Collective Efficacy as the Last Mile in Production (The Tipping Point in Change)

CSVA Symposium

Toronto

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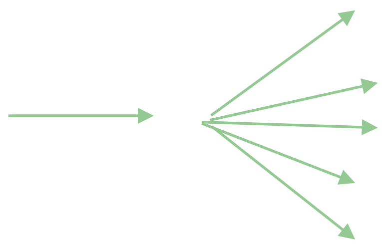
Overview

- *VA impact at the implementation stage*
- *New ideas must be implemented by the production line.*
- *How to use VA to implement modern improvement methods.*
- *Match the task with the approach*
- *If you want innovation in production you have to create the opportunity through your behaviour*

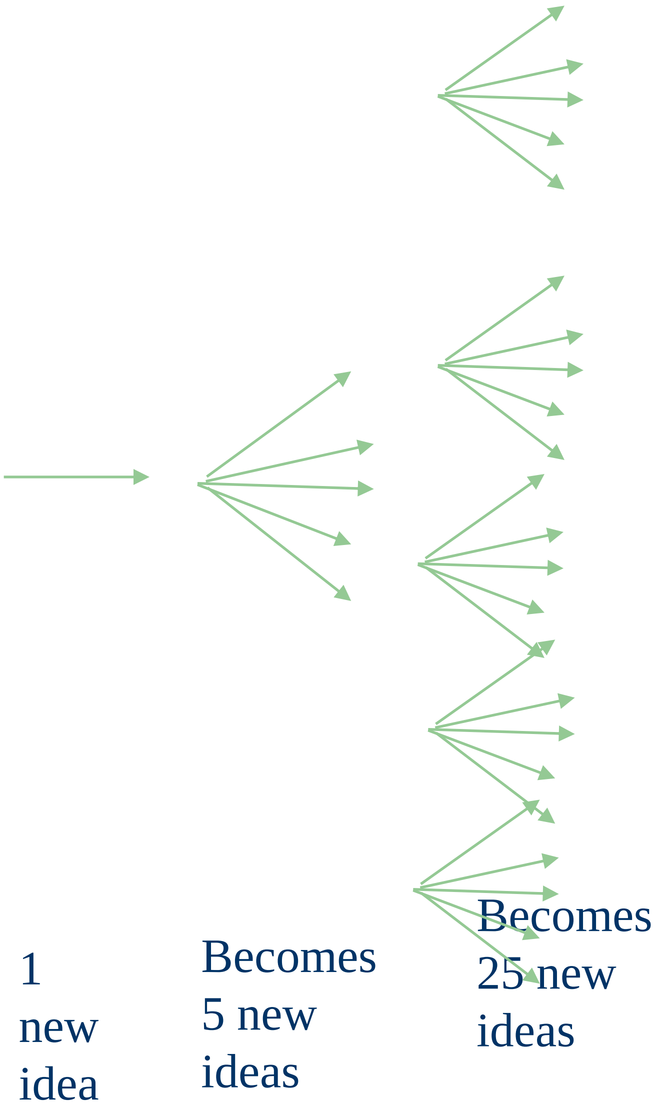
Can we really talk about 1 new method?

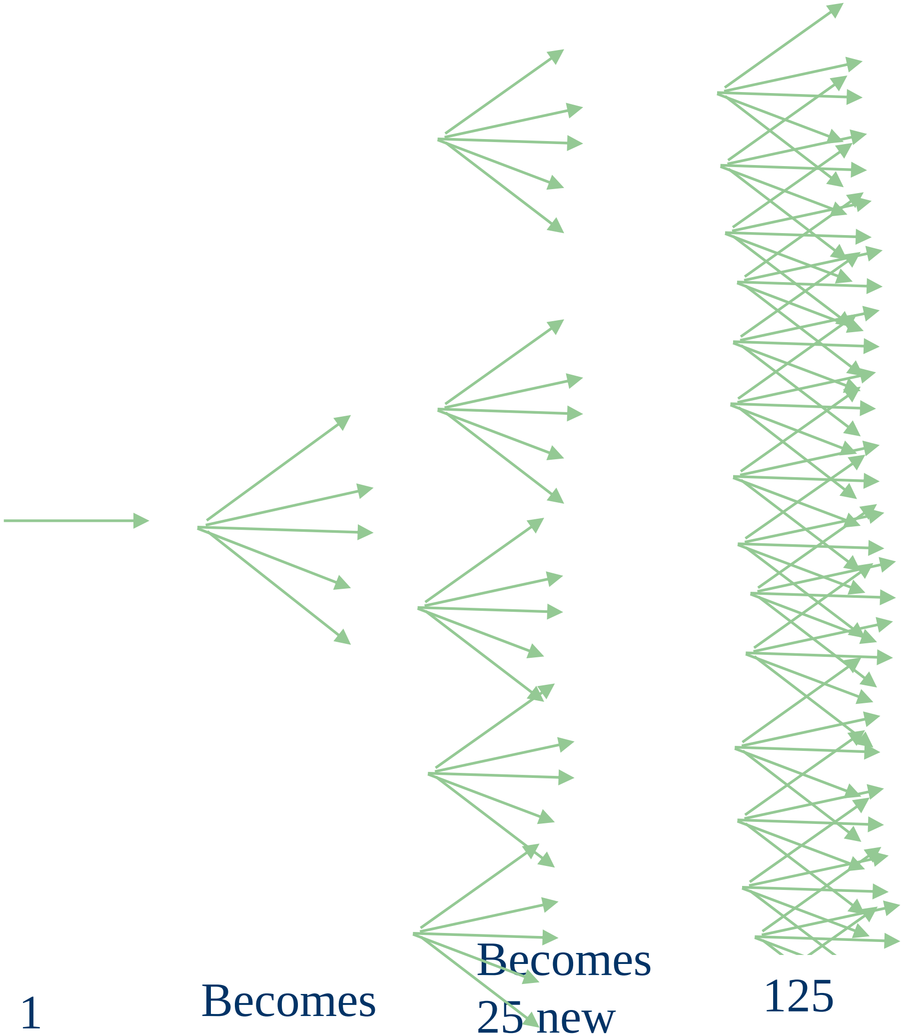
1
new
idea

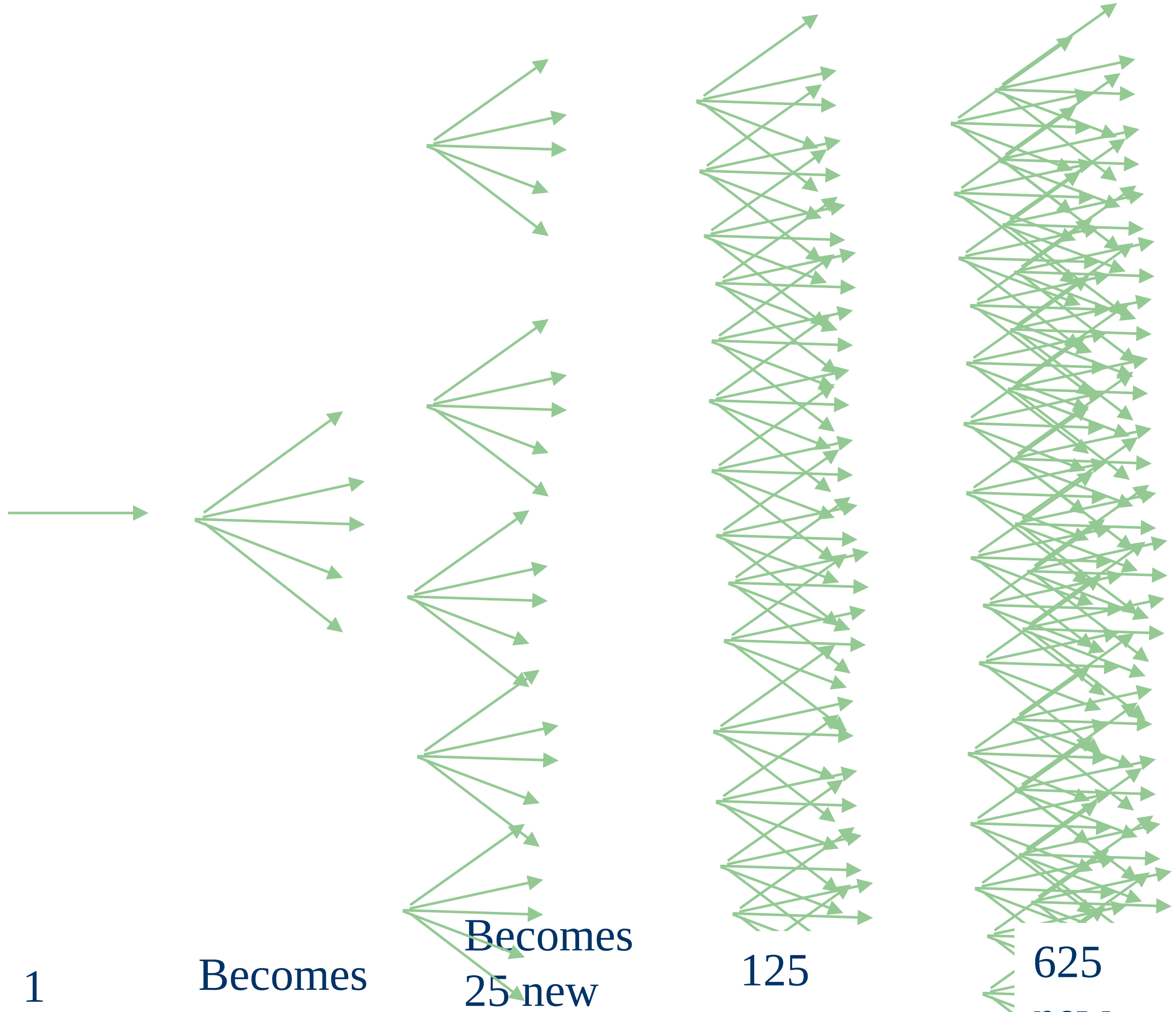


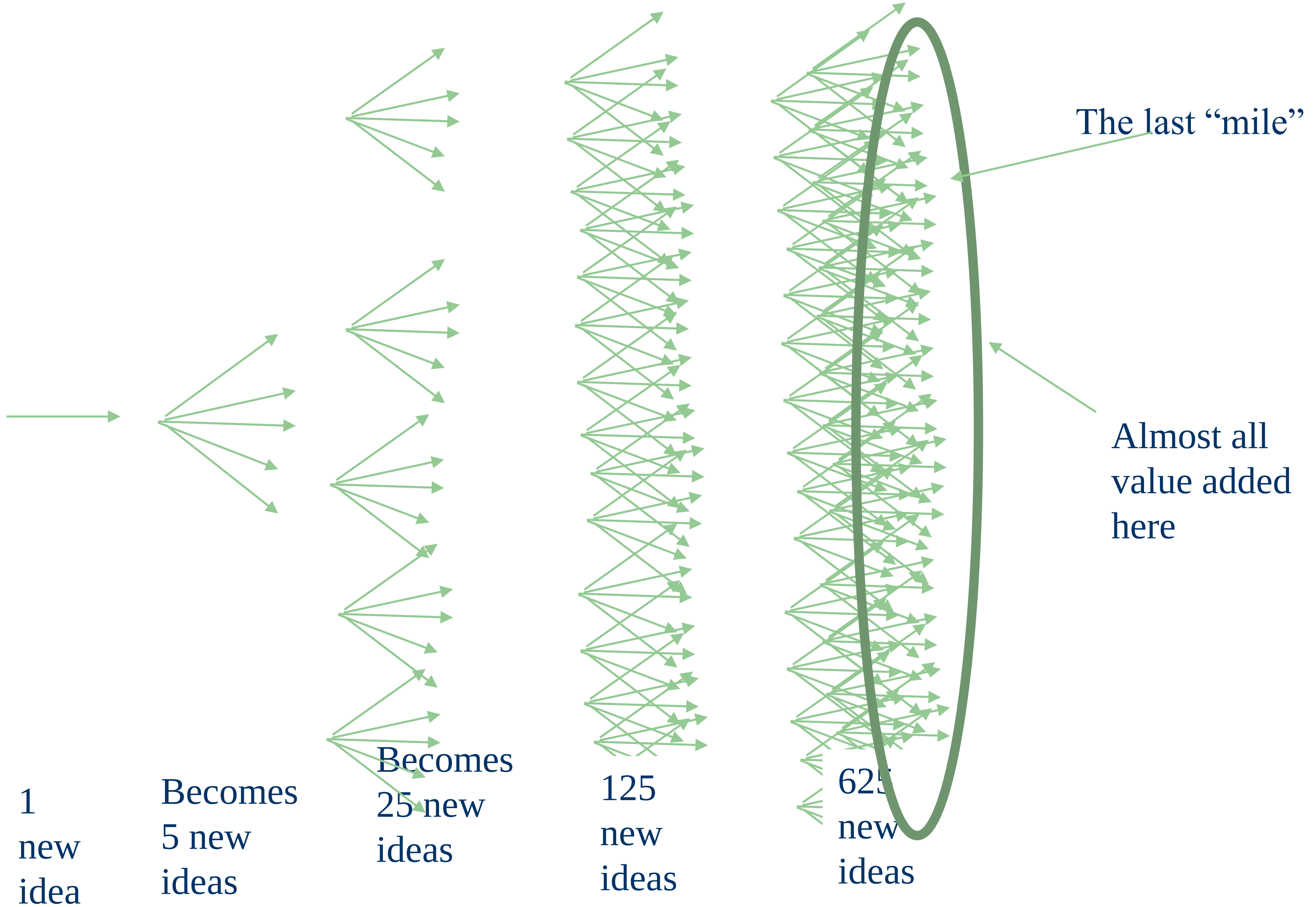
1
new
idea

Becomes
5 new
ideas


1 new idea
Becomes 5 new ideas
Becomes 25 new ideas


1 new idea
Becomes 5 new ideas
Becomes 25 new ideas
125 new ideas


1 new idea
Becomes 5 new ideas
Becomes 25 new ideas
125 new ideas
625 new ideas


The last "mile"
Almost all value added here
1 new idea
Becomes 5 new ideas
Becomes 25 new ideas
125 new ideas
625 new ideas

Optimize, or Improve?

Optimize: Get the most out of what you have now.

Improve: Get more by changing what you have into something else.

Improving means creating new knowledge

Each Person

	Knowns	Unknowns
Known		
Unknown		

	Knowns	**Unknowns**
Known	Known Knowns	Known Unknowns
Unknown	Unknown Knowns	Unknown Unknowns

	Knowns	Unknowns
Known	knowledge	Missing knowledge
Unknown	Tacit knowledge	Ignorance

	Knowns	**Unknowns**
Known	knowledge	Missing knowledge (optimization)
Unknown	Tacit knowledge	Ignorance (improvement)

	Knowns	Unknowns
Known	knowledge	Missing knowledge (optimization)
Unknown	Tacit knowledge	Ignorance (improvement)

	Knowns	Unknowns
Known	knowledge	ERP Data Analytics EOQ
Unknown	Tacit knowledge	Value Analysis Lean TQM

Optimization techniques

ERP

Business Process Reengineering

Data Analytics

ABC/ABM

..

..

Improvement techniques

TQM

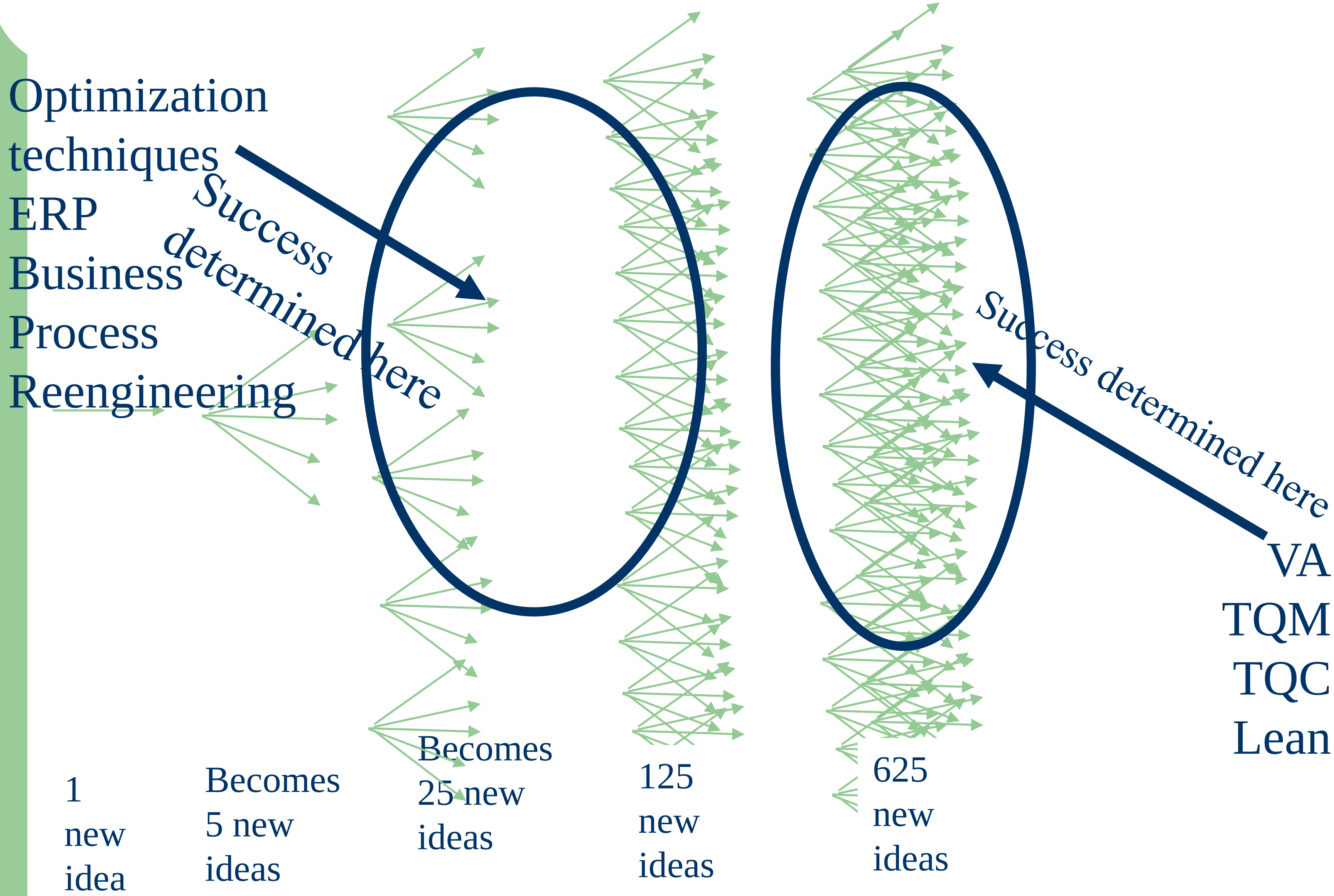
TQC

Lean

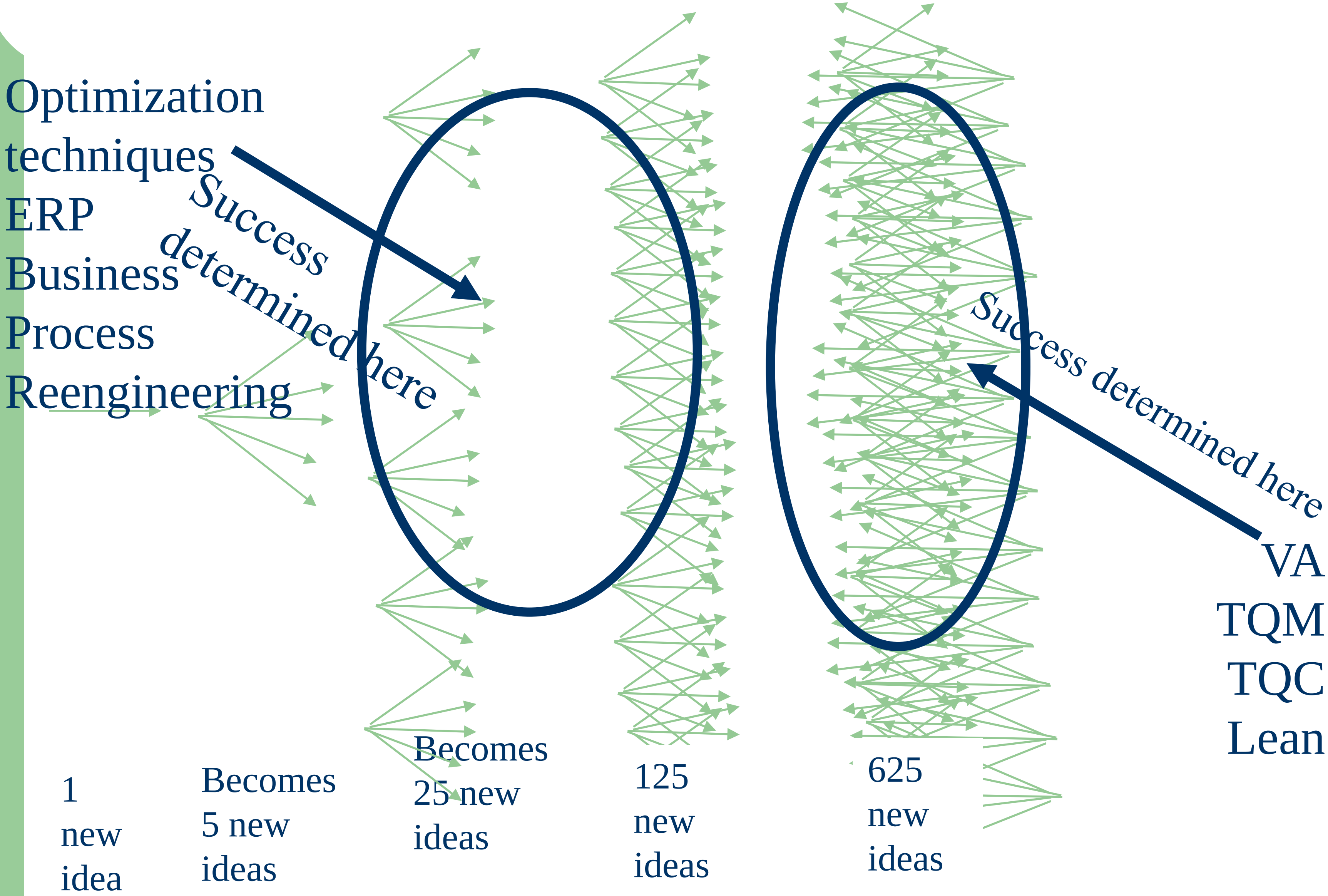
Value Analysis

..

..



Optimization techniques
ERP
Business Process Reengineering
Success determined here
Success determined here
VA
TQM
TQC
Lean
1 new idea
Becomes 5 new ideas
Becomes 25 new ideas
125 new ideas
625 new ideas


Optimization techniques
ERP
Business Process Reengineering
Success determined here
Success determined here
VA
TQM
TQC
Lean
1 new idea
Becomes 5 new ideas
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125 new ideas
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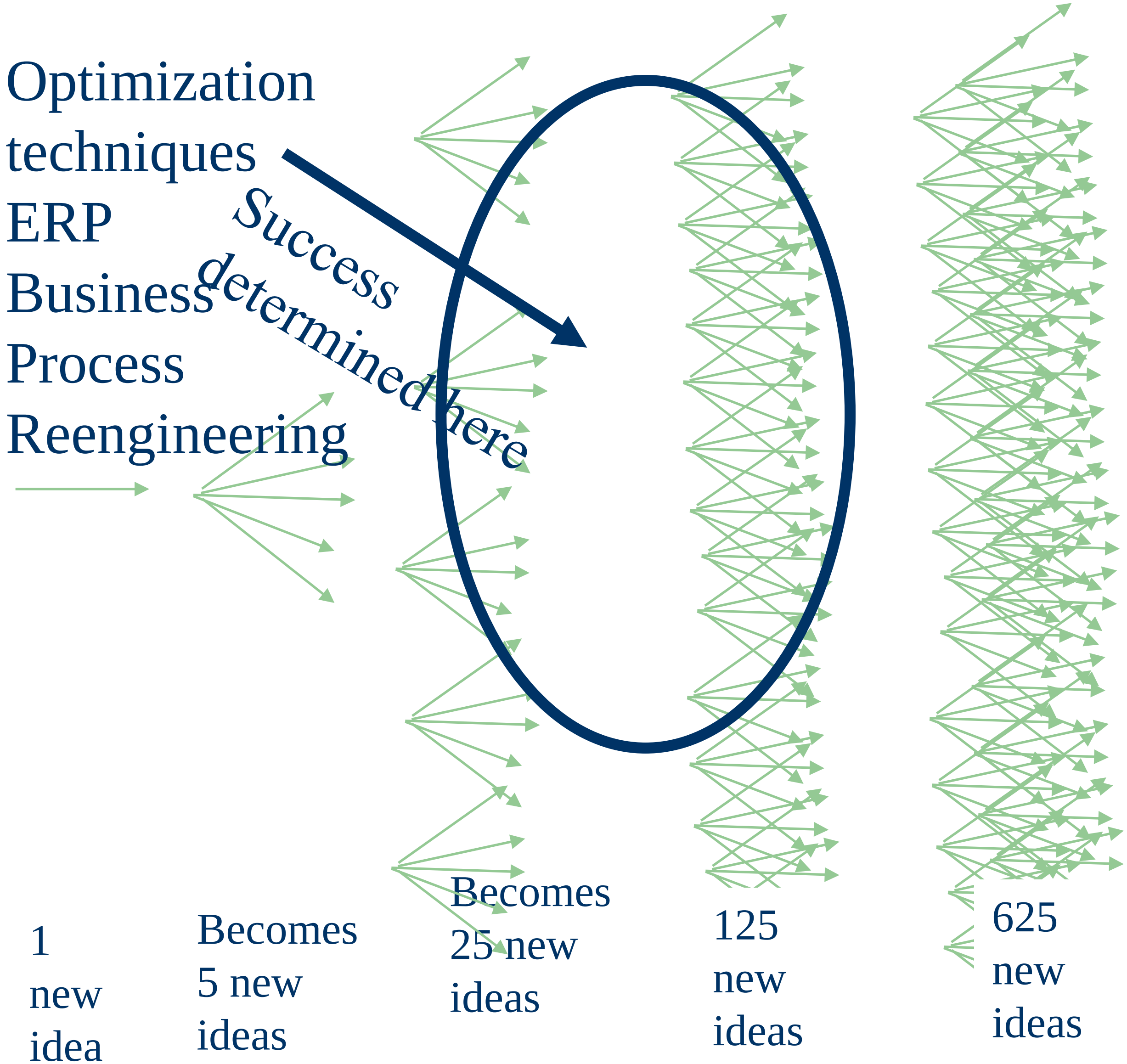
Traditional Western methods are designed NOT to depend on the Last Mile


Optimization techniques
ERP
Business Process Reengineering
Success determined here
1 new idea
Becomes 5 new ideas
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125 new ideas
625 new ideas

Taylorist/Fordist type of production builds in an assumption of a weak Last Mile and constructs extensive buffers against failure at the Last Mile

Inventory
Incentives
Inspection

Taylorist/Fordist type of production builds in an assumption of a weak Last Mile and constructs extensive buffers against failure at the Last Mile

Inventory *buffers*
Incentive *buffers*
Inspection *buffers*

Improvement-oriented Collaborative methods depend on the "last mile" more than traditional methods

Examples:
Value Engineering/Value Analysis
Total Quality Management
Total Quality Control
Total Productivity Maintenance
Lean Production
Just In Time

Improvement-oriented

Collaborative methods

How does an individualist develop an understanding of collective practice?

Collective Efficacy Support Template (CEST)		
Orientation in Work Context		
Main orientation		
Harmony		Overall goal
Reciprocal and mutual benefits		Explicitly mentioned as a key element of behavior
Multiple stakeholders		Overall goal of Harmony restated in current business jargon.
Straightforwardness		Reveals dysfunctional forms of “harmony”
Learning of the individual while competing task		
Moral preparation of the individual while completing task		
Adaptive		Learning/reflection/action living up to ones word by action
Proper Performing of Roles and procedures		Properly fulfilling your role in rites and procedures. Faithful to duty.
Table 1. The CEST		

Collective Efficacy Support Template (CEST)	
Orientation in Work Context	
Main orientation	**Opposite orientation**
Harmony	Discord
Reciprocal and mutual benefits	Benefits to company owners only
Multiple stakeholders	Limited stakeholder
Straightforwardness	Acquiescence
Learning of the individual while competing task	Narrow task completion without regard to method or externalities
Moral preparation of the individual while completing task	Narrow task completion without regard to method or externalities
Adaptive	Dis-adaptive
Proper Performing of Roles and procedures	Completion by any means

Table 1. The CEST

Integ (pseudonym)

World leading medical equipment supplier

Goals for LP	Effects noticed at the Alpha plant	
	1 year after implementation	
Reduce floor space	1/3 of floor space freed-up	
Reduce lead time	Lead time reduced by 20-60%	
Increase productivity	5-30 % time savings	
Increase inventory turnover	20 % increase in inventory turnover	
Increase on-time-delivery	On-time-delivery increased to over 90 % from a quite low level	
Increase quality	Overall quality improved, although some new issues created. Uncertainty about how much due to weak measurement	

Table 3. Goals and achievements of the Lean-initiative at the Alpha Plant (Source: “Lean-general” at the Alpha plant)

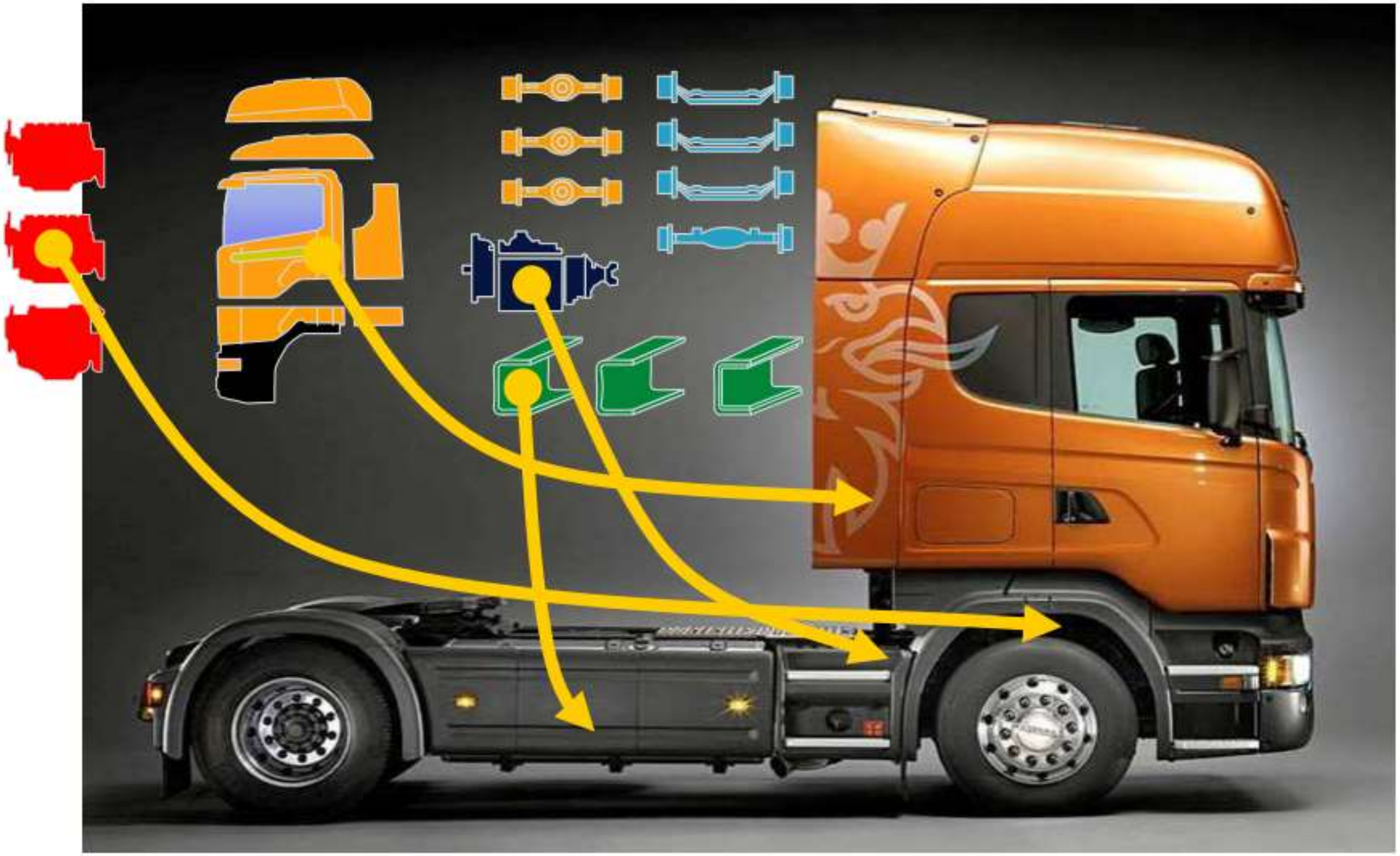
Goals for LP	Effects noticed at the Alpha plant	
	1 year after implementation	3 years after implementation
Reduce floor space	1/3 of floor space freed-up	No additional improvements
Reduce lead time	Lead time reduced by 20-60%	No additional improvements
Increase productivity	5-30 % time savings	No additional improvements
Increase inventory turnover	20 % increase in inventory turnover	No additional improvements
Increase on-time-delivery	On-time-delivery increased to over 90 % from a quite low level	No additional improvements
Increase quality	Overall quality improved, although some new issues created. Uncertainty about how much due to weak measurement	No additional improvements

Table 3. Goals and achievements of the Lean-initiative at the Alpha Plant (Source: “Lean-general” at the Alpha plant)

CEST-orientation	Integ Employee Reported Examples			
	Main Orientation		Opposite Orientation	
Time	t_0	t_1	t_0	t_1
Harmony/Discord		y	X	X
Straight forward/ Submission			X	X
Adaptive/ Dis-adaptive	y	y	X	X
Multiple stake-holders/ Limited stakeholders		x	X	X
Learning of Individual/ Task Completion		x	X	X
Moral development/Task			X	X
Devotion to proper perform		y	X	X
Reciprocal benefits/ Benefits for owners and managers	y	y	X	X

Scania

Scania's Modular Building Blocks



SCANIA


Short cabs
Day cabs
Sleeper cabs
Low
Normal
Highline
Topline
P
G
R

CEST-orientation	Scania Employee Reported Examples (Oskarshamn)			
	Main Orientation		Opposite Orientation	
Time	t_0	t_1	t_0	t_1
Harmony/ Discord	X	X		
Straight forward/ Submission	X	X		
Adaptive/ Dis-adaptive	X	X		
Multiple stake-holders/ Limited stakeholders	X	X		
Learning of Individual/ Task Completion	X	X		
Moral development/ Task Completion	X	X		
Devotion to proper perform/ Task Completion	X	X		
Reciprocal benefits/ Benefits for owners and managers	X	X		

Table 4. Examples from Scania

Revised CEST			
CEST main orientation			CEST opposite orientation
Harmony			Discord
Straight forward			Submission
Adaptive			Dis-adaptive
Multiple stakeholders			Benefits to company managers and owners primarily
Learning and moral development of the individual			Only task completion
Devotion to proper performance			Completion by any means
Leader being physically present			Absent from the floor
Table 5 - Updated version of the CEST			

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