



✓ÉRYABLE

Execution for Operations:
Preparing for 2024

Proud Partner of the

MISSOURI ASSOCIATION OF
MANUFACTURERS

Execution for Operations: Preparing for 2024

What will we cover?

Section #	Section
1	<u>Introduction</u>
2	<u>Annual Planning</u>
3	<u>Ways to Win</u>
4	<u>Metrics and Maturity</u>
5	<u>Strategy in Action</u>
6	<u>Where To Start</u>

Introductions



Pat Dippel

President, West Division

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Missouri Association of Manufacturers:

- Vision of Promoting, Preserving, and Advancing manufacturing in the state of Missouri.
- Bringing Value to their members.

Veryable

- Operational platform designed by Operations leaders for Operations leaders.
- 42 Major Manufacturing markets across the U.S.
- Deep expertise as Operational Strategists, vested in revitalizing the American manufacturing sector.

Pat Dippel

- Veryable – President, West Division
- From St. Louis, graduated from Missouri S&T
- 20 years of manufacturing experience
- GE, Express Scripts, SunEdison, Private Equity
- Lean, Ops transformation, Mfg. Strategy, Productivity

A woman with dark hair, wearing a light-colored t-shirt, stands in a warehouse or storage area. She is looking slightly to her left with a neutral expression. The background is filled with shelves and boxes, creating a sense of a busy, organized environment. The entire image has a blue color cast. Overlaid on the image is the word 'VERYABLE' in a large, white, sans-serif font. The letter 'V' is stylized with a diagonal slash through it. The text is centered horizontally across the middle of the image.

VERYABLE

Annual Planning

Annual STRATEGIC Planning

Why is this important for a business?

1. **Strategic Clarity** – the process helps define and align goals across an organization so that there is a clear and consistent direction on efforts and initiatives towards a desired outcome.
2. **Focus** – when done well and regularly reviewed and updated, the organization can stay focused on the long-term objectives instead of being sidetracked by day to day operations.
3. **Benchmark Performance** – measure and track against last year and to the plan.
4. **Gaps and Opportunities** – understanding what is and is not working allows a refined plan, improvement opportunities, and new innovation.
5. **Resource Allocation** – tracking against a budget will understand how effective you are against a plan, and allow you to cut costs against misaligned goals.
6. **Engagement and Buy-In** - this will allow all stakeholders to understand the mission as well as the importance to the organization, ensuring they understand their piece.

Start with the end in mind – work backwards from there.

Annual STRATEGIC Planning

What is needed for success?

1. Focus Areas
2. Goals and Objectives (these should link across levels of an organization)
3. Measurement – how and when
4. Actions
5. Owners
6. Due Dates
7. Budget

Understand the roadmap – know where you are and if you are getting the outcomes you need.

Annual STRATEGIC Planning

Where and why plans fail?

1. Lack of engagement
2. Unrealistic goals
3. Lack of flexibility
4. Lack of resources
5. Inadequate communication
6. Lack of follow-through
7. Misalignment between business strategy and team goals

Self police and attack these issues in real time.

Annual OPERATIONAL Planning

Why is this important for a business?

- Links the functions of a business – Sales, Marketing, Product, and Operations
- This is done many different ways – S&OP, estimates from current year/run rate, etc. – *NOTE, logically and directionally they may be correct but at a more granular level they are wrong.*
- So what are we looking to understand...
 - Understand capacity – where is the excess, where are the bottlenecks
 - Understand the impact of mix and COGS on profitability
 - Overhead – (volume)
 - Materials – (inflation/deflation, scrap, alternatives, supply)
 - Labor – typically viewed as unconstrained, lead-time, and time/dollar variance has an enormous impact, (most controllable aspect).
 - Pricing – understanding impact to profitability and standing in the market.

This alone is a complicated model

STRATEGIC and OPERATIONAL Planning

What's the difference?

They are the same thing

Strategic Planning

Vision (What)

Operational Planning

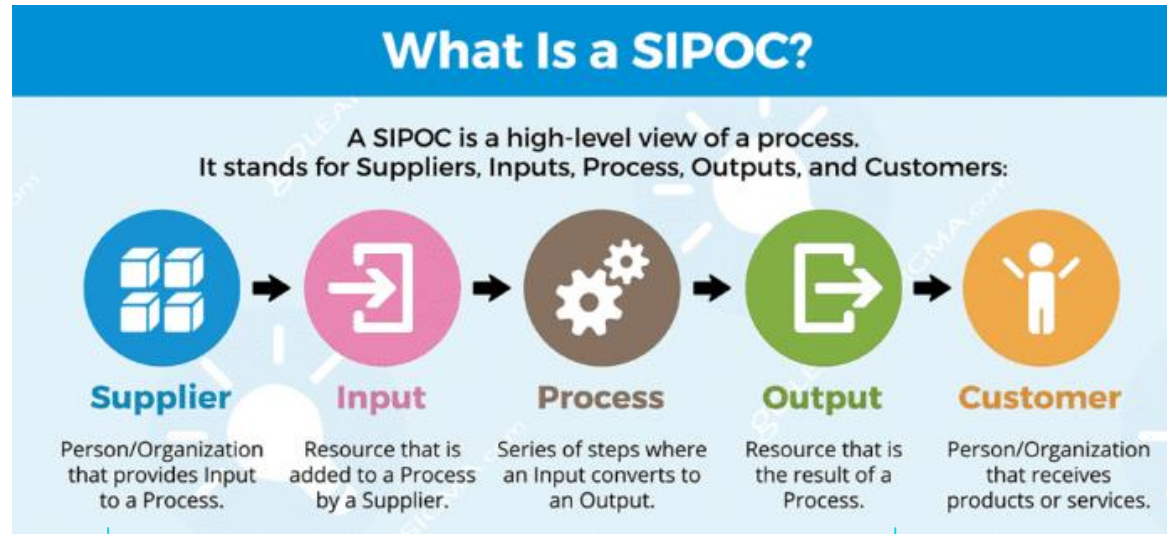
Value (Why)

Steps (How)

“One of the most important things a great leader can do is to take a complex problem and break it down into manageable and measurable steps.”

Annual Planning

Where does this touch our process?



Strategic Planning

Operational Planning

Example	Inputs	Process	Outputs
Manufacturing	Raw material, returning material from outside processing, purchased goods	Machining, assembly, fabrication, etc.	Finished goods to stock, shipped to customer, replenished kanban
Logistics	Container, Bill of Lading, Truck, etc.	Cross docking, loading/unloading, etc.	Container, truck, train, B/L
Warehousing	Raw material, returning material from outside processing, purchased goods	Pick pack, kitting, etc.	Finished goods to pack/ship.

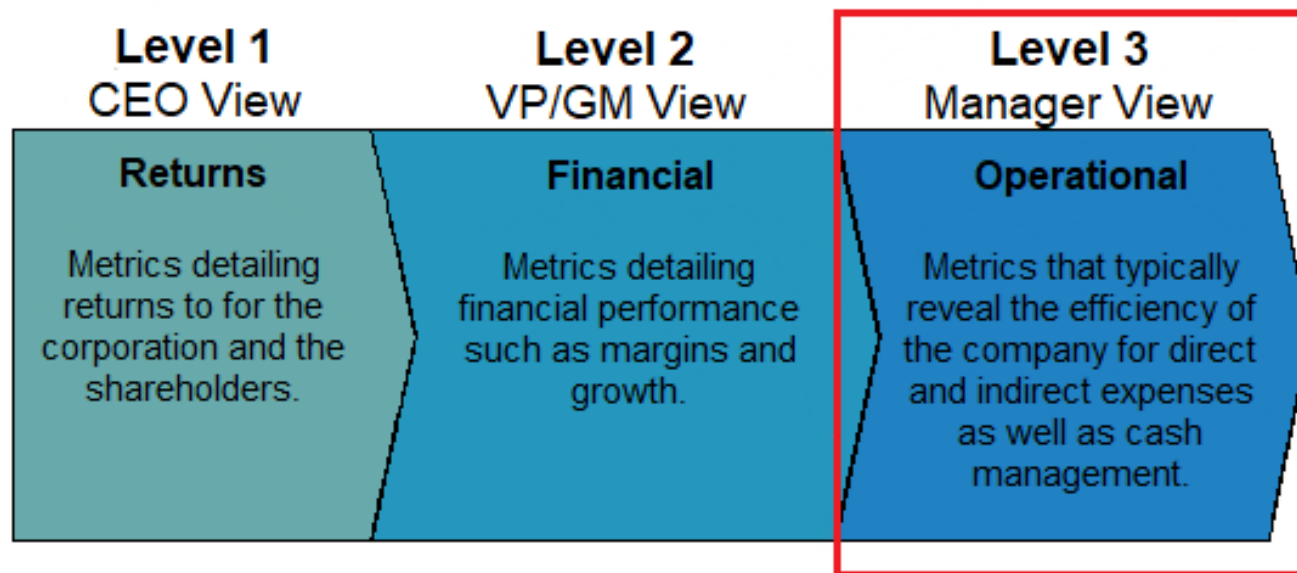
Annual Planning

Strategic and Operational Planning are linked

“What’s measured improves” – Peter Drucker

Metrics – the mechanism behind how performance is quantified, typically a specific business process at an operational level.

Performance metrics can be understood across three levels

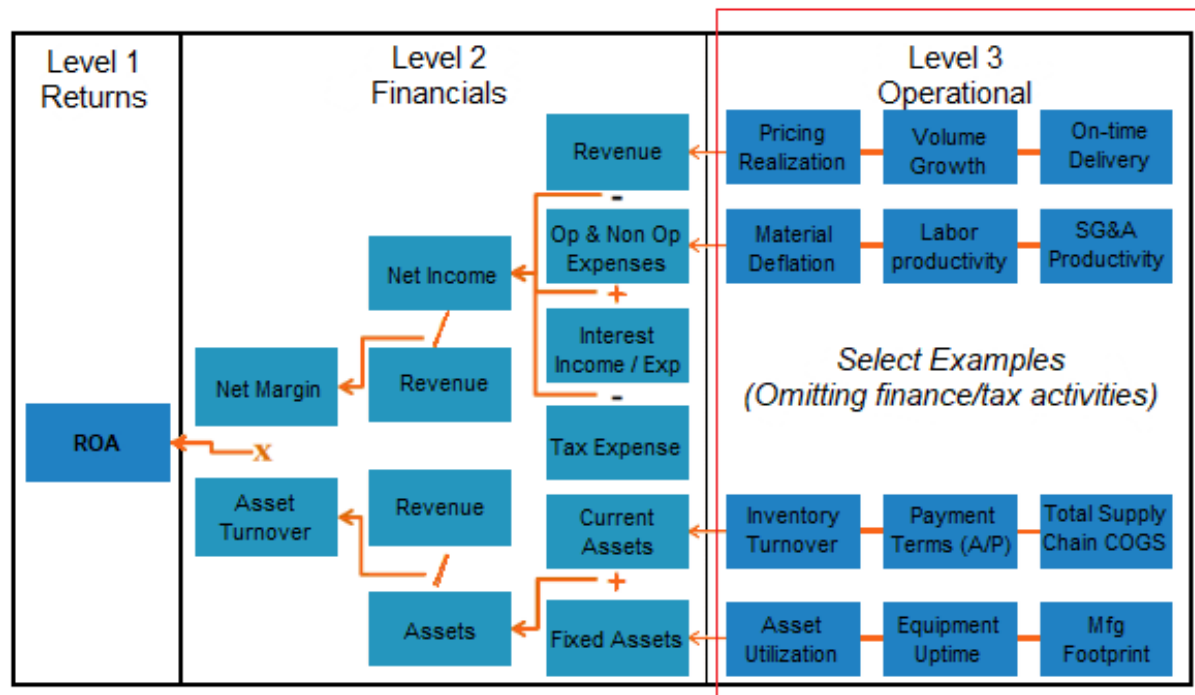


Our focus is on operational metrics and how they can be redesigned to influence performance rather than merely revealing performance.

Annual Planning

Strategic and Operational Planning are linked

Operational metrics represent the tactical managerial priorities that ultimately drive returns.



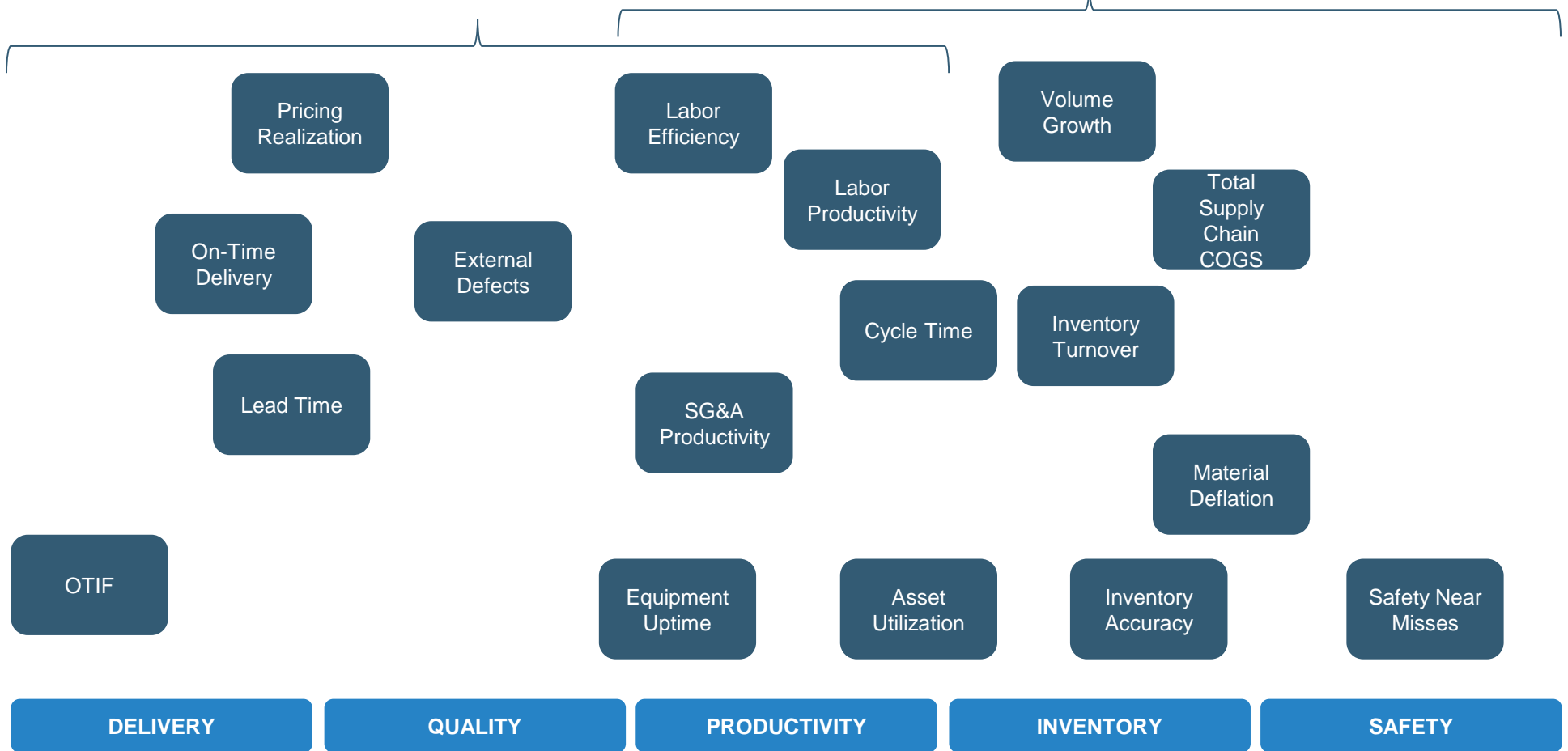
Because of that, our discussion will be focused on these Operational metrics.

Annual Planning

In a variety of ways, they really tell us two important things.

How well we service our customers?

How well we run our Operations?



Annual Planning

How Well Do You Service Your Customers?

Customers pay for goods produced and services provided. The ability to hold up that end of the bargain plays a large factor on if they will come back again.

- Meeting quality requirements is a must - what good is the product if customers can't use it.
- Delivering on time is crucial, customers plan their business around a product.
- Delivering late can create delays or shut downs in an operations, triggering fines from the end customer or loss of business.
- How well an operation performs relative to their competitors is a large consideration with who a customer will decide to go with in the future.
- A single impactful instance can damage a relationship quickly.
- When customers are lost to poor performance, it impedes an operation's ability to grow.
- A business either shrinks or new business just replaces lost business.

Annual Planning

How Well Do You Run Your Operation?

The product or service that a business performs creates value for their shareholders, the industry, and the employees at that company. How well they use the systems, equipment, materials, and labor determines how much value they create.

- Operations is extremely volatile - leaders are dealing with daily changes to mix, volume, capacity, availability, production schedules, bottlenecks, labor constraints, etc.
- Operational leaders are constantly trying to balance and optimize requirements and resources on a daily basis.
- These decisions are important and have a big impact on gets produced that day.
- These decisions compound and can greatly impact the ability to ship product to customers on time, and the profitability of the work.
- Unless they can successfully balance all of these, there is a risk of losing business and/or losing profit margin.
- Unless there are ways to continuously improve in both of these areas, there is a risk of falling behind the competition and losing market share.
- Operations is hard!

A man with dark hair, wearing a dark shirt, is shown in a close-up, looking down with a focused and intense expression. He appears to be working on a complex task, possibly in a laboratory or industrial setting, as suggested by the background elements like cables and machinery. The lighting is dramatic, with strong highlights and deep shadows, creating a sense of concentration and determination. The overall color palette is dark and monochromatic, with shades of blue and grey.

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Ways to Win

Ways to Win

There are only two 'ways to win' for US manufacturers and their respective supply chains...

Ways to win:

1

Delight the Customer

What they want,
when they want it



Mass Customization

Deliver to request, on-time, and in full

2

Level the Playing Field

Asset-light
manufacturing efficiency



Speed Agility Infinite Capacity

Achieve Lot Size 1 flexibility

Manufacturers'
Imperative:

Realizing these two 'ways to win' requires fundamental disruption with traditional operating models by most businesses today.

1

2

3

4

5

6

Ways to Win

Ensure Customer Satisfaction

Delight the Customer

1

Ways to win:

Delight the Customer

What they want,
when they want it



Mass Customization

Manufacturers'
Imperative:

Deliver to request, on-time, and in full

Across the Industrial sector, we found that every 1% reduction in Lead Time translated into 0.5% increase in order rates.

Realizing these two 'ways to win' requires fundamental disruption with traditional operating models by most businesses today.

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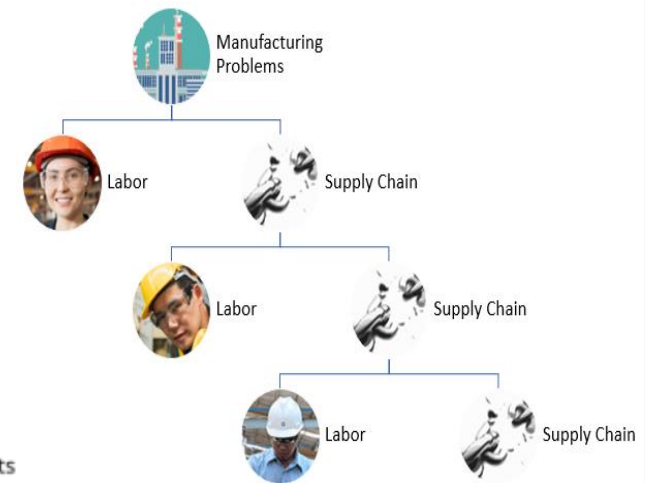
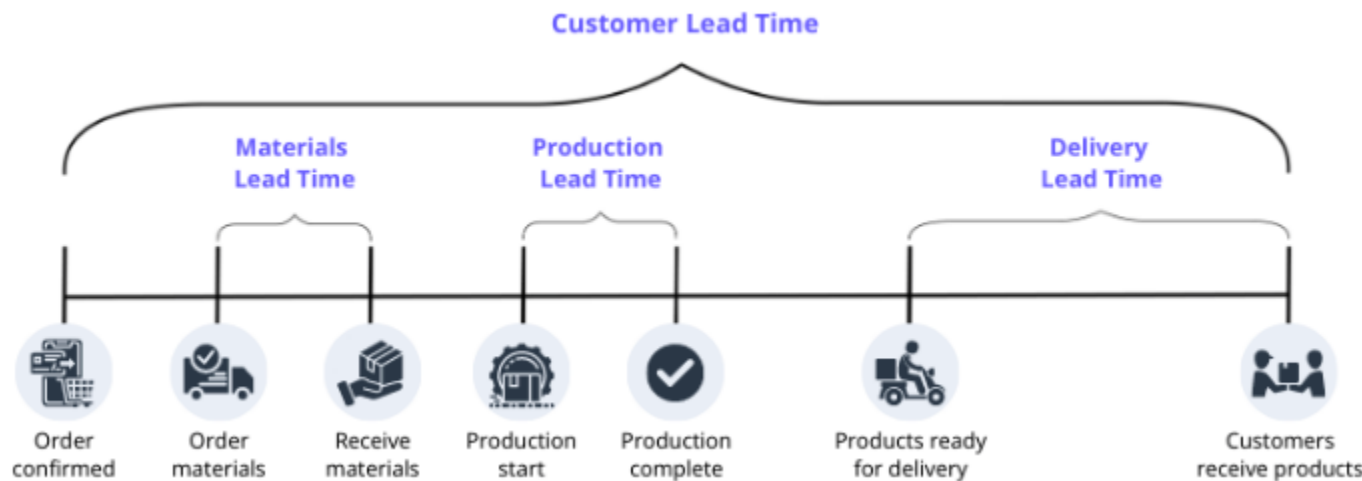
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Ways to Win

Know Where You Have Bottlenecks

Delight the Customer



Common bottlenecks that can impact Lead Time:

- Production Capacity – Typically labor, but it can also be equipment capacity.
- Material Availability – Long lead time, shortages, supplier capacity / delays.
- Production Setup – Long changeovers, or large batch sizes can extend lead time.
- Quality Control – Poor quality processes can require incremental inspection time.
- Transportation – Inefficient transportation and logistics operations, long sit time.
- Information Sharing – Poor information and communication can delay decisions.
- Agility – Inability to react quickly to signals along the supply chain will create delays.

If these bottlenecks elongate lead time, then you need to eliminate them

Ways to Win

Enabling speed and productivity

Level the Playing Field

Given the importance of speed, operations leaders must figure out how to optimize speed without incremental cost - faster than their competition can.

Ways to win:

2

Level the Playing Field

Asset-light manufacturing efficiency



Manufacturers' Imperative:

Speed Agility Infinite Capacity
Achieve Lot Size 1 flexibility

Realizing these two 'ways to win' requires fundamental disruption with traditional operating models by most businesses today.

1

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Ways to Win

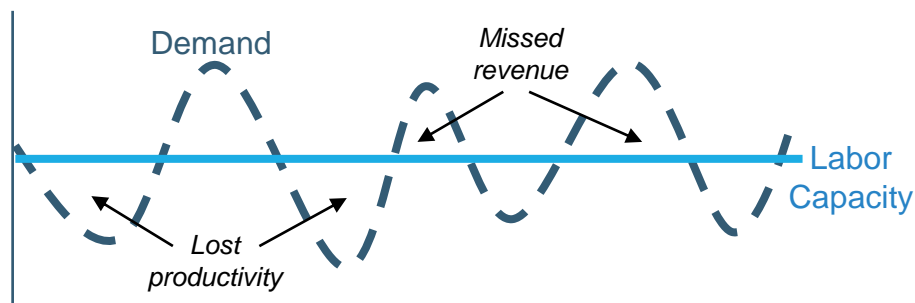
Enabling speed and productivity

Level the Playing Field

This ongoing balancing act is why operations is hard, and impacts the business

Fundamental Challenges

- Manufacturers have traditionally been forced to plan capacity based on averages
 - *Historically there has been no alternative: upfront costs to recruit and acquire skilled labor, capital and equipment constraints, etc.*
- This practice hurts businesses by limiting revenue growth and productivity



- Small businesses are affected most as the demand swings are more significant as is the need to grow their businesses

Implications

- Missed revenue potential
- Constrained business growth
- Negligible labor productivity over the last 5 years across most sectors
- Past due orders and long lead times
- Risk averse approach and conservative hiring practices
- Outsourcing to regions with lower labor cost and more flexible labor pools
- Continued hollowing out of the middle class and businesses in higher cost regions

Ways to Win

Know How To Drive Productivity

Level the Playing Field

Productivity is a measure of output generated in relation to the inputs used. There are three basic ways to drive positive productivity:

$$\frac{\text{Outputs}}{\text{Inputs}}$$

$$\frac{+ \text{Outputs}}{= \text{Inputs}}$$

$$\frac{= \text{Outputs}}{- \text{Inputs}}$$

$$\frac{+ \text{Outputs}}{- \text{Inputs}}$$

1. Increase Outputs, while using the same amount of Inputs
2. Maintain current Outputs, while using less Inputs
3. Increase Outputs, while using less Inputs
 - Note – Negative Productivity can be created with an increase in cost inputs (overtime) or limited availability of work over a time

Operator	Units / Hour	Cost / Hour	Cost / Unit	Productivity Comparison				
				Operator A to B	Operator C to B	Operator D to B	Operator D Overtime	Operator D Low Work
A	120	20	\$ 0.17	16.7%	10.0%	33%		
B	100	20	\$ 0.20					
C	100	18	\$ 0.18					
D	120	16	\$ 0.13					
D - OT	120	24	\$ 0.20				-50%	-321%
D - Low Work	19	16	\$ 0.84					

Productivity is magnified by driving both components at the same time

Ways to Win

Example Scenario: Averages

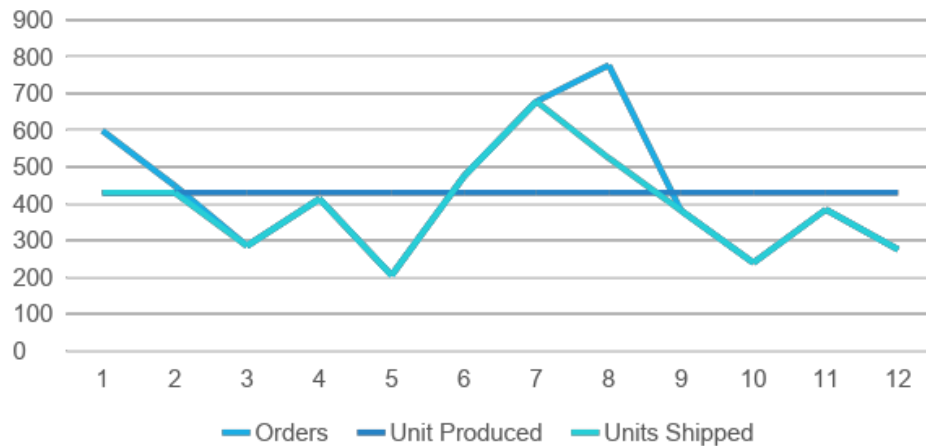
Level the Playing Field

Scenario #1 – Planning for Averages

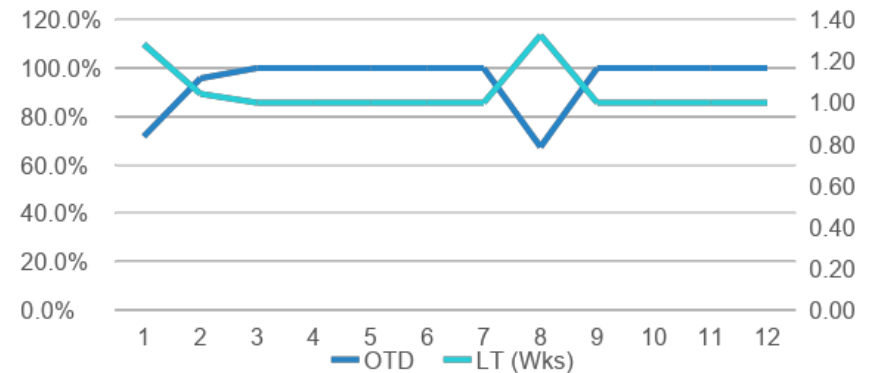
Production - Units/Day	2
Time/Unit (Hrs)	4
Lead Time (Wks)	1
Hourly Wage \$	18.00
Unit Cost \$	211.68
Unit Revenue \$	264.60
Unit Net Profit \$	52.92
Margin (Planned)	20.0%
Revenue	\$1,365,336
Unit Costs	\$1,092,269
Incremental OT Costs	\$ 47,628
Margin (Actual)	16.5%

Week	Orders	FTE	Units / Week	Unit Produced	Units Shipped	Inventory Level	Misses	OTD	LT (Wks)	OT Needed
1	599	43	10	430	430	0	169	71.8%	1.28	\$ 18,252
2	449	43	10	430	430	0	19	95.8%	1.04	\$ 2,052
3	285	43	10	430	285	145	0	100.0%	1.00	\$ -
4	413	43	10	430	413	162	0	100.0%	1.00	\$ -
5	205	43	10	430	205	387	0	100.0%	1.00	\$ -
6	475	43	10	430	475	342	0	100.0%	1.00	\$ -
7	678	43	10	430	678	94	0	100.0%	1.00	\$ -
8	777	43	10	430	524	0	253	67.4%	1.33	\$ 27,324
9	381	43	10	430	381	49	0	100.0%	1.00	\$ -
10	239	43	10	430	239	240	0	100.0%	1.00	\$ -
11	384	43	10	430	384	286	0	100.0%	1.00	\$ -
12	275	43	10	430	275	441	0	100.0%	1.00	\$ -

Orders and Shipments



On-Time Delivery and Lead Time



Ways to Win

Example Scenario: Realistic

Level the Playing Field

Scenario #2 – Reality of What Happens

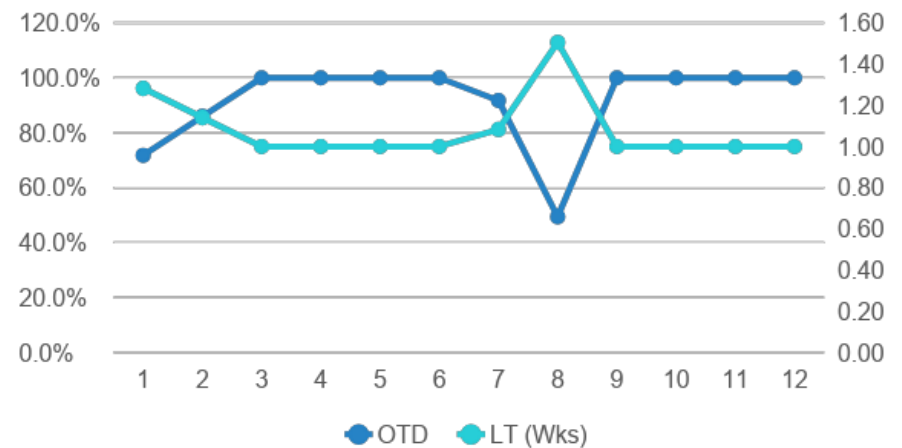
Production - Units/Day	2
Time/Unit (Hrs)	4
Lead Time (Wks)	1
Hourly Wage \$	18.00
Unit Cost \$	211.68
Unit Revenue \$	264.60
Unit Net Profit \$	52.92
Margin (Planned)	20.0%
Revenue	\$1,365,336
Unit Costs	\$1,085,789
Incremental OT Costs	\$ 73,548
Margin (Actual)	15.1%

Week	Orders	FTE	Units / Week	Unit Produced	Units Shipped	Inventory Level	Misses	OTD	LT (Wks)	OT Needed
1	599	43	8.3	356	430	0	169	71.8%	1.28	\$ 18,252
2	449	42	9.2	386	386	0	63	86.0%	1.14	\$ 6,804
3	285	43	10.2	438	285	153	0	100.0%	1.00	\$ -
4	413	43	8.4	361	413	101	0	100.0%	1.00	\$ -
5	205	41	9.4	385	205	281	0	100.0%	1.00	\$ -
6	475	43	10.5	451	475	257	0	100.0%	1.00	\$ -
7	678	43	8.5	365	622	0	56	91.7%	1.08	\$ 6,048
8	777	40	9.6	384	384	0	393	49.4%	1.51	\$ 42,444
9	381	43	10.8	464	381	83	0	100.0%	1.00	\$ -
10	239	42	9.1	382	239	226	0	100.0%	1.00	\$ -
11	384	41	9.7	397	384	239	0	100.0%	1.00	\$ -
12	275	43	11.6	498	275	462	0	100.0%	1.00	\$ -

Orders and Shipments



On-Time Delivery and Lead Time



Ways to Win

Example Scenario: Blended

Level the Playing Field

Scenario #3 – A Blended Approach

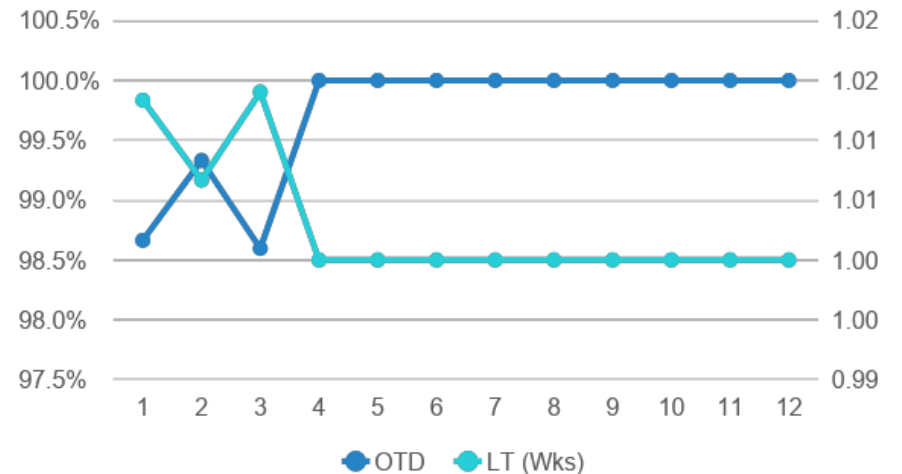
Production - Units/Day	2
Time/Unit (Hrs)	4
Lead Time (Wks)	1
Hourly Wage	18
Unit Cost	211.68
Unit Revenue	264.6
Unit Net Profit	52.92
Margin (Planned)	0.20
Revenue	\$1,365,336
Unit Costs	\$1,106,309
Incremental OT Costs	\$ 1,620
Margin (Actual)	18.9%

Week	Orders	FTE	On-Demand Operators	Total Heads	Units / Week	Unit Produced	Units Shipped	Inventory Level	Misses	OTD	LT (Wks)	OT Needed
1	599	28	33	61	9.7	591	591	0	8	98.7%	1.01	\$ 864
2	449	28	18	46	9.7	446	446	0	3	99.3%	1.01	\$ 324
3	285	29	0	29	9.7	281	281	0	4	98.6%	1.01	\$ 432
4	413	27	16	43	9.7	417	413	4	0	100.0%	1.00	\$ -
5	205	27	0	27	9.7	261	205	60	0	100.0%	1.00	\$ -
6	475	26	21	47	9.7	455	475	40	0	100.0%	1.00	\$ -
7	678	27	41	68	9.7	659	678	21	0	100.0%	1.00	\$ -
8	777	28	52	80	9.7	776	777	20	0	100.0%	1.00	\$ -
9	381	28	10	38	9.7	368	381	7	0	100.0%	1.00	\$ -
10	239	25	0	25	9.7	242	239	10	0	100.0%	1.00	\$ -
11	384	26	14	40	9.7	388	384	14	0	100.0%	1.00	\$ -
12	275	27	0	27	9.7	261	275	0	0	100.0%	1.00	\$ -

Orders and Shipments



On-Time Deliver and Lead Time



Ways to Win

Comparison of Example Scenarios

Level the Playing Field

Performance Comparison

Metrics / Scenario	1 - Planned	2 - Reality	3 - Blended
On Time Delivery	91.5%	86.8%	99.6%
Lead Time (Actual Wks)	1.08	1.05	1.00
Avg Inventory (Units)	178.8	150.1	42
Avg Inventory (\$)	\$ 37,848	\$ 31,773	\$ 8,891
OT Costs	\$ 47,628	\$ 73,548	\$ 2,160
Margin (20% Planned)	16.5%	15.1%	19.8%
Net Profit	\$ 225,439	\$ 205,999	\$ 270,708

- Significantly improved performance across all Operational Metrics in Scenario #3.
- With no improvement to the process itself, execution alone improved enough to hold their stated lead time.
 - Which would allow those improvements/reductions to flow through in the future.
- Inventory reduction, could free cash up for future investments and growth expansion.
- Improved operational performance translated directly to the bottom line in margin lift.
- **8% improvement in Lead Time would likely lead to 4% order growth or an additional \$218k in orders on their current \$5.46M annualized revenue.**



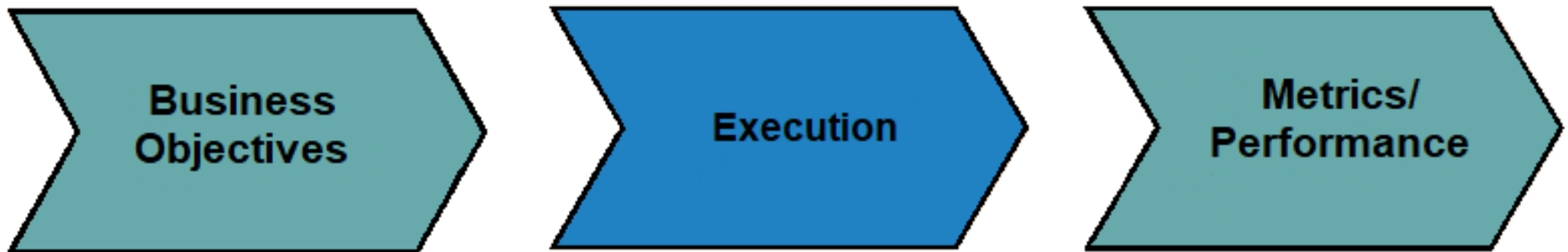
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Metrics and Maturity

Metrics and Maturity

Driving performance requires a change of thinking

Old Paradigm: Metrics Measure Performance



New Paradigm: Metrics Drive Performance



What is Your Current State?

Operational Metrics

METRIC	At Risk	Good	Better	Best
Delivery - On Time to Customer Request	<90%	90-95%	95-98%	98%+
Delivery - Lead Time	> Competitive Lead Time	At Competitive Lead Times	2/3 of Competitive Lead Times	1/3 of Competitive Lead Times
Quality	External escapes and the need for robust auditing programs to catch internal defects	Defect rate below industry average	Zero or near Zero external defects	Six Sigma level quality
Productivity	Flat or negative cost productivity	Cost productivity levels outpace material/labor inflation, typically 3%	Generating 7% YoY cost productivity	Robust CI programs driving speed and double digit YoY cost productivity
Inventory	Low inventory turns and high excess or obsolete inventory	Maintaining balanced inventory levels	Improved turnover reducing inventory carrying costs	JIT or Lean inventory management
Safety	Injury rates greater than industry standards	Meeting industry standards	Safety program targeted at reducing injuries to exceed industry standards and root cause and corrective action around near misses	OSHA VPP and STAR certifications are well recognized programs

What is Your Current State?

Operational Maturity

>95% of operations fall into Stage 1 and Stage 2 Maturity Levels

Operational Performance is necessary to differentiate your business



Basic

Stage 1

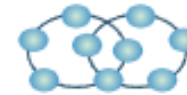
- Ad-hoc communication, coordination, and control
- Unpredictable, uncontrolled reactive processes
- No automation
- No central infrastructure



Managed

Stage 2

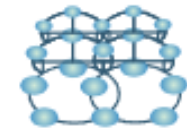
- Managed communication and coordinated decision making
- Processes are managed and measured but not entirely standardized and repeatable
- Some instances of automation
- Basic central infrastructure



Efficient and Robust

Stage 3

- Collaboration, shared decision making and accountability
- Processes are standardized across the organization; ad-hoc analysis performed to identify inefficiencies and bottlenecks
- Central automated processes and analysis of metrics against the business goals
- Visibility and predictability of end to end processes



Industry Leader

Stage 4

- Effective knowledge sharing and individual empowerment
- Optimized processes and real-time visibility, decision-making capabilities
- Self-service automation, self-learning using analytics and self-remediation

Operational Maturity Model

1

2

3

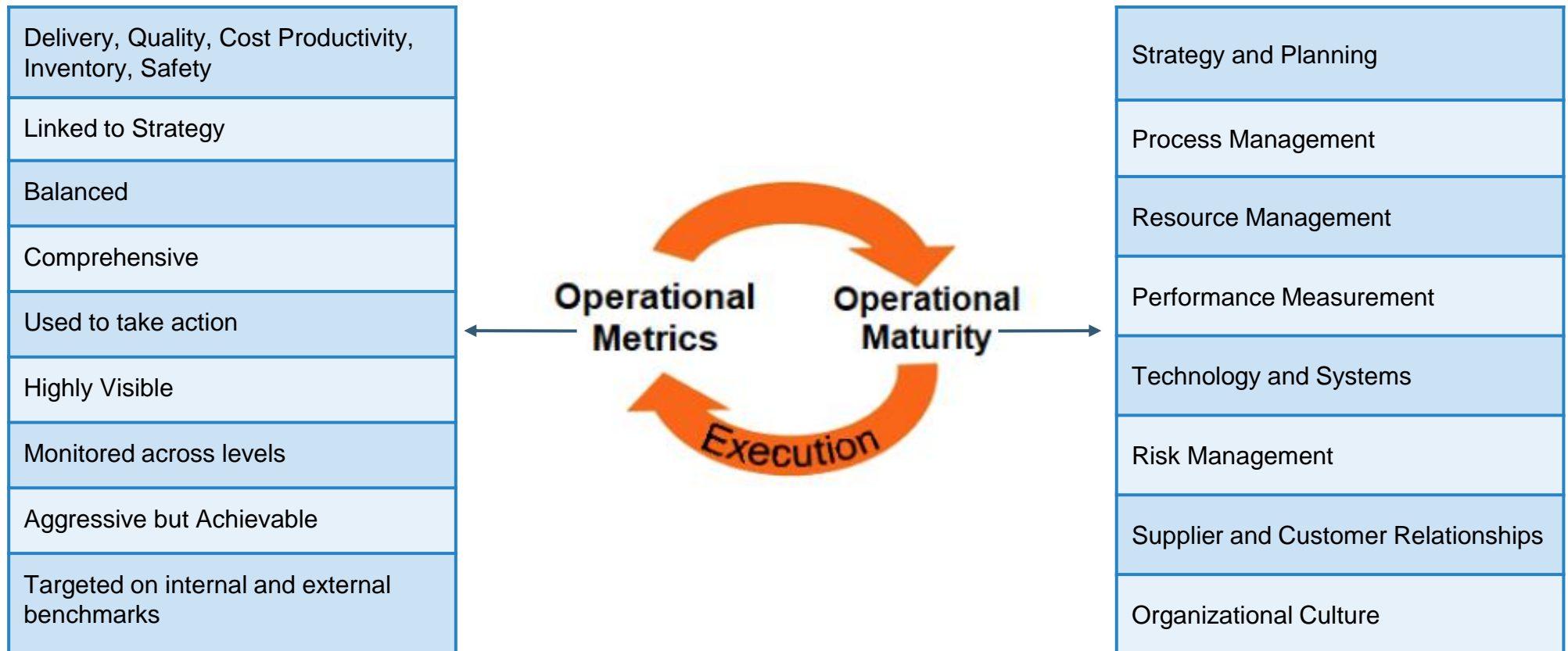
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Metrics and Maturity

Create a cycle that drives improved performance



A man in a workshop wearing safety glasses and gloves, working with a spray can. The background shows a busy industrial environment with various tools and equipment.

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Strategy in Action

Strategic and Operational Planning in Action

Actual example

Vision (What)

...to be a world class supplier in the precision machining space for high requirement industries.

Value (Why)

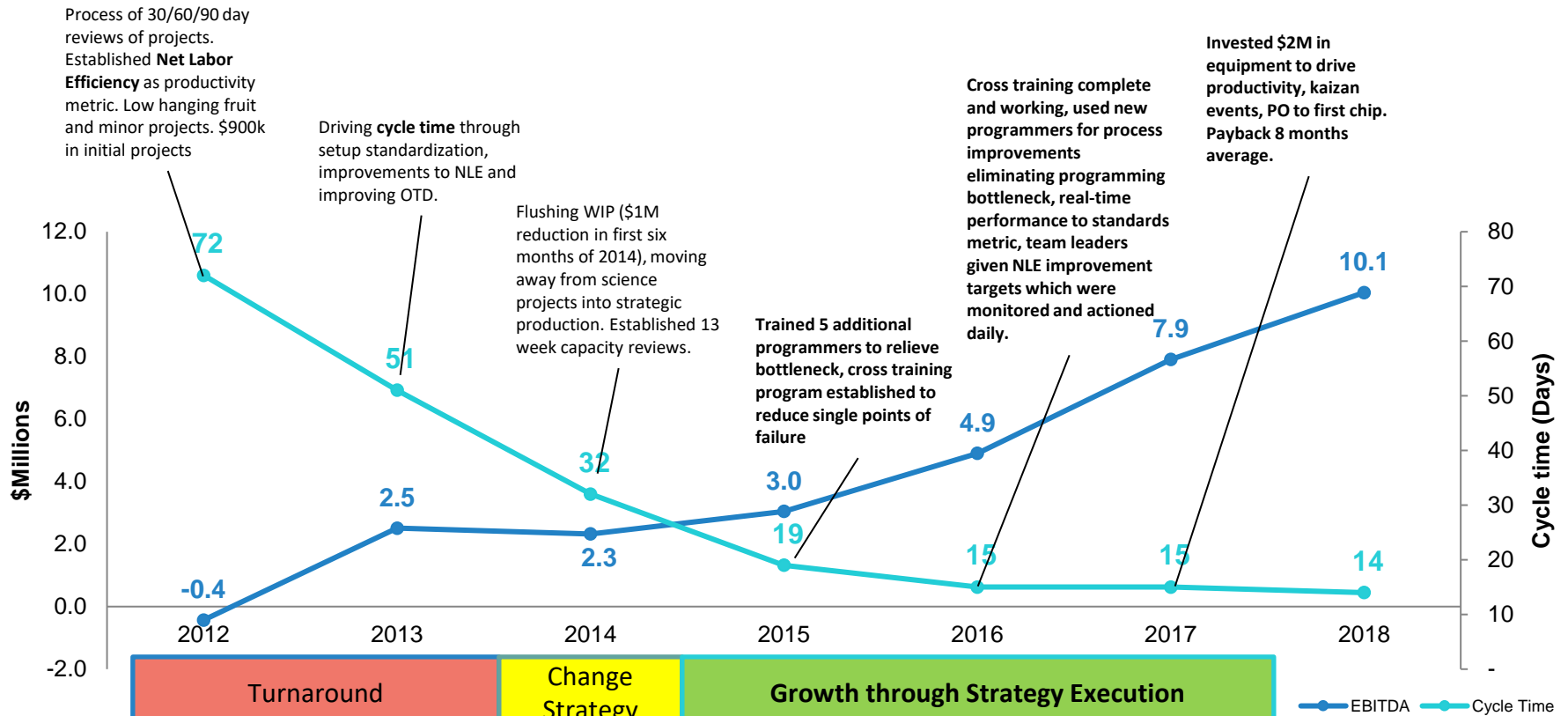
...to control the mix, programs, and customers that fit our expertise and drive sustained EBITDA improvements

Steps (How)

- Flawless quality and perfect service when they want (PPM / OTD to request date)
- Understand and fix what we can. (Profitability)
- Rationalize use of actual / theoretical capacity
- Get faster than anyone else (lead time)
- Create capacity (cycle time)

Strategic and Operational Planning in Action

Actual results



Business

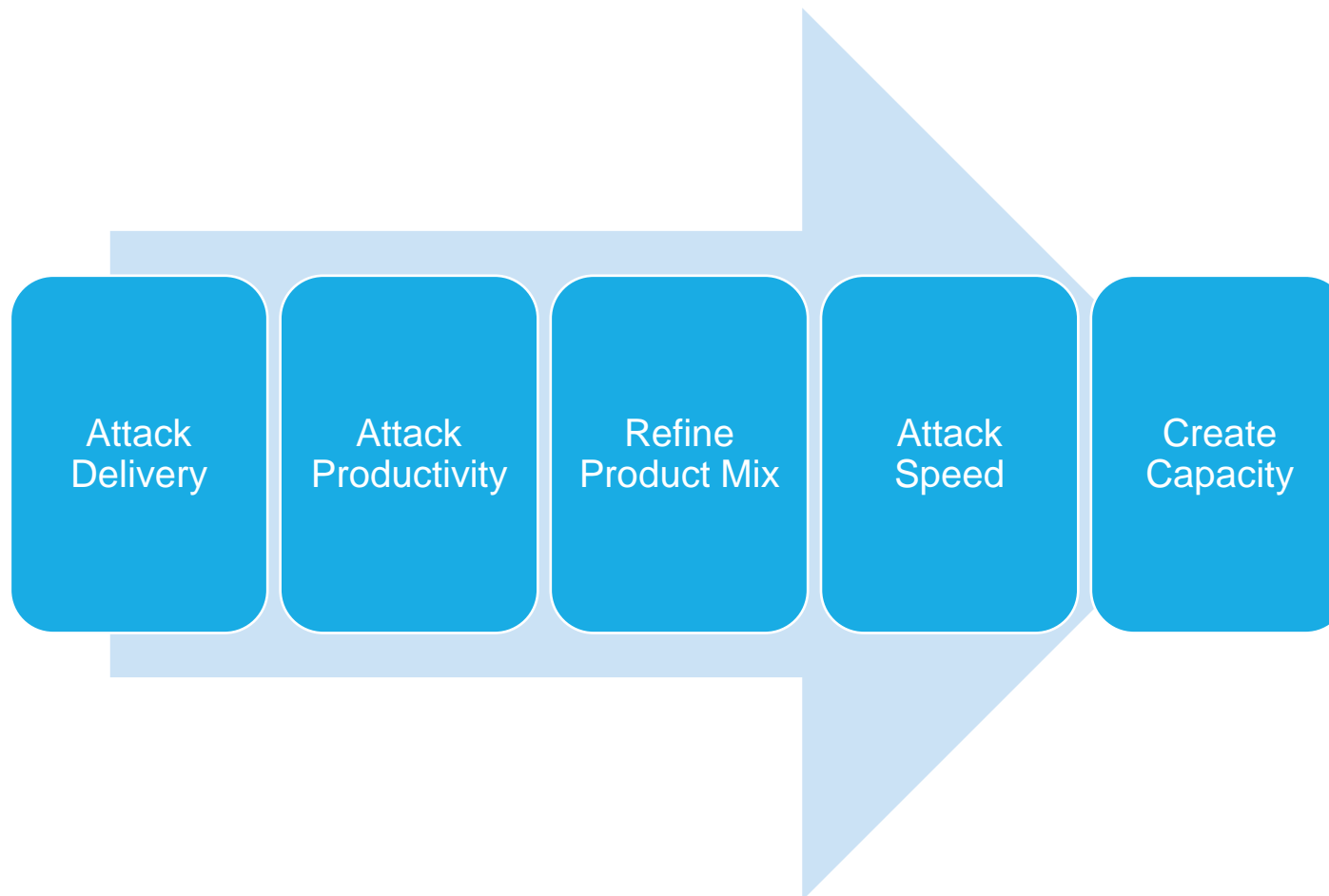
Labor

Turnaround	Change Strategy	Growth through Strategy Execution		
Focused on getting the right people in the right place, introducing a team to a more mature view of operations, learning how to measure and manage.	Worked through high-complexity, non-strategic work.	Reduced inventory by \$1.1M completing the strategic transition.	Standing up parts at Plant 1 until volume increases then move to Plant 2.	Dual source Plant 1 & 2 on process of record parts to increase flexibility.
FTE ran the operation, "save the day mentality", protective of knowledge.	Cleaned house, suffered through ghost of layoffs past.	Manned bottleneck, aggressively attacked future bubbles of load.	Build equipment SME's, focused on program clean-up, stabilized processes.	Needed Labor – no bench, talent spread too thin, could not scale, drove cost.

Strategic and Operational Planning in Action

A jumping off point as a strategic plan for Operations leaders

While each operation is unique and their inherent challenges are different there is a general recommendation that can serve as a solid base in strategic planning.



A man with a beard and short hair, wearing a light-colored t-shirt, stands in a workshop. The background is filled with stacks of metal pipes and a corrugated metal wall. The entire image has a greenish tint.

✓ÉRYABLE

Where to Start

Where to Start?

You should start today, right where you are...

METRIC	At Risk	Good	Better	Best		Labor Impact
Delivery - On Time to Customer Request	<90%	90-95%	95-98%	98%+	SIGNIFICANT <i>Direct Impact</i>	Labor has a huge impact on Delivery metrics, and is typically the bottleneck in scaling for additional output. Labor can be leveraged for recovery efforts as well strategically from a cost on
Delivery - Lead Time	> Competitive Lead Time	At Competitive Lead Times	2/3 of Competitive Lead Times	1/3 of Competitive Lead Times	SIGNIFICANT <i>Direct Impact</i>	Labor has a huge impact on Lead Times, the ability to scale to multiple shifts / weekends and keep product moving is the easiest way to increase speed in your operations.
Quality	External escapes and the need for robust auditing programs to catch internal defects	Defect rate below industry average	Zero or near Zero external defects	Six Sigma level quality	MODERATE <i>Indirect Impact</i>	Labor can positively impact Quality by putting your most skilled people in the most skilled areas. These are also the best people to use in looking for ways to mistake proof areas prone to defects.
Productivity	Flat or negative cost productivity	Cost productivity levels outpace material/labor inflation, typically 3%	Generating 7% YoY cost productivity	Robust CI programs driving speed and double digit YoY cost productivity	SIGNIFICANT <i>Direct Impact</i>	Labor is typically the largest controllable cost lever. It is critical that every hour paid directly contributes to incremental output.
Inventory	Low inventory turns and high excess or obsolete inventory	Maintaining balanced inventory levels	Improved turnover reducing inventory carrying costs	JIT or Lean inventory management	MODERATE <i>Direct Impact</i>	With speed comes inventory turns and Work In Progress reduction, these will be a byproduct of what Labor enables on speed.
Safety	Injury rates greater than industry standards	Meeting industry standards	Safety program - reducing injuries, exceed industry standards, and RCCA action on near misses	OSHA VPP and STAR certifications are well recognized programs	MARGINAL <i>Indirect Impact</i>	Similar to Quality, there is uplift in bringing in new perspectives and fresh eyes to an operation. The impact is indirect, but safety processes and training should be relevant and focused on the work being performed. Important information can be lost in trying to cover

Labor impacts Performance through all of your Operational Metrics

- Start with your first problem
- Eliminate Labor as a functional constraint inside your Operations
- Create agility and flexibility into all areas and shifts, leverage strategically
- Drive that agility and flexibility into your supply base and logistics networks

Where to Start

Labor does not need to be a constraint.

Our mission is to revitalize the American manufacturing sector by allowing businesses to “variablize” labor costs in small increments. This lets them increase costs only as their output increases, which will empower businesses to scale while maintaining a lower and more constant cost structure.

We aim to achieve this through our technology, which enables us to transform an antiquated and inefficient labor market into a real-time marketplace for labor. This will put more people to work and relieve the burden on producers, improving overall productivity and enabling organic growth.

