



Equanex

Web projects On-Time & On-Budget!

Leveraging the Internet to Achieve Higher Results from Lean Implementation



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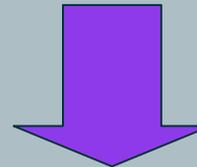
So, Your Company is Making Lean Your Philosophy...

Eliminating Eight Wastes

- **Overproduction**
- **Waiting**
- **Transportation**
- **Inefficient Processing**
- **Inventory**
- **Unnecessary Motion**
- **Product Defects**
- **Under-utilized Personnel**

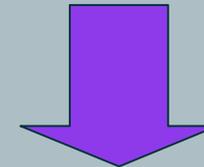
Delivering Results

Lead Time



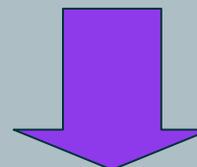
20-50%

Inventory



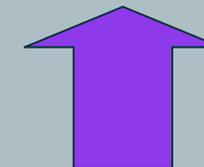
20-50%

Space



15-30%

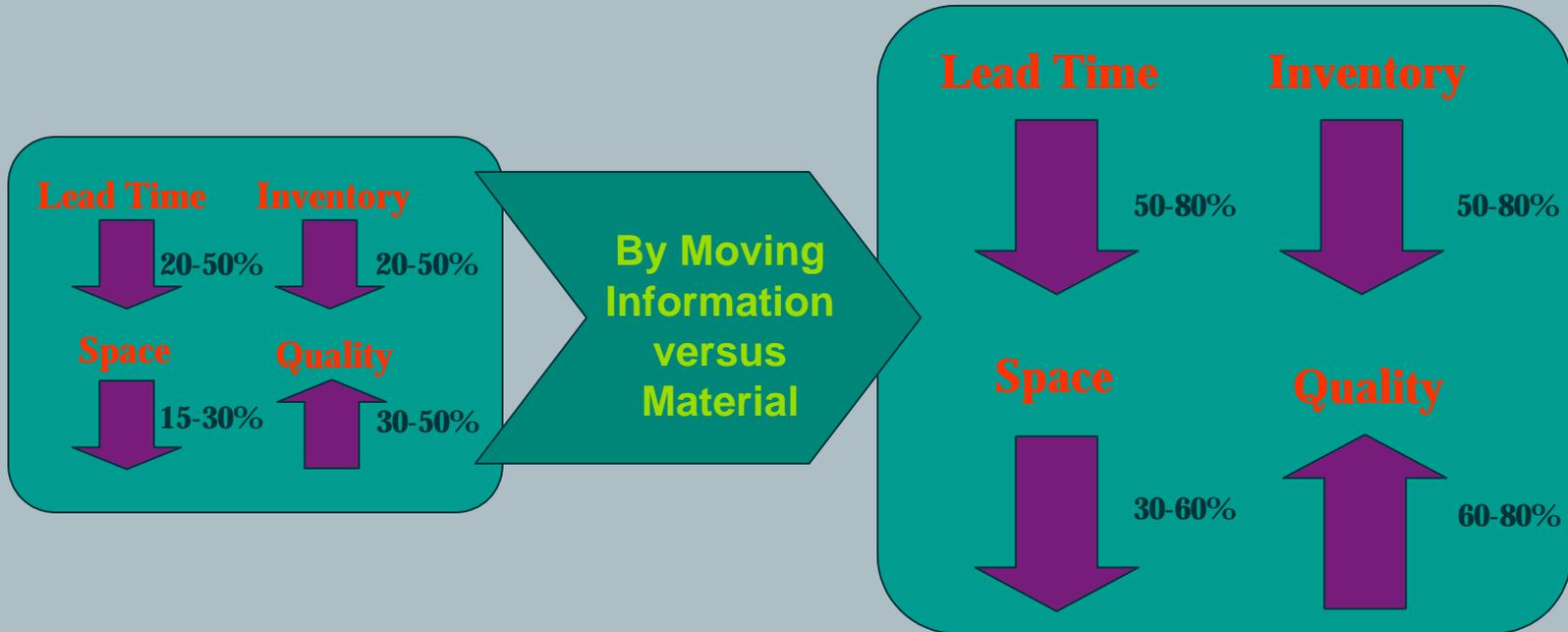
Quality



30-50%



With Internet, You Can Double Your Results

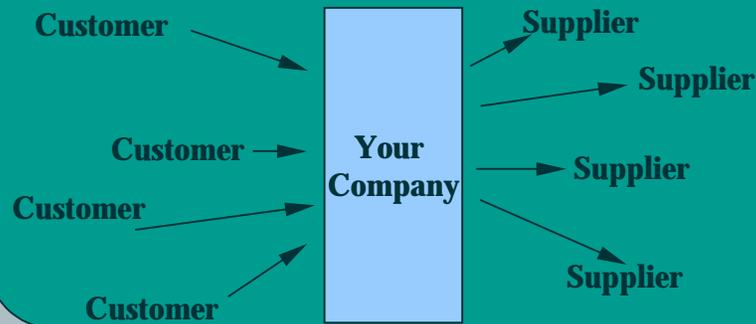




Information Visibility - Example

Problem: 2X Unexpected Demand Increase

BEFORE



- Expediting Material to Satisfy Demand
- Negotiating with Customers for Delayed Delivery

New Web Capability

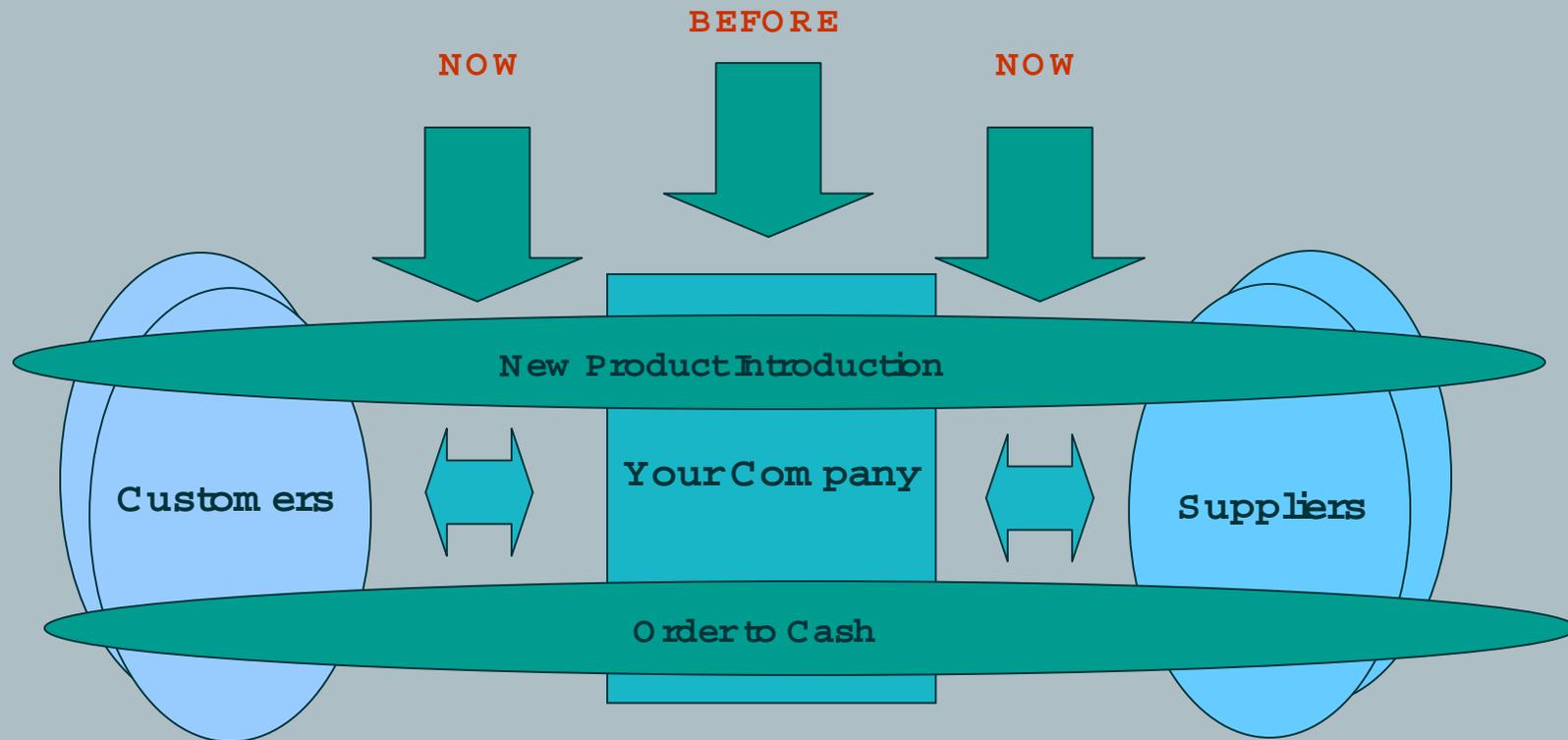
AFTER



Collaborative Decision Making



Lean Focus Shift





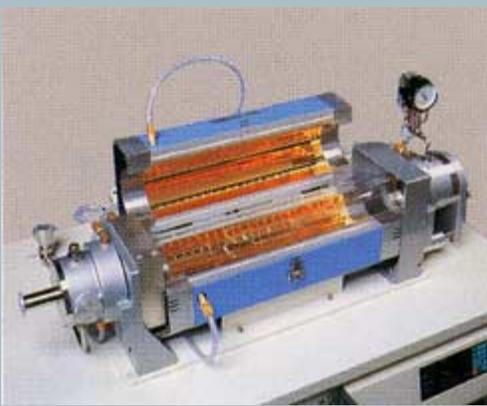
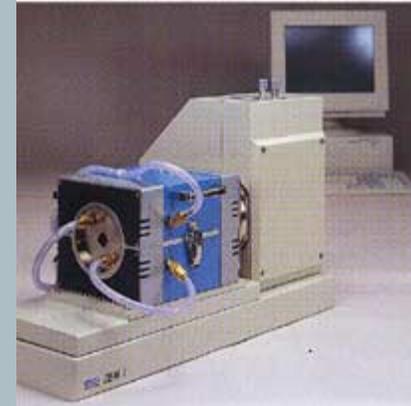
Converting Lean Accomplishments into eOpportunities

- **List your Lean accomplishments**
- **Brainstorm converting them into new competencies**
- **Brainstorm converting these new competencies into your company's differentiated capabilities**
- **Express these differentiations in terms of eBusiness opportunities**

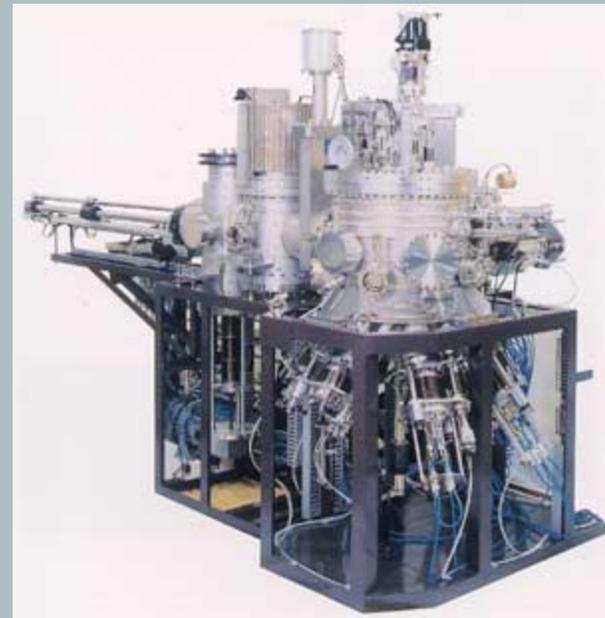


Case Study - CLV Manufacturing Company

- \$1.2 Billion in Revenue
- Headquartered in Japan; Locations in Europe and US
- A broad vacuum processing product line from complex equipment (\$5M) to components (\$500)



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Case Study - CLV Manufacturing Company

- Grown through acquisitions
- Direct sales model for equipment
- Direct sales model for components
- Large installed base, measured on the uptime of equipment in the field
- Competencies
 - Advanced Technology (out of Japan)
 - Sales approach - solving customer problems



Converting Lean Accomplishments: Case Study

CLV's Lean Accomplishments

- **Product design lead time reduced from 52 weeks to 22 weeks**
- **Set up for the finishing process decreased from 5 hours to ½ hour**
- **Set up of the heating chamber reduced from 4 hours to 1 hour**
- **Lead time for additional tooling due to forecast spike reduced from 20 weeks to 10 weeks**
- **Combined WIP and finished-goods inventory reduced from 15 weeks to live loading of trucks (JIT)**
- **Capacity increased by two production lines**
- **The company achieved ISO 9001**
- **Standard gross margins on one high-volume product increased from 8 to 20%**



Converting Lean Accomplishments

A Competency is the Capability that Differentiates Your Company from the Competition

Examples:

- **Customer service**
- **Results from lean implementation, e.g., faster cycle time**
- **Specialized delivery**
- **Price**



Converting Lean Accomplishments Into Competencies

Finishing process set-up time reduced from 5 hours to ½ hour

Ability to add customer-specific, look-and feel-features to products

Heating chamber set-up time reduced from 4 hours to 1 hour

Ability to provide samples and quotations on semi-custom products

Lead time for additional tooling due to forecast spike reduced from 20 to 10 weeks

Ability to respond quickly to demand changes



Converting Lean Accomplishments Into Competencies

Combined WIP and finished-goods inventory reduced from 15 weeks to live loading of trucks (JIT).

Ability to respond faster to customers due to logistics flexibility.

Capacity increased by two production lines.

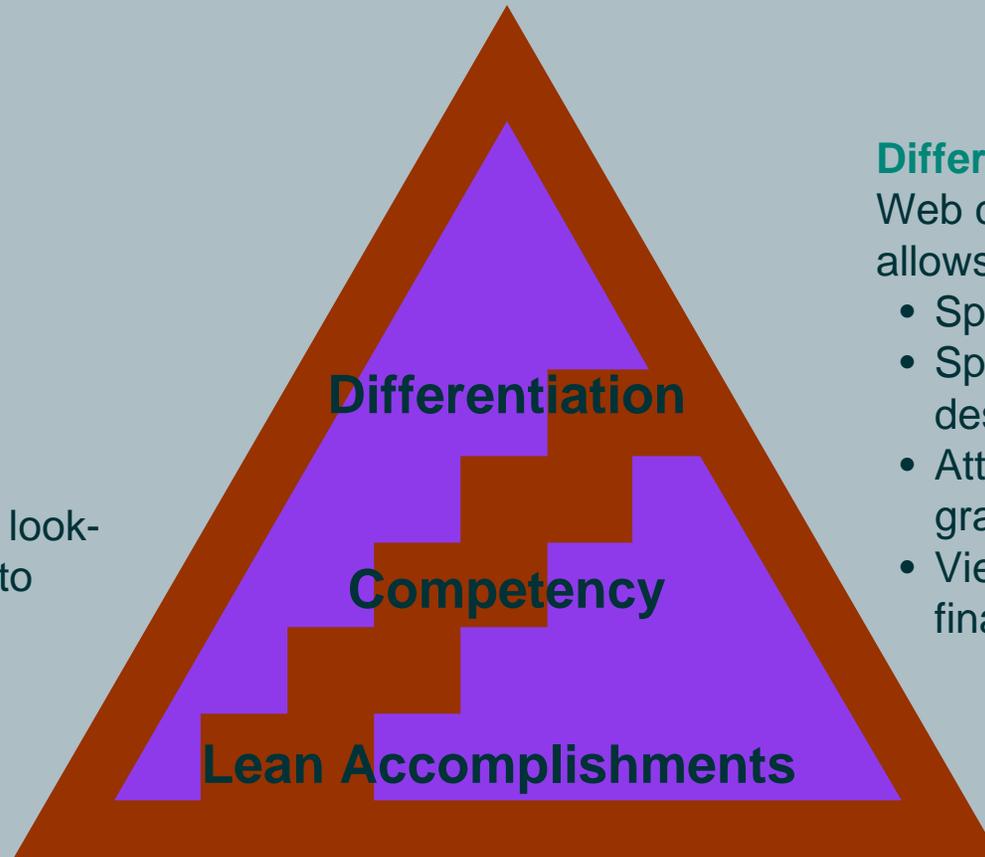
Ability to respond to customer requests faster in NPI and operations.



Leveraging Competencies Through the Internet

Competency

The ability to add customer-specific look-and-feel features to products.



Differentiation

Web capability that allows customers to:

- Specify color
- Specify or select design
- Attach their logo graphics
- View and approve final design

Lean Accomplishments

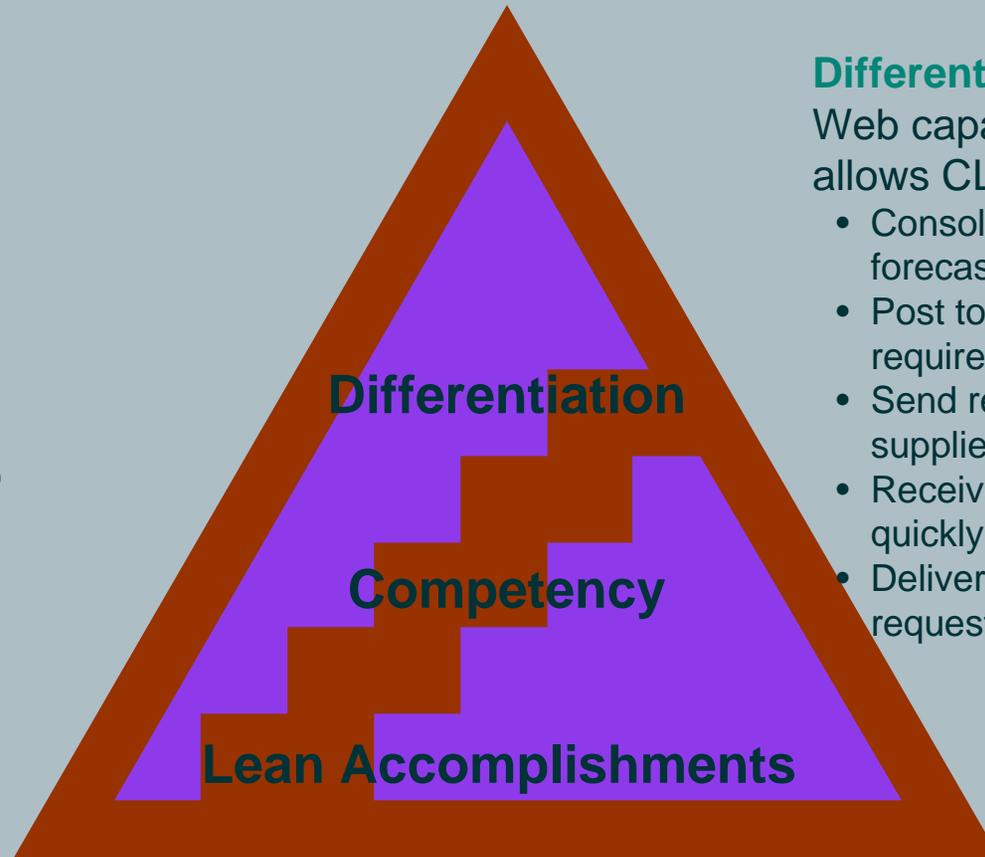
- Set up for the finishing process decreased from 5 to ½ hour
- Product design lead time reduced from 52 to 22 weeks



Leveraging Competencies Through the Internet

Competency

Respond faster to demand change



Differentiation

Web capability that allows CLV to:

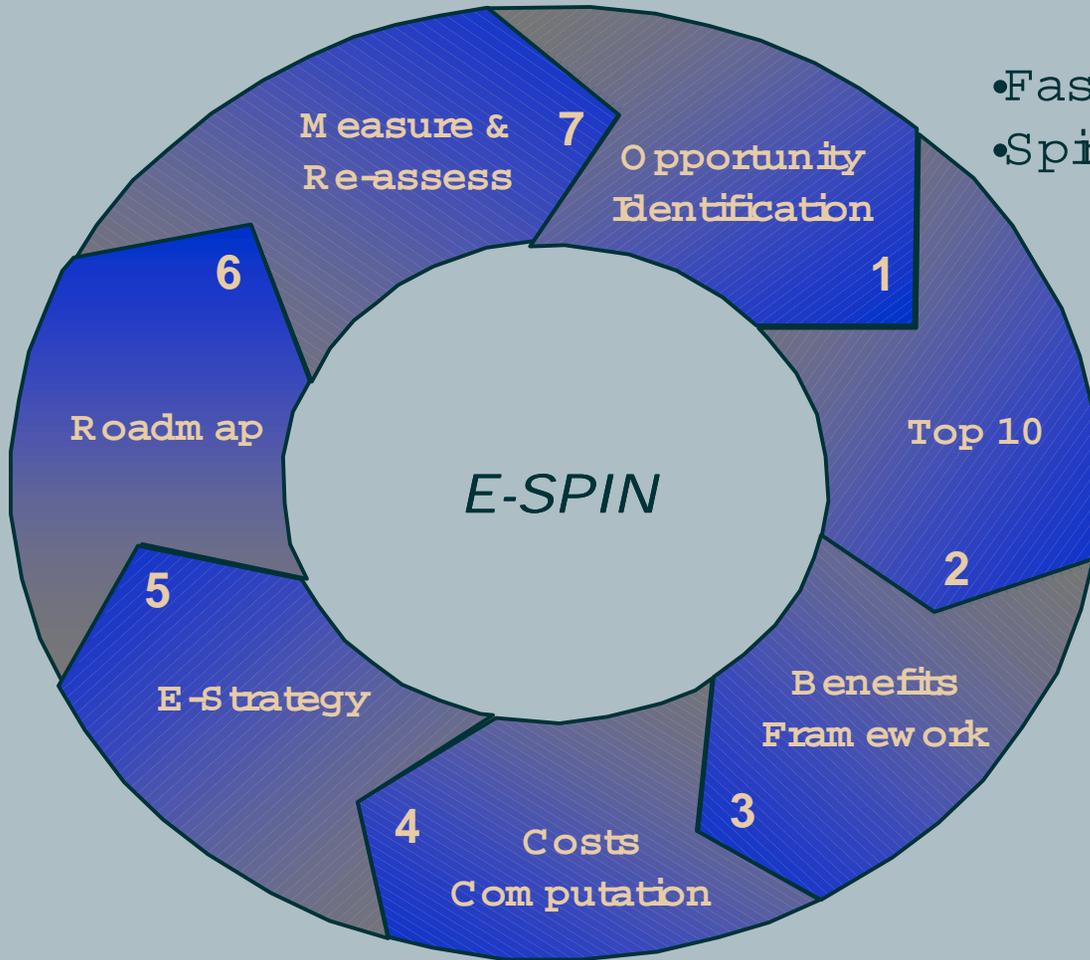
- Consolidate customer forecasts
- Post tooling requirements
- Send requests to tooling suppliers
- Receive responses quickly
- Deliver product on request

Lean Accomplishments

- Lead time for additional tooling due to forecast spike reduced from 20 to 10 weeks
- Product design lead time reduced from 52 to 22 weeks



E-Business Development Process



- Fast - one month duration
- Spins every three months



eBusiness Value: Business Drivers

REVENUE GROWTH

- **Develop new value propositions**
- **Exploit new channels**
- **Increase reach**

COST REDUCTION

- **Reduce marketing/selling expenses**
- **Reduce cost-of-goods sold expenses**
- **Increase working capital turnover**
- **Reduce physical infrastructure**
- **Reduce cost per customer service transaction**

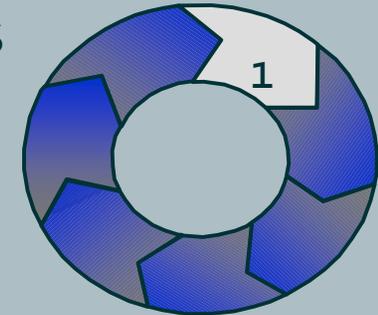
CUSTOMER SATISFACTION

- **Provide online self-service**
- **Provide online customer inquiry**
- **Increase personalization**
- **Promote customer loyalty**
- **Increase customer switching costs**



eBUSINESS STRATEGY DEVELOPMENT PROCESS

1. E-Opportunities Identification



- **Identify the company's E-Business vision and objectives**
- **Create e-Team**
- **Identify all E-opportunities across functions and processes**

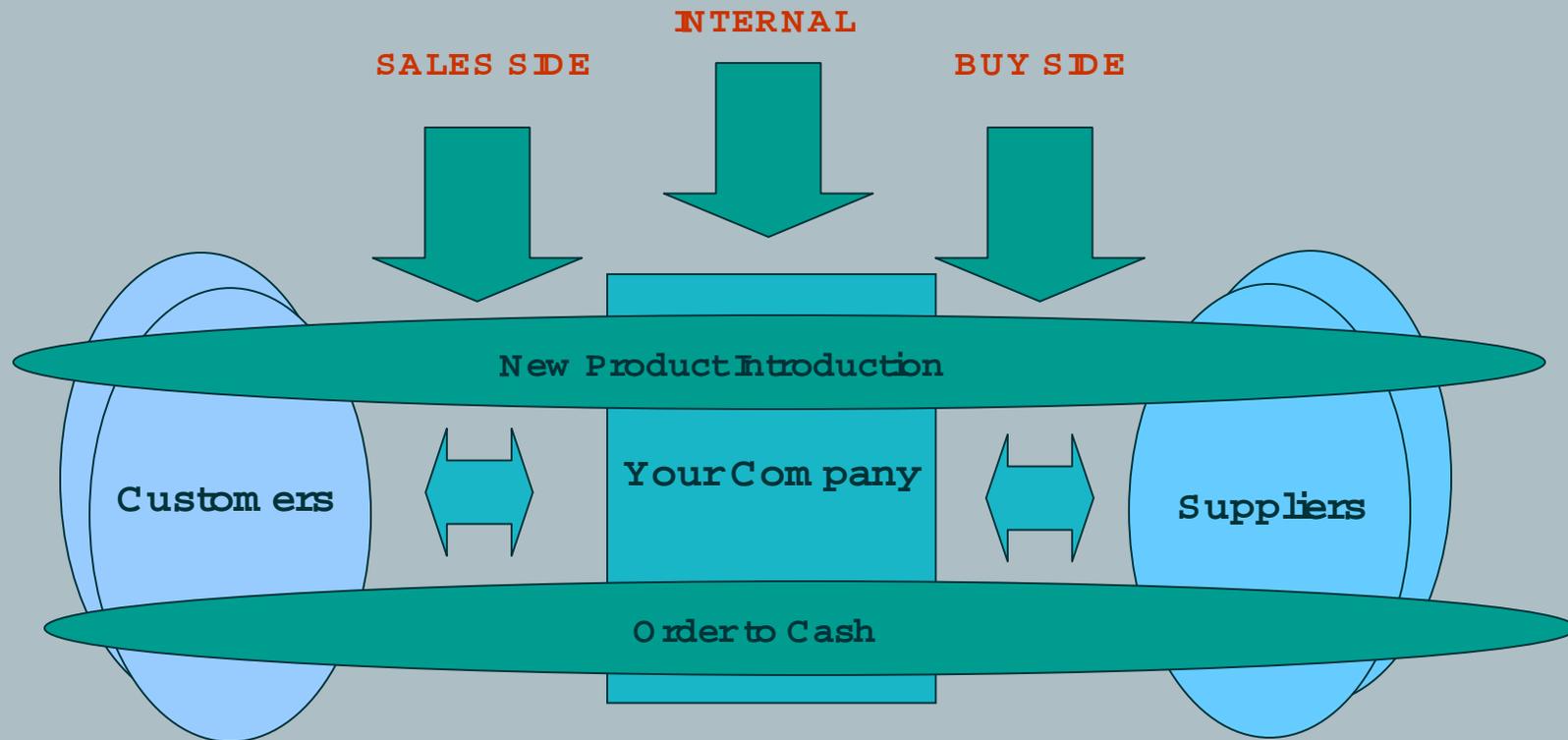


eOpportunity Identification Criteria

- **All functions**
- **All processes**
- **Leveraging lean implementation**
- **Moving information versus material/use information to:**
 - **Reduce process cycle time**
 - **Increase customer satisfaction**
 - **Increase integration between your company and customer's processes**

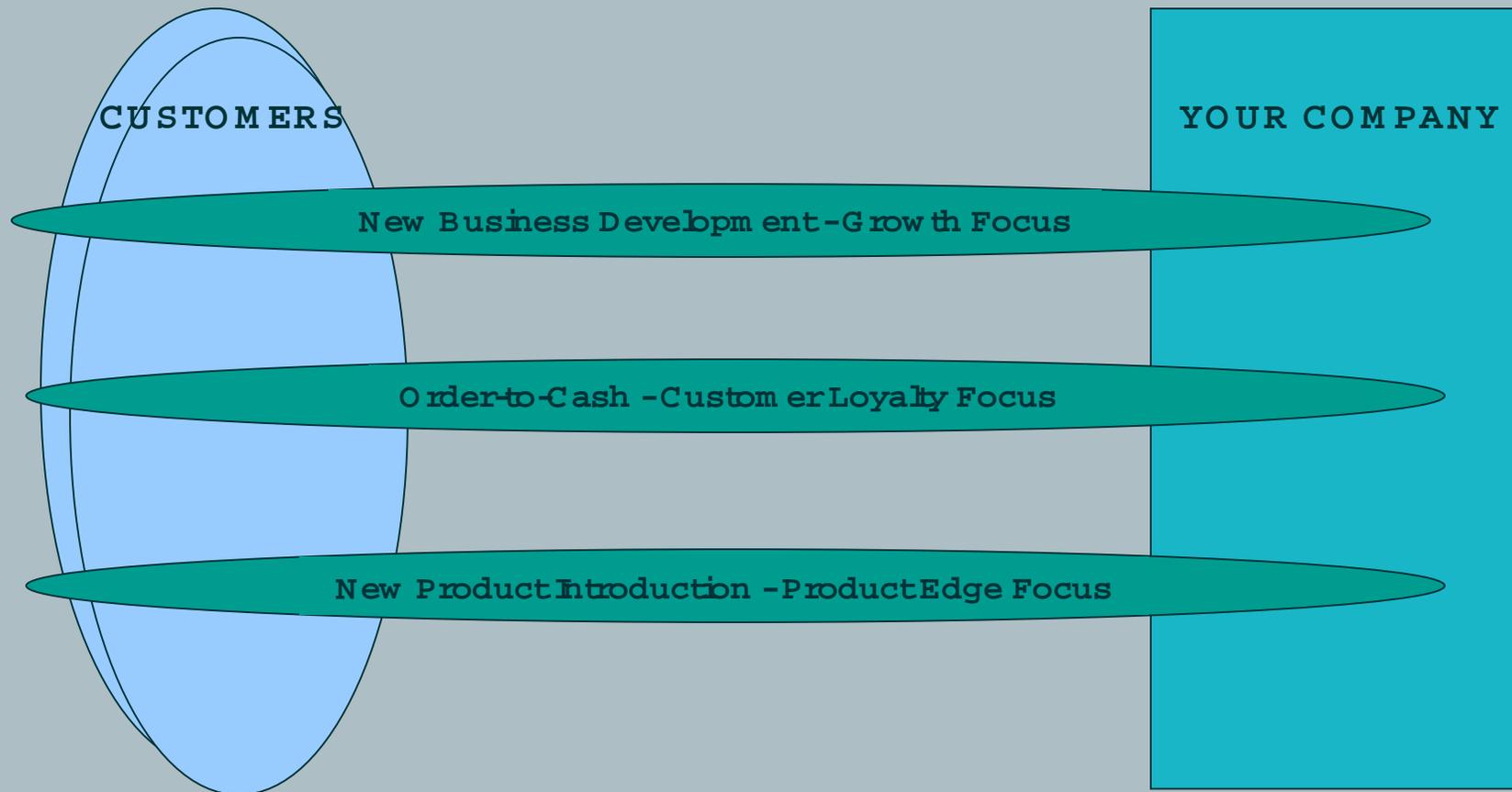


E-Opportunity Areas



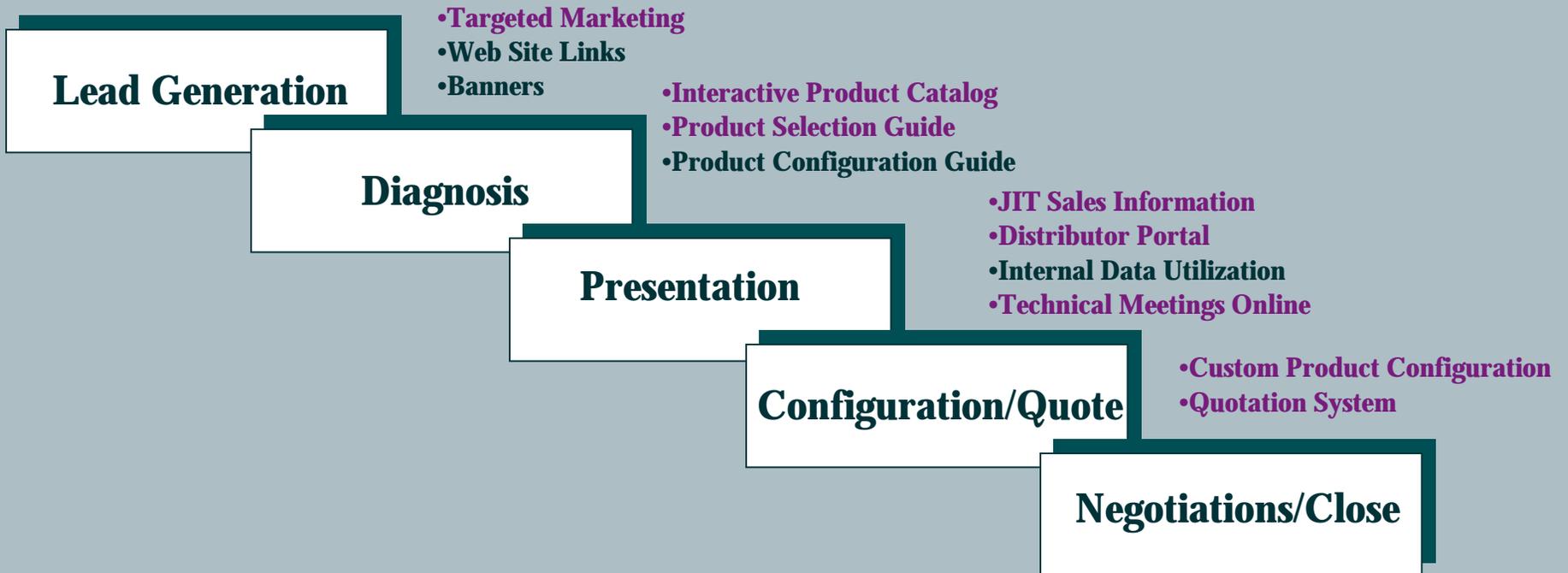


Customer Touch Points - Sales Side



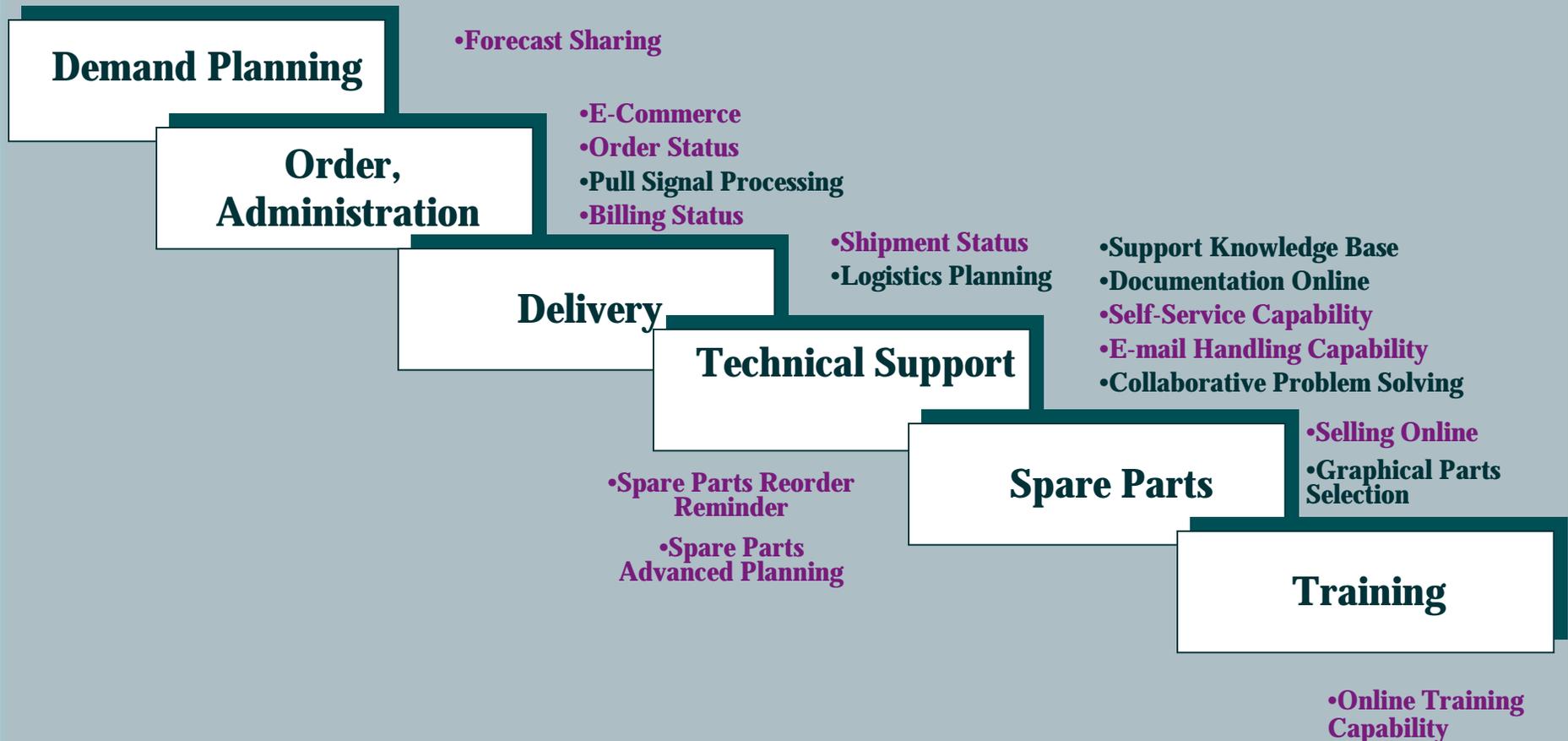


New Business Development - Growth Focus





Order-to-Cash - Customer Loyalty Focus





New Product Introduction - Product Edge Focus

New Product Requirements

- Collaborative Requirements Definition
- DFM Requirements Sharing

Engineering

- Collaborative Design
- Parameter Sharing

Product Testing

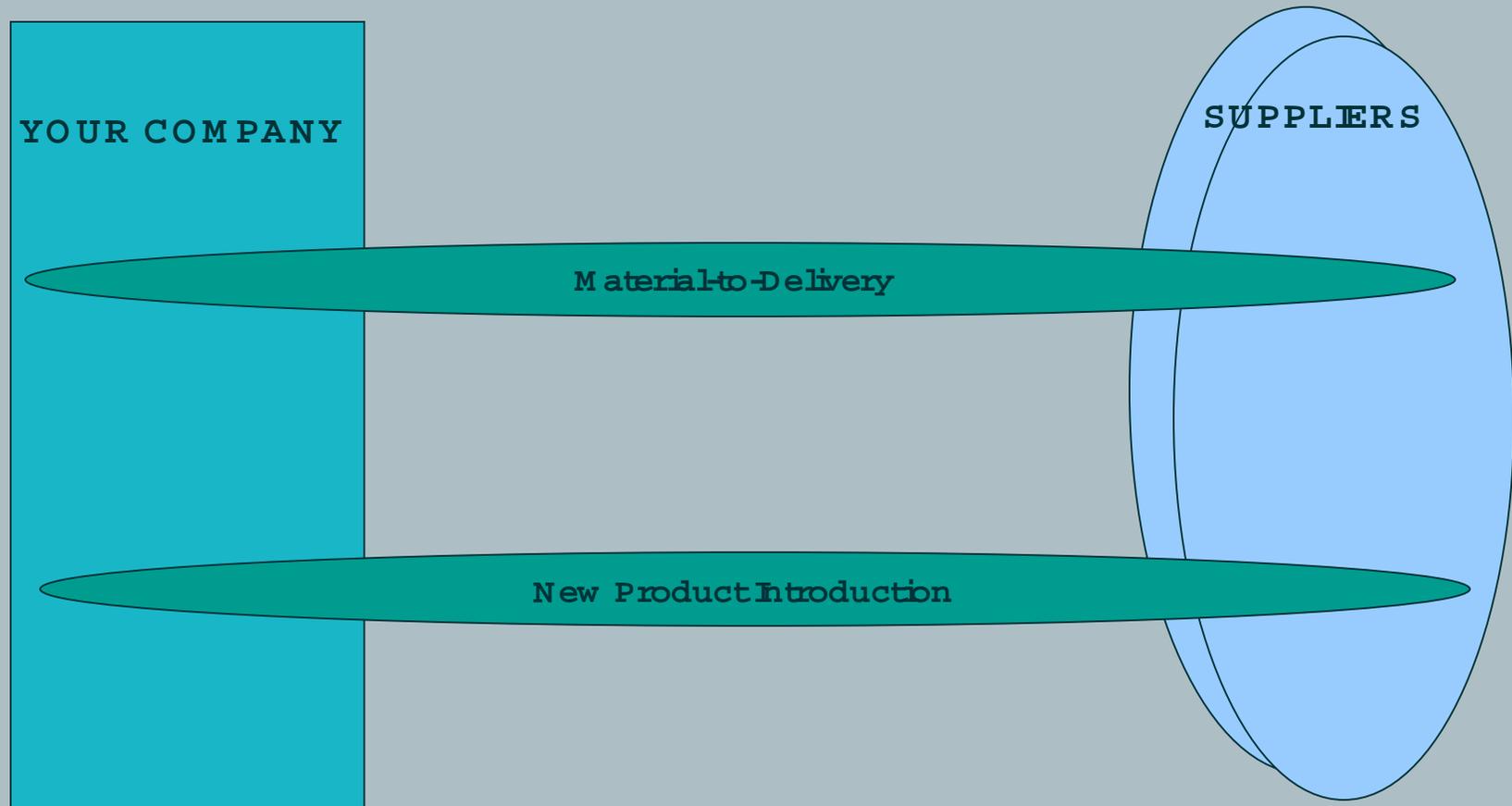
- Quality Data Sharing

Product Training

- Training Online



Supplier Touch Points - Buy Side





Material-to-Delivery

Supply Planning

- Forecast Sharing
- Collaborative Supply Planning

Inventory Management

- Vendor Managed Inventory
- Inventory Visibility

Purchase Order

- Pull Signal Processing
- e-Procurement

Delivery

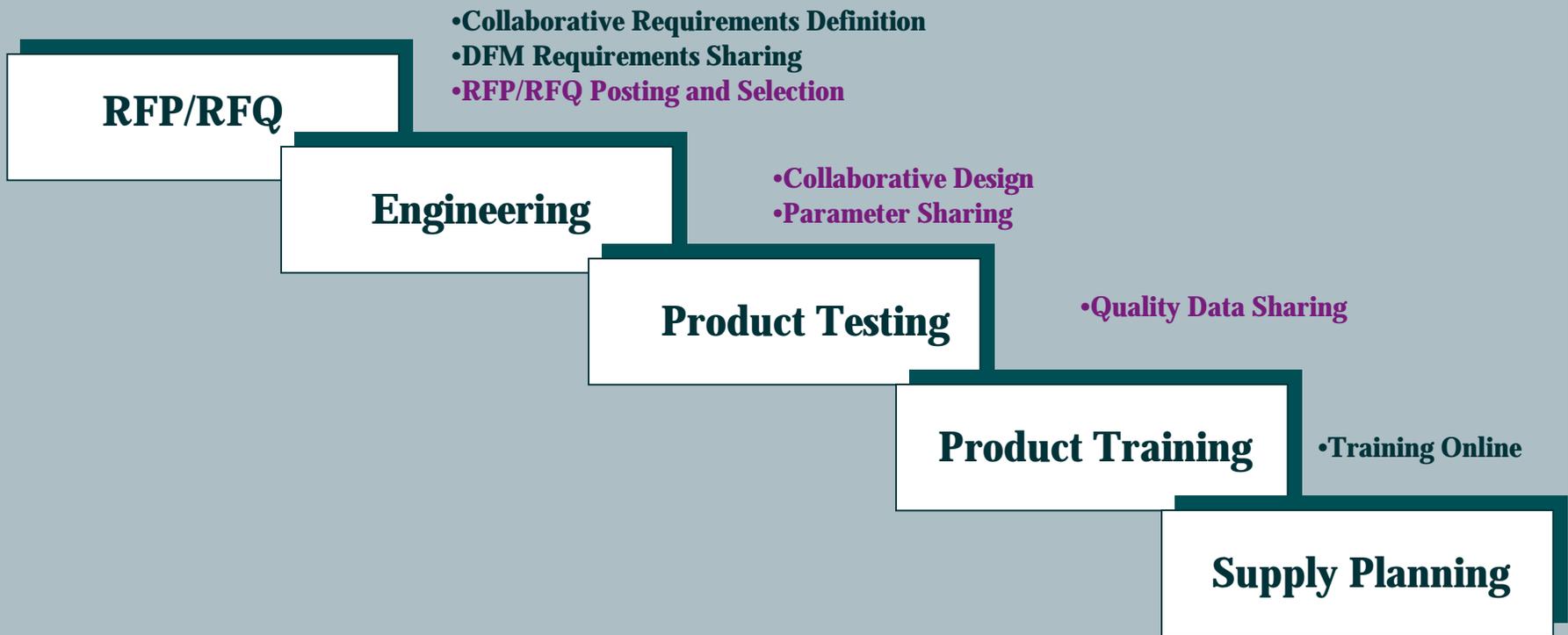
- Logistics Planning
- Status Sharing

Performance Evaluation

- Quality Data Sharing

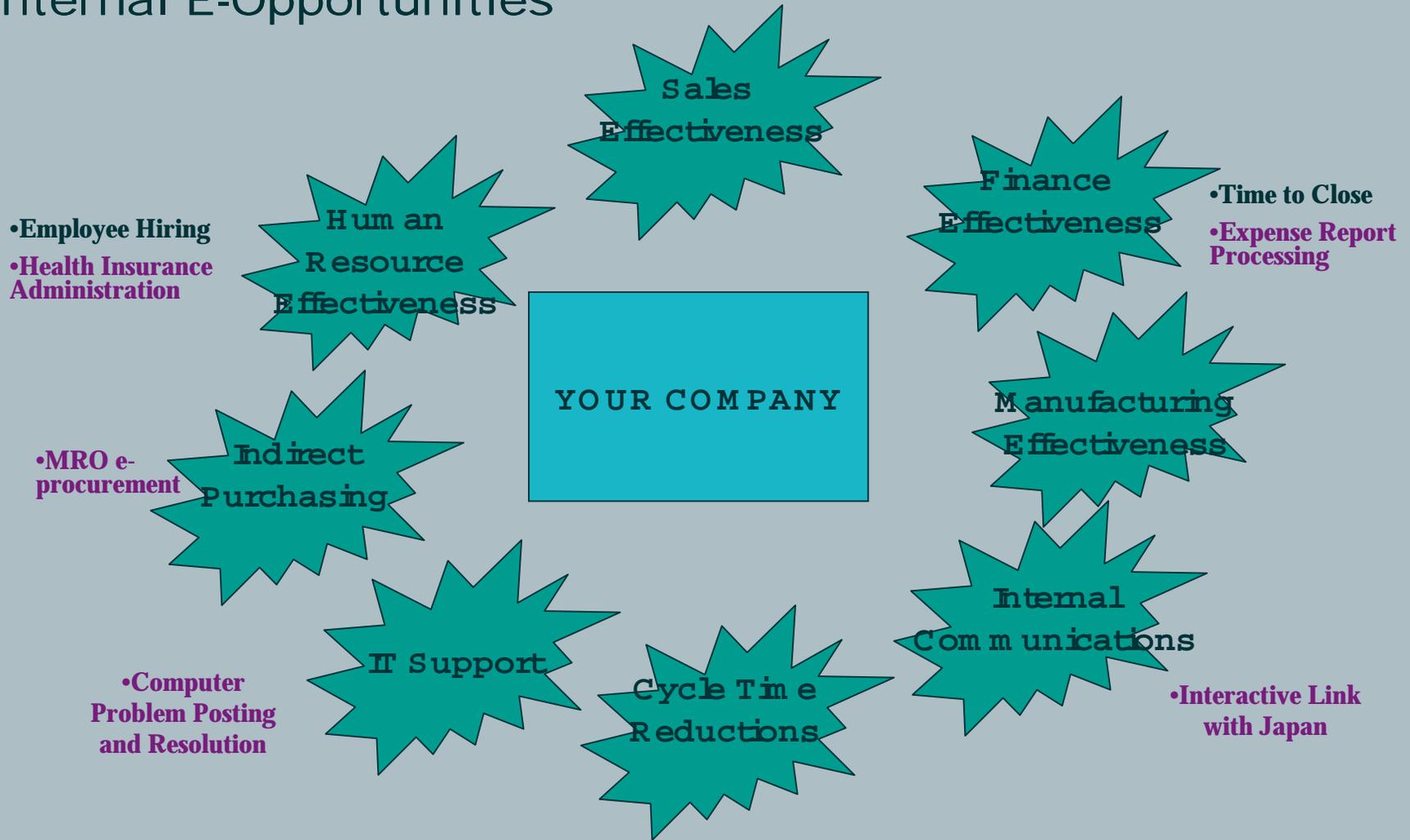


New Product Introduction - Supply Side





Internal E-Opportunities





E-Opportunities Identification Results

Case Study

List consisting of 36 items

Short term - quick hits

Barriers to e-business implementation

- **Access to data different by location due to different ERP systems**
- **Technical support data is not organized to offer online self-service**
- **Lots of data, no real information**
- **Product marketing literature is not organized to be readily used for e-business applications**



E-SPIN Step 1 Observations

Expect to see a long list

Challenge the teams to be creative

- **Invite outsiders for brainstorming and Best Practice sharing**
- **Invite software vendors with new, unusual products**

Expect to see three to five “low hanging fruit” opportunities

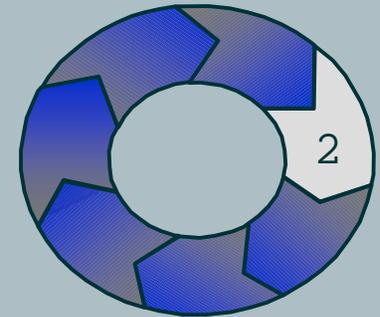
Make sure that focus is on business needs



eBUSINESS STRATEGY DEVELOPMENT PROCESS

2. Selecting top 10

- **Identify a cross-functional team**
- **Allow each member to select only three to five E-Opportunities**
- **Create the TOP 10 list**





Top Ten E-Opportunities

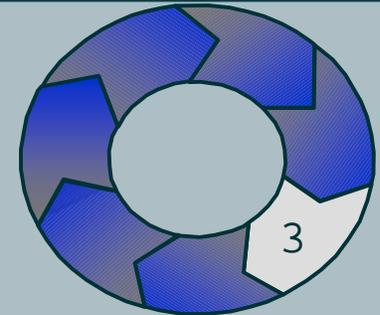
Case Study

#	Opportunity Title	Manufacturing	Finance	Sales Equipment	Sales Components	Service	Marketing	IT
Growth Focus								
1	Targeted Marketing			1			1	
2	Components Store		1	2	1		2	1
Customer Loyalty Focus								
3	Technical Meetings Online	1		3				
4	Technical self-service support	2		4	2	1		2
5	Documentation Online	3		5		2		
6	Spare Parts Store		2			3	3	3
7	Spare Parts Reorder Reminder					4		
8	Spare Parts Advanced Planning					5		
Internal eOpportunities								
9	eProcurement (MRO)	3	3					
10	Link with Japan	4	4		3			



eBUSINESS STRATEGY DEVELOPMENT PROCESS

3. Benefits Framework and Quantification



- **For each opportunity on the list develop a list of potential benefits**
- **Classify benefits into**
 - **Soft**
 - **Hard**
- **Develop a high level computation formula for hard benefits**
- **Identify required data and data sources**
- **Quantify benefits**



Benefit Quantification Example:

Opportunity: Targeted e-mail Marketing

Benefit Framework:

Revenue Increase

(higher response rates)

Quantification Assumptions:

- Direct mail responses - 70 (per month)
- Increase in leads - 50%
- Closure rate - 15%
- Average sale - \$15,000

Benefit: Incremental Orders

\$945,000 per year

Benefit Framework:

Cost Reduction

(reduce marketing expense)

Quantification Assumptions:

- Direct mail - 10,000 (number of pieces)
- Cost per mailing - \$4,400
- Number of mailings - 10
- Estimated Savings - 50%
- Cost savings - 25% (due to better data)

Benefit: Cost Savings

\$33,000 per year



E-SPIN Step 3 Observations

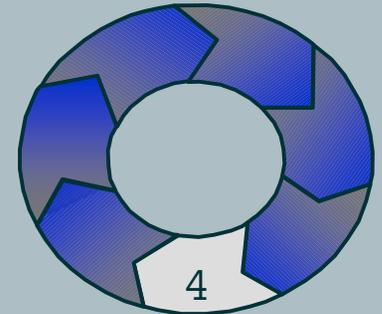
- **Expect to see**
 - **Some avoidance of responsibility - “I cannot commit, it’s so difficult to estimate the benefits”**
 - **Extra conservatism**
 - **Desire to delve into detail**
 - **“Boxed” by systems attitude**



eBUSINESS STRATEGY DEVELOPMENT PROCESS

4. Cost Computation

- **Identify major platforms required, reassess existing technical architecture**
- **Identify implementation costs**
 - One Time
 - Ongoing
- **Identify functional organizational implications**
- **Identify IT implications**





Implementation Costs Components

Implementation Costs (One Time)

consist of

- **Software License Costs**
- **Implementation Costs**
- **Functional Resources**
 - Number of resources
 - Number of months
 - Usually requires best people
- **IT Resources**

Implementation Costs (Ongoing)

consist of

- **Software Maintenance Costs**
- **Additional Implementation**
- **Incremental Functional Resources**
- **Incremental IT Resources**



E-SPIN Step 4 Observations

Most difficult part of the process

- **Best people are hard to disengage from operations**

Software vendor landscape is changing daily

Focus on ballpark cost - “is this bigger than a breadbox”

Utilize consultants or industry analysts to identify appropriate vendors

- **It is impossible to “cover the ground” with internal resources**



Cost/Benefit Summary

Case Study

	Opportunity	Cost Reduction	Revenue Increase	Implementation Cost
Growth Focus				
1	Targeted Marketing	\$ 33,000	\$ 945,000	\$ 55,000
2	Components Store		\$ 1,880,000	\$ 97,200
Customer Loyalty Focus				
3	Technical Meetings Online	\$ 360,000		\$ 81,200
4	Technical Self-service Support	\$ 207,057		\$ 135,000
5	Documentation Online	\$ 279,000		\$ 82,500
6	Spare Parts Store	\$ 76,000	\$ 967,742	\$ 125,000
7	Spare Parts Advanced Planning	\$ 41,167		\$ 46,000
8	Spare Parts Reorder Reminder			\$ 31,200
Internal eOpportunities				
9	Link with Japan			\$ 58,520
10	e-Procurement (MRO)	\$ 315,830		\$ 168,640
	Total	\$ 1,312,054	\$ 3,792,742	\$ 880,260

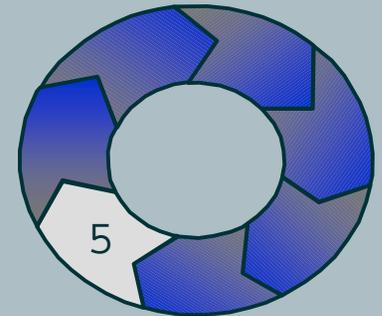


eBUSINESS STRATEGY DEVELOPMENT PROCESS

5. E-Strategy

Select the top one to three opportunities for implementation taking into account 3Cs

- **Customer switching costs**
- **Competencies and competition**
- **Cost benefit**





First C Metric - Customers

Customer switching costs - time and money involved on the part of the customer in switching to a competitor

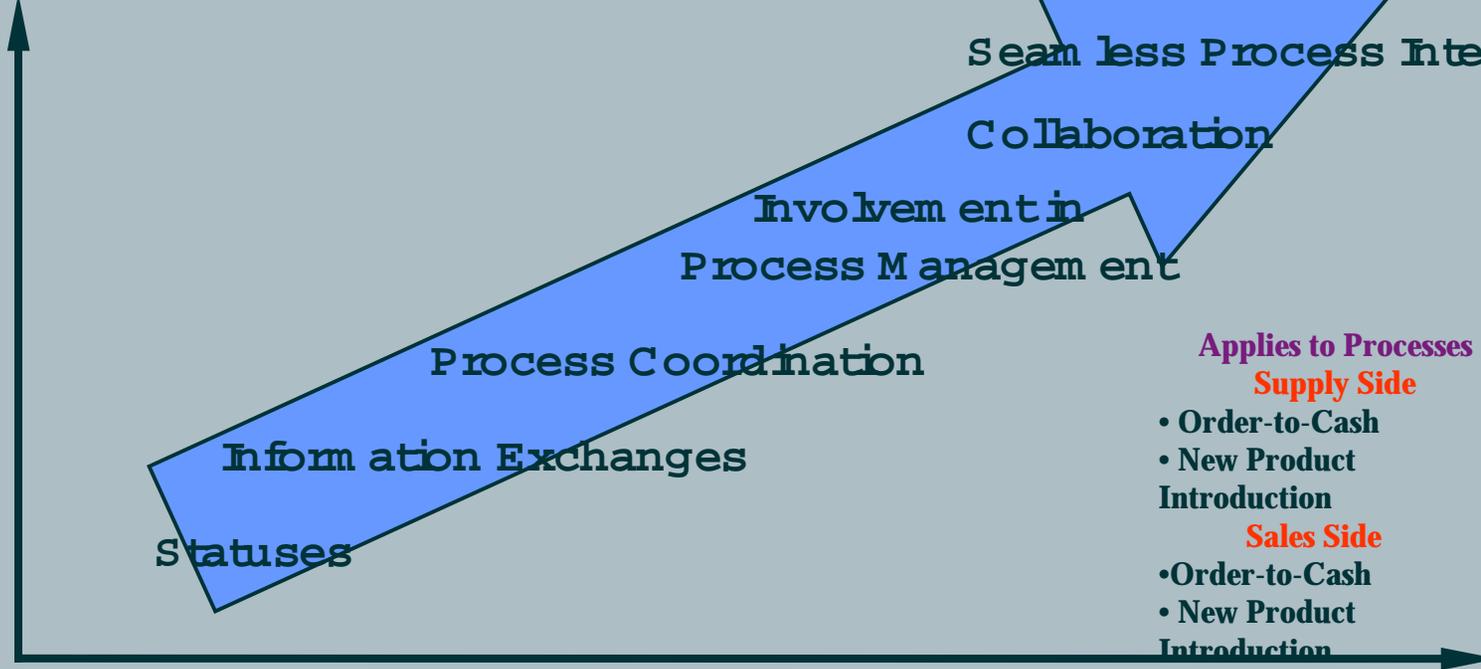
Switching costs can be increased by

- **Tighter process integration between the company's and customer's processes**
- **Additional services that competition does not offer, e.g.**
 - **Convenience in taking orders**
 - **24x7 technical support capability online**
 - **All related information organized for easy access at any time**



Customer Value Creation through Process Integration

Value-Added to Customers



Applies to Processes
Supply Side

- Order-to-Cash
- New Product Introduction

Sales Side

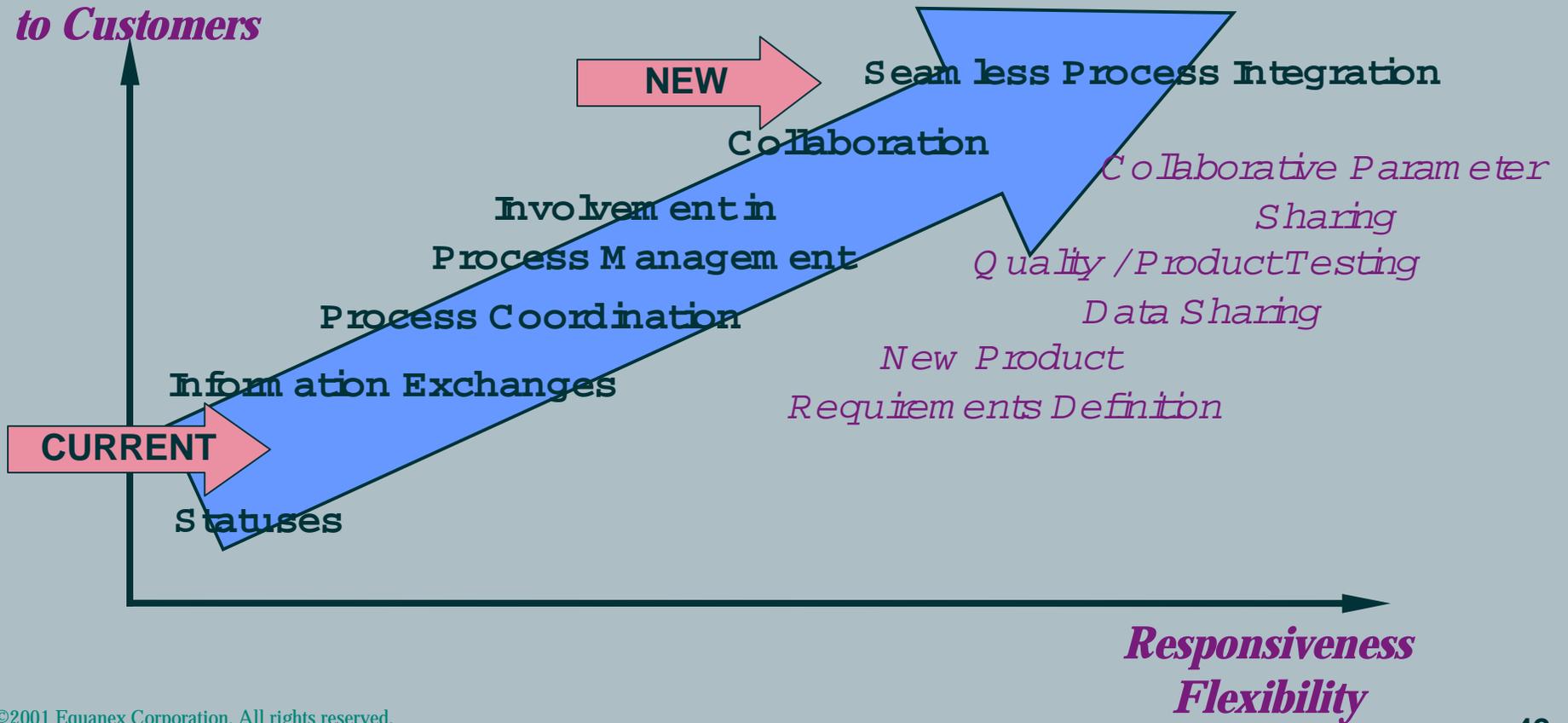
- Order-to-Cash
- New Product Introduction

Responsiveness
Flexibility



Assessing Impact of Customer Process Integration

Value-Added to Customers





Second C Metric - Competencies and Competition

List your competencies, are you leveraging them?

For each opportunity assess

- **Competition's Position - have they implemented this already**
- **If your company has this capability now, where would your company be against competition**
 - Catch-up
 - Short Term Advantage
 - Long Term Advantage
- **If your company has this capability now, where would your company be against competition in a year**



Competitor Snapshot

Case Study

	Opportunity	Competitor Capability	CLV Today	CLV in Year 2001	Priority
Growth Focus					
1	Targeted Marketing		ST Advantage	ST Advantage	1
2	Components Store	.com emerging	ST Advantage	LT Advantage	
Customer Loyalty Focus					
3	Technical Meetings Online		LT Advantage	LT Advantage	
4	Technical Self-service Support	Competitor 1	Catch-up	LT Advantage	3
5	Documentation Online	Competitor 1	Catch-up	LT Advantage	
6	Spare Parts Store	Competitor 2 ?	ST Advantage	ST Advantage	2
7	Spare Parts Advanced Planning		LT Advantage	LT Advantage	
8	Spare Parts Reorder Reminder		LT Advantage	LT Advantage	
Internal eOpportunities					
9	Link with Japan		LT Advantage	LT Advantage	
10	e-Procurement (MRO)	Competitor 1 & 2	Catch-up	Catch-up	



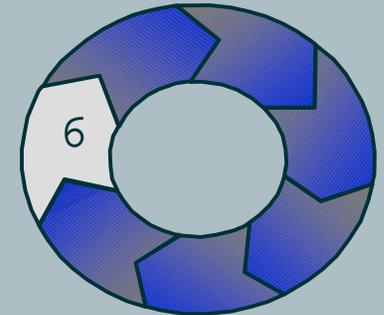
E-Strategy

Case Study

	Opportunity	Cost	Revenue	Implementation	Priority
		Reduction	Increase	Cost	
Growth Focus					
1	Targeted Marketing	\$ 33,000	\$ 945,000	\$ 55,000	1
2	Components Store		\$ 1,880,000	\$ 97,200	
Customer Loyalty Focus					
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eBUSINESS STRATEGY DEVELOPMENT PROCESS



6. Implementation Roadmap

- **Develop project plan for realizing E-Strategy**
- **Identify project teams and time table**
- **Force THREE months time-to-market urgency**
- **Convert benefits into metrics**
- **Insure that metrics are built into business processes**



E-strategy Implementation High Level Roadmap

Case Study

E-Strategy

1. Component Store and E-Targeted Marketing

Milestones:

- Database structured - 8/00
- Marketing Materials - 9/00
- E-commerce - 9/00
- Integration - 11/00
- Final - 12/00

Metrics:

Cost Savings: \$33K

Revenue Increase: \$2,825K

Process actions:

- Track campaign costs and results
- Differentiate web-leads
- Track: % increase; %closure, average deal size

Team:

- Leader: Tim Andersen
- Marketing: Gary Bouchard
- Sales: Andy Andwerp
- Service: Chris Maloney



E-SPIN Step 6 Observations

- **Agreement on metrics across organizations is critical**
- **Integration into company's processes is not an easy task - will not happen without senior management direction**
- **Provides a framework to assess progress and change direction**



Converting Benefits into Metrics

Example

Opportunity: Product Catalog, Product Selection, E-Commerce

Benefit Framework: Revenue Increase

Quantification Assumptions:

- Current Leads / week - 10
- Increase in leads - 50%
- Closure rate - 15%
- Average sale - \$5,000

Actual:

10
30%
50%
\$1,000

Is a process in place to measure and verify assumptions?

Estimated Benefit: Incremental Orders \$195K per year

Actual Orders through the Web: \$78K per year



Actions to reposition

Example

Active relationship building with new customers

**Established links into customers' ERP systems
(replenishment side)**

**Established punch-through capability to e-
purchasing software**

Impact

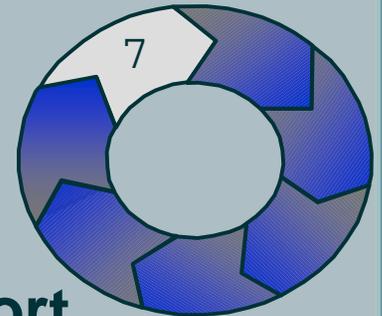
- **120% increase in leads**
- **\$3,000 average deal**
- **from \$78K to \$936K per year versus \$195K estimated**



eBUSINESS STRATEGY DEVELOPMENT PROCESS

7. Measure and Reassess

- **Put a process in place to measure and report results of e-projects monthly**
- **Start next phase of opportunity selection (“E-Spin”) in THREE months after the start of the first one**





Summary

- **LEAN Implementation is the First Step in Building a Competitive Advantage**
- Internet Enables Companies to Build a **Sustainable** Competitive Advantage due to Ability to
 - Move Information Versus Material
- LEAN Focus Shifts from Within the Enterprise to Optimizing Interactions with Customers and Suppliers
- Selecting the Best Opportunities for Implementation should
 - Leverage Competencies Created by LEAN Implementation
 - Apply High Level Cost Benefit Analysis
 - Verify Results by Competitive Assessment
- e-Strategy Roadmap should be structured to **Deliver** Capabilities **Every 3-6 Months**
- **Measuring Results** is Critical
- E-Business Efforts should be Re-evaluated Every Six Months