



# Survival of the FM

**Scenter**

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**Pbsrg.com**

**NEVI**

**Feb 4, 2014**



**SKEMA Business School**



# Observation

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- FM asked to know more
- Technology is changing
- Much of technology is shrouded by “marketing” and “hype”
- Price is driving the marketplace

# Future of the FM

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- Transparency is created by the proper metrics. Minimization of “management, direction and control” [MDC]
- Identification and utilization of expertise.
- Increases the value of expertise.
- Minimizes risk.
- Moves the FM to a leadership based, supply chain, metric based approach.
- “How to do more with less” by utilizing expertise and increasing value rather than cutting cost.

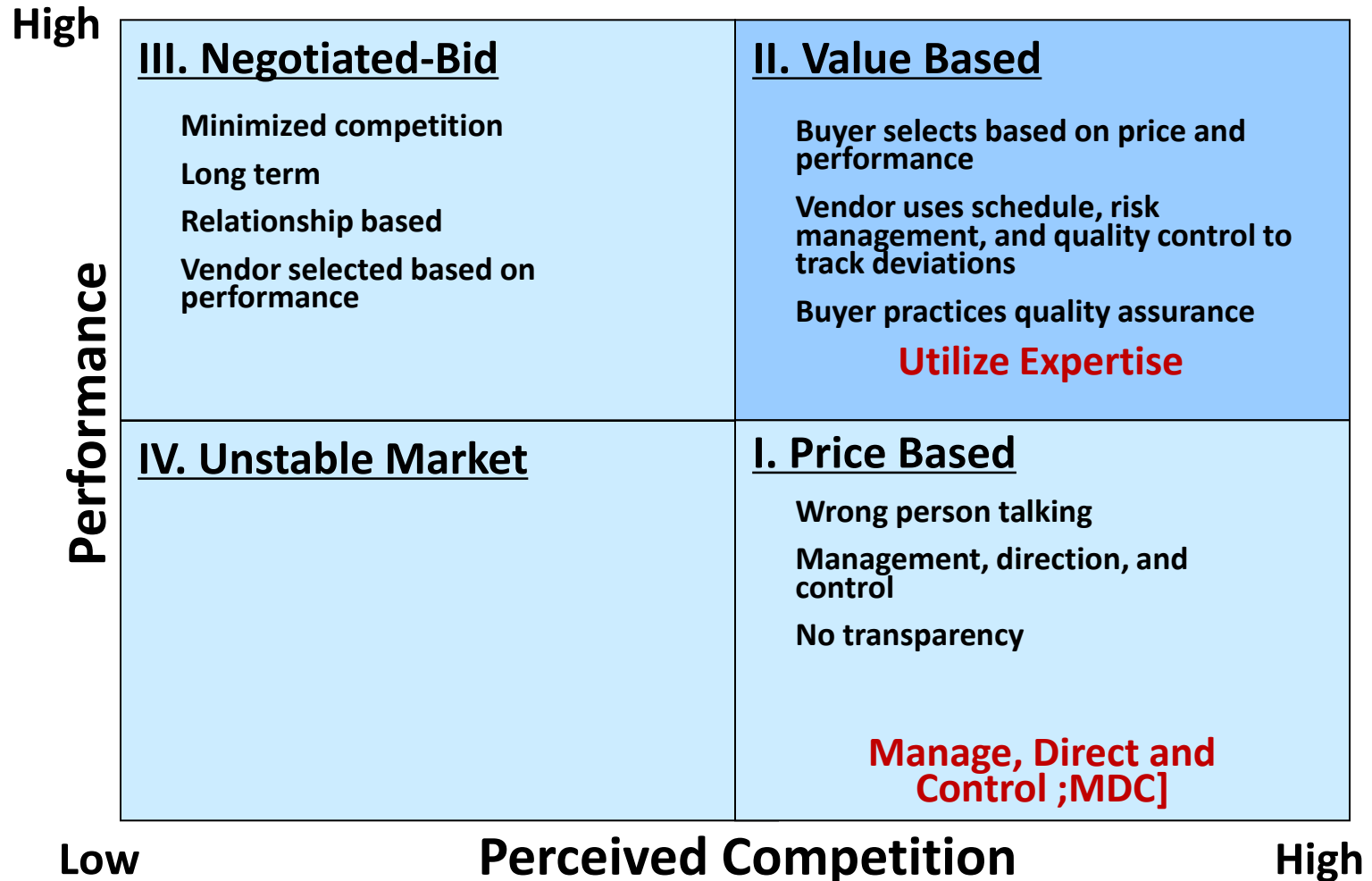
# Why?

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- Cut cost by 10 – 30%
- Expert vendors increase profit
- FM doesn't have the time to be the expert of everything



# Industry Structure



# MDC Systems Create Confusion, blindness, and reactivity

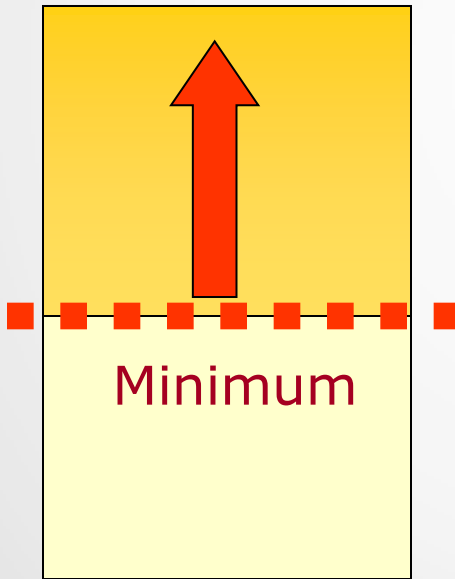
## Owners

*“The lowest possible quality that I want”*

High

Performance

Low



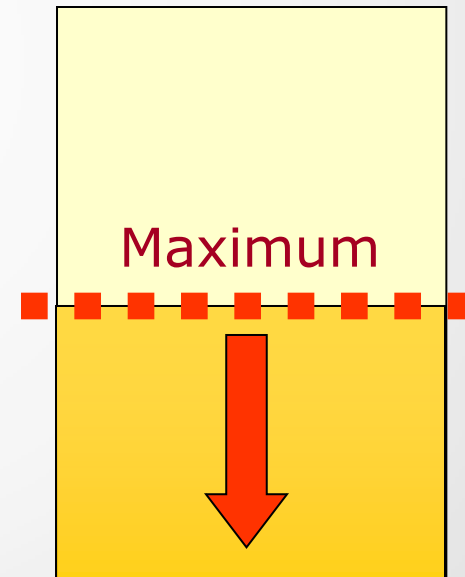
## Contractors

*“The highest possible value that you will get”*

High

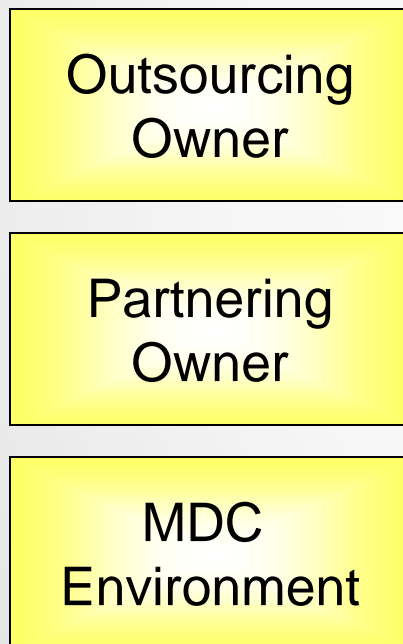
Performance

Low

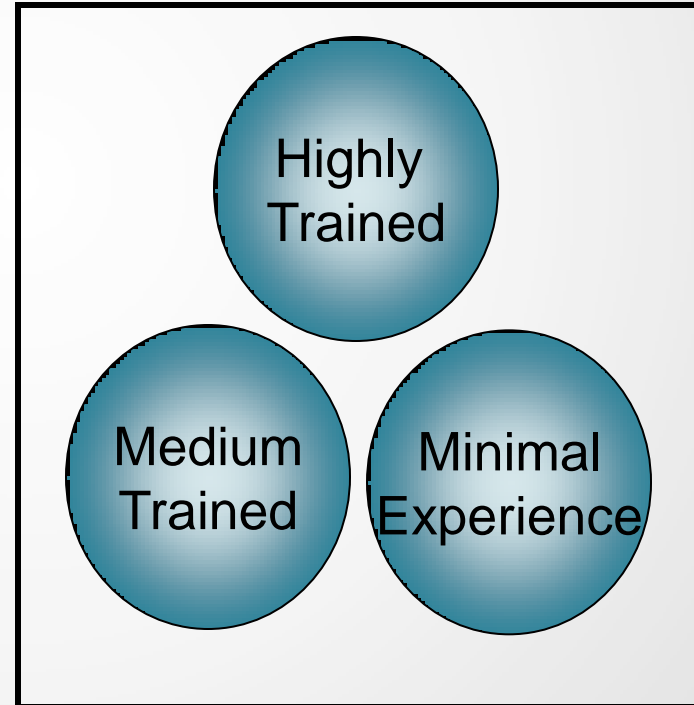


# Business Model for Experts

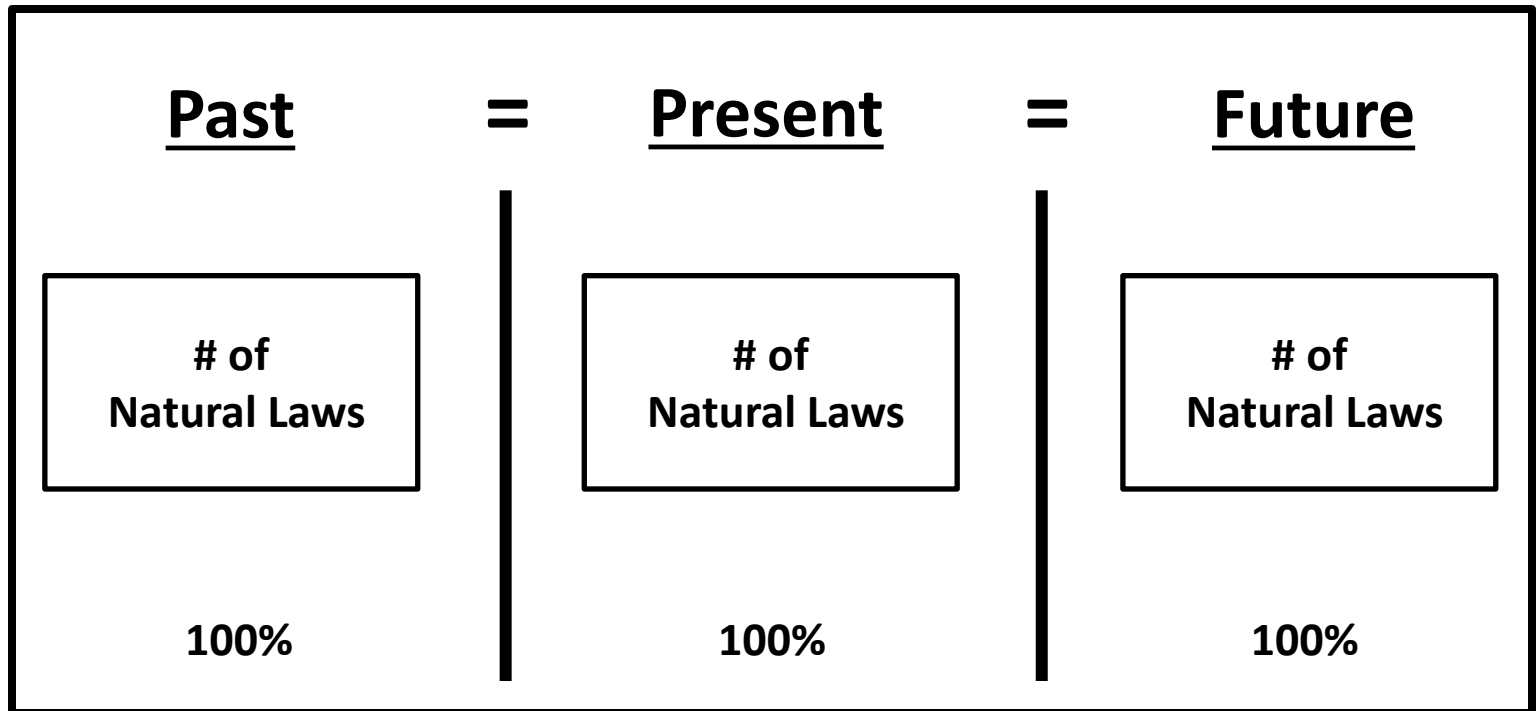
## Customers



## Vendor X



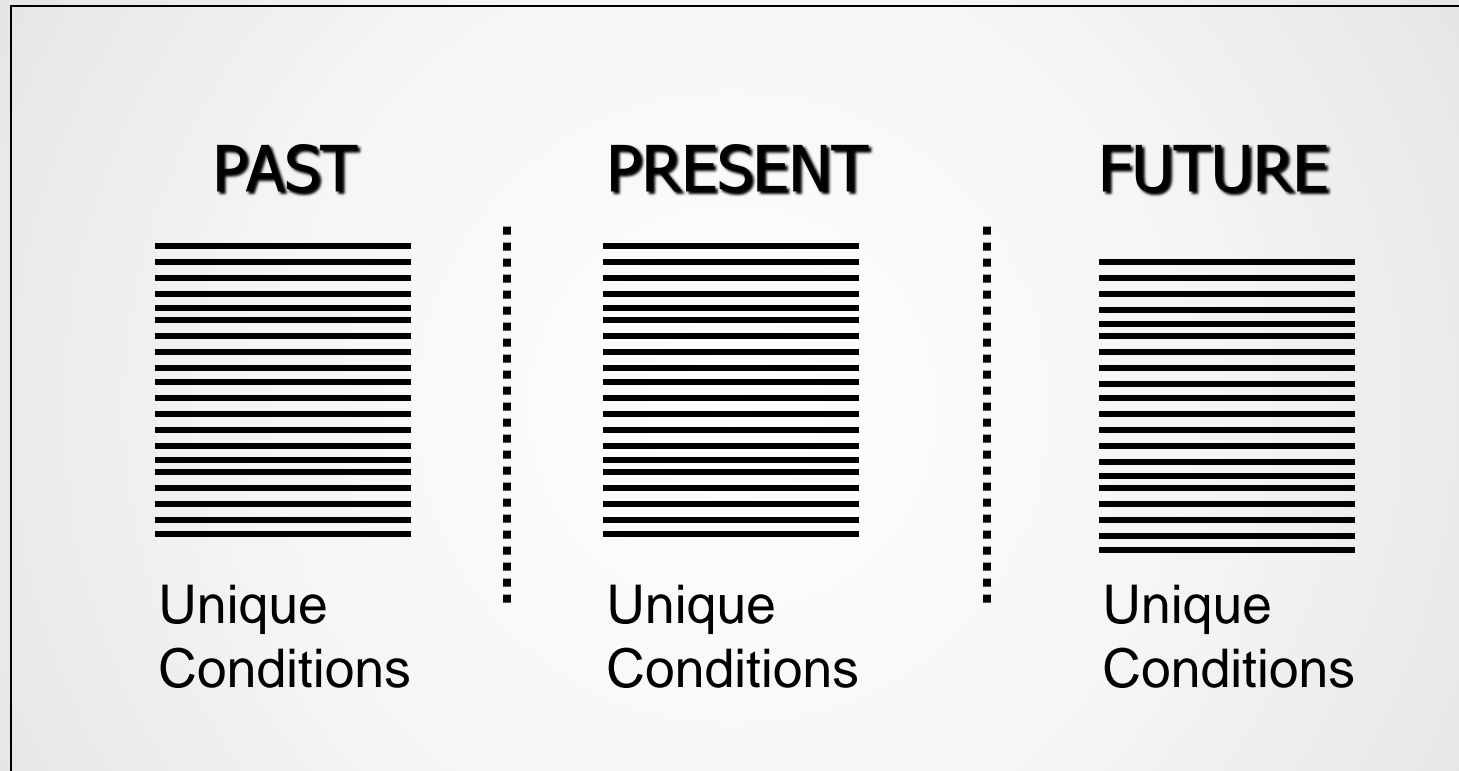
# Natural Laws



**Natural Laws are discovered and not created**

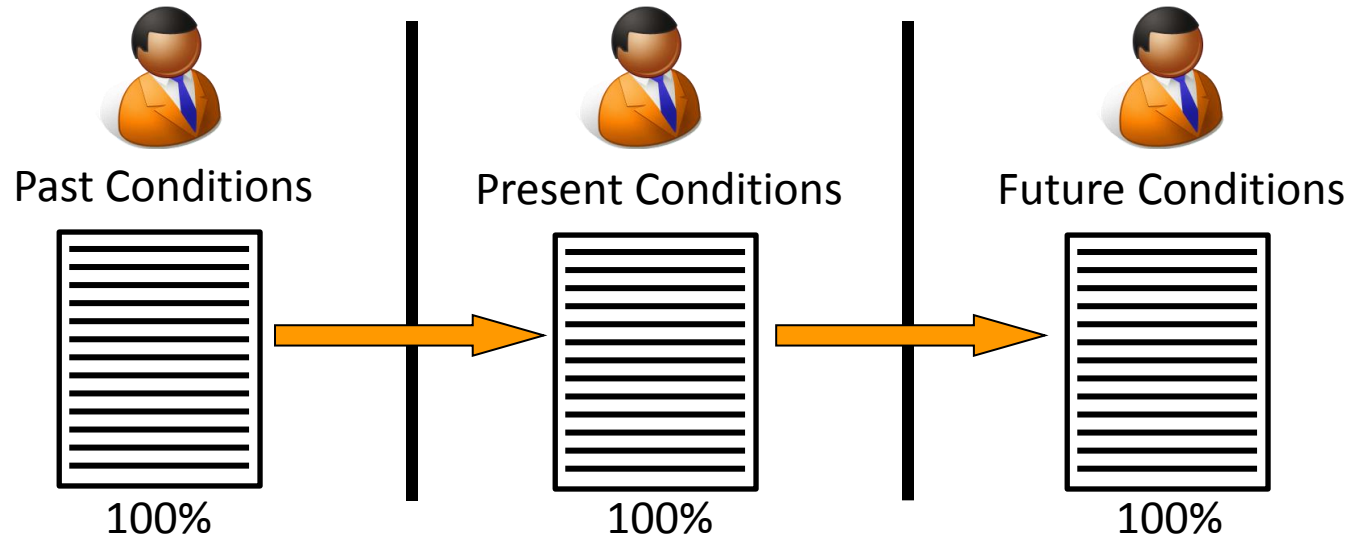


# Conditions Always Exist

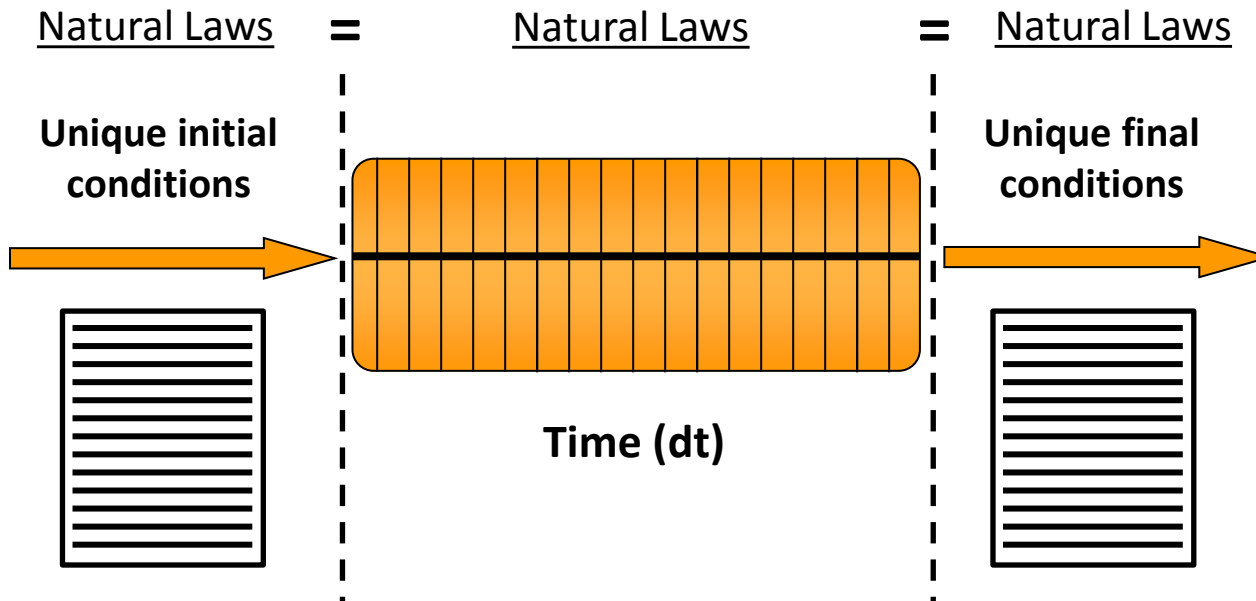


Conditions are unique and change according to natural laws

# Unique Conditions Are Related



# Event [by Observation]



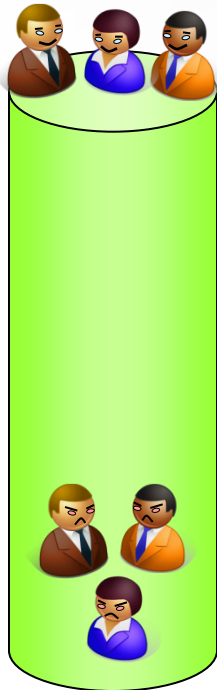
# We Are Supply Chains



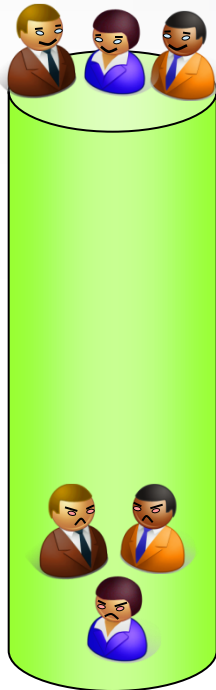
30K Foot Level

Simplicity/Dominant Information

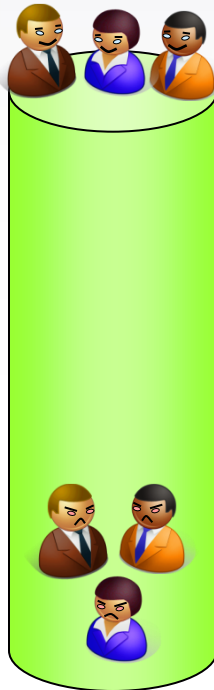
Parents



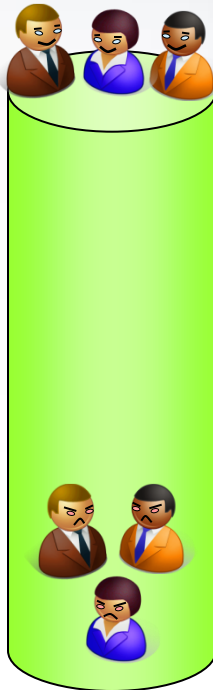
Myself and my Wife



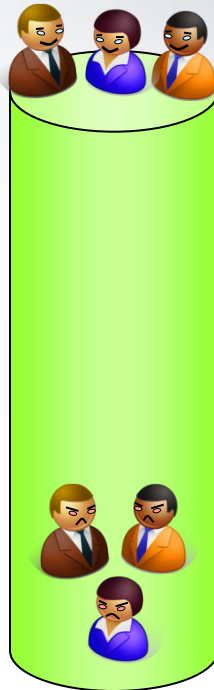
Children



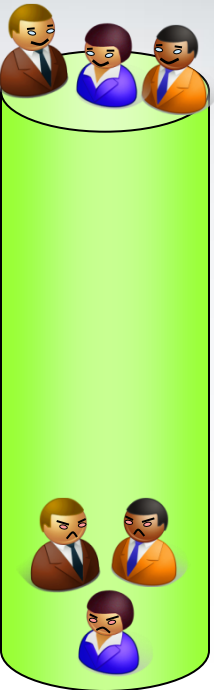
Children's Future Families



Children's Future Jobs

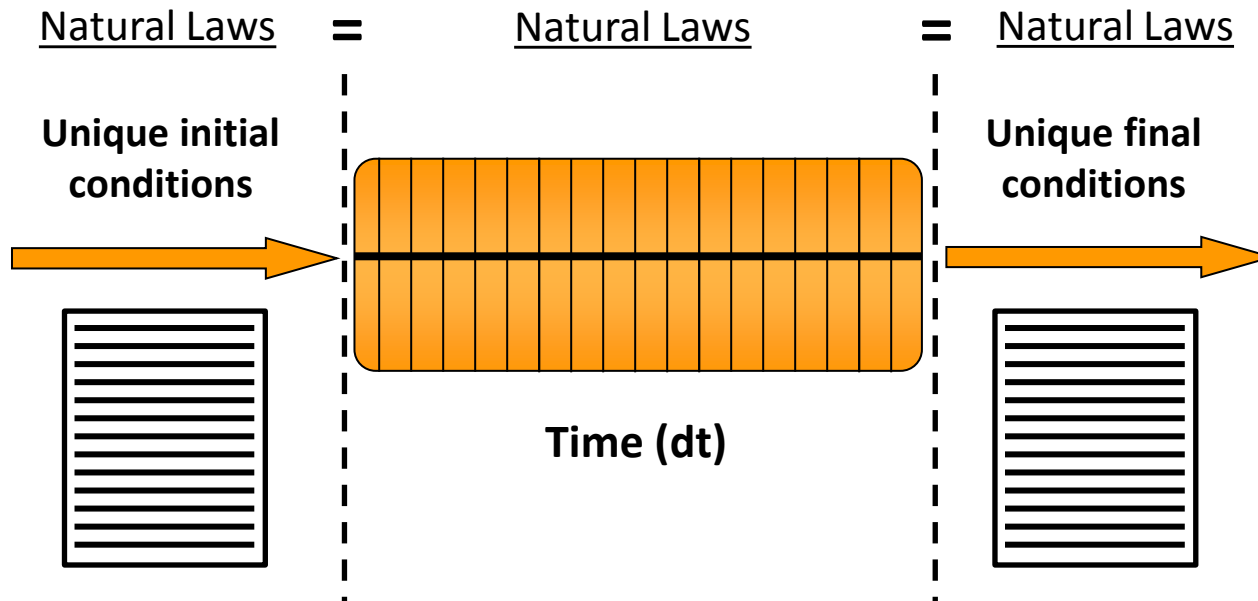


Children's Future Children



Technical Details

# Unique Final Conditions are Set by Initial Conditions [No controlling of event, Minimizing Decision Making]



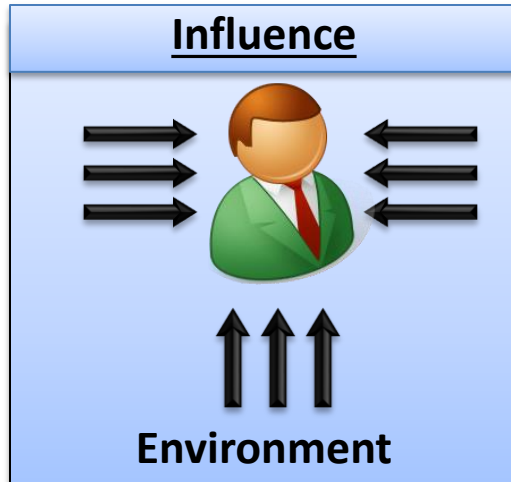
# “No control”

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- Control and influence [form of control to alter final outcome] causes risk and transactions
- Decision making accompanies MDC
- Control is not used in the Best Value approach
- BV PIPS is different because there is no use of control
- Cannot override NL

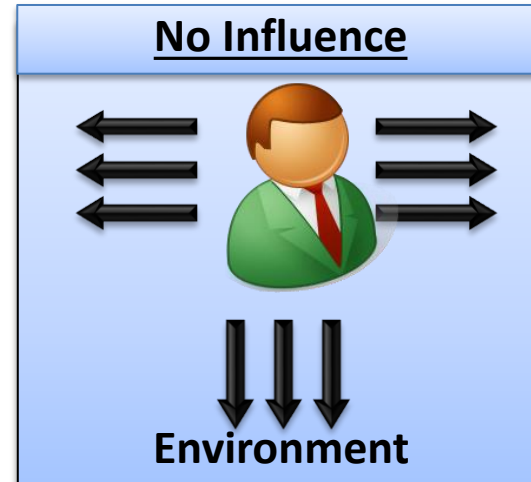


# Influence vs. “No Influence”



## More Likely to:

1. Believe in luck and chance
2. Blame others
3. Be surprised
4. Be emotional
5. Try to control others
6. Feel controlled by others
7. Be reactive

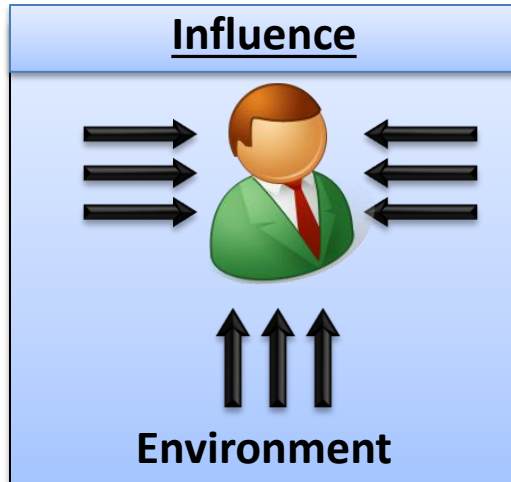


## More Likely to:

1. Plan things in advance
2. Be accountable
3. Have vision
4. Listen to others
5. Think of other people
6. Be at peace
7. Be organized

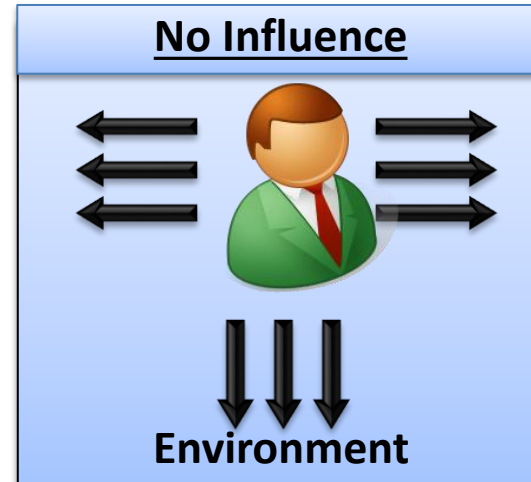
By Success model, **NO** control or Influence is reality

# Which Model Increases Risk?



More Likely to:

1. Believe in luck and chance
2. Blame others
3. Be surprised
4. Be emotional
5. Try to control others
6. Feel controlled by others
7. Be reactive



More Likely to:

1. Plan things in advance
2. Be accountable
3. Have vision
4. Listen to others
5. Think of other people
6. Be at peace
7. Be organized

Risk Test identifies **NO** control or Influence as accurate model

# Definition of Experts

- Metrics
- No risk
- Risk mitigation through transparency
- Planning
  - Use expertise to identify proposed plan
  - Identify risk that they do not control

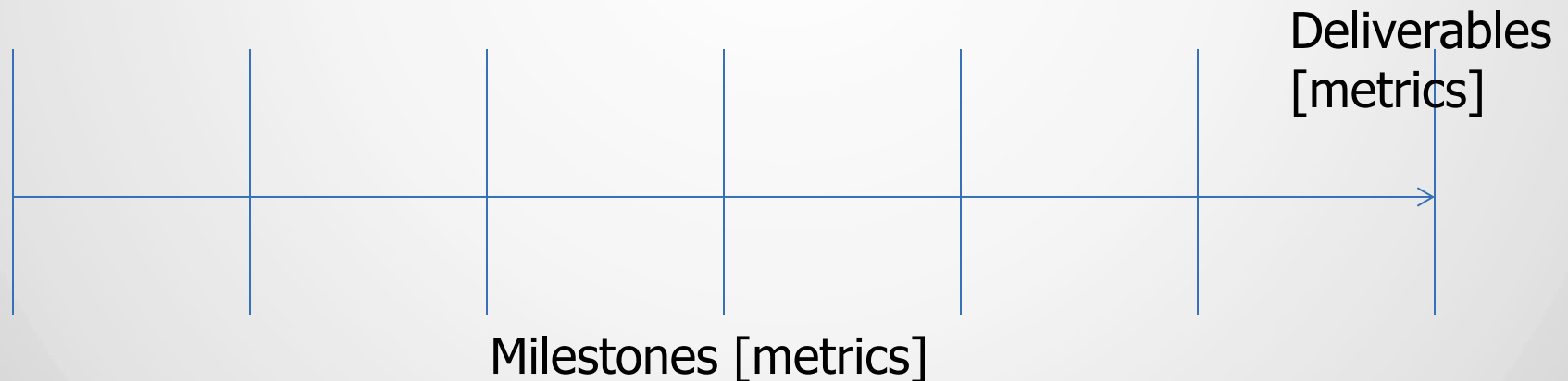
# What is a plan?

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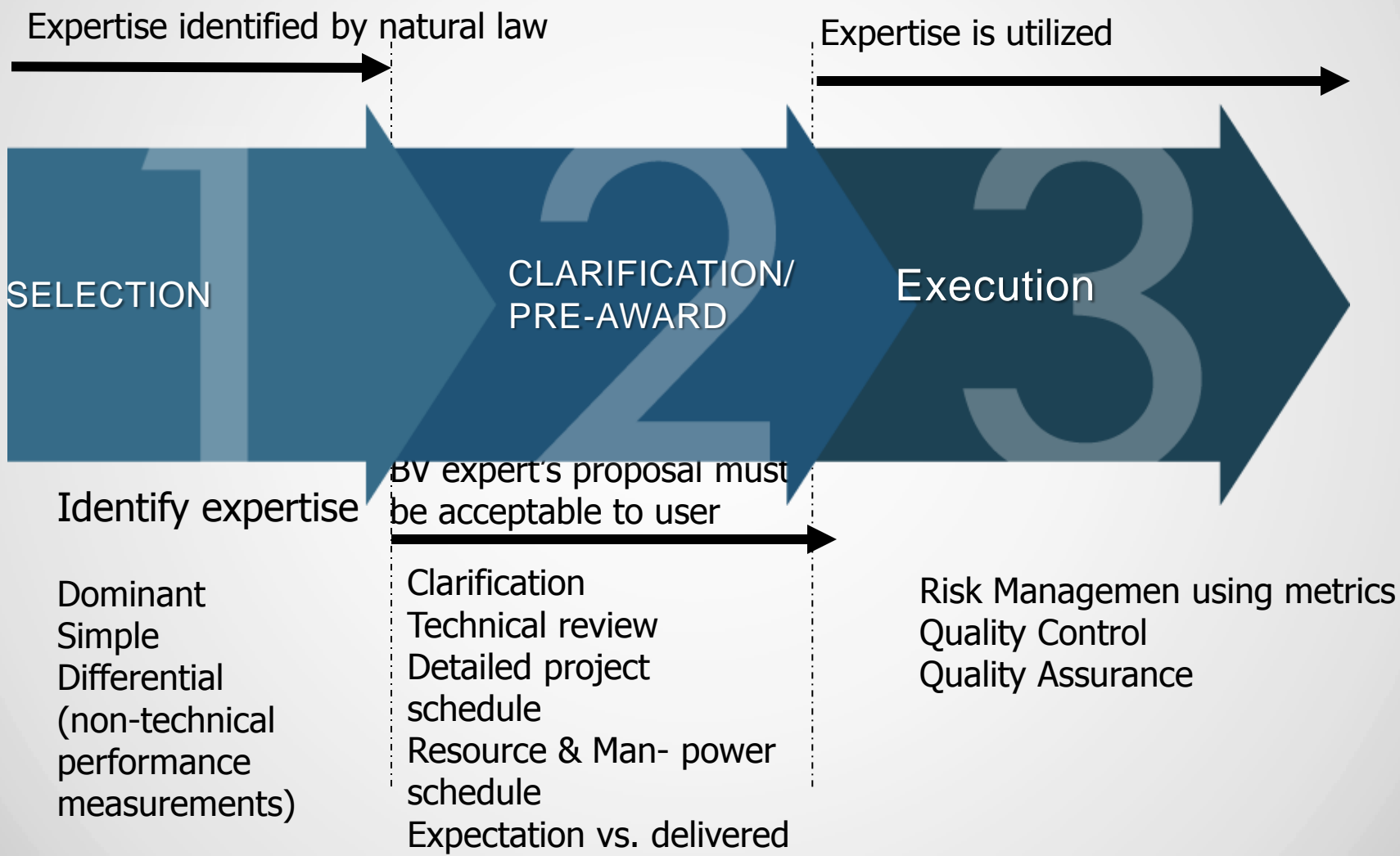
- Deliverables in terms of metrics
- Milestones [various stages of deliverable]
- Activities that you do not control
- Activities that you do not have enough information [best estimate]
- Plan is uncoordinated
- Proposed to stakeholders
- Stakeholders can respond
- Transparency [WRR]

# Plan

- Detailed schedule from beginning to end
- Expertise used in areas where there is insufficient information
- Risk that cannot be controlled [requirements]



# Model of the Future: Performance Information Procurement System (details documented in manuals at [pbsrg.com](http://pbsrg.com) and [ksm-inc.com](http://ksm-inc.com))





# Clarification Phase Deliverables

## [Plan]

- Scope of Work (what is “in” and “out”)
- Detailed project schedule
- Cost/time
- Risk activities
- Performance measurements
- Risk mitigation plan
- Weekly Risk Report
- Milestone Schedule

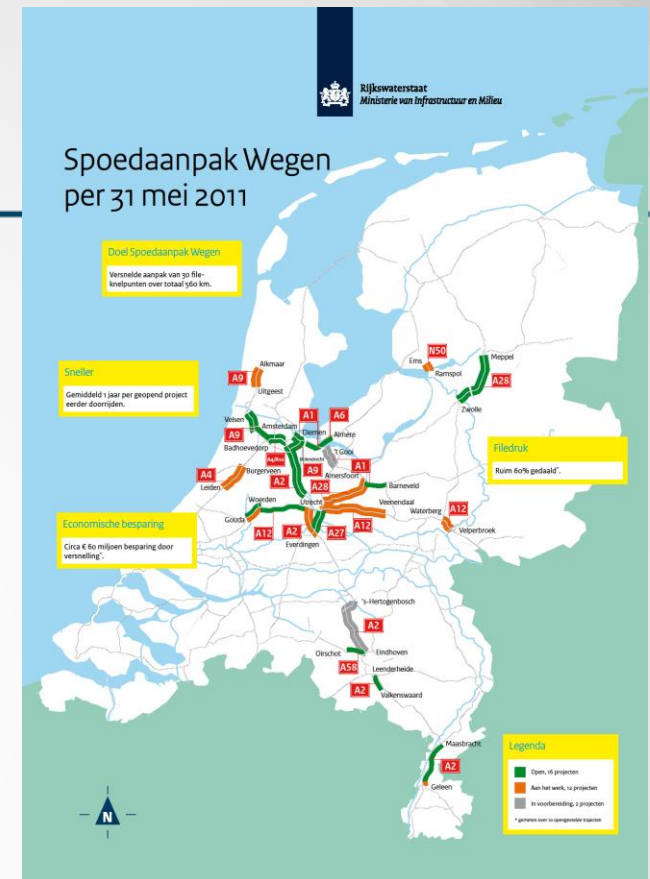
# System Created to Assist People to See



# System Created to Increase Value and Performance



# Dutch Implementation



- Over-management of vendors
- Procurement and execution takes too long [12 years]
- Infrastructure repair is critically needed [drivers spend 1-2 hours on road going and coming]

- 16 project, 6 awards, \$1B test of best value PIPS
- Goal is to finish 10 projects in 3 years



# Results

- Program results: 15 projects finished (expectation was 10)
- Delivery time of projects accelerated by 25%
- Transaction costs and time reduced by 50-60% for both vendors and client
- 95% of deviations were caused by Rijkswaterstaat or external [not vendor caused]
- NEVI , Dutch Professional Procurement Group [third largest in the world] adopts Best Value PIPS approach
- Now being used on complex projects and organizational issues

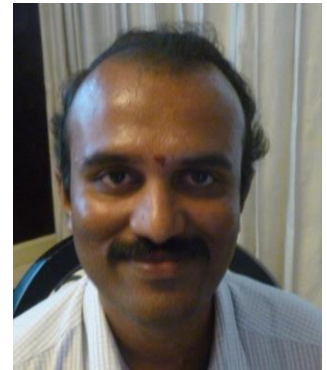
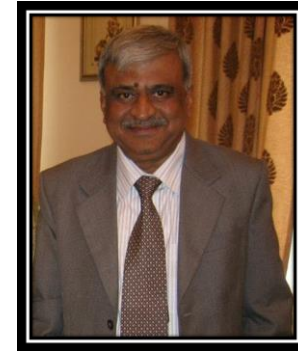
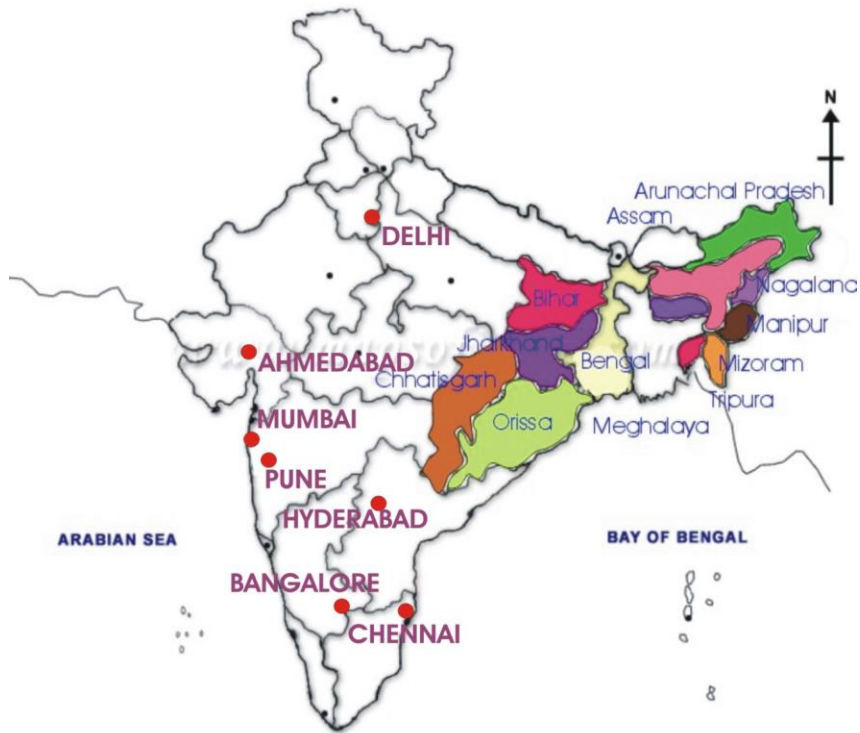


# Canadian BV PIPS Projects





# Education/Research August 2014



# Wattle & Daub Performance Report



Owner	Job Name	City	State	Age
Hacker Oil Co.	Sinclair Gas / Out of Business	Torrington	WY	34.00
EWC	Vet. Tech.	Torrington	WY	31.00
Goshen Co SD #1	Torrington Middle School	Torrington	WY	30.00
Wyoming National Guard	Army Aviation Support	Cheyenne	WY	30.00
Madden Brothers	Tote-Away Building	Torrington	WY	30.00
Torrington City	City Electric	Torrington	WY	30.00
Torrington City	Fire Station	Torrington	WY	30.00
Torrington City	Vo Tech	Torrington	WY	30.00
EWC	Connector Bldg.	Torrington	WY	28.00
Torrington City	Torrington Community Center/Lincoln Elementary	Torrington	WY	28.00
Bloedorn Lumber	Storage Facility	Torrington	WY	28.00
Torrington City	Other half of the school	Torrington	WY	28.00
Platte County School District	Middle School (high school)	Douglas	WY	28.00
EWC	Tebbetts Front	Torrington	WY	26.00
Platte County School District	Chugwater Elementary	Chugwater	WY	25.00
Goshen Co SD #1	Lingle Gym	Lingle	WY	25.00
Goshen Co SD #1	Lingle HS	Lingle	WY	25.00
Goshen Co SD #1	Lingle JR High	Lingle	WY	25.00
Goshen Co SD #1	Torrington HS – Willi Gym	Torrington	WY	25.00
Anderson Oil Co.	Conoco Gas / Restaurant	Torrington	WY	25.00
Platte County School District	Classroom Bldg.	Wheatland	WY	24.00
EWC	Dorms	Torrington	WY	23.00
EWC	Fitness Center	Torrington	WY	23.00
EWC	Tebbetts Backwings	Torrington	WY	23.00
Platte County School District	Admin Bldg.	Wheatland	WY	22.00
Platte County School District	Bus Garage	Wheatland	WY	22.00
Platte County School District	Vocational Agricultural	Wheatland	WY	22.00
Platte County School District	Vocational Art	Wheatland	WY	22.00
Platte County School District	Library	Wheatland	WY	22.00
EWC	Fine Arts Auditorium	Torrington	WY	21.00
Platte County School District	Libbey Elementary - Recoat	Wheatland	WY	21.00
Platte County School District	West Elementary-Recoat	Wheatland	WY	21.00
EWC	Activity Center/Gym	Torrington	WY	20.00
EWC	Cosmetology	Torrington	WY	19.00
EWC	Fine Arts Classroom	Torrington	WY	19.00
Goshen Co SD #1	Torrington HS – Willi Gym Classroom	Torrington	WY	19.00
State of Wyoming	GSD/Dept. of Corrections	Cheyenne	WY	18.00
EWC	Commons Phase II	Torrington	WY	18.00
State of Wyoming	Liquor Commission	Cheyenne	WY	18.00
Goshen Co SD #1	Lingle Library	Lingle	WY	18.00
Goshen Co SD #1	TMS Gym	Torrington	WY	18.00
Goshen Co SD #1	Torrington HS – Willi Gym Auditorium	Torrington	WY	18.00

Owner	Job Name	City	State	Age
State of Wyoming	Emerson Bldgs.	Cheyenne	WY	18.00
State of Wyoming	Surplus	Cheyenne	WY	17.00
State of Wyoming	Weights & Measures	Cheyenne	WY	17.00
State of Wyoming	Woodson	Cheyenne	WY	17.00
State of Wyoming	Archives	Cheyenne	WY	17.00
Wyoming National Guard	OMS Building	Cheyenne	WY	17.00
State of Wyoming	N/A	Torrington	WY	16.00
State of Wyoming	N/A	Torrington	WY	16.00
State of Wyoming	N/A	Torrington	WY	16.00
Niobra Co. SD #1	N/A	Torrington	WY	16.00
Goshen Co SD #1	Goshen Library	Torrington	WY	15.00
State of Wyoming	Emerson Bld.	Cheyenne	WY	15.00
Poudre School Dist R1	Barton Elementary	Ft Collins	CO	15.00
Goshen Co SD #1	Lingle Cafeteria	Lingle	WY	15.00
Poudre School Dist R1	IT Center	Ft Collins	CO	15.00
1st Interstate	N/A	Laramie	WY	15.00
Poudre School Dist R1	Leshner Jr. High	Ft Collins	CO	14.00
Dept of Commerce/NIST	Bldg 1/Wing 6-Bldg 2/	Boulder	CO	14.00
Wyoming National Guard	Adjunct General's Office - #1	Cheyenne	WY	13.00
Poudre School Dist R1	Linton Elementary	Ft Collins	CO	13.00
Poudre School Dist R1	Werner Elementary	Ft Collins	CO	12.00
Poudre School Dist R1	Johnson Jr. High School	Ft Collins	CO	11.00
Poudre School Dist R1	Vehicle Maintenance Bldg	Ft Collins	CO	11.00
Wyoming National Guard	Adjunct General's Office - #2 Middle/Front	Cheyenne	WY	11.00
Wyoming National Guard	Adjutant General's Office	Cheyenne	WY	11.00
Poudre School Dist R1	Cache La Poudre Middle School	LaPorte	CO	11.00
Poudre School Dist R1	CLP Jr High Gym	LaPorte	CO	11.00
State of Wyoming	Rodgers Building / Agricultural Bldg	Cheyenne	WY	10.00
Poudre School Dist R1	Cache LaPoudre Elementary	LaPorte	CO	10.00
Poudre School Dist R1	Warehouse #3	Ft Collins	CO	10.00
State of Wyoming	Smith Building/DCI	Cheyenne	WY	10.00
Lynne Sirpolaidis	Sirpolaidis Residence	Cherry Hills	CO	10.00
Poudre School Dist R1	Olander Elementary	Ft Collins	CO	9.00
Poudre School Dist R1	Laurel Elementary	Ft Collins	CO	8.00
Poudre School Dist R1	PSD Administration	Ft Collins	CO	8.00
Poudre School Dist R1	Kruse Elementary	Ft Collins	CO	7.00
EWC	Vet Tech Addition	Torrington	WY	6.00
Platte County School District	various - Recoat	Wheatland	WY	6.00
Poudre School Dist R1	McGraw Elementary	Ft Collins	CO	6.00
Eastern Wyoming College	Vet Tech Addition	Torrington	WY	6.00
Converse Co SD #1	Douglas High School-Recoat	Douglas	WY	4.00

# Overall Inspection Performance Line Comparison

No	Criteria	Average of other Alpha Contractors	Wattle & Daub	% Difference
1	Total number of years in the Alpha Program	10	22	120%
2	Overall customer satisfaction (out of 10)	9.6	9.8	2.1%
3	Oldest job surveyed	22	34	54.5%
4	Average age of jobs surveyed	7	18	157%
5	Age sum of all projects that never leaked	988	5,221	428%
6	Age sum of all projects that do not leak	1,483	5,689	284%
7	Total of job area (of job surveyed and inspected)	8.6 M	9.1 M	6.2%
8	Total number of jobs inspected	180	649	261%

- Wattle & Daub ranked #1 among other thirteen high-performing contractors

# Percentage Defect Comparison

No	Criteria	Other Alpha Contractors	Wattle & Daub
1	Average SF of defects per roof	21	4
2	Average percentage of roof area defected	0.03%	0.01%

- Other high-performing contractors have 5 times the average SF of defects per roof compared to Wattle & Daub





Tonington High School



**Torrington HS Willi Gym**  
**Year Installed: 1988**  
**Service: 26 years**  
**Size: 8,240 SF**



**Torrington HS Auditorium**  
**Year Installed: 1995 (19 years)**  
**Size: 7,900 SF**





**Torrington HS Auditorium**  
**Year Installed: 1995 (19 years)**  
**Size: 7,900 SF**





**Torrington HS Classrooms**  
**Year Installed: 1994 (20 years)**  
**Size: 25,400 SF**

# Best Value Research

Criteria	Metrics
Founded	1993 by Dr. Dean Kashiwagi
Department	Del E Webb School of Construction
Operation	20 years
Expertise	IMT & BV PIPS
Projects and Services Delivered	1600 +
Projects and Services Delivered	\$5.7 Billion
Customer Satisfaction	98%
Client Rating of Process	9.0/10
Research Funds	\$13 Million
Licenses	27



# Additional Information

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- 20 year research program
- ASU adopted system; difference is \$110M/year
- First three tests net \$100M investment
- 98% customer satisfaction
- 2012 Dutch Sourcing Award (DSA) for \$1B Implementation on critical fast-track infrastructure construction
- 2012 IFMA Fellow
- 2009 IFMA Educator of the Year
- 2008 Fulbright Scholar
- 2005 CoreNet Global Innovation of the Year Award





# CL Performance at ASU

# CL Business Outcomes: Costs

Business Outcomes	Pre MSA	MSA (2010)	MSA (2013)
MSA Baseline	\$12.29M	\$10.81M	\$11.96M
Growth – Out of Scope	N/A	N/A	\$1.15M
Value Add	N/A	\$0.43M/yr	\$0.98M/yr <small>*see appendix for details</small>
Net MSA	\$12.29M	\$10.38M	\$9.83M

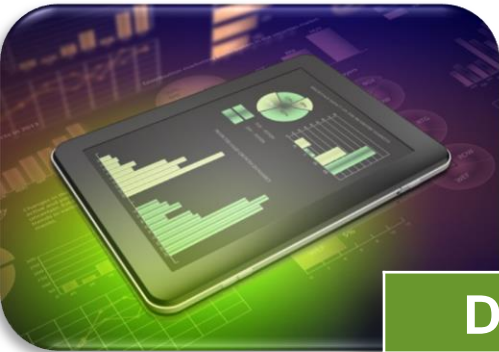
# CL Business Outcomes: Reliability & Satisfaction

Business Outcomes	Pre MSA	MSA (2010)	MSA (2013)
# of Major Outages	N/K	37	11
% Uptime	99.802	99.989	99.998
Customer Satisfaction	3.6	3.71 (max 4.0)	3.81 (max 4.0)
% of Tickets within SLA	94%	97%	97%

# Business Outcomes: Technology

Business Outcomes	Pre MSA	MSA (2010)	MSA (2013)
% Network supported (Not at end-of-maintenance)	89%	99%	99%
% 1Gb- Wired Connections	57.0%	71.5%	96.0%
% Wireless(n)	9.0%	8.7%	92.6%
IT Spending Ratio	6/94 (New vs. Maintenance)	26/74 (New vs. Maintenance)	56/44 (New vs. Maintenance) Includes New Growth Includes Wireless-n

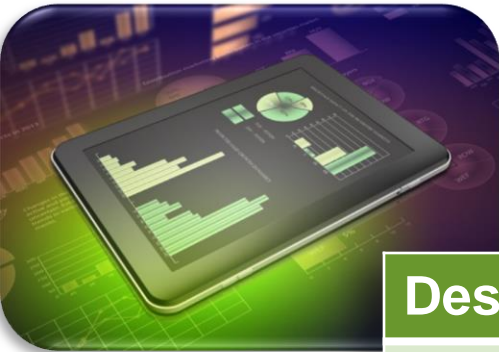
# Business Outcomes: System/Process



Description	2008	2013
KPI Dashboard Improve our Capabilities of Measurement	Manual KPI tracking	Online KPI tracking (weekly/monthly)
Change Mgmt Reduction in Outages	Not Formally Documented	Formal CM Process ITIL based Detailed MOPs Engineering Review
Project Tracking Create transparency	Manual Project Tracking	SharePoint New Growth and Operations Projects



# Business Outcomes: System/Process



Description	2008	2013
Engineering and Architecture reviews Design meets Industry best practices	Single level of Engineering review	Multiple levels of Engineering review Local/UTO/Cisco ATAC CCIE
Redundancy Testing Reduction in Outages	Not scheduled	Bi-annual Testing Mitigate any issue
Security Meet Audit Requirements	One Network, Allow Everything	NG-Firewalls Segmentation Malware Protection Logging



# Delivering Better Value for \$\$ Invested

- *Avaya Maintenance – Total Cost of Ownership reduced 21%*
- *Cisco Sparing – Total Cost of Ownership reduced 11%*
- *End of Support Switch Upgrade – Capital Expenditures reduced by 13%*



*“Offer the right services at the right quality and right price”*

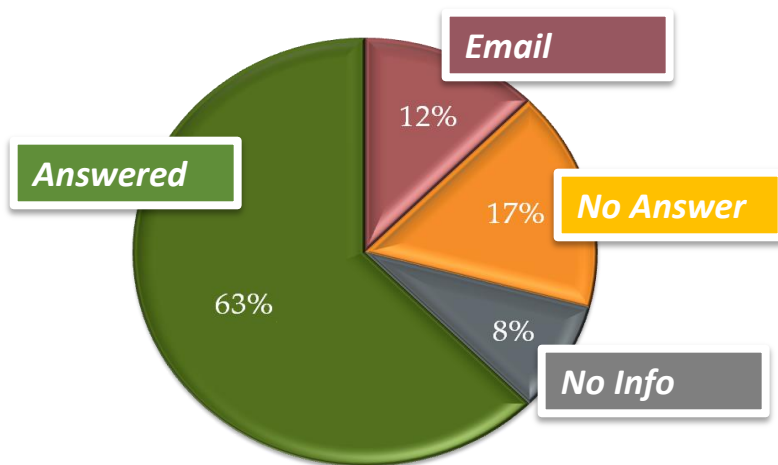
Reduction of IT Budget (Initiative)	% Savings	P&L Business Impact
Avaya Consolidation (reduced maintenance)	21.20%	\$636,304
Cisco Sparing (reduced maintenance)	11.40%	\$568,116
EoSupport Upgrades (354 device reduction)	13.30%	1,000,000
<b>Total P&amp;L Benefits*</b>		<b>\$2,204,420</b>

\*see appendix for more detail

# Customer Satisfaction



ASU Tempe Campus	Average Rating (0-4)
Faculty/Researchers (241)	3.8
IT Departments (14)	4.0
Average Satisfaction	3.81



***Service Orders (Full Data Set)– Qty: 367  
Survey Response Received – Qty: 241***

***Statistically more significant than online  
survey due to higher population base***

# State of AZ Environmental Quality

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- Modify identification and selection of professional engineering services
- Modify method of professional engineering work
- Modify contract
- Modify management of professional engineering services
- Application of Metrics

# FM Effort to Change the Future

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- FM visionaries [IFMA subgroup]
- PM visionaries
- Use deductive logic and leadership
- Have large impact on delivering of services
- Modifying university education system in ASU honors program [150 students]

# Best Value Education



Linked in  
[Dean.kashiwagi@asu.edu](mailto:Dean.kashiwagi@asu.edu)

Youtube

Pbsrg.com

ksmleadership.com

Jan 11 -15, 2015

Tempe, AZ

2014 Best Value Education  
and Training

PBSRG.com

Research partnerships

Inexpensive training at site  
[www.ksm-inc.com](http://www.ksm-inc.com)

