52+13= 65

Now let's apply the Magic Formula, focusing ONLY on getting the 80s within their 30-day agreed terms, while letting the 20s go ANOTHER month...

A = .8(30) + .2(95) = 24 + 19 = 43

A
(ANYTHING)

= .8x

The Critical Few

+ .2y

The Insignificant Many

80/20 Impact on Lean: Simplify First

First Pass Yield = How many times you do something without errors, all the way through, the first time

OVERALL YIELD VS. SIGMA

SIGMA LEVEL	±3σ	±4σ	±5σ	±6σ
DEFECTS PER MILLION	67,000	6,000	200	3.4
# OF STEPS	←	PERCENT YIELD		→
1	93%	99%	99.9%	100%
10	50	94	99.8	99.9
40	6.3	78	99	99.9
100	0.1	54	98	99.9
500	0	4	89	99.9
3,000	0	0	50	98.9

START NORTH WITH 80/20

THEN, GO EAST WITH LEAN

Taken from Champion Standard Work – Participant Workbook – Rev. 2/00

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Ask An Expert

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Thank You

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