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Enabling Success

Creating Alignment Between the Field and the Office

Maxim Consulting Group Overview

Management Consulting

- Strategic Planning
- Operational Excellence
- Technology Integration
- Training & Development

Lean Transformations

- Supply Chain Management
- Design Standards
- Enterprise Scheduling
- Process Standardization

Peer Groups

- Electrical
- Mechanical
- Fire Protection
- General Contractor
- Heavy Civil
- Utility

Corporate Finance Advisory

- Mergers & Acquisitions Advisory
- Equity & Debt Financing
- Ownership Transition
- Management Succession
- Captive Insurance



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ALIGNED VISION

**Us Versus Them – Breaking Through
the Barrier**

Four Tenants of the Most Successful Construction Firms

- 1. Hire the Right People**
- 2. Strong Organizational Culture**
 1. Communication
 2. Leadership
 3. Consistency
- 3. Financial Aptitude**
 1. Understanding how “MY” actions create an impact
- 4. Discipline**
 1. We do things one way, the best way

Us Versus Them - Cause and Effect

LACK OF:

- Trust
- Discipline
- Defined processes
- Role definition
- Involvement
- Incentives
- Training

CAUSES:

- Confusion
- Impatience
- Anger
- Disengagement
- Lack of accountability
- False starts
- Lack of motivation

Us Versus Them – Root Causes

- **Ego**
- **Loyalty to “One Side”**
- **Status**
- **Greed**
- **Control**

Collaboration Gone Wrong

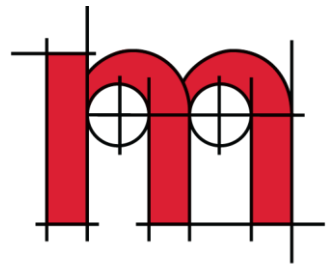


Collaboration Gone Wrong

1. Who should have been consulted
2. What different input may have been shared

Overcomplication \neq Success



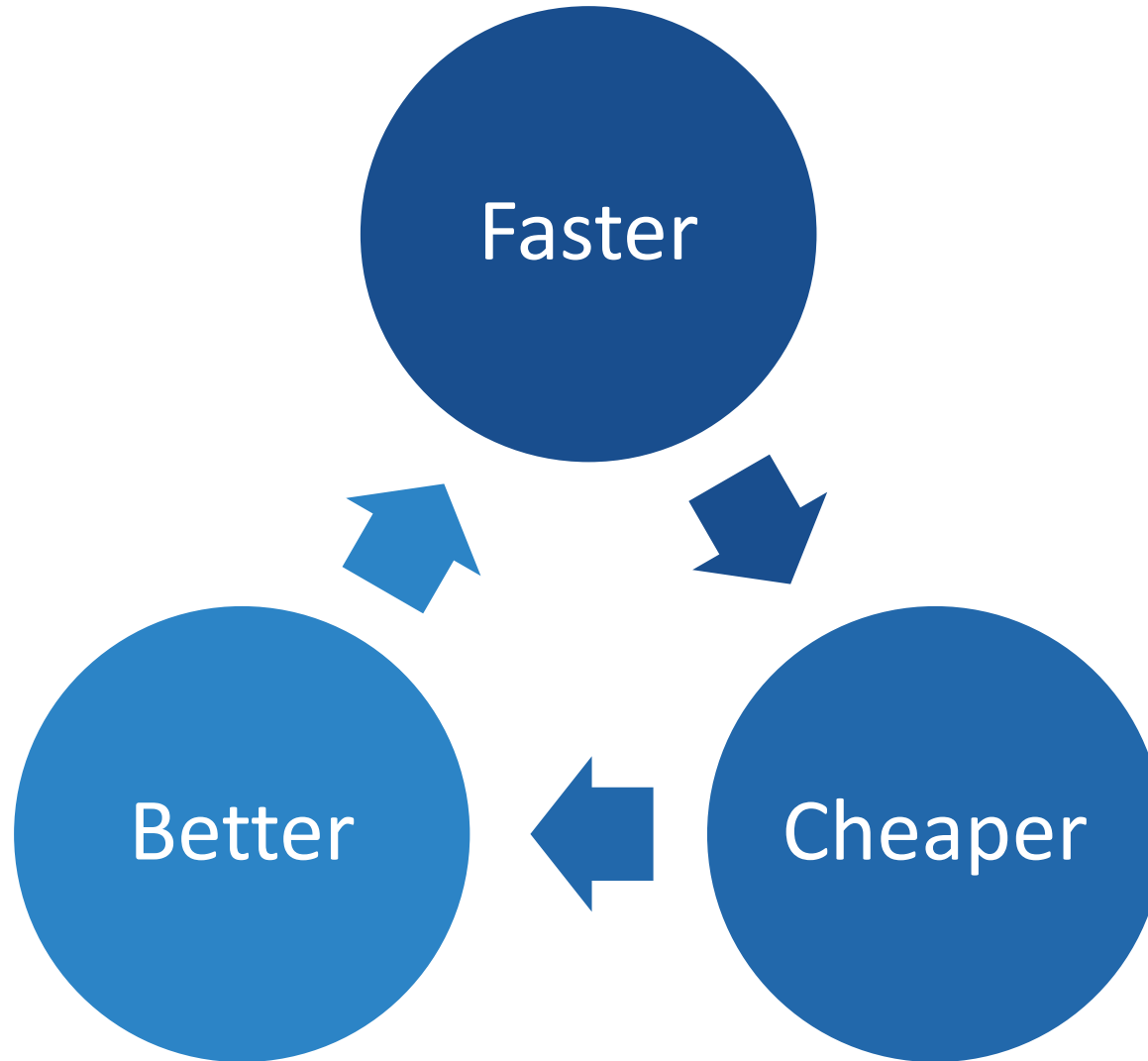


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DEFINITION OF SUCCESS

What Does the Client Want?



Types of Clients

Internal Clients

- **Estimating**
- **Design**
- **Manufacturing**
- **Project Operations**
- **Field Operations**
- **Etc.**

External Clients



How Do We Drive Customer Satisfaction?

Behaviors:

- Trust
- Discipline
- Defined processes
- Role definition
- Involvement
- Incentives
- Training

Results:

- Operational Excellence
- Superior Company Culture
- Financial Opportunity
- Etc.

What Does The Field Want From Operations?

Desired:

- **Right information**
- **Right tools**
- **Right materials**

Furnished:

- **When needed**
- **How needed**
- **Where needed**

Accomplished by:

- **Defined processes**
- **Great communication**
- **Effective structure**
- **Strong leadership**

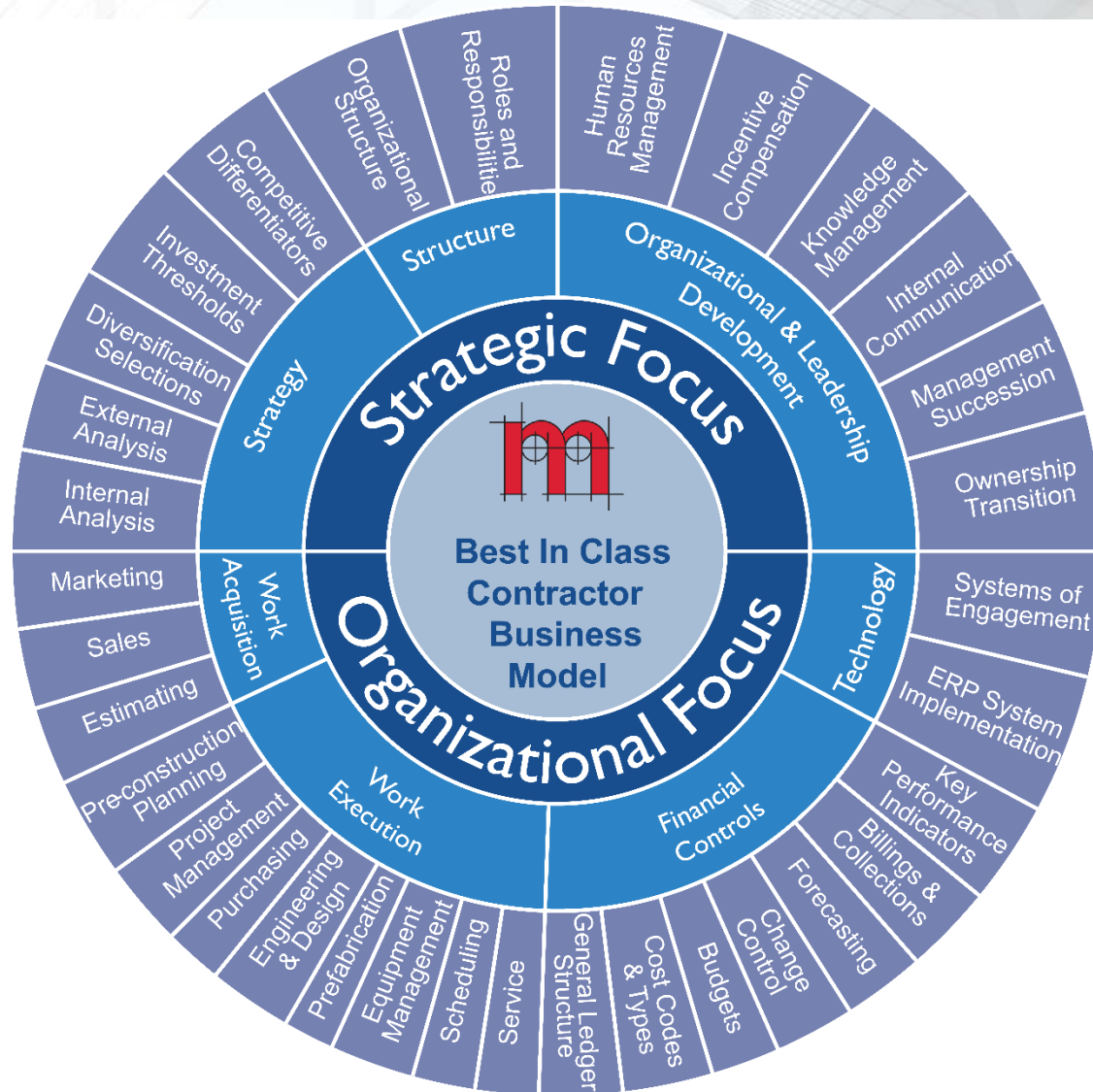


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COMPLEXITY OF CONSTRUCTION OPERATIONS

Identifying Opportunities for Synergy

Construction Operations - Detail



The Field Performs/Uses/Contributes to These:

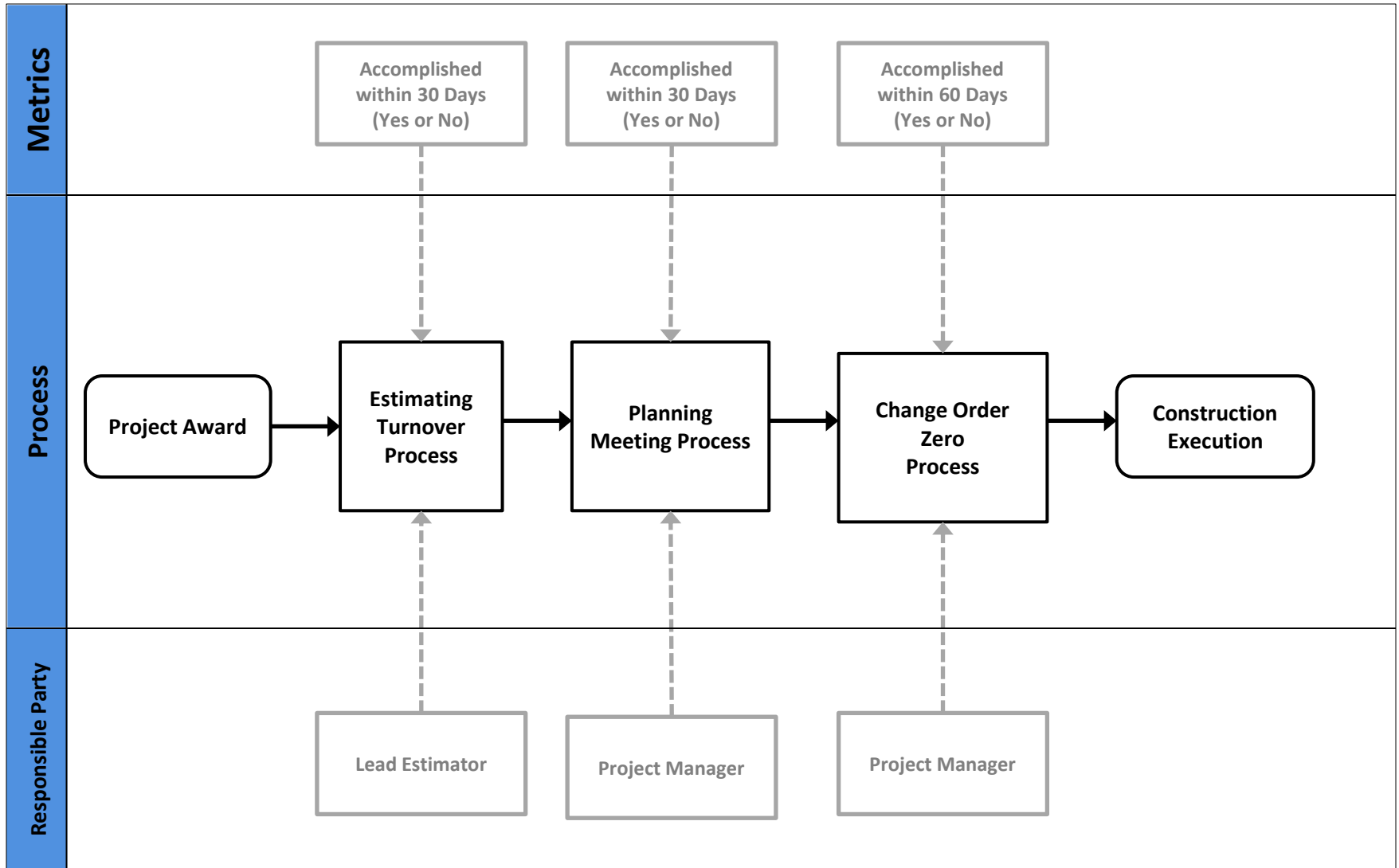




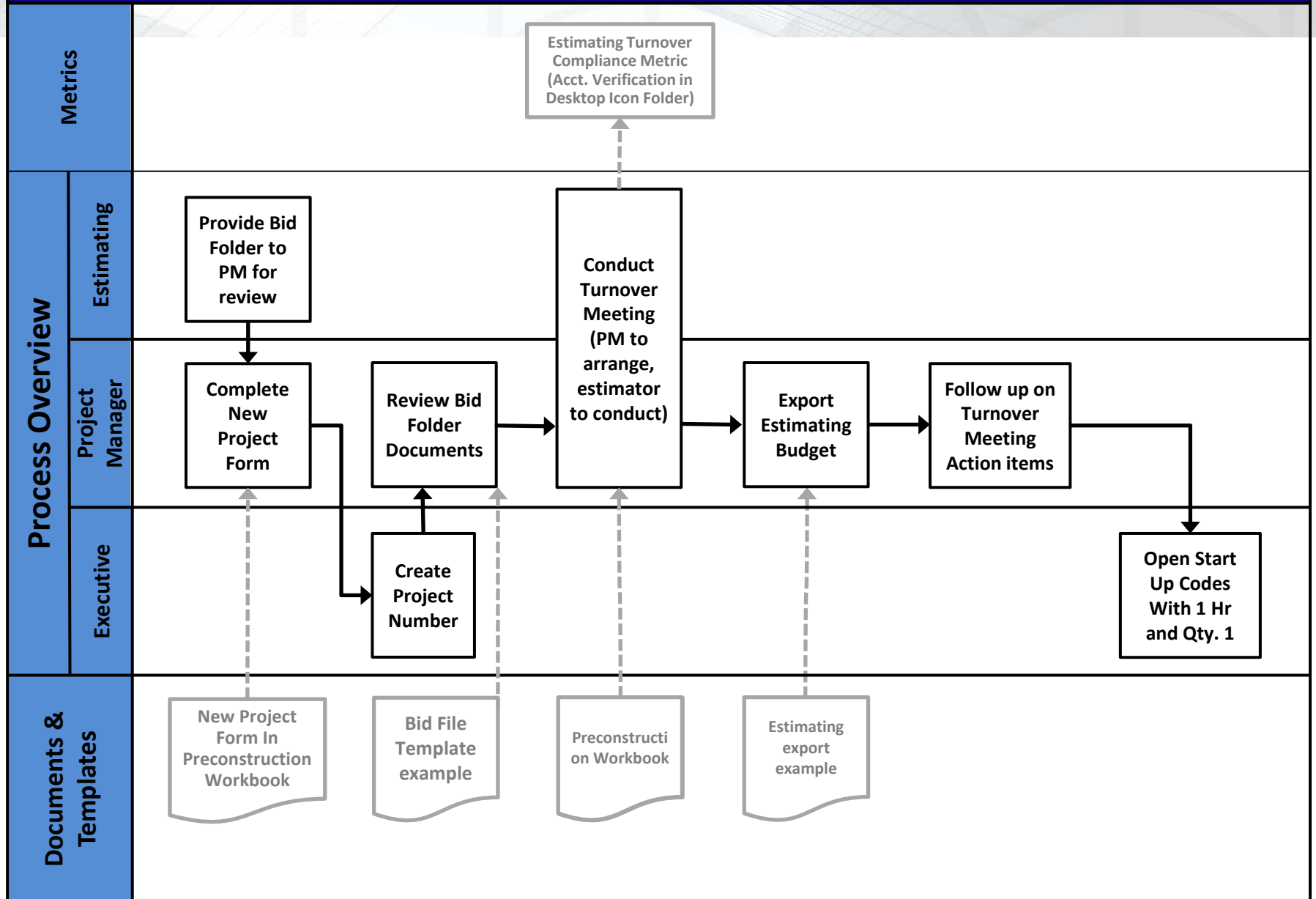
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**TOOLS TO ENABLE
SUCCESS**

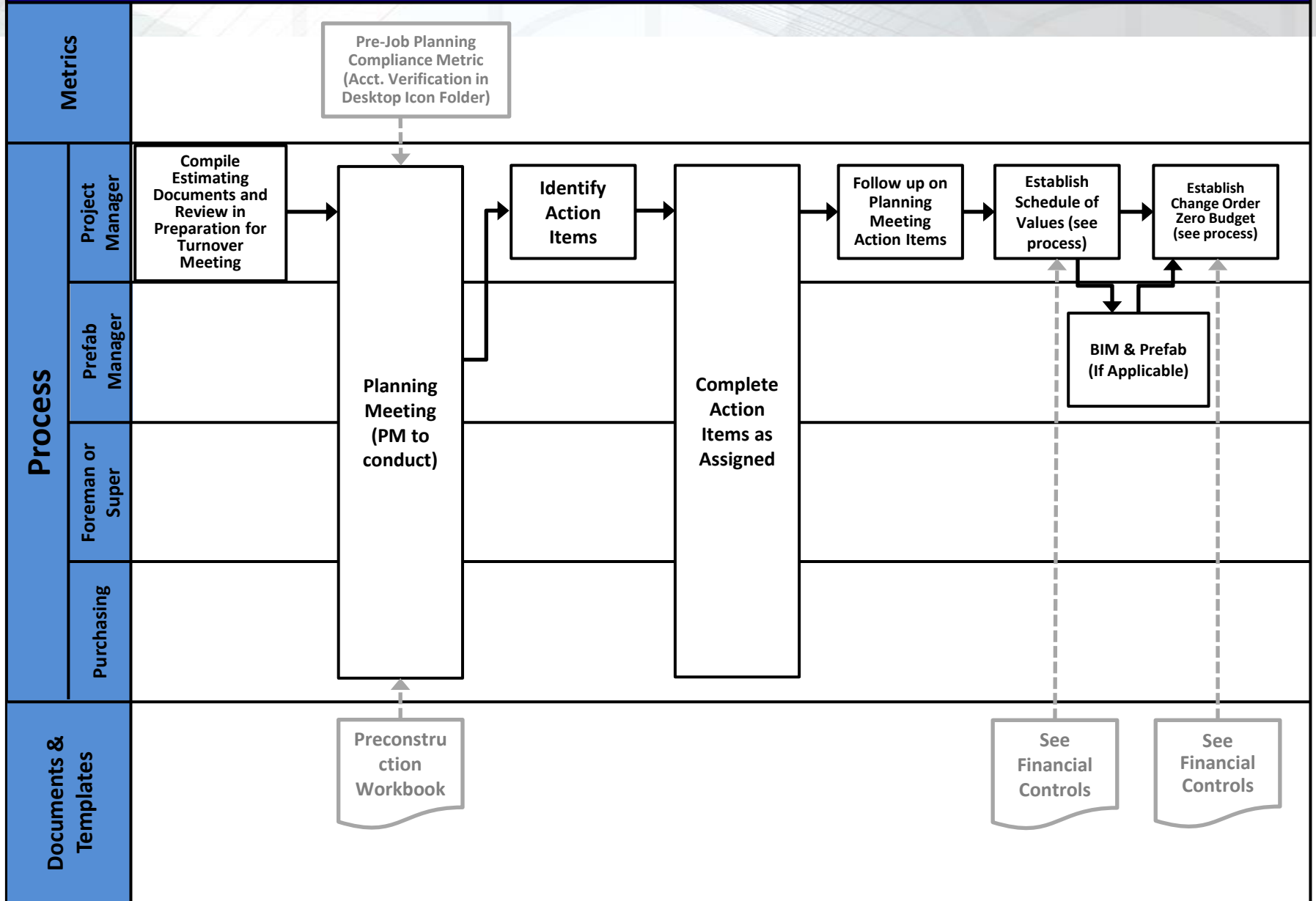
Pre-Job Planning Process Overview



Handoff Process Workflow Example (Slide 1 of 2)



Handoff Process (2 of 2)



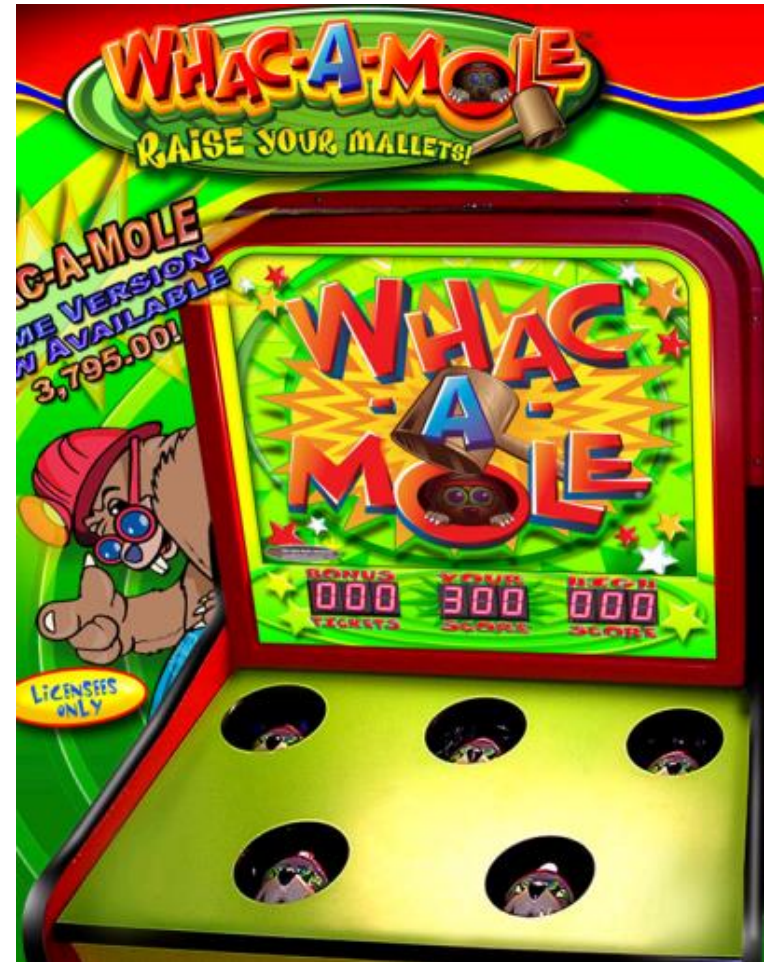
Short Interval Plans

- **3 week look aheads are done to communicate the plan including materials, equipment, tools, other needs that are not yet on site for the work, as well as production targets**

Short Interval Plans – Underutilization

Obstacles to excellence:

- “I don’t have time”
- “I don’t see the value”



Short Interval Plans

Short Interval Plan - Entry

Show Activity for: Area Phase Code

Daily Shift Length:

Mon	Tue	Wed	Thu	Fri	Sat	Sun
8	8	8	8	8	0	0

Plan is Final?

*	Activities planned for week STARTING: 03/11/2019			Materials		Tools	Production Rate		Daily Man Hours							Target	
	Phase Code	Description	Area	Source	Status	Eqp	Qty	UM	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Qty	UM
00-00-703		DIRECT JOB SUPERVISION	00				1.00	HR	8	8	8	8	8	0	0	40.00	HR
00-00-711		SAFETY TRAINING	00				1.00	HR	1	1	1	1	1	0	0	5.00	HR
00-01-230		1 WALL ROUGH IN	01	V	R	Y	11.26	LF	16	16	16	16	16	0	0	901.08	LF
00-01-241		1 OH COND 1 & SM	01	V	D	Y	16.49	LF	15	15	15	15	15	0	0	1,236.72	LF
00-01-350		1 BRNCH WIRE #8 & SM	01	V	D	Y	182.70	LF	8	8	8	8	8	0	0	7,308.18	LF
00-01-416		1 FLANGED LINEAR LIGHTING	01	V	B	Y	3.81	EA	8	8	8	8	8	0	0	152.28	EA
00-UG-211		UG UG COND 1 & SM	UG	V	R	N	12.49	LF	16	16	16	16	16	0	0	999.51	LF
00-UG-212		UG COND 1 1/4 & LG	UG	V	R	N	6.23	LF	16	16	16	16	16	0	0	498.20	LF
00-02-440		2 WALL DEVICES & TRIM	02				2.45	EA	0	0	0	0	0	0	0	0.00	EA

Short Interval Plans – Done Poorly

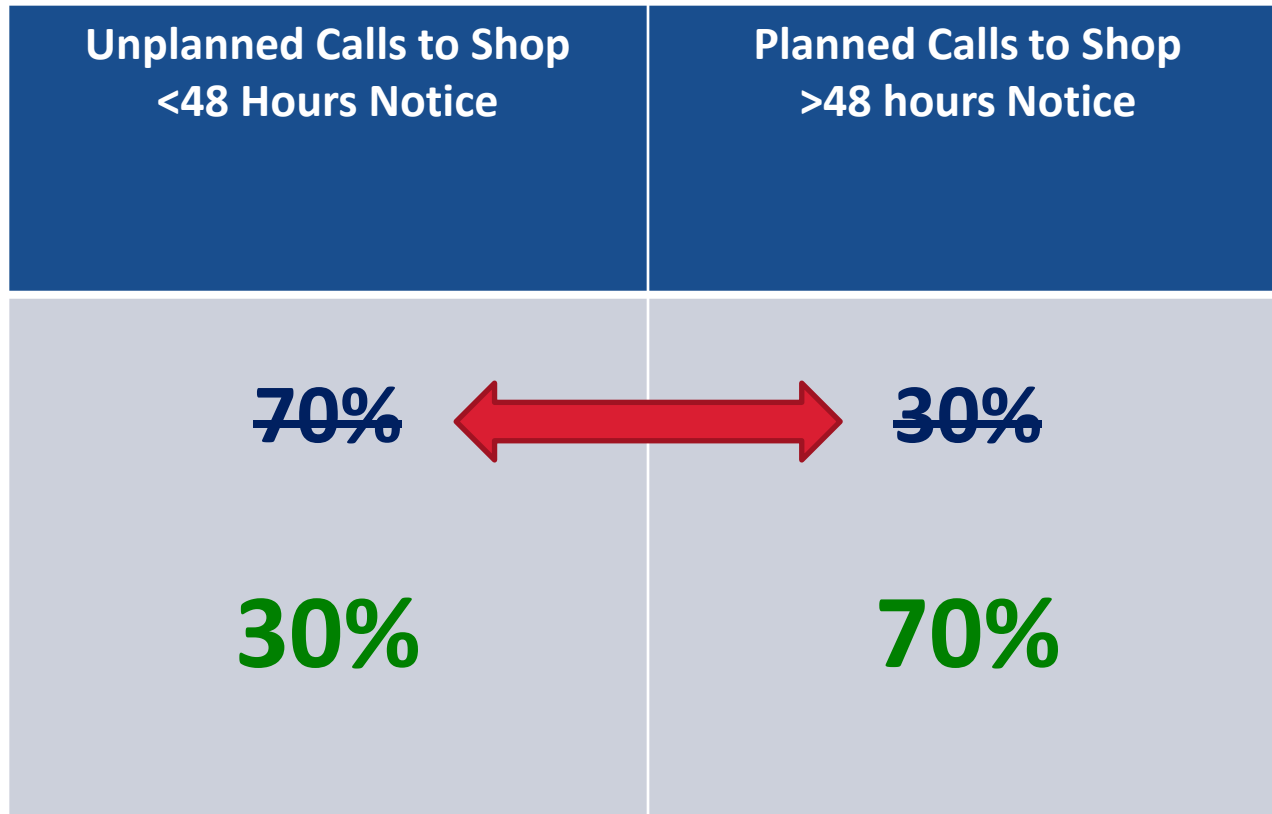
Unplanned Calls to Shop <48 Hours Notice	Planned Calls to Shop >48 hours Notice

Short Interval Plans – Done Poorly

Unplanned Calls to Shop <48 Hours Notice	Planned Calls to Shop >48 hours Notice
70%	30%

This means that 70% of the time, we are using HOPE as a strategy to achieve excellence.

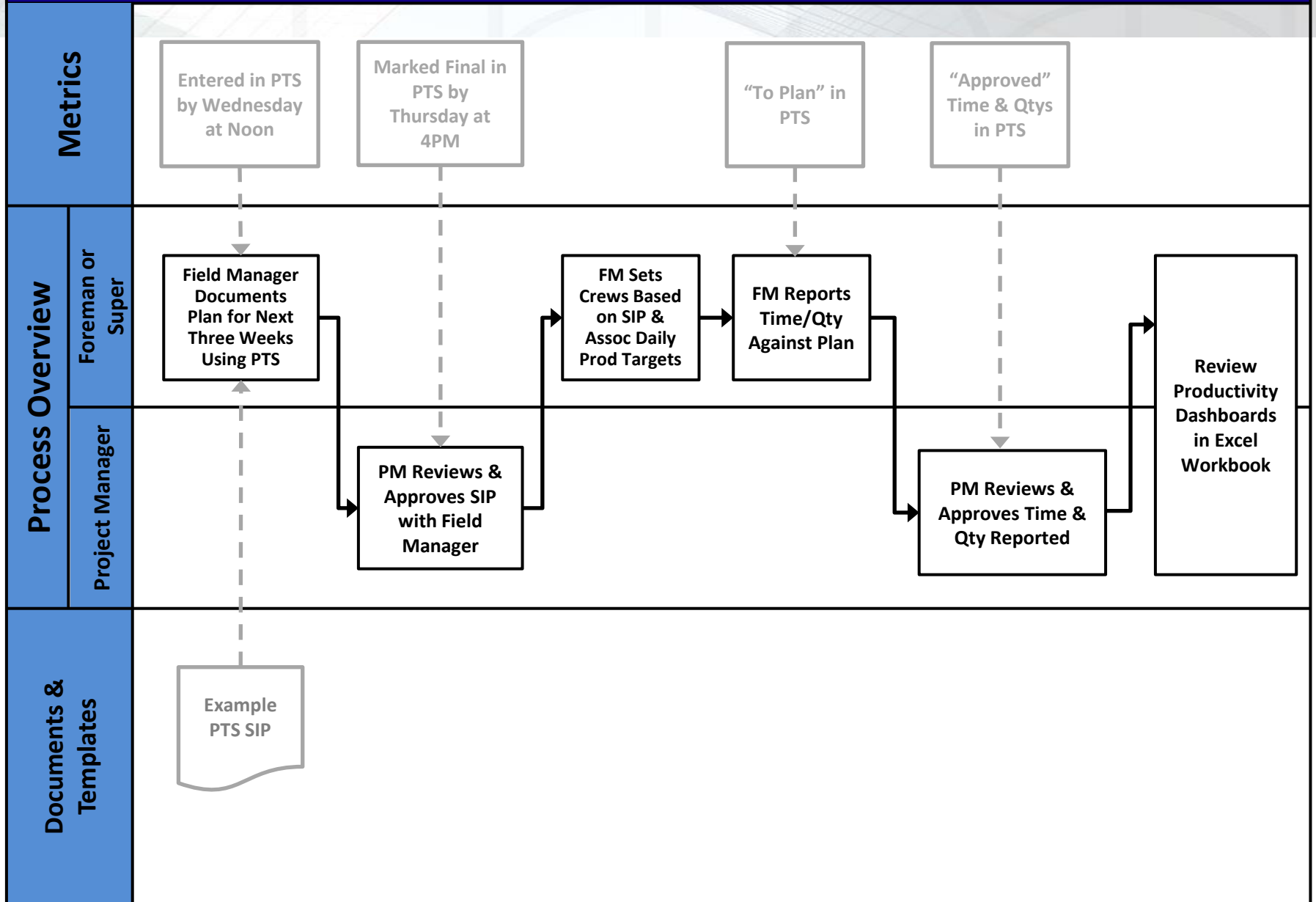
Short Interval Plans – Done Well



How different would this be?

Operationally? Culturally? Financially?

SIP & Daily Production Targets



Time Reporting

- Time reporting should be accurate.
- Critical data for estimating and for claims management

Employee Time - All Employees on Job			Trade /		Mon 02/11		Tue 02/12		Wed 02/13		Thu 02/14		Fri 02/15		Sat 02/16		Sun 02/17		Final?
Phase Code	Area	Skill	Reg	OT	Reg	OT	Reg	OT	Reg	OT	Reg	OT	Reg	OT	Reg	OT	Reg	OT	
<input checked="" type="checkbox"/>			8.00		8.00		8.00		8.00		8.00		8.00		0.00		0.00		<input checked="" type="checkbox"/> 40.00
	CLEAN UP	00	0.25		0.25		0.25		0.25		0.25		0.25		0.00		0.00		
	SAFETY TRAINING	00	0.25		0.25		0.25		0.25		0.25		0.25		0.00		0.00		
	P1 BRNCH WIRE #8 & SM	P1	7.50		7.50		7.50		7.50		7.50		7.50		0.00		0.00		
<input checked="" type="checkbox"/>			8.00		8.00		8.00		8.00		8.00		8.00		0.00		0.00		<input checked="" type="checkbox"/> 40.00
	CLEAN UP	00	0.25		0.25		0.25		0.25		0.25		0.25		0.00		0.00		
	SAFETY TRAINING	00	0.25		0.25		0.25		0.25		0.25		0.25		0.00		0.00		
	P1 BRNCH WIRE #8 & SM	P1	7.50		7.50		7.50		7.50		7.50		7.50		0.00		0.00		
<input checked="" type="checkbox"/>			8.00		8.00		8.00		8.00		8.00		8.00		0.00		0.00		<input checked="" type="checkbox"/> 40.00
	DIRECT JOB SUPERVISION	00	2.00		2.00		2.00		2.00		2.00		2.00		0.00		0.00		
	CLEAN UP	00	0.25		0.25		0.25		0.25		0.25		0.25		0.00		0.00		

Quantity Reporting

- **Quantity reporting should be accurate**
- **Analysis of planned activities versus unplanned must be completed**

Activities Planned for week STARTING: 02/11/2019				Budget		Previous JTD			Week Target		Week Actual		JTD
	Phase Code	Description	Area	Quantity	UM	Quantity	UM	% Comp	per Plan	per Time	Quantity	UM	% Comp
✓	00-00-703	DIRECT JOB SUPERVISION	00	2,080.00	HR	1,112.80	HR	53.50%	15.00	14.00	20.80	HR	54.50%
✓	00-00-709	CLEAN UP	00	470.00	HR	267.90	HR	57.00%	10.00	9.25	11.75	HR	59.50%
✓	00-00-711	SAFETY TRAINING	00	374.00	HR	374.00	HR	100.00%	10.00	9.25	0.00	HR	100.00%
✓	00-D1-410	D1 LIGHTING	D1	555.00	EA	555.00	EA	100.00%	0.00	41.14	0.00	EA	100.00%
✓	00-NC-360	NC FEED WIRE #6 & LG	NC	7,737.00	LF	0.00	LF	0.00%	2,481.25	0.00	0.00	LF	0.00%
✓	00-P1-350	P1 BRNCH WIRE #8 & SM	P1	65,151.00	LF	45,279.95	LF	69.50%	18,690.86	23,319.07	16,613.50	LF	95.00%
✓	00-P1-360	P1 FEED WIRE #6 & LG	P1	4,309.00	LF	0.00	LF	0.00%	1,776.90	666.34	689.44	LF	16.00%
✓	00-P1-410	P1 LIGHTING	P1	146.00	EA	94.90	EA	65.00%	42.16	47.44	29.20	EA	85.00%
✓	00-P1-440	P1 WALL DEVICES AND TRIM	P1	351.00	EA	0.00	EA	0.00%	78.28	0.00	0.00	EA	0.00%

Productivity Data

- Proving the impact

Week of	Area	Phase Code	Description	----- Budget -----			--- Hours ---		--- Quantity ---		
				Labor	Quantity	UM	Actual	Earned	Week	To Date	% Comp
02/11/2019	00	00-00-703	DIRECT JOB SUPERVISION	2,080.00	2,080	HR	14.00	20.80	20.80	1,133.60	54.50%
		00-00-709	CLEAN UP	470.00	470	HR	9.25	11.75	11.75	279.65	59.50%
		00-00-711	SAFETY TRAINING	374.00	374	HR	9.25	0.00	0.00	374.00	100.00%
	D1	00-D1-410	D1 LIGHTING	371.00	555	EA	27.50	0.00	0.00	555.00	100.00%
	NC	00-NC-360	NC FEED WIRE #6 & LG	343.00	7,737	LF	0.00	0.00	0.00	0.00	0.00%
	P1	00-P1-350	P1 BRNCH WIRE #8 & SM	366.00	65,151	LF	131.00	93.33	16,613.50	61,893.45	95.00%
		00-P1-360	P1 FEED WIRE #6 & LG	97.00	4,309	LF	15.00	15.52	689.44	689.44	16.00%
		00-P1-410	P1 LIGHTING	277.00	146	EA	90.00	55.40	29.20	124.10	85.00%
		00-P1-440	P1 WALL DEVICES AND TRIM	269.00	351	EA	0.00	0.00	0.00	0.00	0.00%
							296.00	196.80			

Productivity Data as a Tool

- Proving the impact

Week of	Area	Phase Code	Description	----- Budget -----			--- Hours ---		--- Quantity ---		
				Labor	Quantity	UM	Actual	Earned	Week	To Date	% Comp
02/11/2019	00	00-00-703	DIRECT JOB SUPERVISION	2,080.00	2,080	HR	14.00	20.80	20.80	1,133.60	54.50%
		00-00-709	CLEAN UP	470.00	470	HR	9.25	11.75	11.75	279.65	59.50%
		00-00-711	SAFETY TRAINING	374.00	374	HR	9.25	0.00	0.00	374.00	100.00%
	D1	00-D1-410	D1 LIGHTING	371.00	555	EA	27.50	0.00	0.00	555.00	100.00%
	NC	00-NC-360	NC FEED WIRE #6 & LG	343.00	7,737	LF	0.00	0.00	0.00	0.00	0.00%
	P1	00-P1-350	P1 BRNCH WIRE #8 & SM	366.00	65,151	LF	131.00	93.33	16,613.50	61,893.45	95.00%
		00-P1-360	P1 FEED WIRE #6 & LG	97.00	4,309	LF	15.00	15.52	689.44	689.44	16.00%
		00-P1-410	P1 LIGHTING	277.00	146	EA	90.00	55.40	29.20	124.10	85.00%
		00-P1-440	P1 WALL DEVICES AND TRIM	269.00	351	EA	0.00	0.00	0.00	0.00	0.00%
							296.00	196.80			

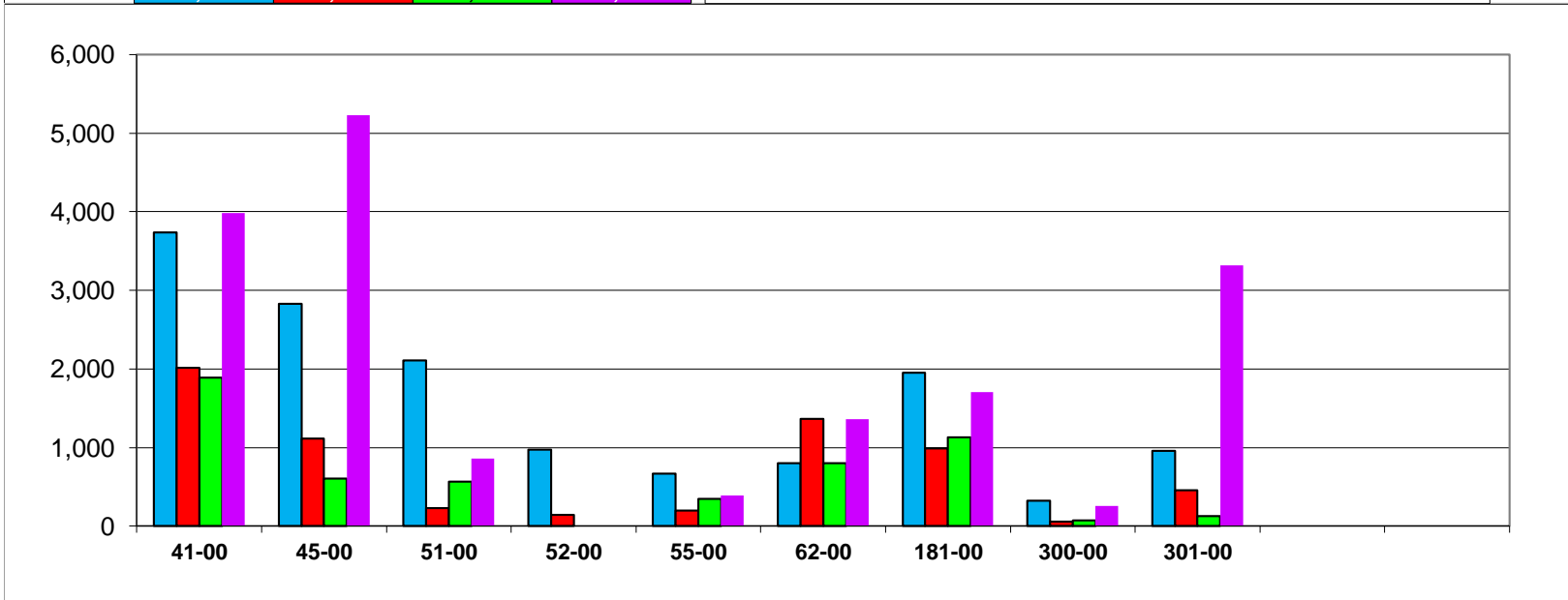
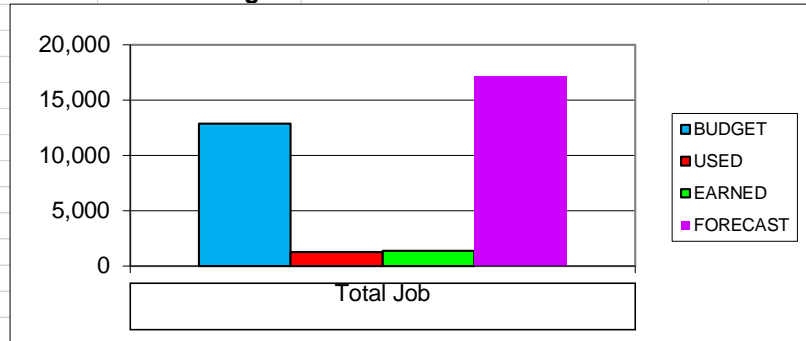
Spent 296 hours. Should have spent 196.8 hours. Impact is 99.2 hours

Productivity Data as a Tool – Field Example

Job Number: 012345
 Job Name: Beantown Marketplace
 Week Ending: 12/9/2019

Labor Feedback Report

COST CODE	BUDGET	USED	EARNED	FORECAST
41-00	3,741	2,013	1,890	3,984
45-00	2,828	1,112	601	5,228
51-00	2,110	232	567	863
52-00	976	143	0	0
55-00	667	201	343	391
62-00	801	1,361	801	1,361
181-00	1,950	988	1,132	1,702
300-00	320	56	70	256
301-00	960	453	131	3,320
Total Job	12,845	1,256	1,375	17,105



Daily Project Report

- **First hand account of what happens on the jobsite**

Weather:

Between 60 and 74

Contractors:

Contractor	Crew Size	Comments
[REDACTED]	7	running conduit to tie in ceilings and rooms , pulling branch wires .

Equipment Used:

Source	Type	Hours Used	Date Rented	Comments
N/A		0.00		

Materials Received:

Quantity	Description	Source	Problems
2	Panel interiors, covers , and fuses .	CRAWFORD and wholesale electric	

Safety Issues:

Description	Responsibility
slips , trips, cuts , and falls .	wear ppe's , and clean up areas.

Work Accomplished:

pulled branch wires, and ran conduits for tying in rooms and lighting.

Delays:

need antenna , furnished by others , and need all fur downs to be completed.Also need Slack to complete storm lines at Nicks to be able to run conduit under ground in slab .

Additional Comments:

Opportunities For Communication – Driven by Processes

1. Short Interval Plan

- Documents what the field is planning on working on, with needs and obstacles identified for the team to solve

2. Time Reporting

- Record of what we spent our time doing

3. Quantity Reporting

- Record of what we were able to get installed

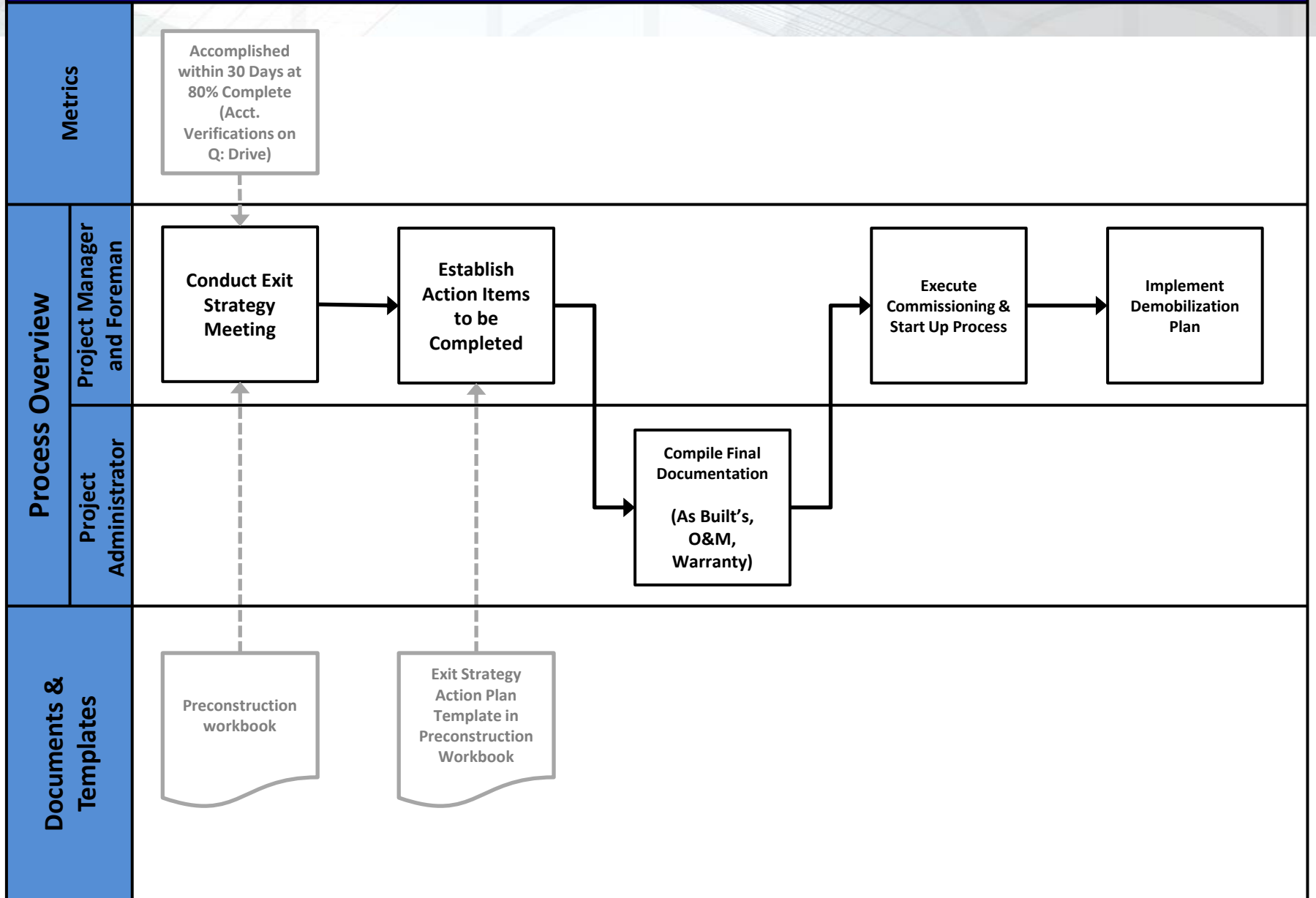
4. Daily Project Report

- Record of site conditions, delays, and other relevant facts for the operations team to know

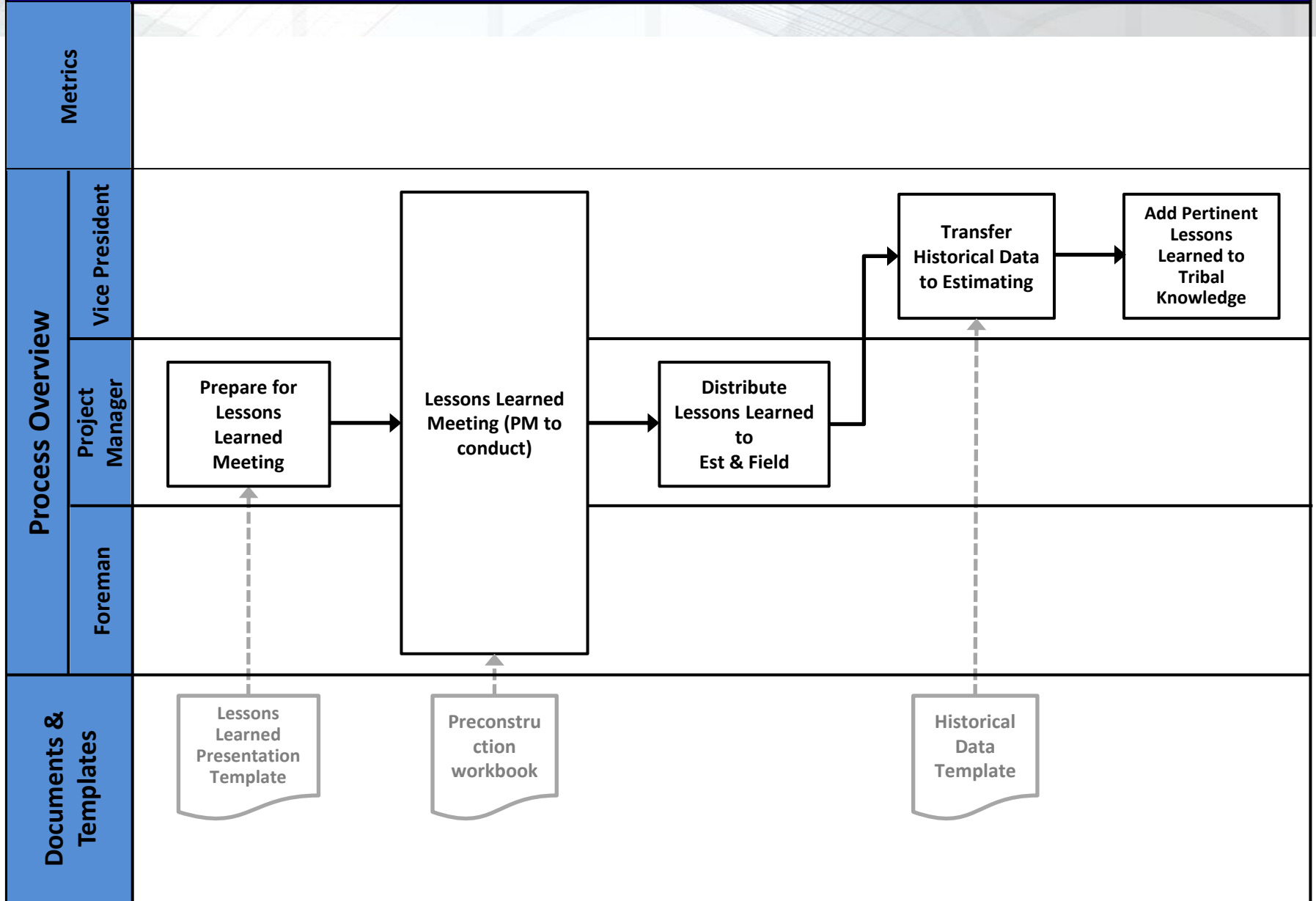
5. Production Reports

- Proving the impact on labor of what we spent versus what we should have spent

Exit Strategy



Lessons Learned





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**THAT WAS GOOD, AND
COMPLETELY
NECESSARY.
THIS IS EVEN BETTER**

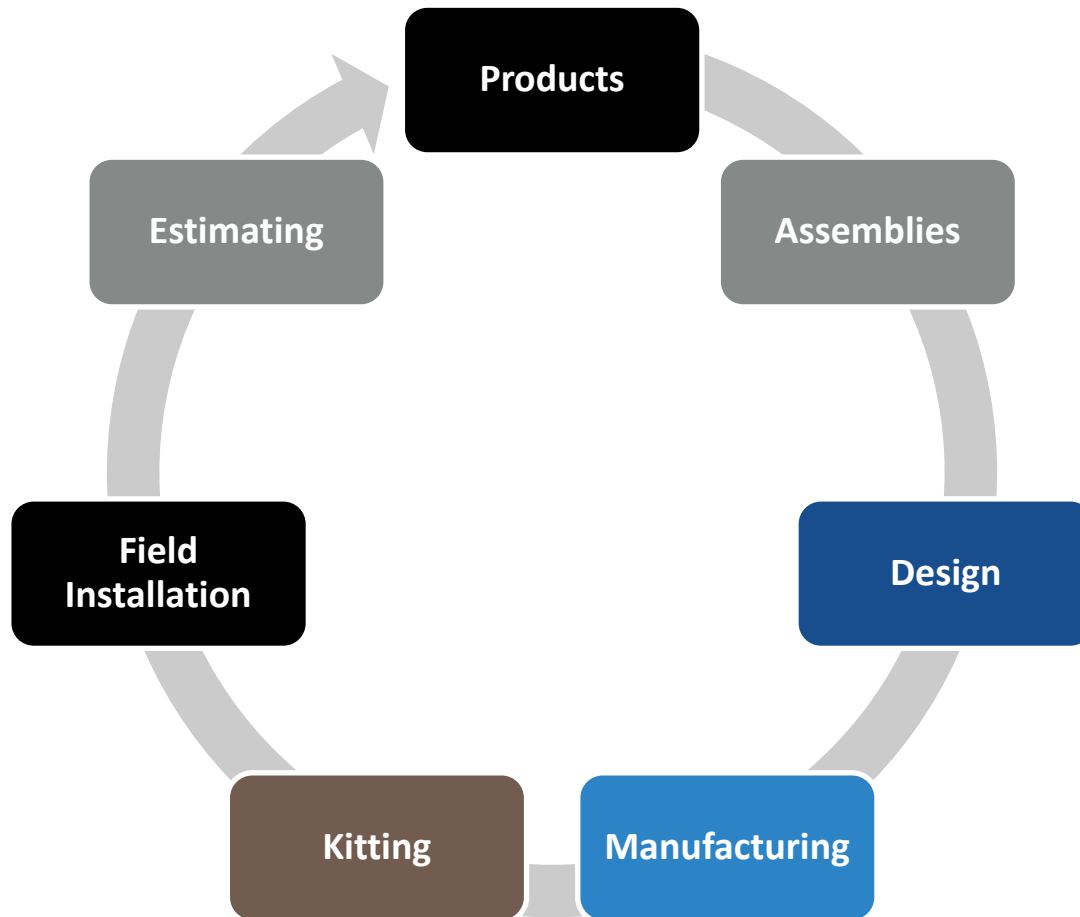
Making It Happen

**The crews in the field are the consumer of the product.
Therefore, they should have input as to the upstream
activities**



Imagine This – It Isn't Just a Dream

Imagine that every job title involved contributed in defining/implementing **STANDARDS** for the following:





THANK YOU

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