Total Cost of Ownership

What the tech is going on?

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Total Cost of Ownership

Includes the purchase price of a particular asset, plus operating costs, over the asset's life span.

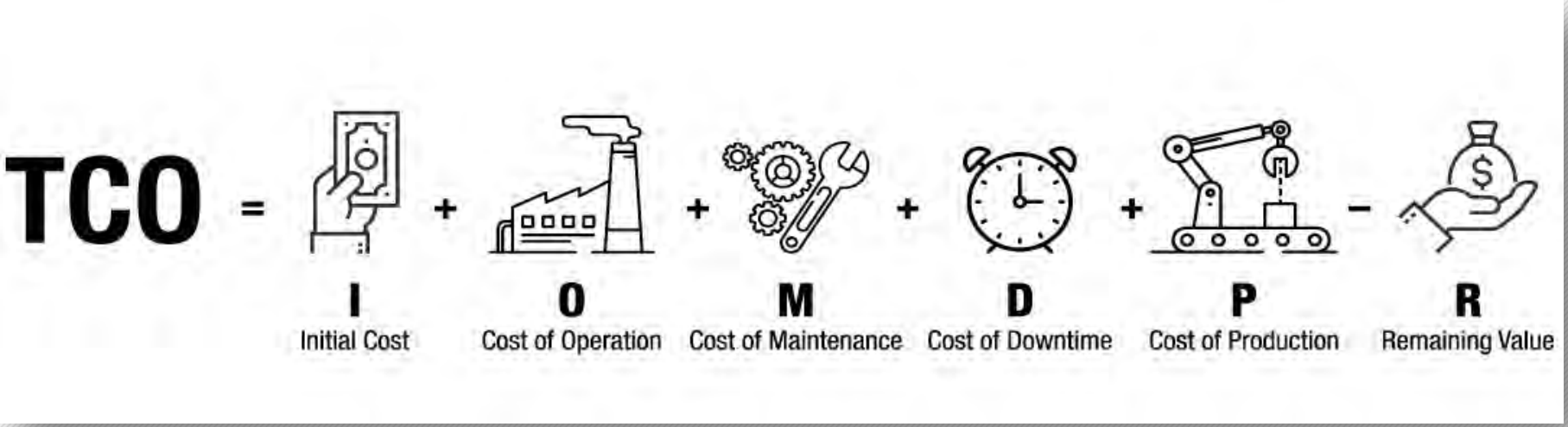
Definition:

Looking at total cost of ownership is a way of assessing the long-term value of a purchase to a company or individual.

Total Cost of Ownership

Let's look at what goes into TCO of these areas

- Cost to install a customer
- Less expensive gear VS more expensive gear
- Upgrade project



TCO: Cost to install a customer

What goes into Installing a Customer?

- CPE
- Router
- Consumables (Grounding, cables, mounts)
- Labor
- Travel
- S&M

Internal vs External Field Techs					
	Hourly	Monthly	Annually	One-time	Assumptions
Hourly Wage	$25.00				
Overtime	$2.50				
Benefits	$4.25				Benes calc'd @ 17% of hourly rate
Uniforms				$225.00	We will need to purchase uniforms for external too
Installer Tools				$2,000.00	Estimate provided by Quest
Vehicle Issued Tools				$1,100.00	Estimate provided by Quest
Truck		$817.00			$49K/60 mos loan
Insurance		$125.00			$114K/75 vehicles/yr
Fuel		$500.00			Rough average of 3 installer vans in November
Training				$685.00	CPR $36, OSHA 10 $49, CPI $600
Travel & Per Diem for Training				$1,057.00	Estimate provided by Quest
Ninety.io		$5.00			Pulled from invoice
Fleet.io			$60.00		Pulled from invoice
Microsoft 365		$6.00			Pulled from invoice
GPS		$25.00			Pulled from invoice
Ee Engagement			$150.00		Estimate
Verizon Phone		$41.00		$24.00	Cell phone case - 1X cost
Laptop & Supplies				$357.00	Estimate provided by Quest
Hiring Cost (Advertising, Applicant Pro)		$9.60			$144 per month - assumes 15 positions being recruited per month
Total	$31.75	$1,528.60	$210.00	$5,448.00	
Annual Cost	$66,040.00	$18,343.20	$210.00		
One-Time Cost				$5,448.00	
Total Cost for Internal Hire				$90,041.20	$90,041.20
Annual Hours / Productive Hours				2,080	1,800
Hourly Cost				$43.29	$50.02
Doesn't include Management time ; hotel accommodation if travelling					

TCO: Cost to install a customer

Labor Internal vs Contractor?

Internal – *Pro's*

- Cheaper by +- 40%
- Control Quality & Training

Con's

- Need own Vehicle & Tools (Capex Spend)
- PTO / Sick Leave (Reschedule Customers)
- More Admin

Contractor – *Pro's*

- Minimum Capex outlay
- Fixed Rate
- Flexibility
- Travel

Con's

- Higher Opex cost
- Quality control?

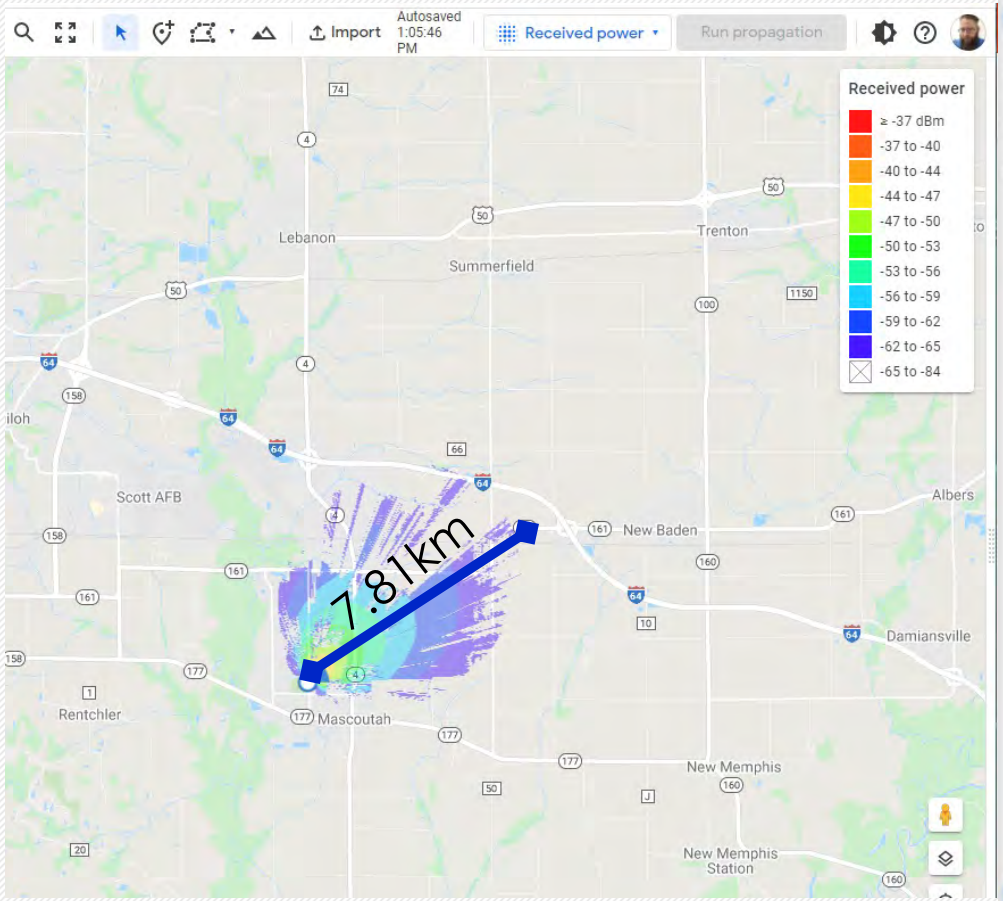
TCO: Less expensive gear VS more expensive gear

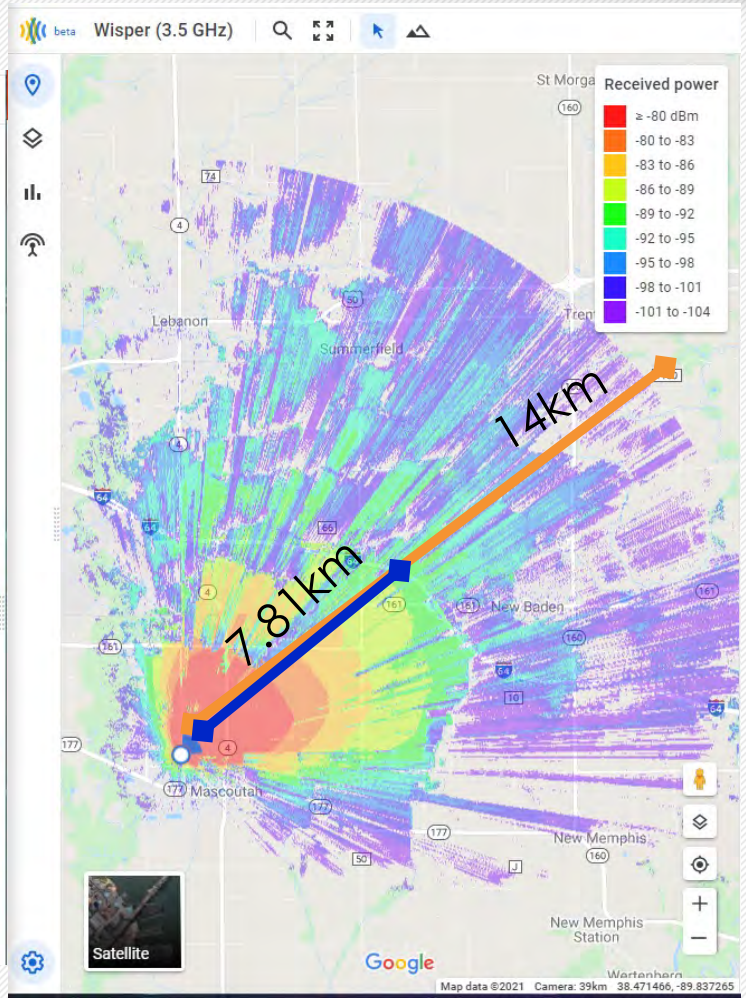
- Factors to consider
  - Upfront costs (CAPEX)
  - Easy to install AP and CPE
  - Propagation
  - Availability of equipment

  - Ongoing costs (OPEX)
  - Reliability of product
  - Number of towers needed
  - Life of equipment

2024 WISPAMERICA
BROADBAND WITHOUT BOUNDARIES

TCO: Less expensive gear VS more expensive gear





2024 WISPAMERICA
BROADBAND WITHOUT BOUNDARIES

TCO: Less expensive gear VS more expensive gear

	Less Expensive	More Expensive	
CAPEX			
Number of Towers	880	550	
Cost of Towers CAPEX	$ 80,000	$ 120,000	
	$ 70,400,000	$ 66,000,000	$ 4,400,000
OPEX (Monthly)			
Bandwitdh to tower	$ 350	$ 350	
Tower Rent	$ 800	$ 800	
	$ 1,012,000	$ 632,500	
Annual	$ 12,144,000	$ 7,590,000	$ 4,554,000
Max Number of customers	128	800	
Cost to install customer	$ 800	$ 1,200	
	$ 102,400	$ 960,000	
Total Addressable Market	350,000	1,200,000	
Max Speed Package	100mb	400mb	
ARPU	$74	$84	
20% Penetration - Rev/Month	$ 5,180,000	$ 20,160,000	$ (14,980,000)
Cost to install	$ 56,000,000	$ 288,000,000	
ROI - Months	11	14	
5% Penetration -Rev/Month	$ 1,295,000	$ 5,040,000	$ (3,745,000)
Cost To Install	$ 14,000,000	$ 72,000,000	
ROI - Months	11	14	

5 Year Numbers @ 20%

	Less Expensive	More Expensive	
Total Costs	$ 187,120,000	$ 391,950,000	$ 204,830,000
Total Rev	$ 310,800,000	$ 1,209,600,000	$ 898,800,000

5 Year Numbers @ 5%

	Less Expensive	More Expensive	
Total Costs	$ 145,120,000	$ 175,950,000	$ 30,830,000
Total Rev	$ 77,700,000	$ 302,400,000	$ 224,700,000

No of Customers @ 20% penetration

More Expensive	240,000	436.36	= avg no of customers per tower @ 20% penetration
Less Expensive	70,000	79.55	

No of Customers @ 5% penetration

More Expensive	60,000	109.09	= avg no of customers per tower @ 20% penetration
Less Expensive	17,500	19.89	

TCO: Upgrade project

Business Case – Factors to consider

- Capex - Usually once off - Useful life of the equipment? How often must we replace or upgrade. Take into account technology changes
- Opex - ongoing plus annual licensing costs - annual increases?
- Opportunity costs of doing - positive and negative? What if we do vs what if we don't?
- Effect on the future - Can it help us scale or if we don't, does it prohibit us from scaling or hold us back later?
- ROI - Measured in payback time or $ value
- Fixed wireless - generally want payback of less than 1 year
- Fiber to the home - typically 3 to 5 years - Assumption is that the lifetime of the customer is longer so one can accept a longer payback risk.
- Capitalize or Expense?
- Tangible & Intangible Costs and Benefits?

THANK YOU