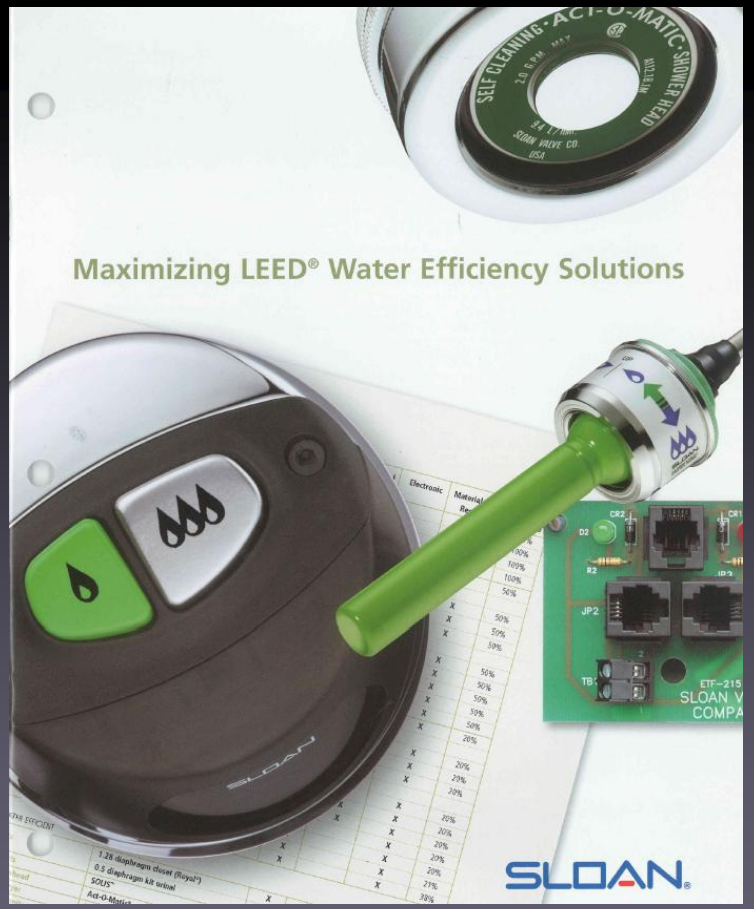
[IPRO 306] - Improving Global Supply Management

Goals > Progress > Results

Outline

Sloan Valve

- World's leading manufacture of water-efficient solutions
- Headquarter: Franklin Park, Illinois
- Founded in 1906
- Facilities in Michigan, Massachusetts, Pennsylvania, California, Arkansas, Mexico, and China



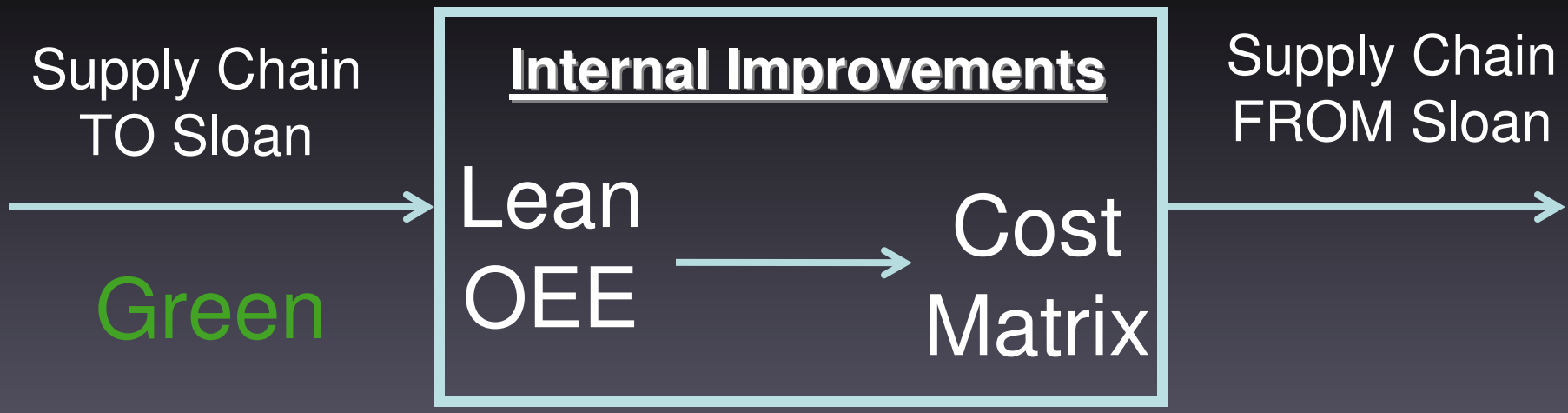
Supply Chain Management

A term used to express the need to integrate key business processes from end user through original supplier

Overall Project Goals

- Survey suppliers using Green survey and metrics
- Create a data based automatic scoring system for Sloan's suppliers
- Create a OEE data collection process and system for more efficient data collection and on demand analysis
- To develop a user friendly and functional tool that helps objectively compare costs of items from different sources.

Organizational Structure



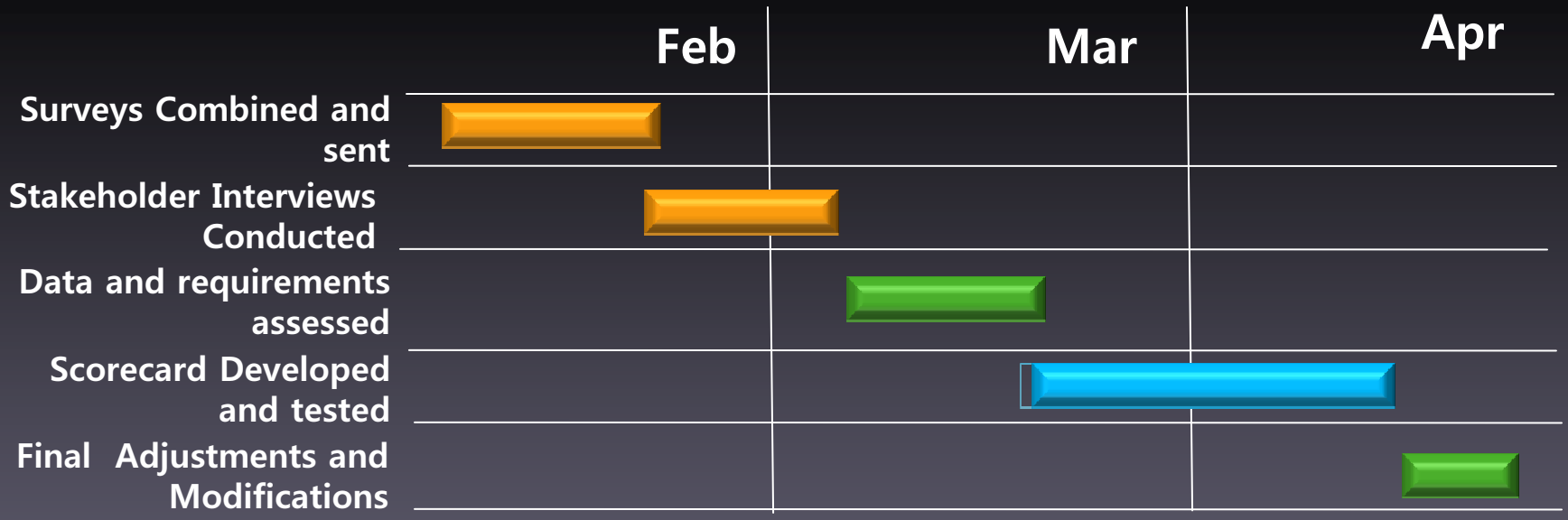
Green Team Project Goals

Overview

1. To finalize and implement Green Survey and Metrics from previous semester.
2. To create a system to reliably and efficiently rate Sloan's suppliers against a set criteria.
3. To reduce time lost due to inspection of parts received from supplier.
4. To create a system that allows suppliers to easily view their scores.

Green Team Progress

Timeline



GREEN Team Results

Results

1. **Combined existing Sloan survey with last semester's Green survey.**
   - **Initial set of suppliers resulted in expected scores**
2. **Created an automatic scorecard for suppliers.**
   - **Scores can be done automatically or manually.**
   - **Parameters can be changed for future fine tuning.**
   - **Data used to source score can be shown to suppliers for verification of score.**

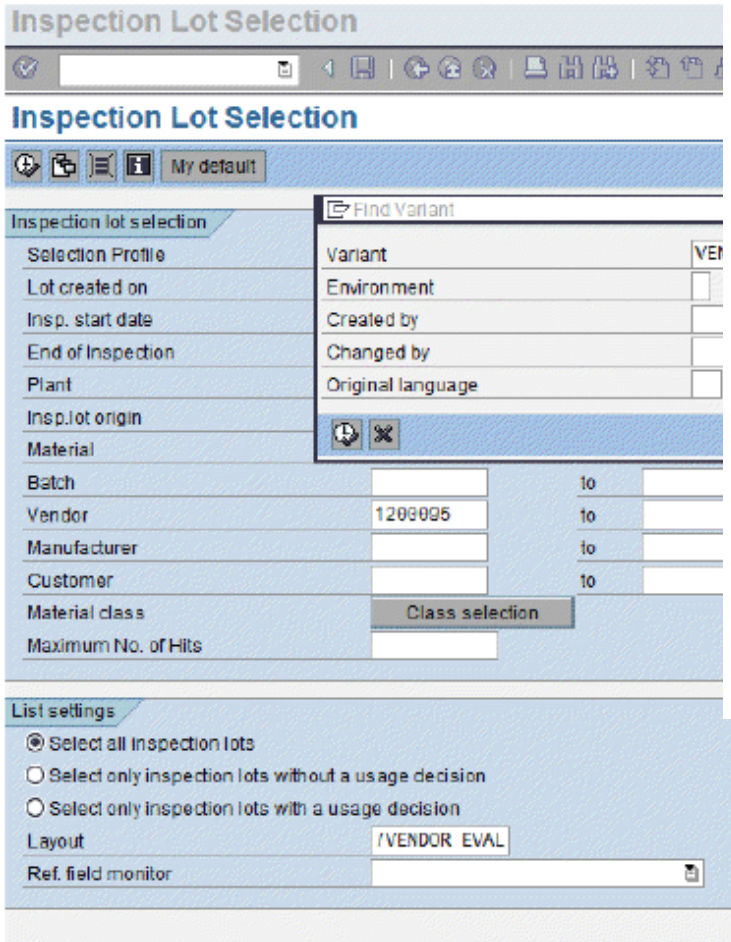
Supplier Certification

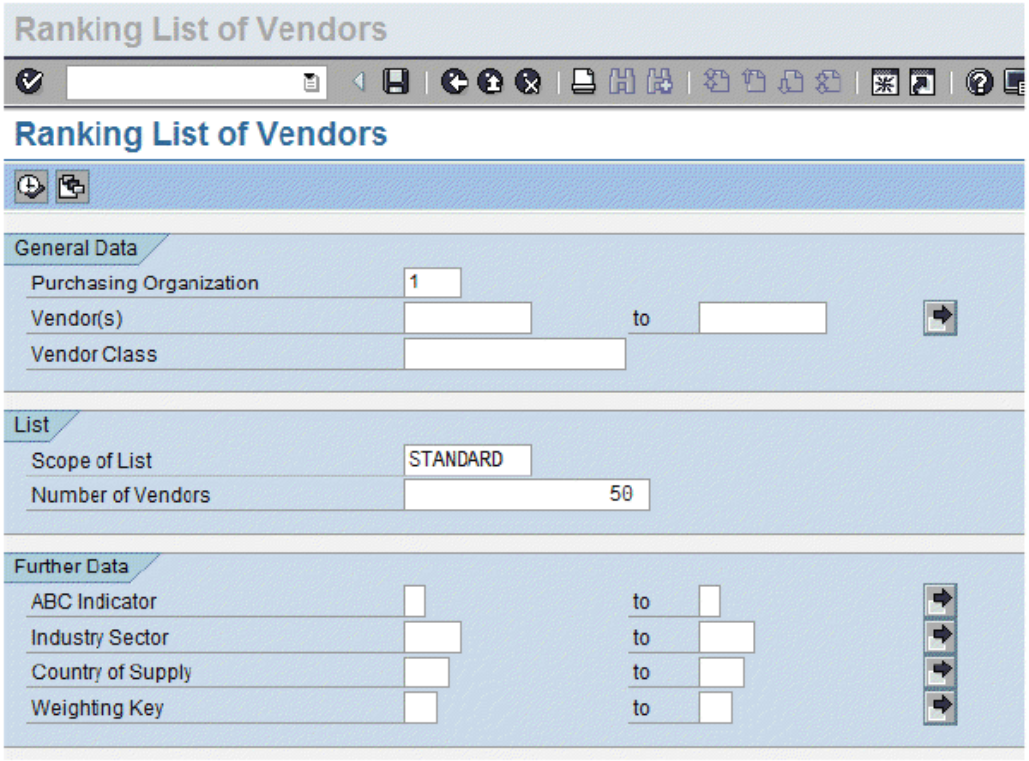
- While creating a Supplier Certification Program was a little beyond the scope of our IPRO, our team was able to get a pretty good start.
- For a Certification program to function, there needs to be a reliable and efficient way to score suppliers.
- Reliability is important in that all suppliers should be judged using the same set of criteria.
- Efficient in that it would function on an automatic basis with data that is already routinely kept.

SAP

- SAP is the Enterprise Resource Planning (ERP) software that Sloan uses.
  - ERP software is used by enterprises all over the world to easily manage all their resources.
  - It encompasses all branches of the company from financial/accounting to manufacturing to management and serves as a gateway for all Sloan's data collecting and processing.

Sap Screenshots





Scorecard Criteria

- Using SAP we were able to set up a form that automatically rates a supplier based on the information we have on that supplier.
- The system will take into account data from the past 200 days.
- The system can also do scores for multiple suppliers at once or show a ranking of suppliers.

Scorecard Criteria

- A supplier's score consists of 2 main parts, Quality and Delivery.
- Quality is weighted at 55% while delivery is weighted at 45%.
- Quality is determined by the amount of rejected lots over the number of accepted lots.
- Delivery is determined by the on time delivery and the quantity reliability of each shipment.

Sample Scorecard

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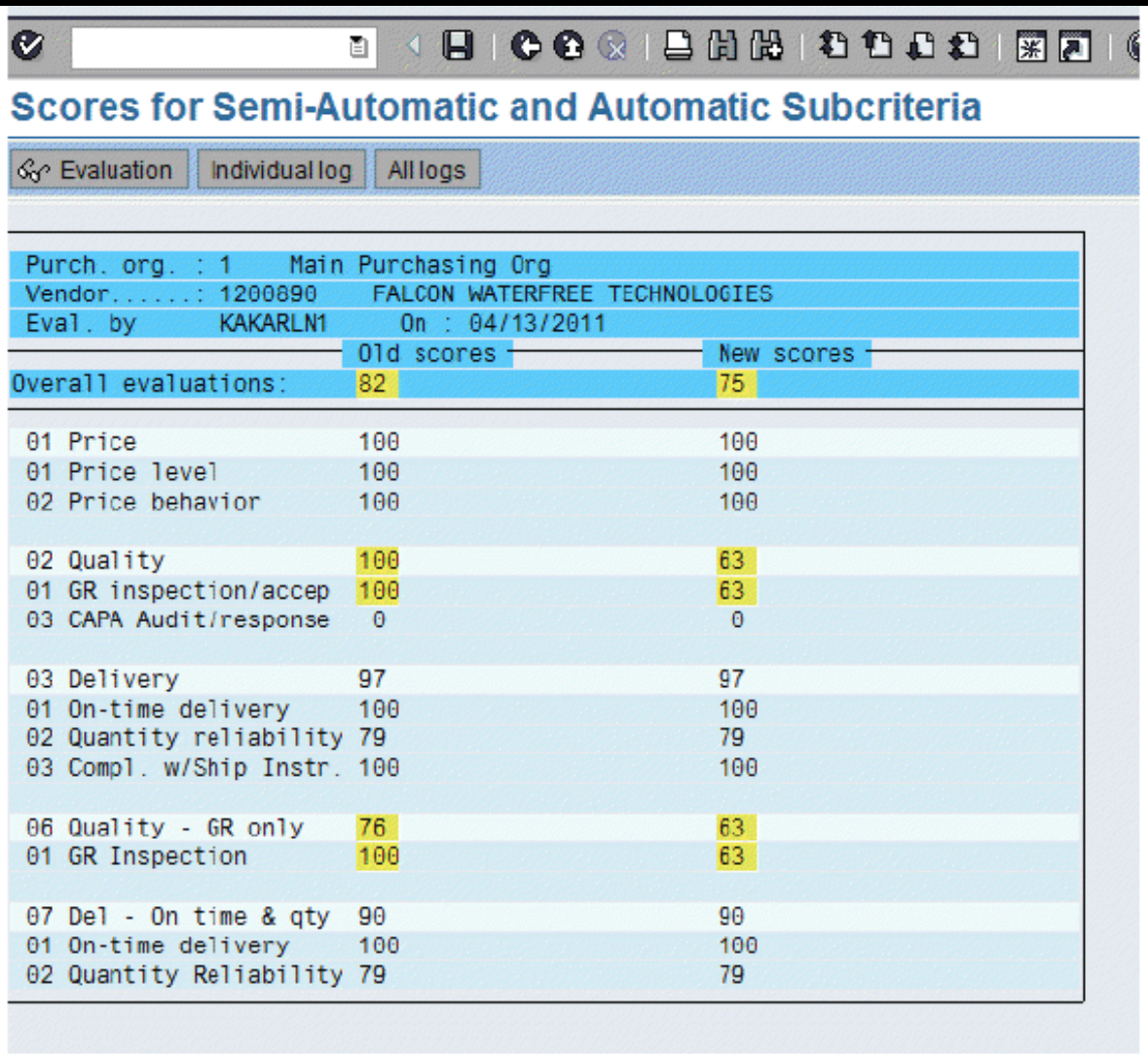


Scores for Semi-Automatic and Automatic Subcriteria

Evaluation | Individual log | All logs

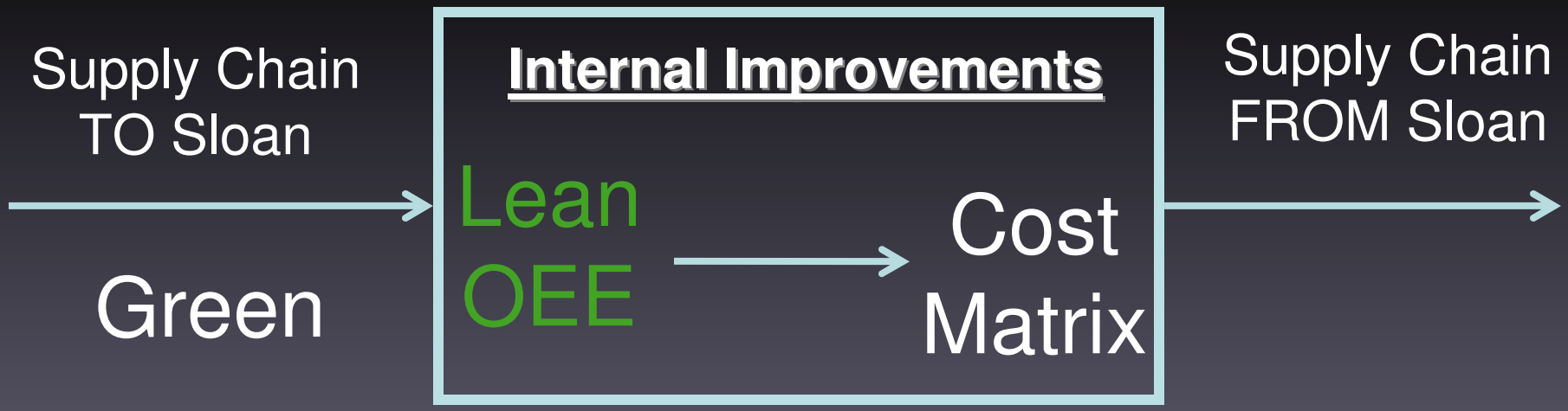
Purch. org. : 1 Main Purchasing Org
Vendor.....: 1200890 FALCON WATERFREE TECHNOLOGIES
Eval. by KAKARLN1 On : 04/13/2011

	Old scores	New scores
Overall evaluations:	82	75
01 Price	100	100
01 Price level	100	100
02 Price behavior	100	100
02 Quality	100	63
01 GR inspection/accep	100	63
03 CAPA Audit/response	0	0
03 Delivery	97	97
01 On-time delivery	100	100
02 Quantity reliability	79	79
03 Compl. w/Ship Instr.	100	100
06 Quality - GR only	76	63
01 GR Inspection	100	63
07 Del - On time & qty	90	90
01 On-time delivery	100	100
02 Quantity Reliability	79	79

Results and Recommendations

- Scorecard is a big step forward.
- Changes to scoring criteria may be made as more suppliers are rated.
- A site where suppliers can check their scores would be the next step.
- This would ensure score reliability and allow suppliers to contest scores they feel are unjust.

Organizational Structure



OEE

- Overall Equipment Effectiveness
- Measures the effectiveness of machinery being used

OEE Issues

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- There are no formal procedures on how OEE is recorded or evaluated
- Only limited history of equipment and components are registered
- No data collection mechanism/system
- Data cannot be retrieved on demand
- Data entered only upon administrative personnel availability. No live data

OEE Project Goals

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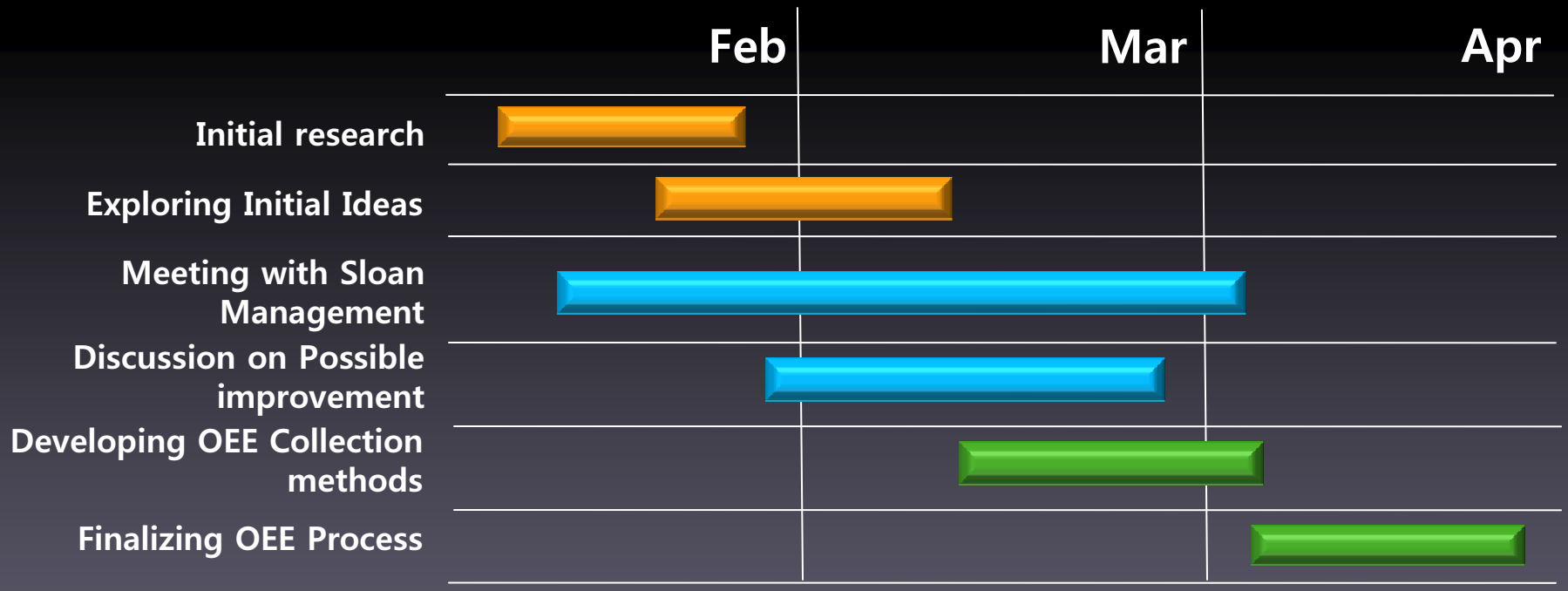
- Create a process instruction for data collection
- Data collection program to store and retrieve information on demand.
- Identify possible solutions for data collection
- Propose system that is operator friendly and administratively functional and friendly

Lean – OEE Team Progress

Timeline



OEE Results

- Researched OEE
- Analyzed current Sloan Valve's OEE system in place
- Developed new ideas
- Combined current OEE system and implemented in with new idea for a better long lasting system.

OEE Results

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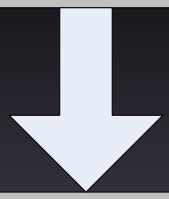
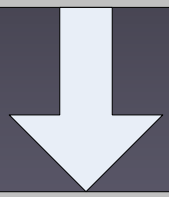
Operator Completes OEE data collection Sheet



After shift is over, heads over to OEE electronic station.



The Operator will enter into system by pressing the “ENTER OEE DATA” button on the screen

OEE Results

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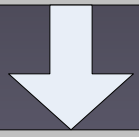
Operator will provide: Employee Number, Equipment Number, Shift number, Count and Scrap

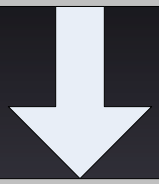
The system will show the same sheet layout as Operator holds on hand.



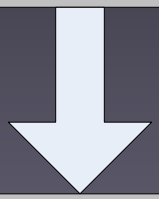
Operator will enter in All data as operator recorded on OEE collection Sheet.

OEE Results

Detailed information entered for each line on OEE datasheet



Scan OEE Sheet into system



All data will be store in a live database

OEE Results

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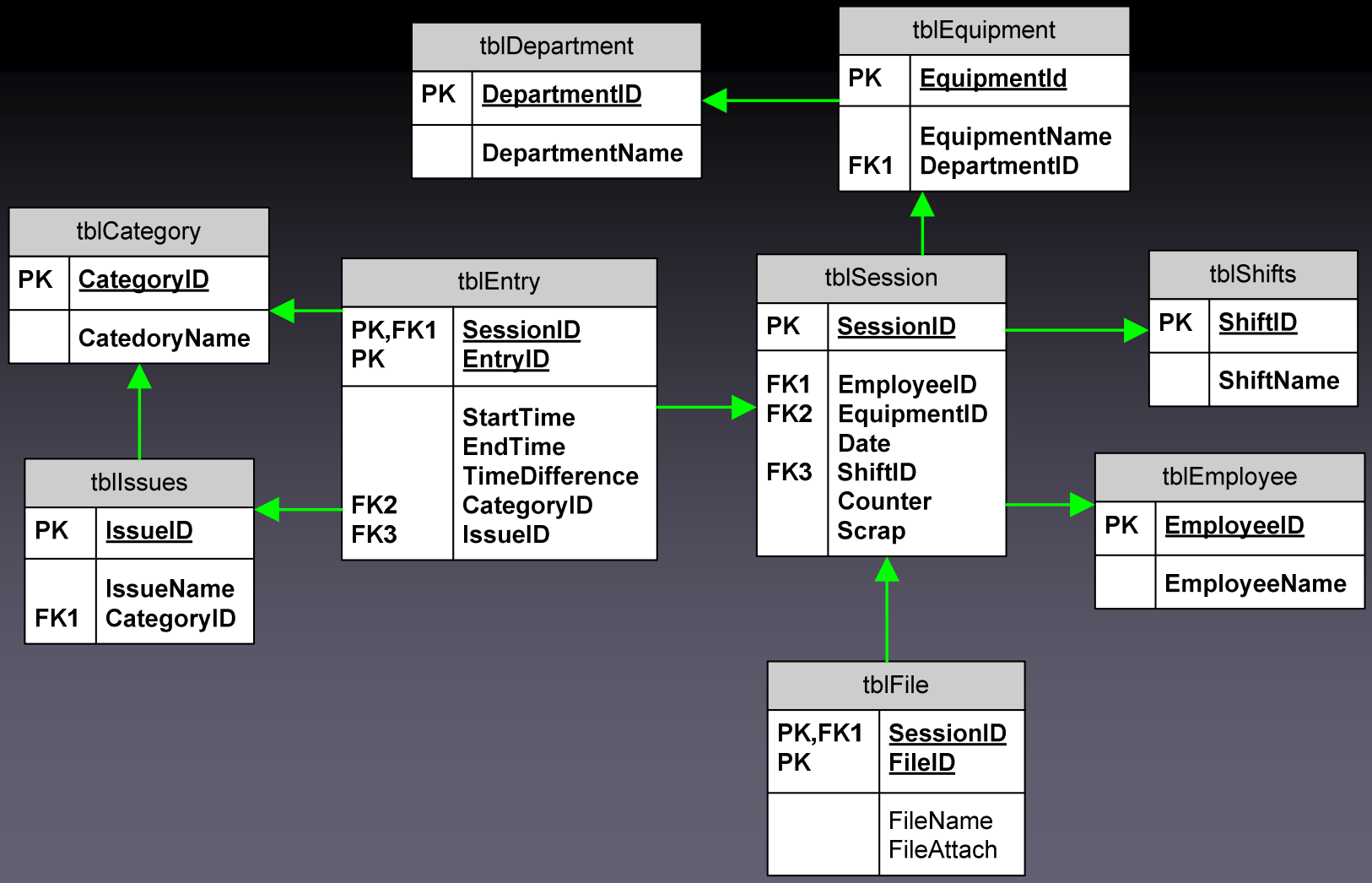

OEE Results

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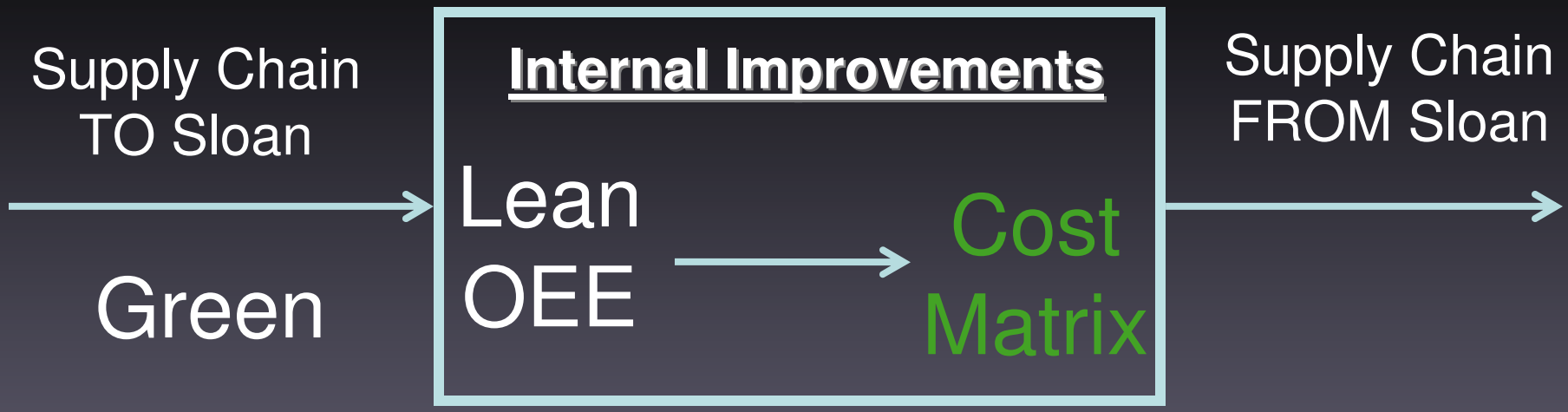
- When Implemented
  - Perform OEE data analysis on demand
  - Have centralized and detailed information about performance of each machine
  - Devise better preventative maintenance plans
  - Increase production per shift
- Cost of equipment
  - Industrial Touch screen ~$1000.00
  - Scanner ~$300

OEE recommendation

- Implementing OEE system properly is a key component of being successful in collecting data
- SAP could be linked with OEE data for better analysis
- Place OEE on each machine or strategically throughout the shop floor

Organizational Structure



Defining the scope

To develop a tool that helps Sloan easily analyze and compare cost of a specific item from different vendors.

Current Issues

- There is no “tool” to cost compare supply chains
- Different perceptions of the cost(s) associated with supply chain
- Management wants a data driven decision process
  - Base line data
  - Costing comparison before/after
- Sloan needs a tool to make strategic decisions from
- Total cost will be the basis for the comparison

Cost Decision Matrix Goals

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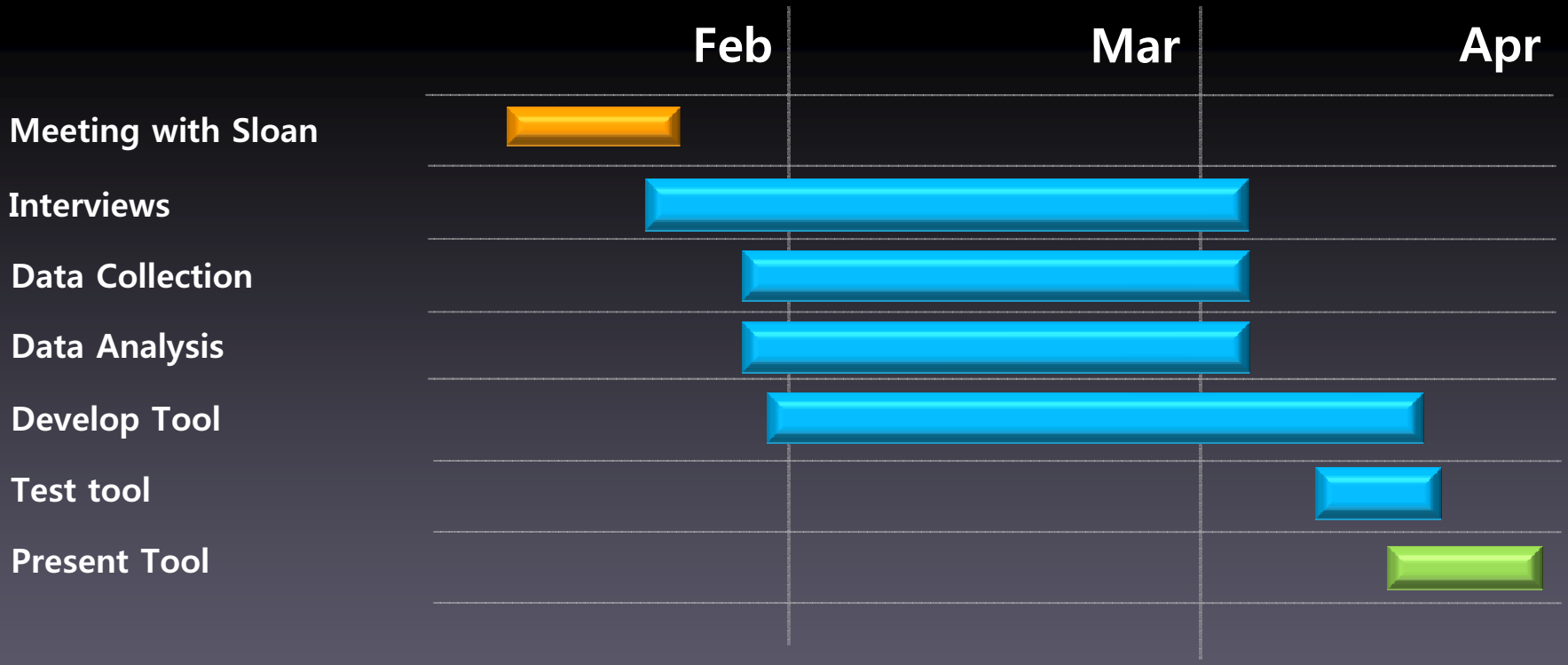
- To develop a user friendly and functional tool that helps objectively compare costs of items from different sources.
- Standardized the entire sourcing process across all the plants/regions
- Reduce the complexity and clumsiness when analyzing cost
- Increase the organization's awareness on the total cost involved
- Better understanding of various cost thru cost segmentation

Progress

Timeline



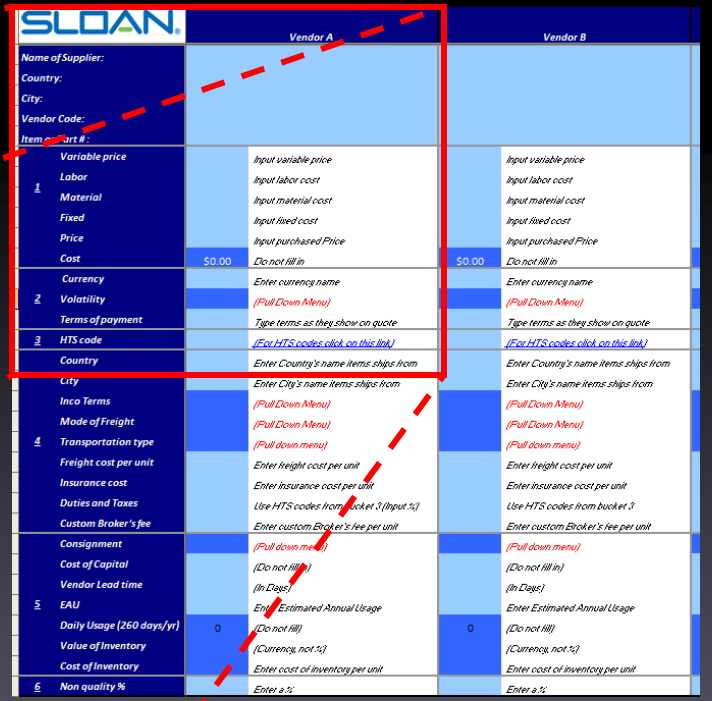
Cost Decision Matrix Tool

		Vendor A	Vendor B	Vendor C	Vendor D
1	Price	$0.00	$0.00	$0.00	$0.00
2	Currency Terms payment	0 0	0 0	0 0	0 0
3	Commodity code (hts coding)	0	0	0	0
4	Freight cost / unit Duties & Taxes Total cost / unit	$0.00 $0.00 $0.00	$0.00 $0.00 $0.00	$0.00 $0.00 $0.00	$0.00 $0.00 $0.00
5	Cost of Inventory Lead Time (in days)	#VALUE! 0	#VALUE! 0	#VALUE! 0	#VALUE! 0
6	Non Quality cost	$0.00	$0.00	$0.00	$0.00
	Total Cost	$0.00	$0.00	$0.00	$0.00

Cost Decision Matrix Tool

SLOAN

SLOAN		Vendor A	
Name of Supplier:			
Country:			
City:			
Vendor Code:			
Item or Part # :			
1	Variable price		Input variable price
	Labor		Input labor cost
	Material		Input material cost
	Fixed		Input fixed cost
	Price		Input purchased Price
	Cost	$0.00	Do not fill in
2	Currency		Enter currency name
	Volatility		(Pull Down Menu)
	Terms of payment		Type terms as they show on quote
3	HTS code		(For HTS codes click on this link)
4	Country		Enter Country's name items ships from
	City		Enter City's name items ships from



SLOAN		Vendor A		Vendor B	
Name of Supplier:					
Country:					
City:					
Vendor Code:					
Item or Part # :					
1	Variable price		Input variable price		Input variable price
	Labor		Input labor cost		Input labor cost
	Material		Input material cost		Input material cost
	Fixed		Input fixed cost		Input fixed cost
	Price		Input purchased Price		Input purchased Price
	Cost	$0.00	Do not fill in	$0.00	Do not fill in
2	Currency		Enter currency name		Enter currency name
	Volatility		(Pull Down Menu)		(Pull Down Menu)
	Terms of payment		Type terms as they show on quote		Type terms as they show on quote
3	HTS code		(For HTS codes click on this link)		(For HTS codes click on this link)
4	Country		Enter Country's name items ships from		Enter Country's name items ships from
	City		Enter City's name items ships from		Enter City's name items ships from
	Inco Terms		(Pull Down Menu)		(Pull Down Menu)
	Mode of Freight		(Pull Down Menu)		(Pull Down Menu)
	Transportation type		(Pull down menu)		(Pull down menu)
	Freight cost per unit		Enter freight cost per unit		Enter freight cost per unit
	Insurance cost		Enter insurance cost per unit		Enter insurance cost per unit
	Duties and Taxes		Use HTS codes from bucket 3 (input %)		Use HTS codes from bucket 3
	Custom Broker's fee		Enter custom Broker's fee per unit		Enter custom Broker's fee per unit
5	Consignment		(Pull down menu)		(Pull down menu)
	Cost of Capital		(Do not fill in)		(Do not fill in)
	Vendor Lead time		(In Days)		(In Days)
	EAU		Enter Estimated Annual Usage		Enter Estimated Annual Usage
	Daily Usage (260 days/yr)	0	(Do not fill)	0	(Do not fill)
	Value of Inventory		(Currency, not %)		(Currency, not %)
	Cost of Inventory		Enter cost of inventory per unit		Enter cost of inventory per unit
6	Non quality %		Enter a %		Enter a %

Results

- Tool breaks down cost into different elements
- Tool follows standard work process
- Creates a data driven tool for strategic sourcing
- Helps Sloan identify potential market to source their products from different countries
- Total projected company savings: 10%

Conclusion

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- Green supply chain is good for the environment and a good business statement
- Good OEE system helps:
  - Reduce manufacturing cost
  - Take full advantage of capital
  - Reduction of working capital
- Identify potential market to source their products from different countries saving the company approximately 10%

Acknowledgements

- Mr. John Caltagirone, Faculty Advisor
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- IPRO Office

QUESTIONS?