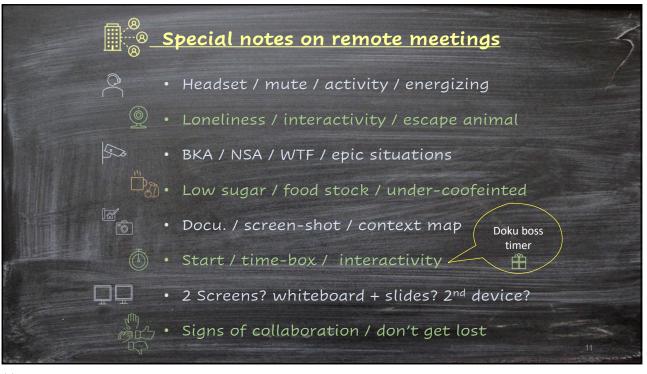
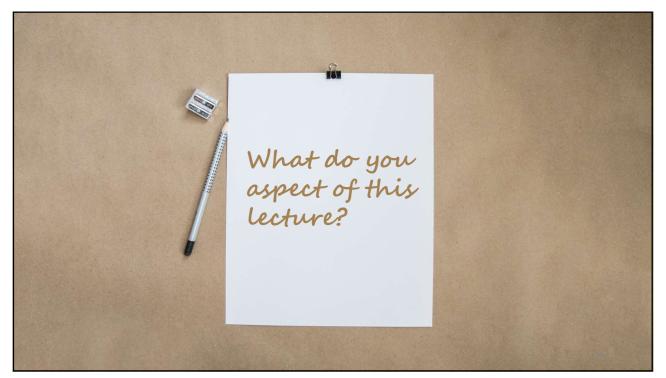
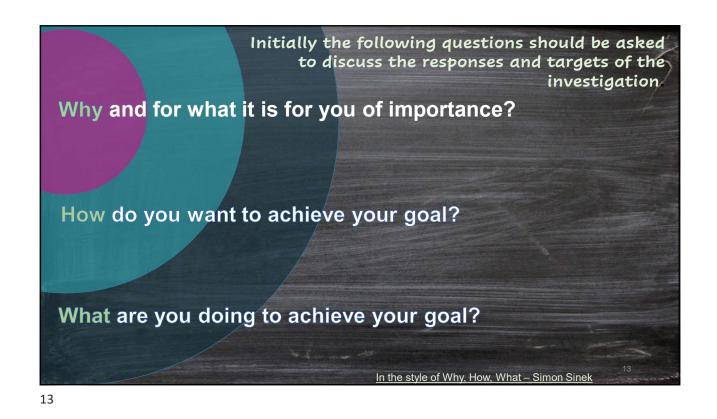
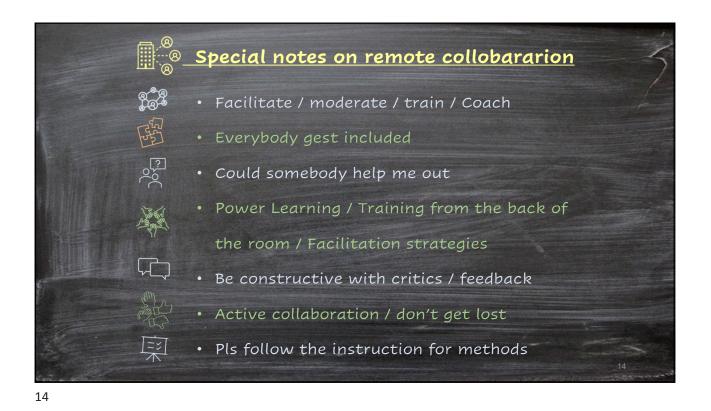


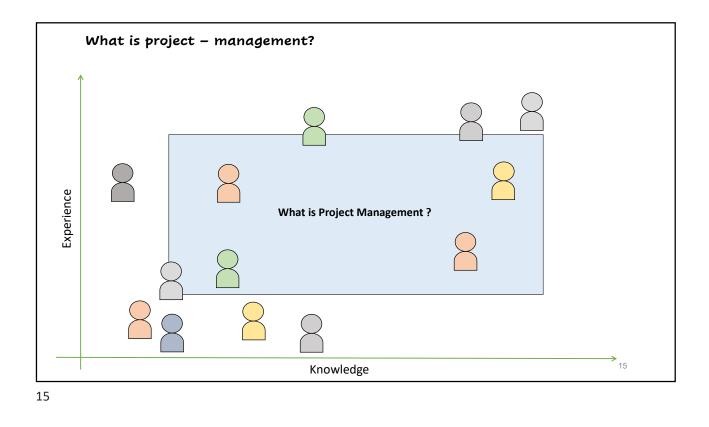
How to this lecture

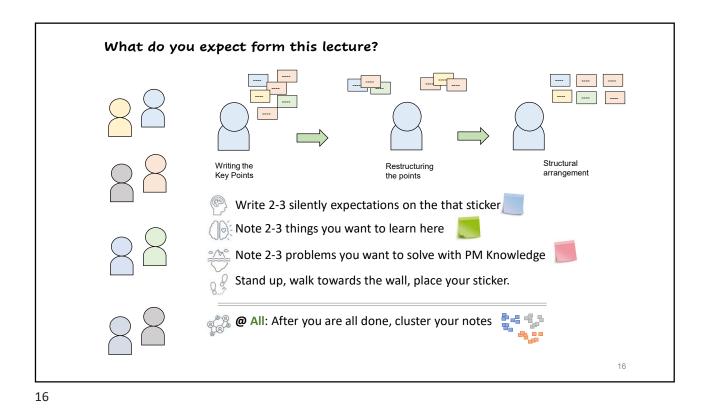


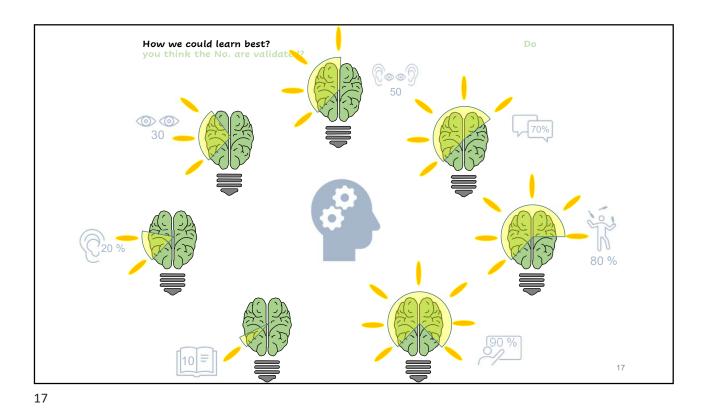




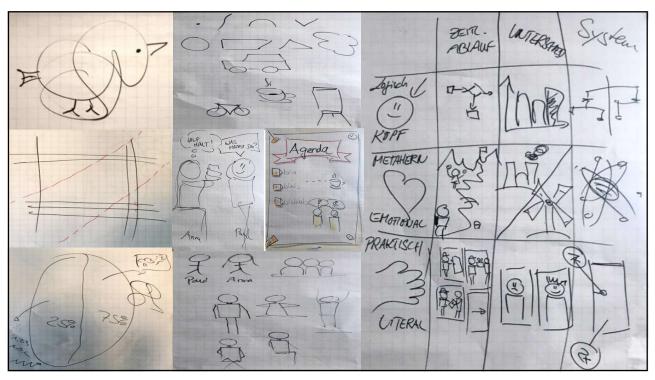


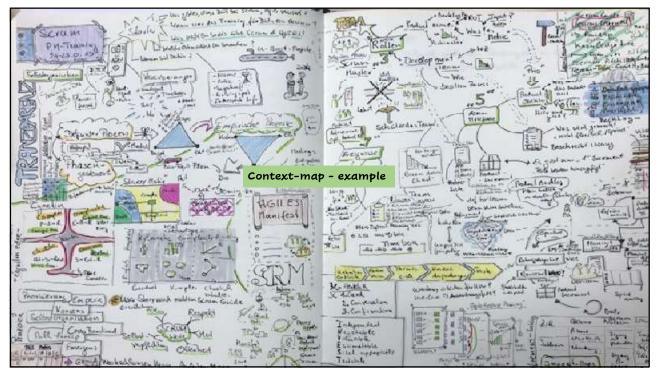






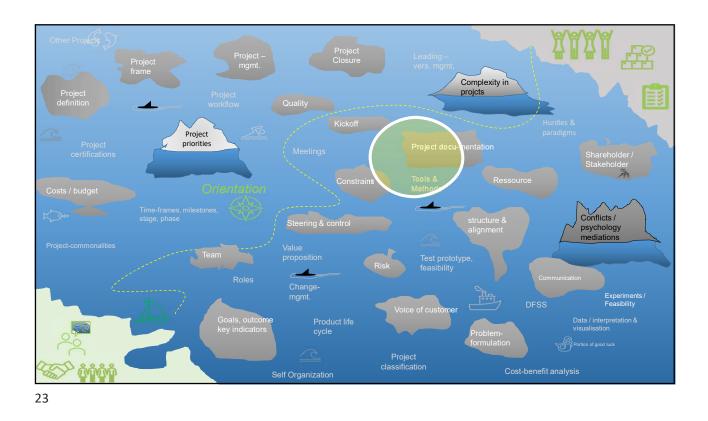
How to remember things even better!



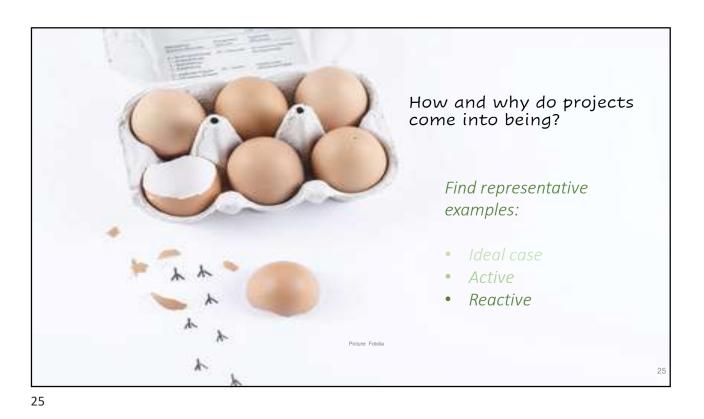






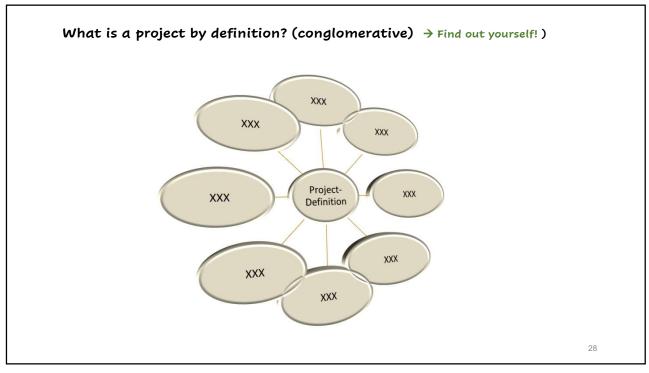


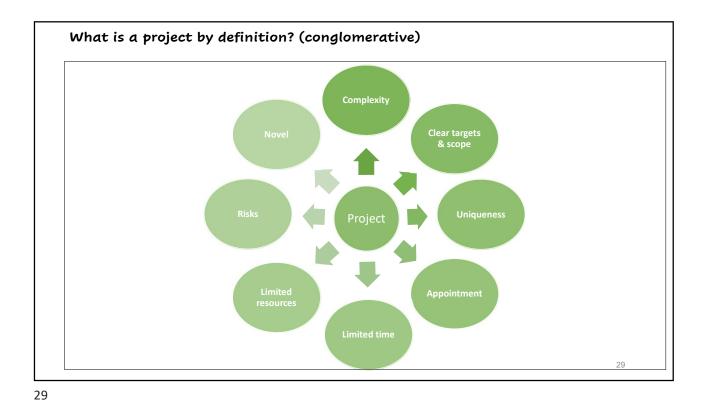


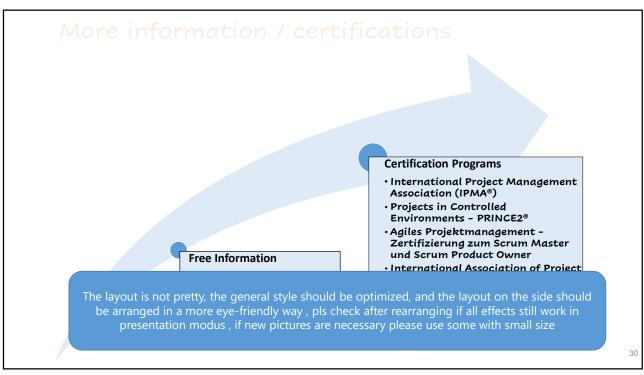


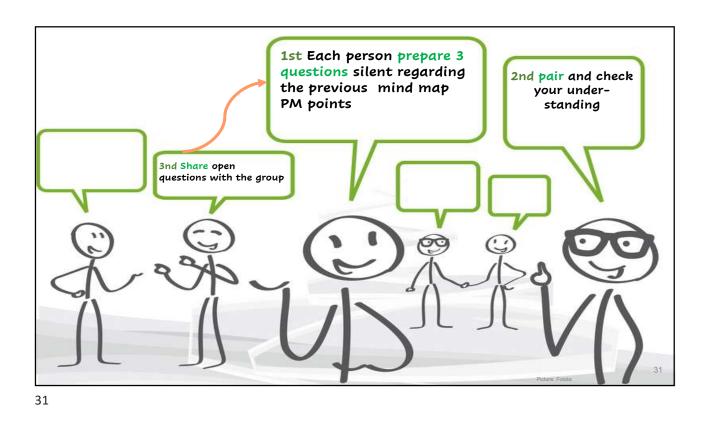
How can we define a project?

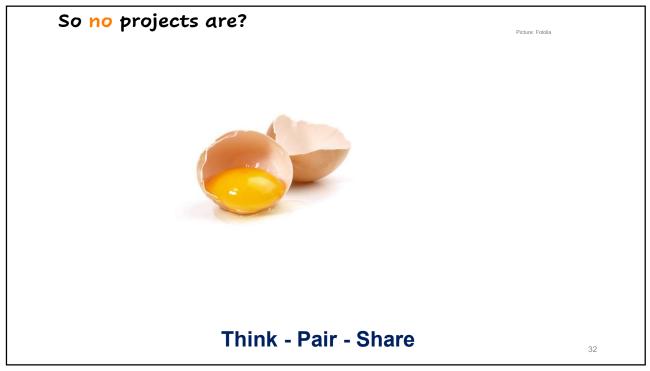
DIN ISO 21500:2016 Leitlinien Projektmanagement	"A project consists of a unique set of processes that include goal-oriented, coordinated and controlled processes with start and completion dates. Achieving the project objectives requires the provision of delivery objects that meet specific requirements."				
DIN 69901-5:2009 : Projektmanagement – Projektmanagementsysteme – Teil 5: Begriffe	"project characterised essentially by the uniqueness of the conditions as a whole'.				
PMBOK [®] Guide (Project Management Institute, USA), Sixth edition, 2017	"A temporary endeavour undertaken to create a unique product, service, or result."				
Individual Competence Baseline 4 (International Project Management Association)	"A project is a unique, temporary, multidisciplinary and organized endeavour to realise agreed deliverables within predefined requirements and constraints."				
PRINCE2 ®:2017 (AXELOS, Großbritannien)	"A temporary organization that is created for the purpose of delivering one or more business products according to an agreed business case."				
BS 6079-1: Guide to project management	"A unique set of coordinated activities, with defined starting and finishing points, undertaken by ar individual or organization to meet specific objectives within defined schedule, cost and performance parameters."				

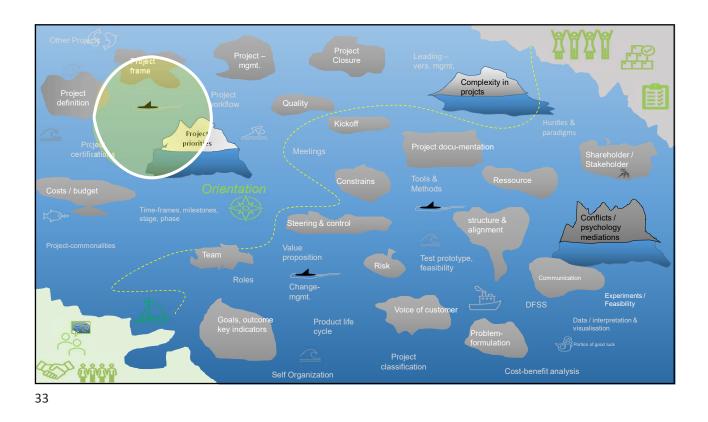




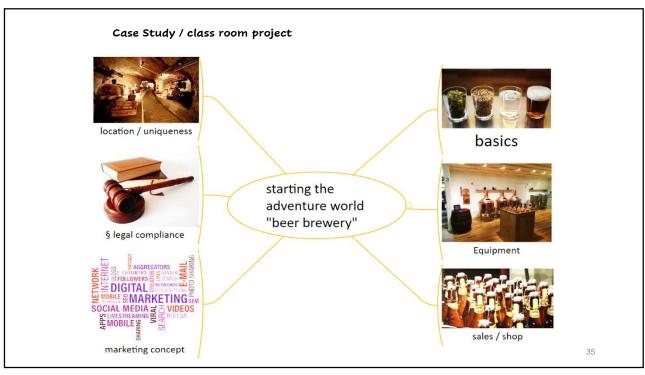


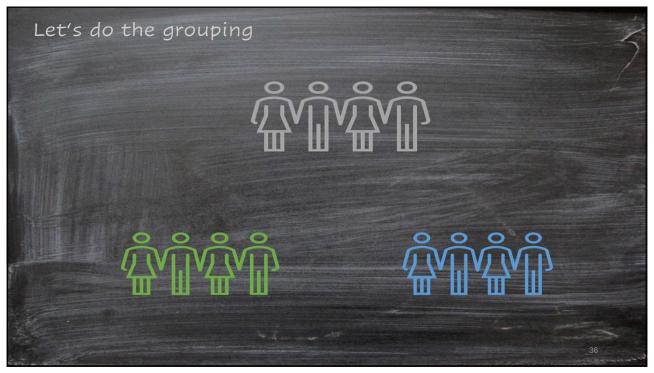










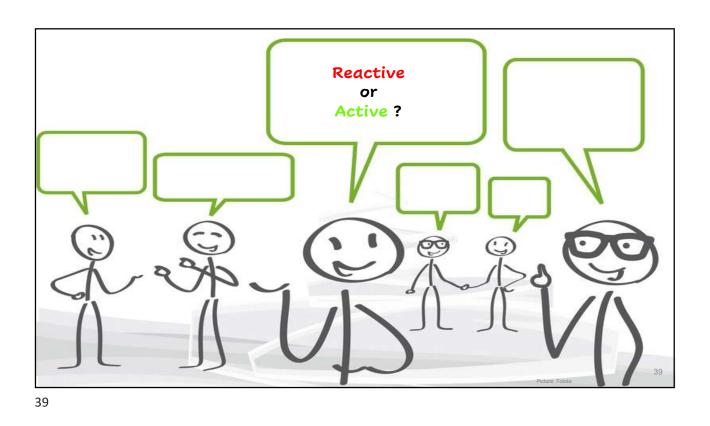




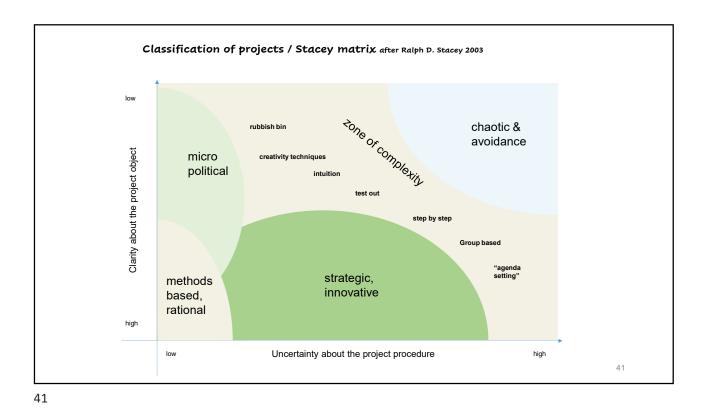
open PM Canvas		Project: Project lead:	Project ID: Revision:	
Vision & Goals	Benefits		Scope, project objective	Costs
Setup	Team		Resources	Stakeholder
Procedure	Processes, Tools, Methods		Communication, transparency	Risk, Quality, and Harms
TimeLine				
Conception of the second secon				V1. 37

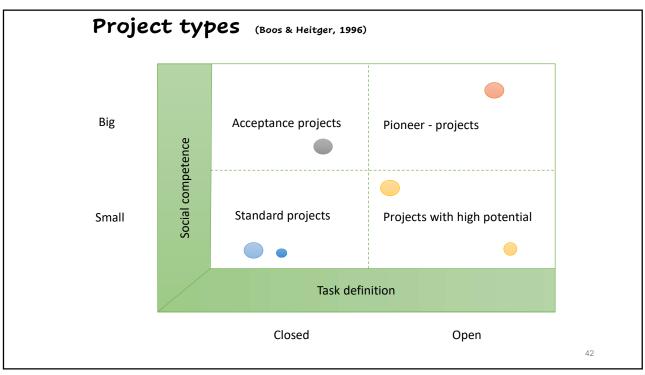
Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers Key Value Customer Activities Proposition Relationships Key Customers Partners Costs Key Revenue Resources Channels 38 drawings by JAM

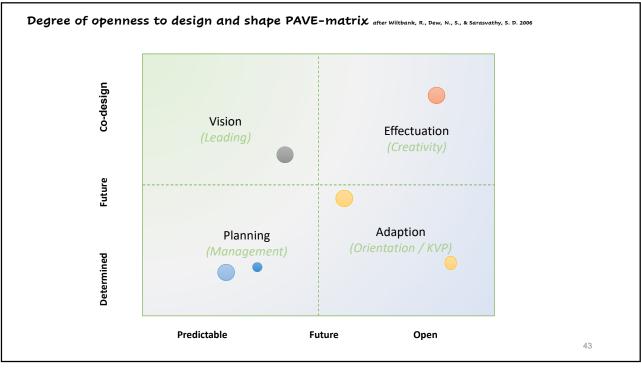


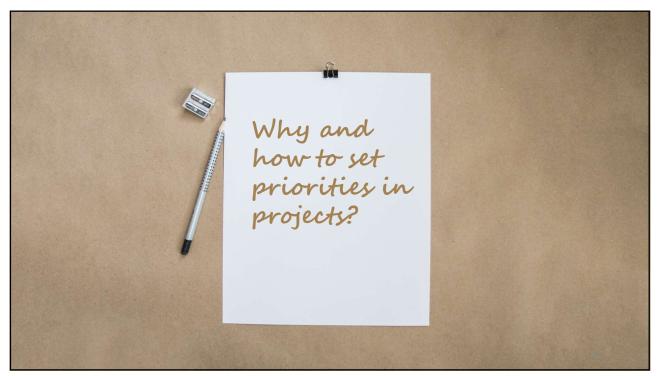


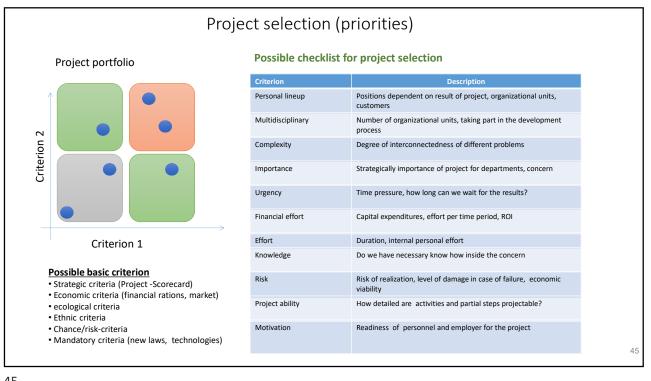








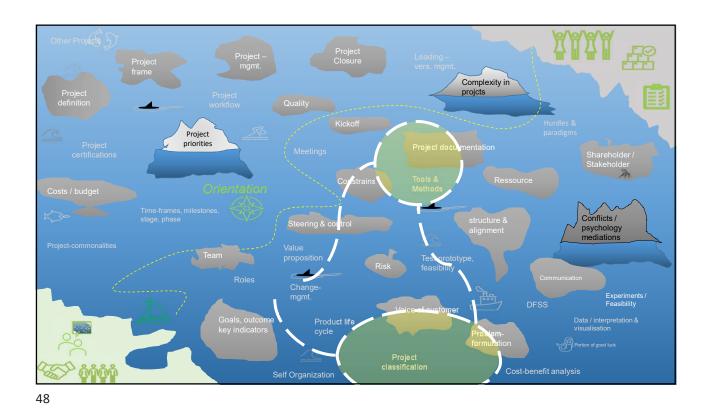










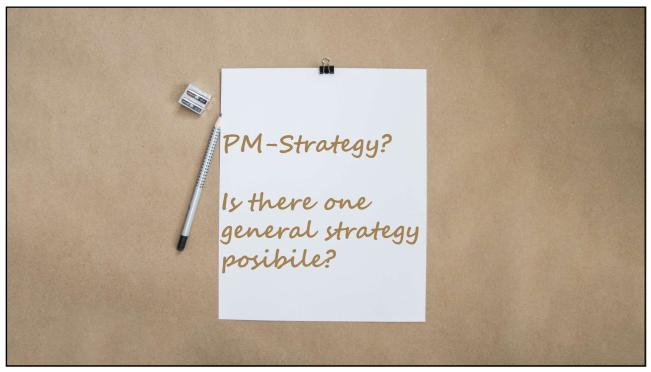


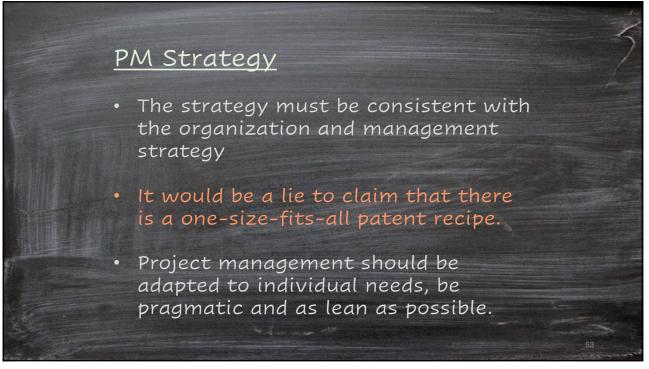


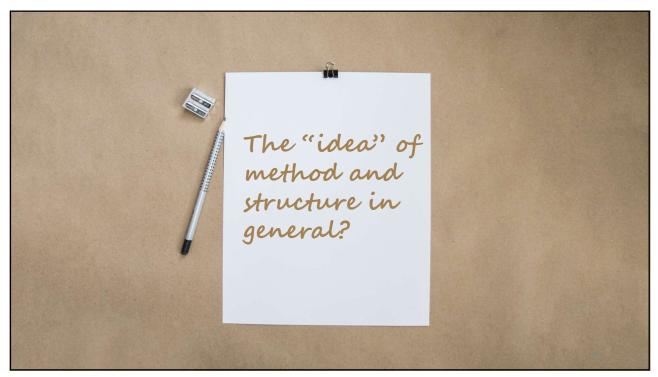


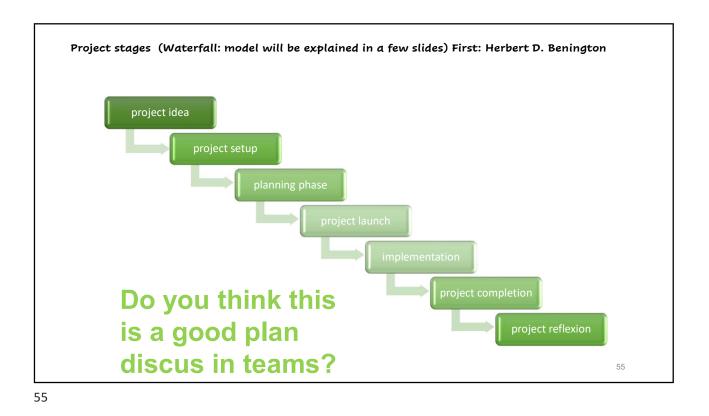




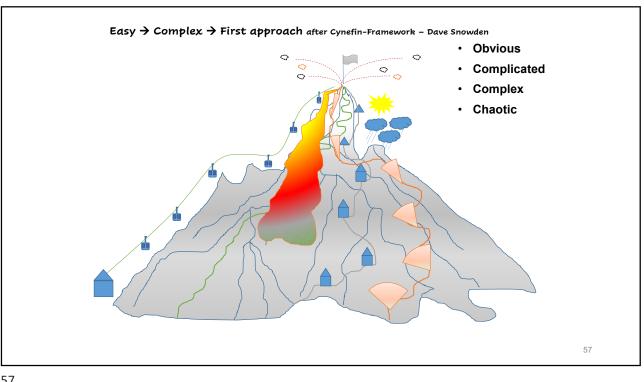


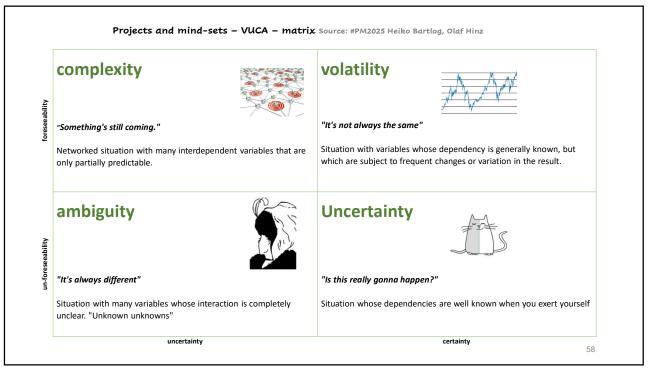


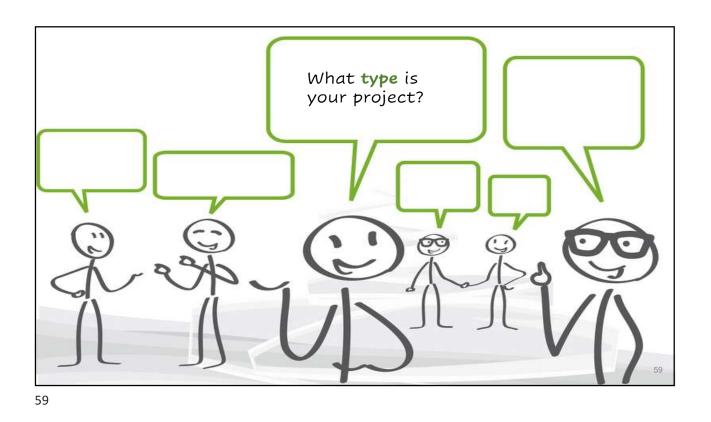


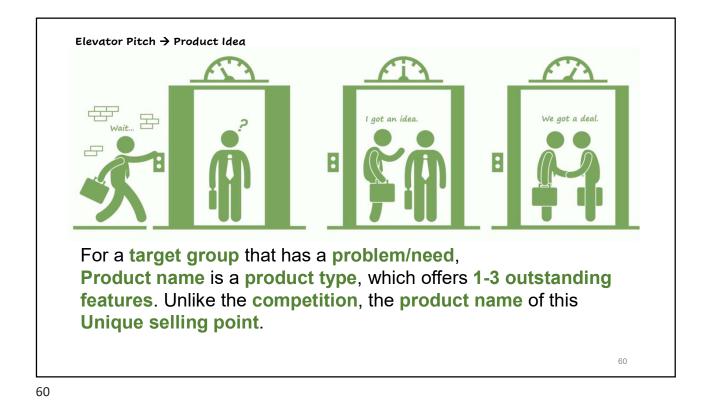


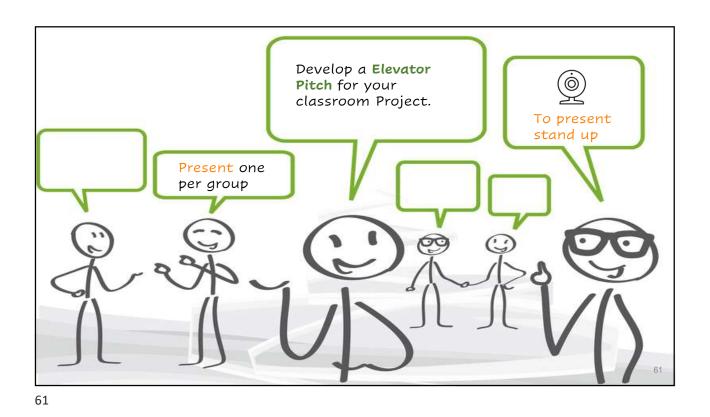




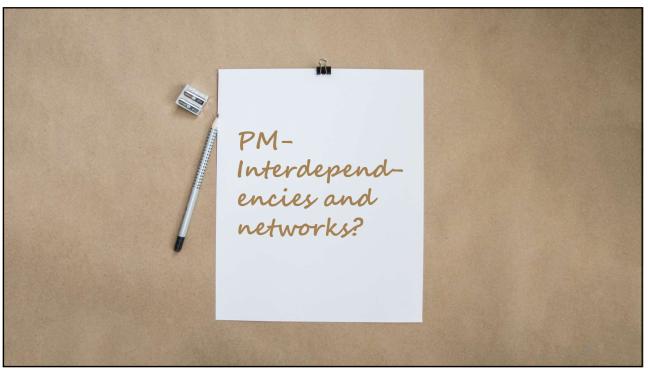


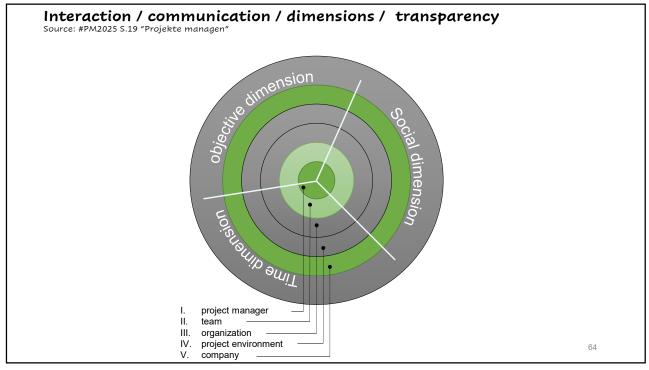


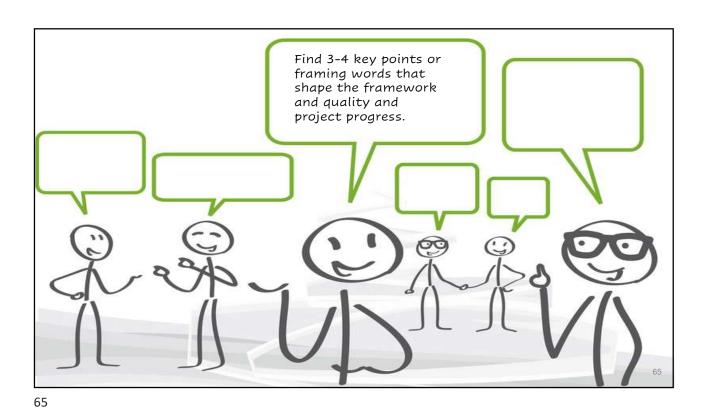




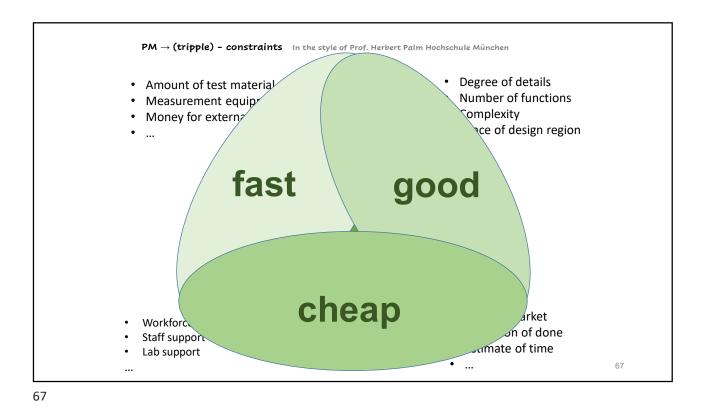
Open PM Canvas		Project: Project lead:	Project ID: Revision:		
Vision & Goals	Benefits		Scope, project objective	Costs	
Setup	Team		Resources	Stakeholder	
Procedure	Processes, Tools, Methods		Communication, transparency	Risk, Quality, and Harms	
TimeLine	P				
The same of the former want want on the same of the sa					V 1.1 62





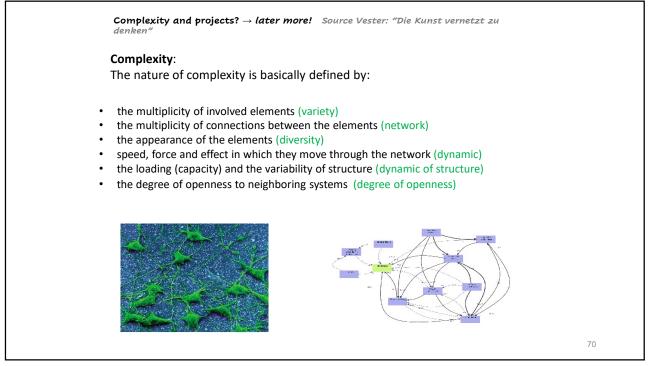


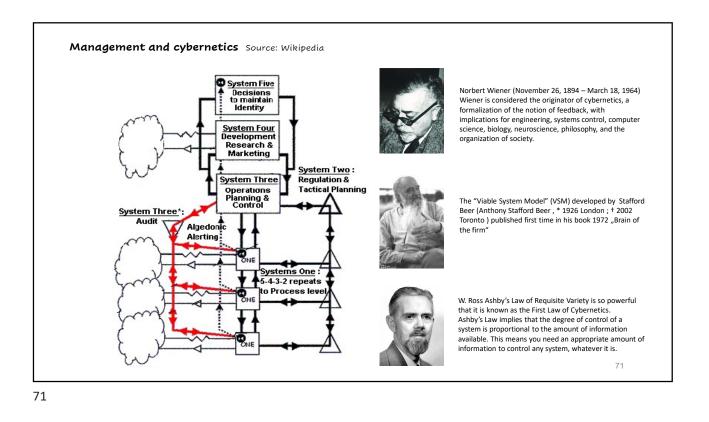
Canvas Project: Project ID: Project lead: Revision: Benefits Scope, project objective Costs Vision & Goals Team Resources Stakeholder Setup Processes, Tools, Communication, Risk, Quality, Procedure Methods and Harms transparency TimeLine V 1.1 66

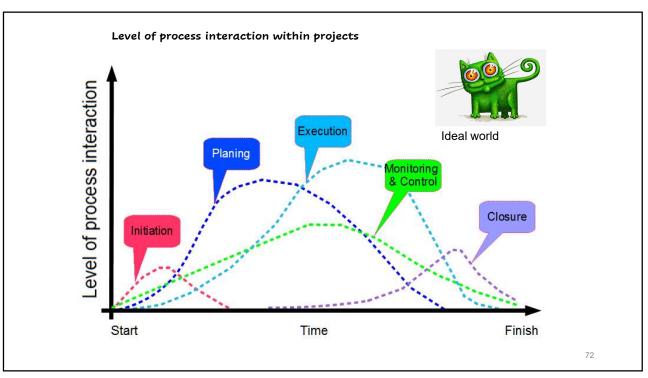


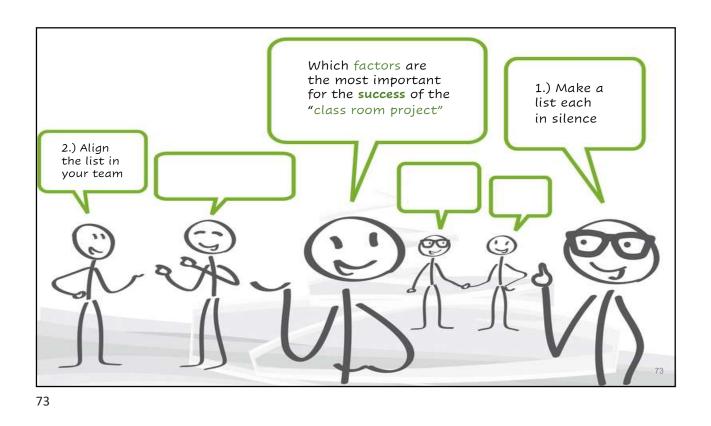
Systematic approach within mgt. Mgt. is something between people who tend to think and react differently! Social Systems: • Are interconnected and influence each other in their behavior • Are self-referential, the design of reflection and feedback is of central importance • Are constantly evolving and therefore require a high degree of identification with the system (project target company) and rules Are complex and therefore hard to ٠ understand, to control or to regulate 68

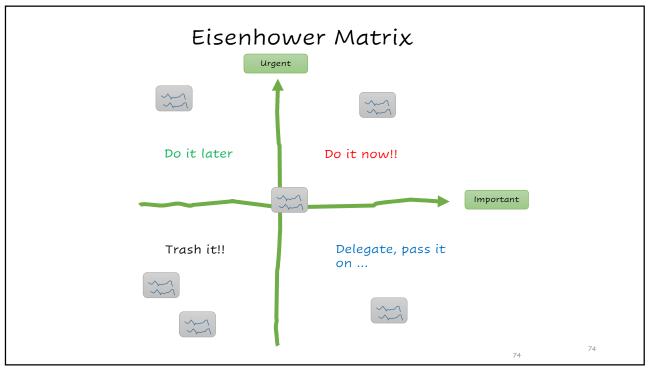




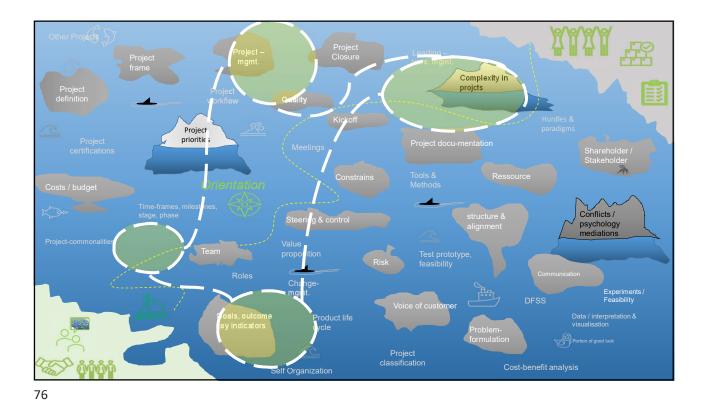




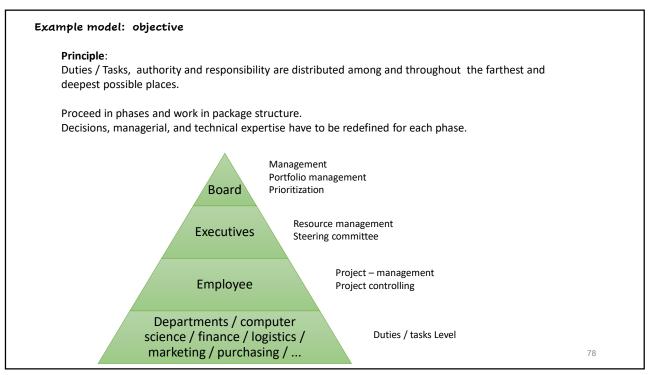


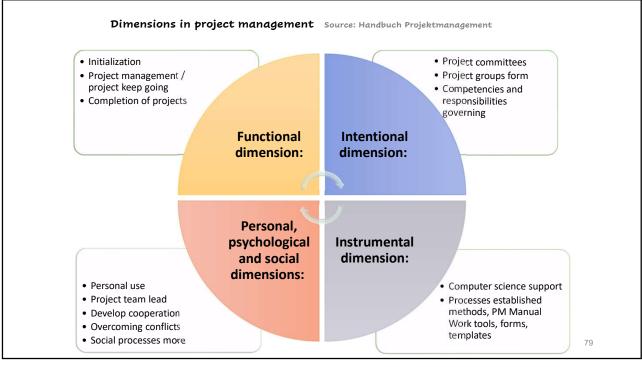


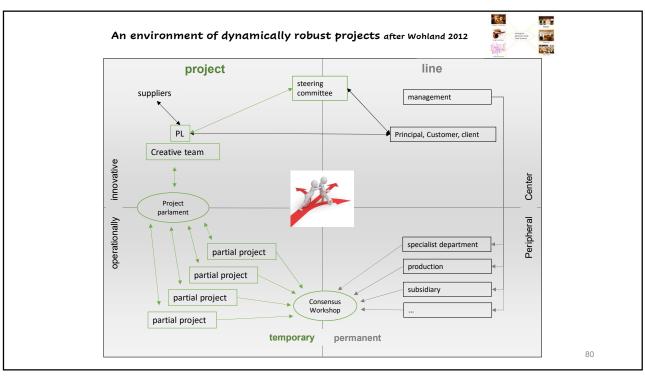
open PM Canvas		Project:	Project ID:		
		Project lead:	Revision:		
Vision & Goals	Benefits		Scope, project objective	Costs	
Setup	Team		Resources	Stakeholder	
Procedure	Processes, Tools, Methods		Communication, transparency	Risk, Quality, and Harms	
TimeLine					
					V1 75

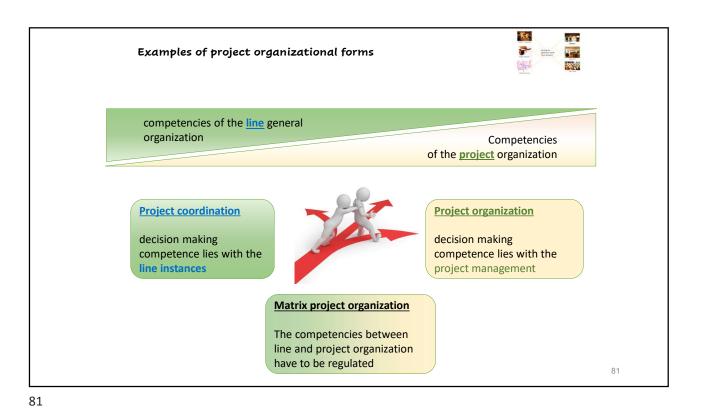




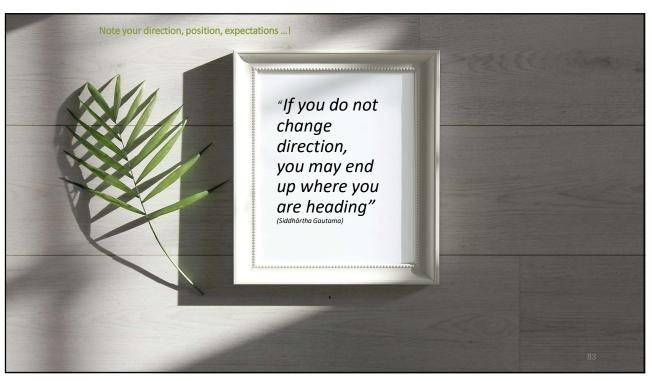




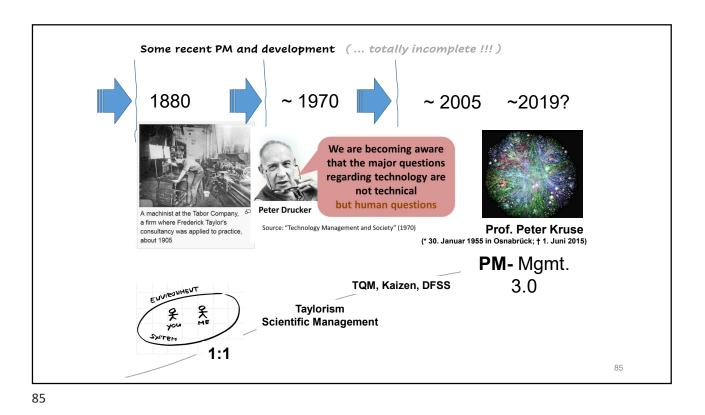


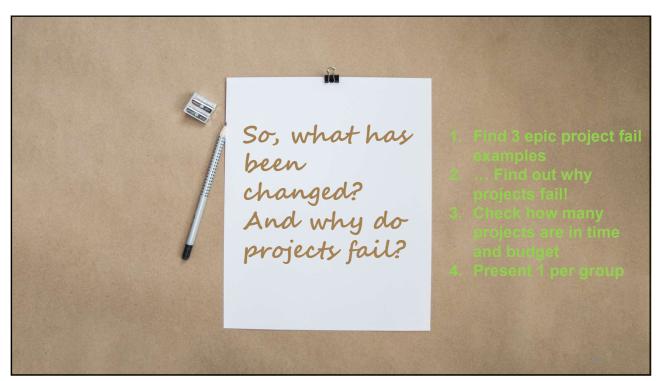


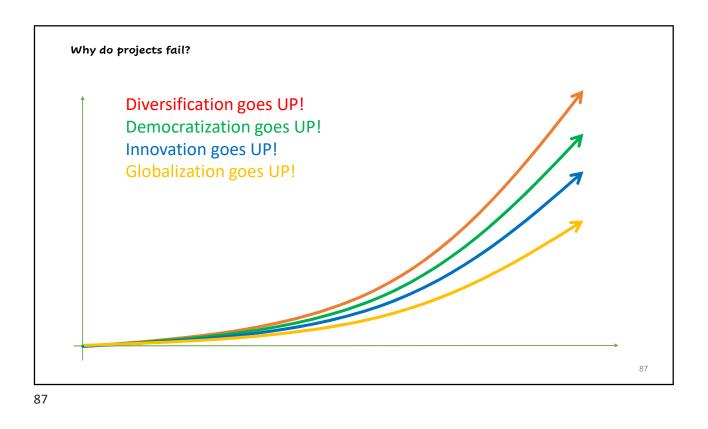
Examples of project organizational forms Project organization +/-**Project coordination** Matrix project organization **Project organization** •High degree of flexibility with regard to •Project managers and team feel responsible •Efficient organization for large projects the employment of staff for the project ·Clear responsibility and decision-making •Easy experience and knowledge ·Clear responsibility and decision-making during project collection on various projects during project •Highly responsive to disturbances No organizational change •Flexible staffing, no utilization issues •Strong identification of the project team with Responsibility of projects are within ·Continuity of professional development, no the project the line loss of contact to the line Independent from influence and arbitrariness ·Goal-oriented coordination of different of the line interests •Nobody feels responsible for the •Risk of conflicts of responsibility between line ·Little personal flexibility, especially when project and project authority specialists are only required occasionally Low reaction rate •Executives' (waiving exclusivity) and •Recruitment of the project staff and its •Cross-organizational perspective is employees' uncertainty (servant of two reintegration after the completion of the difficult masters) project can be difficult Not a real project team •High demands on the information and •Risk of a more authoritarian or not teamcommunication readiness oriented project leader is more likely, since it leads to a special temporary situation 82

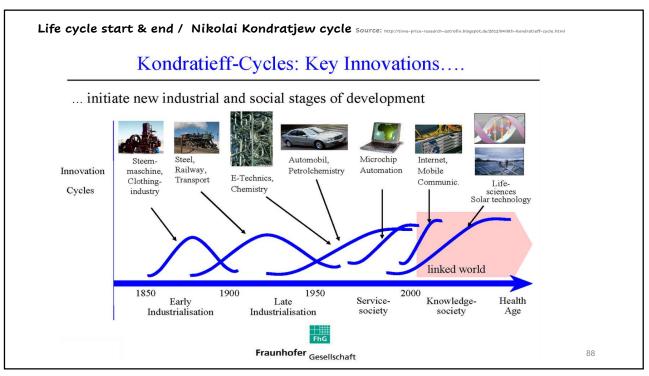




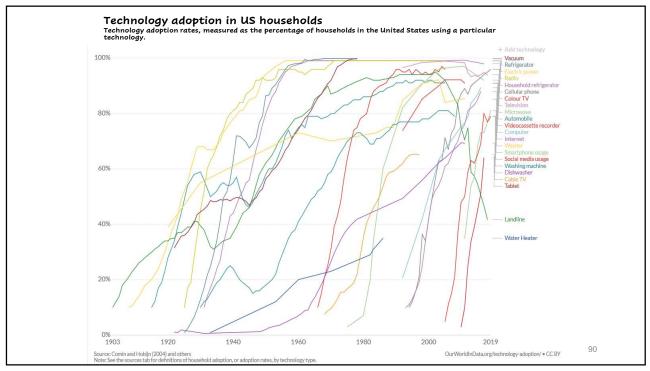


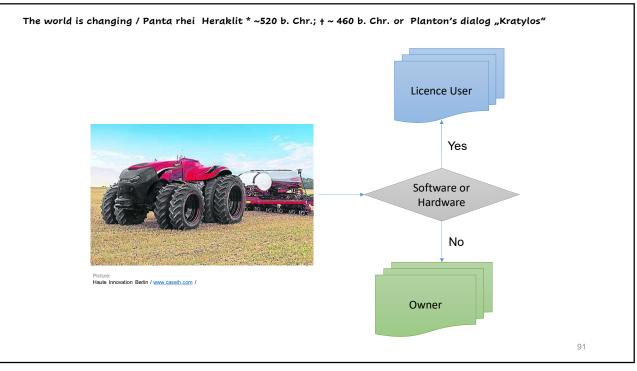


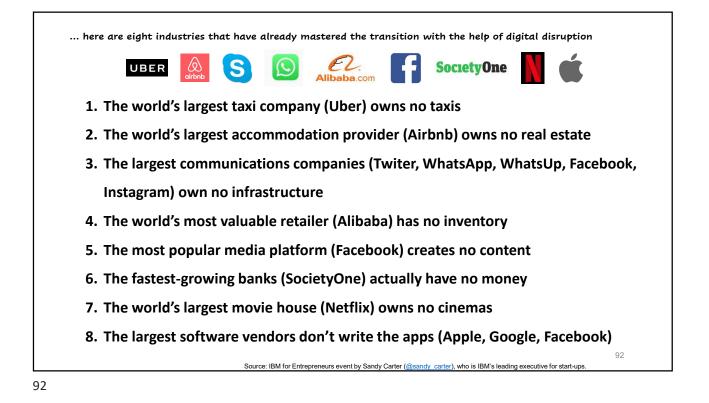




R To what extent is PM influenced by digitization?



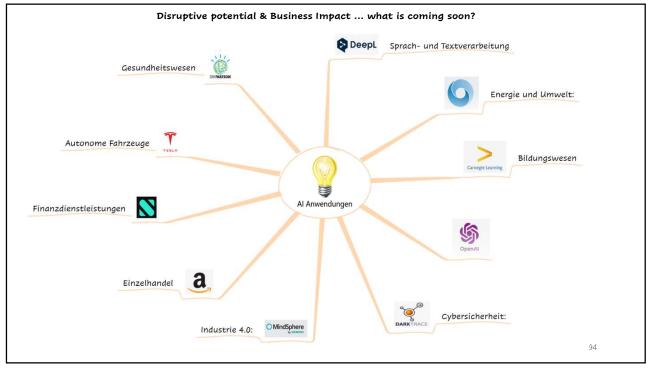




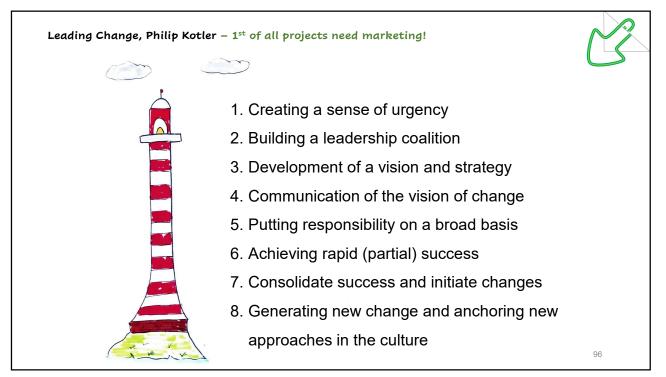
... here are 10 more industries that have already mastered the transition with the help of digital disruption

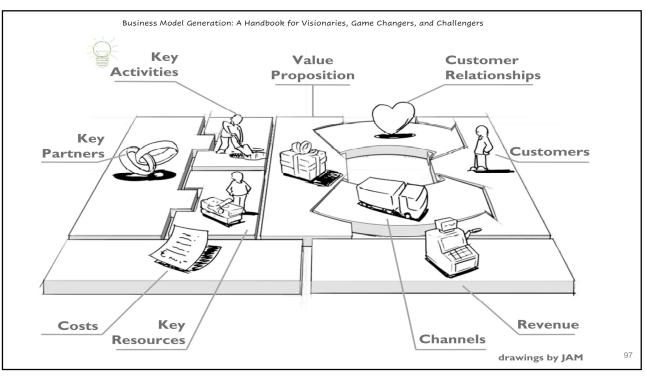
- 1. Crowd-based transportation networks (e.g. **BlaBlaCar**) that connect drivers and passengers for long-distance travel without owning any vehicles themselves
- 2. Virtual reality shopping experiences that allow customers to try on and purchase products without physically visiting a store (e.g. **Obsess**)
- 3. Subscription-based meal kit delivery services (e.g. **Blue Apron**) that eliminate the need for grocery shopping and meal planning
- 4. Peer-to-peer lending platforms (e.g. LendingClub) that connect borrowers and investors without the need for traditional banks
- 5. 3D printing technology that allows for on-demand manufacturing of products, reducing the need for physical inventory (e.g. **Shapeways**)
- 6. Artificial intelligence-powered financial advisors (e.g. **Wealthfront**) that provide personalized investment advice without the need for human financial advisors
- 7. Sharing economy platforms (e.g. Turo) that allow individuals to rent out their personal assets (e.g. cars) to others for profit
- 8. Digital marketplaces (e.g. **Etsy**) that allow independent creators to sell their handmade or unique goods directly to consumers without the need for a physical storefront
- 9. Online education platforms (e.g. **Coursera**) that provide access to high-quality courses and degrees from top universities without the need for traditional in-person education
- 10. Healthtech companies (e.g. **Teladoc**) that provide remote healthcare consultations and diagnoses through telemedicine technology, reducing the need for in-person doctor visits.

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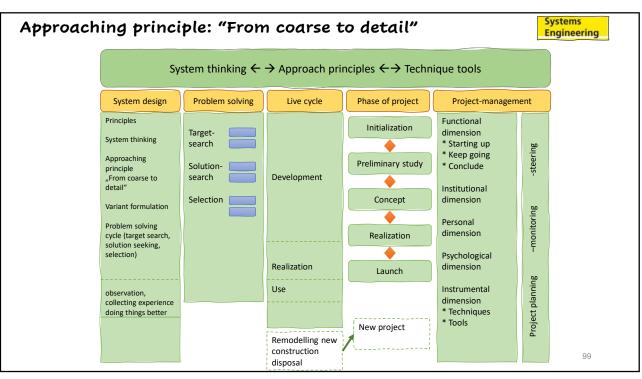


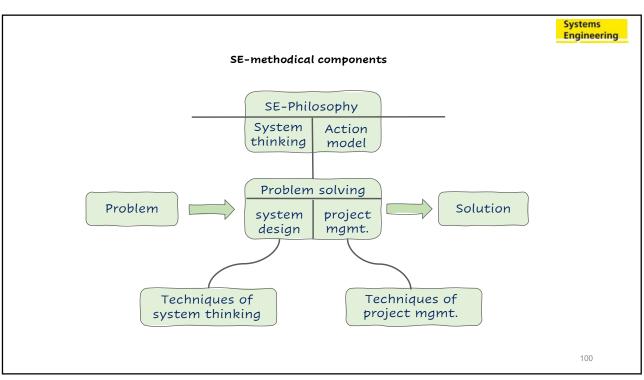
So, what PM will the outcome of a project be in comparison to now? And why is that critical.

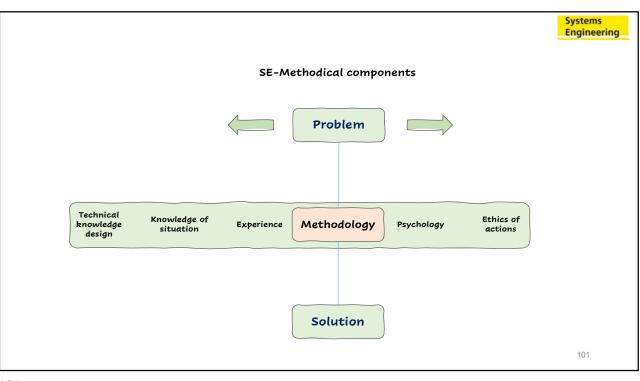


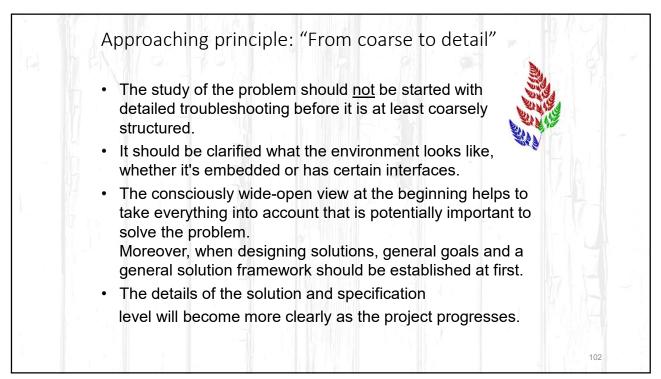


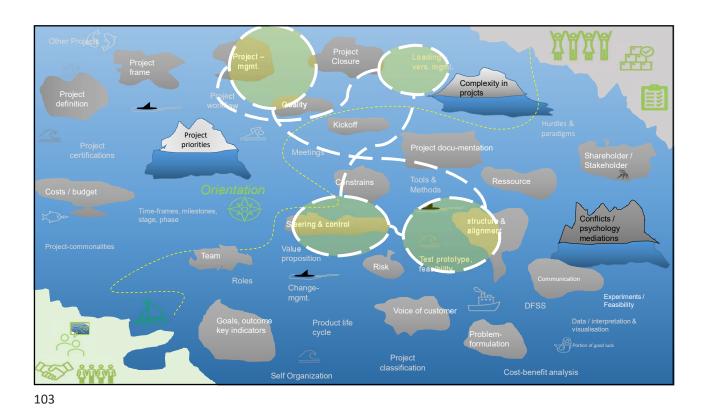




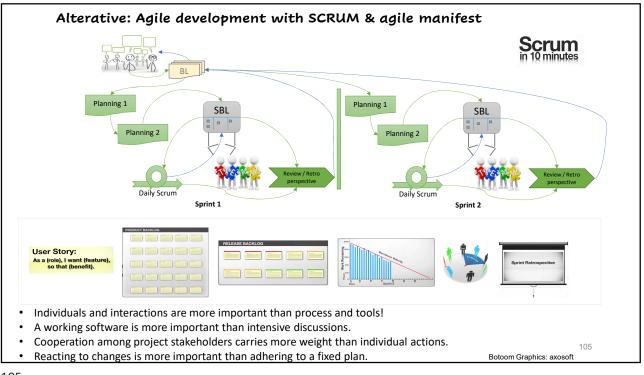






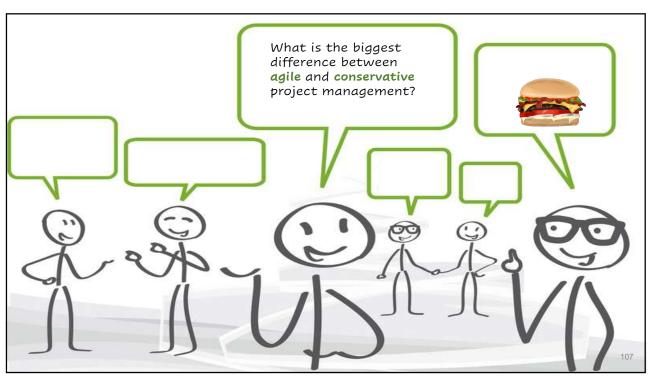












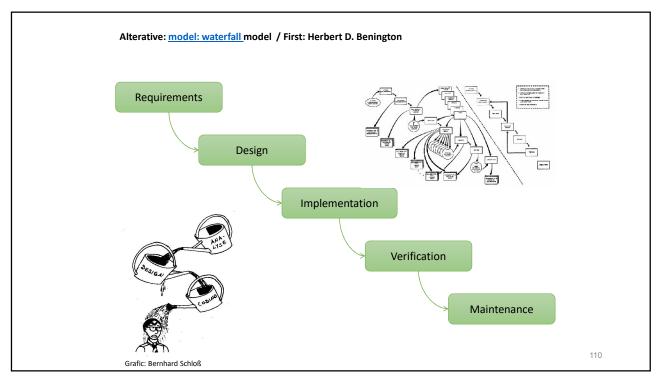
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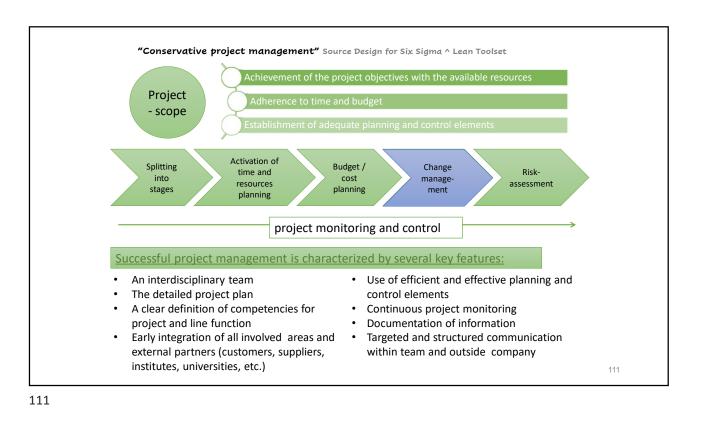
Alternatives: Approaching model conclusion of rules: Extreme programming

- 1. Planning only those things which can be managed within the next 2 to 4 weeks.
- 2. At the end of each day, one runnable piece of software has to be finished.
- 3. The customer takes part in the iterative planning each 2 to 4 weeks if possible and optimally is part of a team with permanent influence.
- 4. Everyone can stop the project at any time given reasonable ground, act according to four-eyes principle.
- 5. The design is kept as simple as possible to avoid overflow and to establish a permanent redesign.
- 6. NEVER accept bad quality!
- 7. Best practice is systematically documented and made accessible to everyone.
- 8. Intensive and open communication is practiced, concentrating on the essentials. (e.g. only standing meetings)

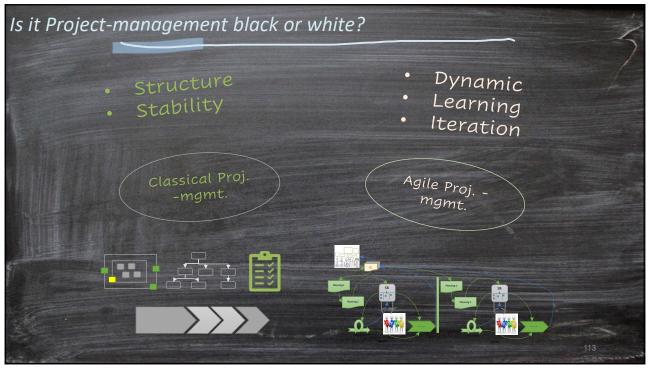
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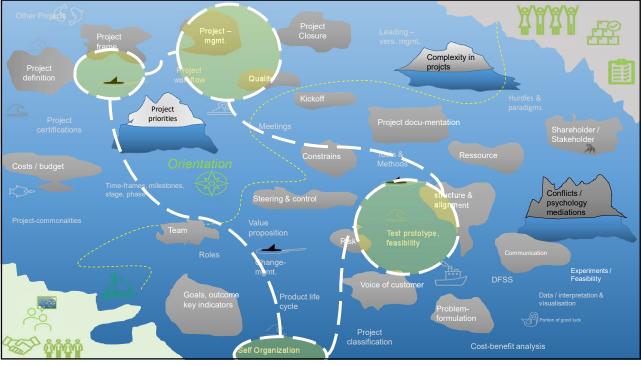






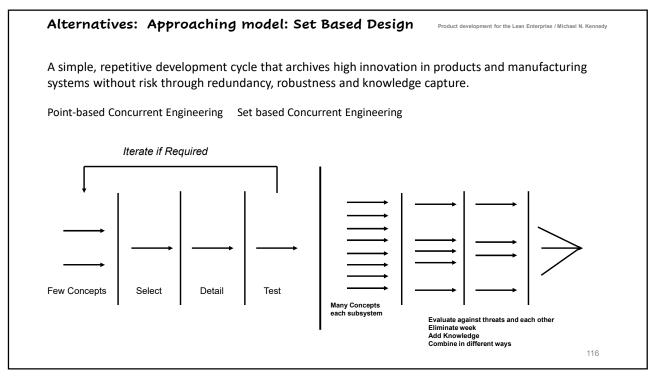


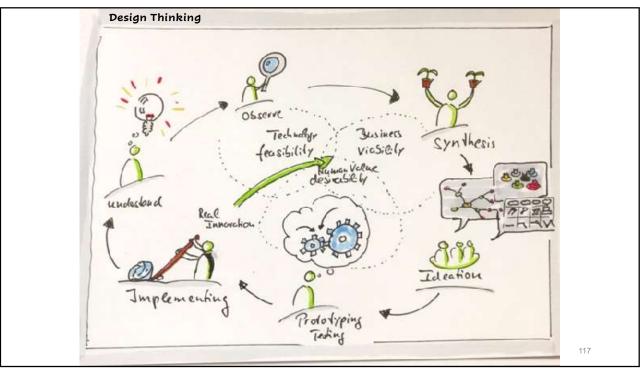


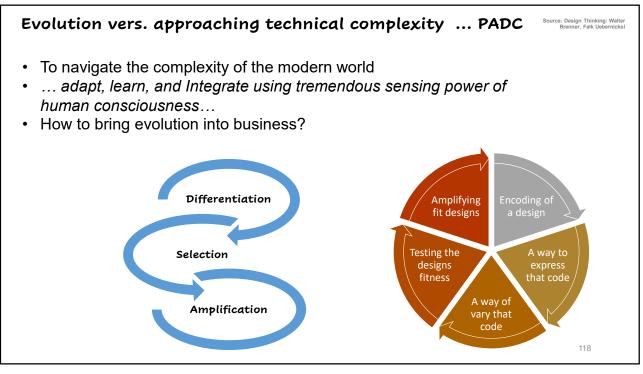


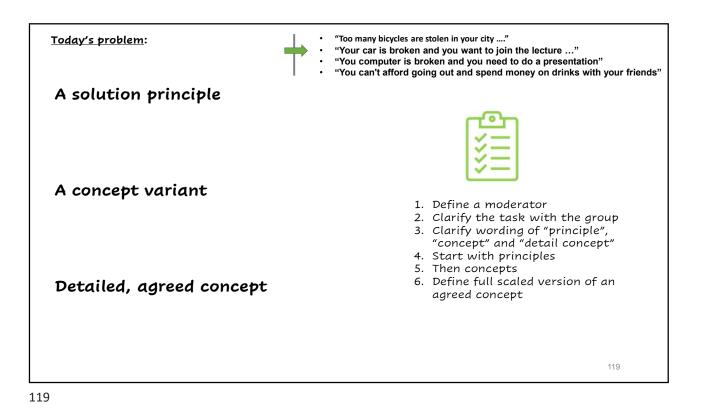


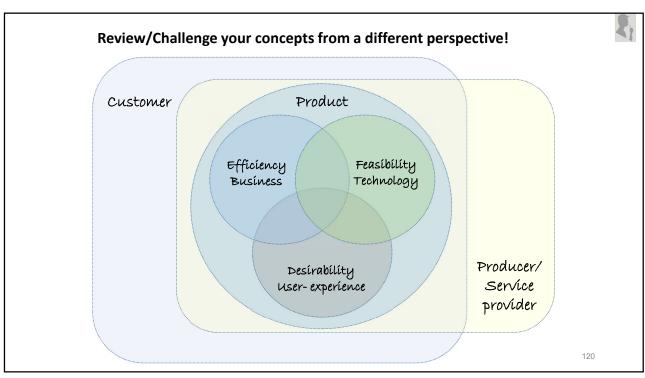


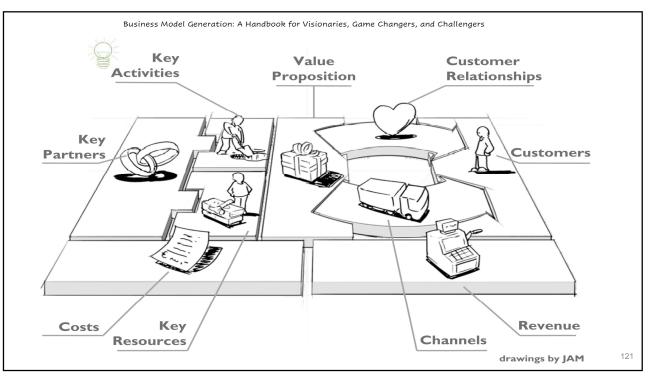








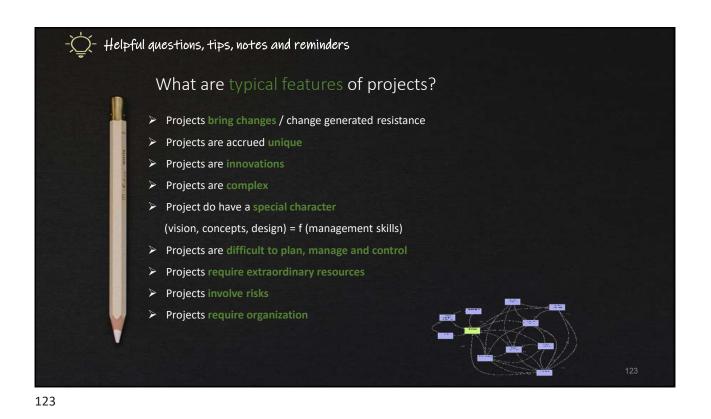




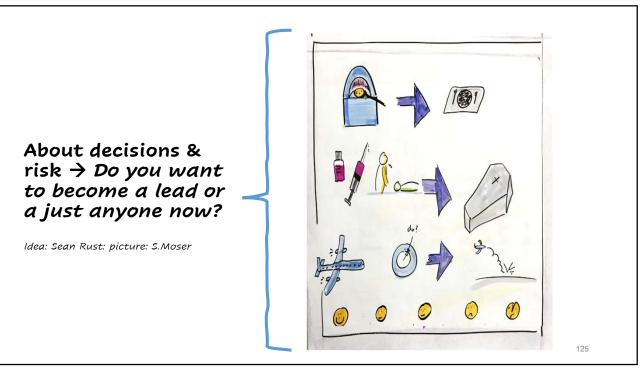


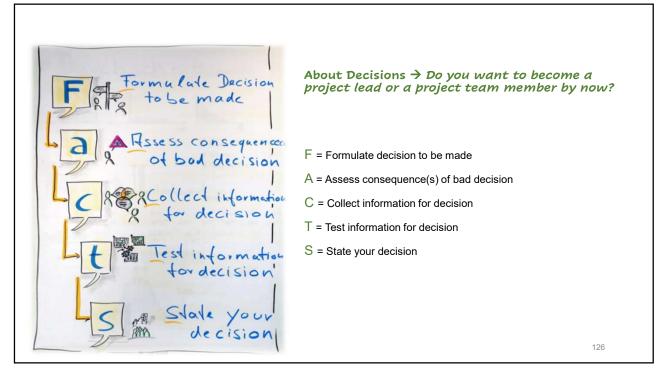


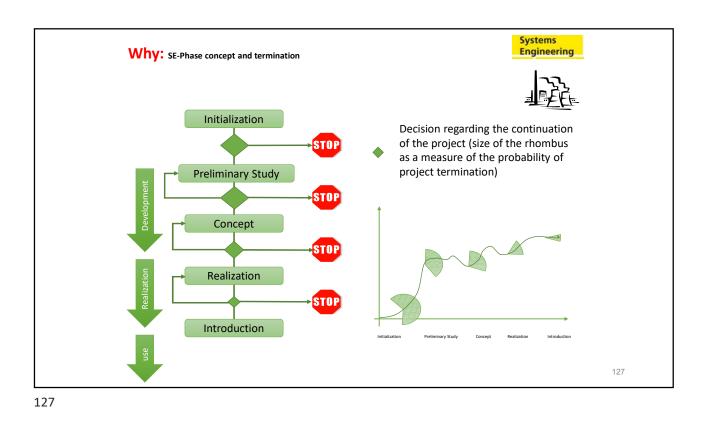


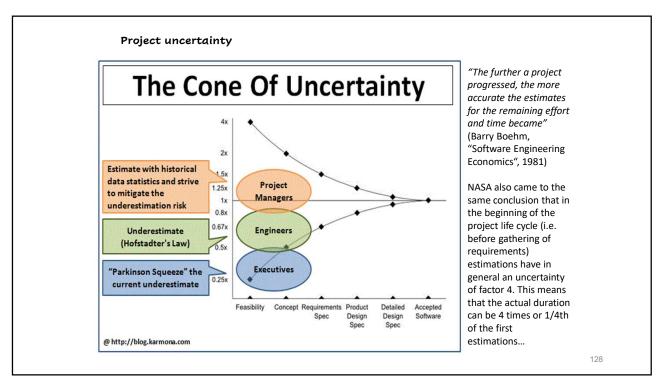


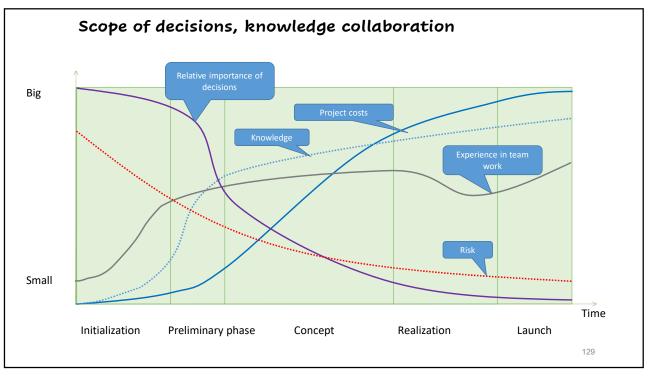
How to manage this uncertainty?



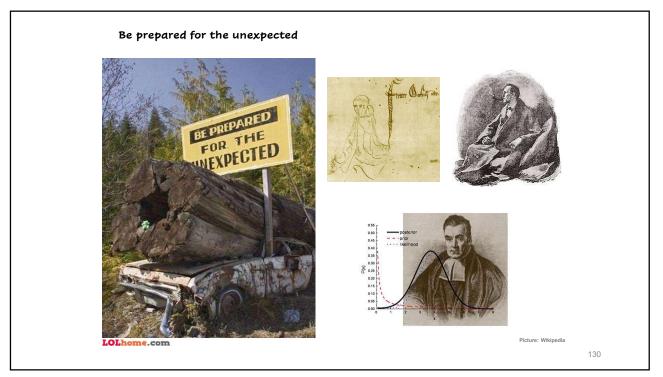






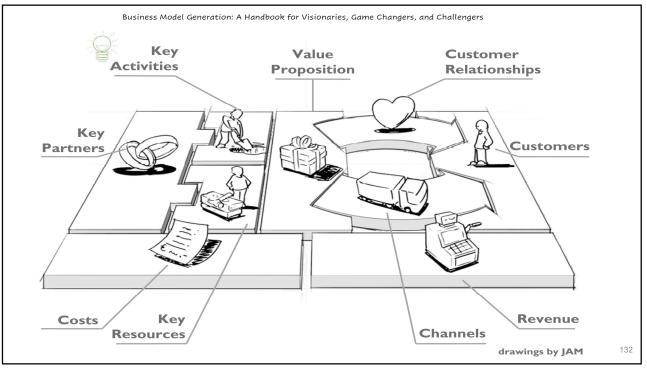


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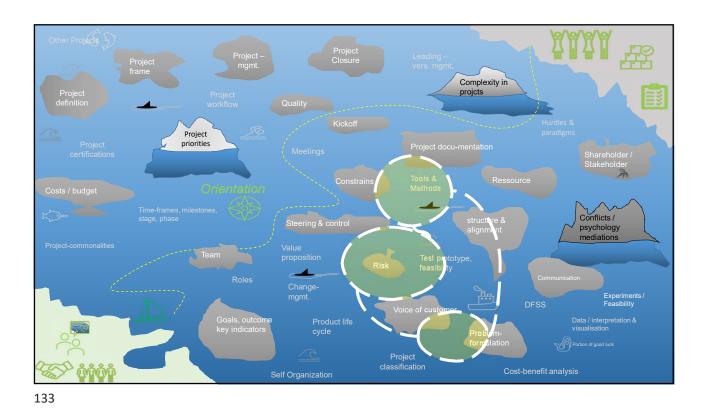


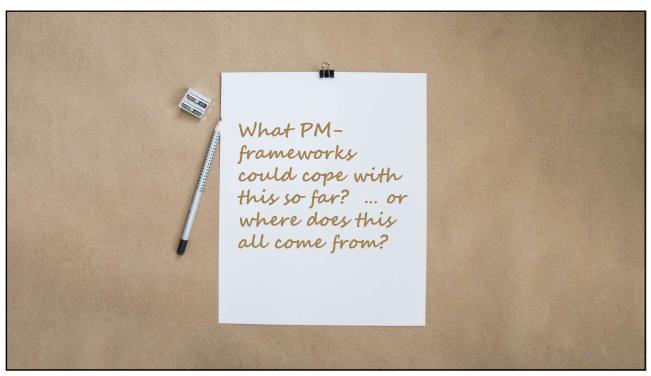


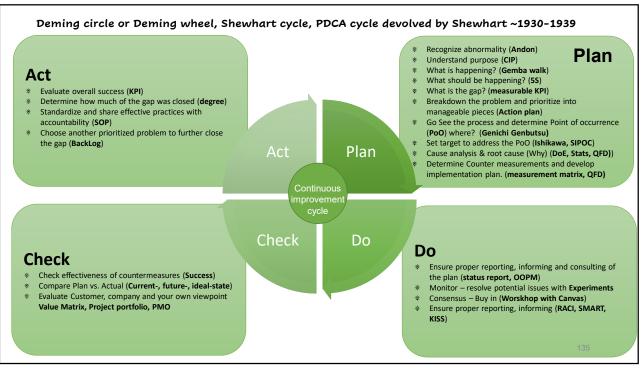


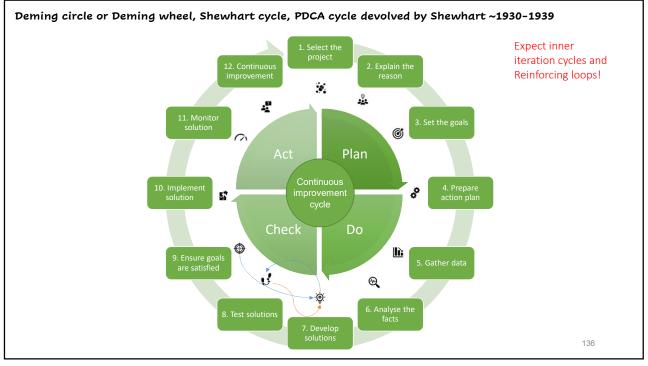


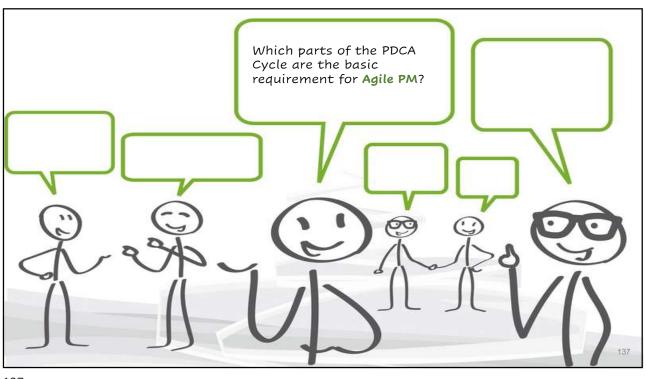


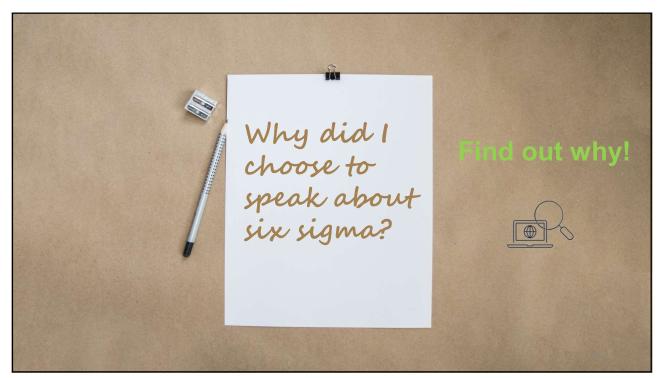


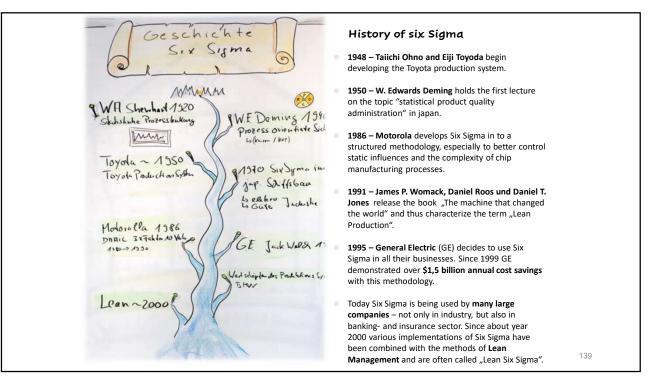












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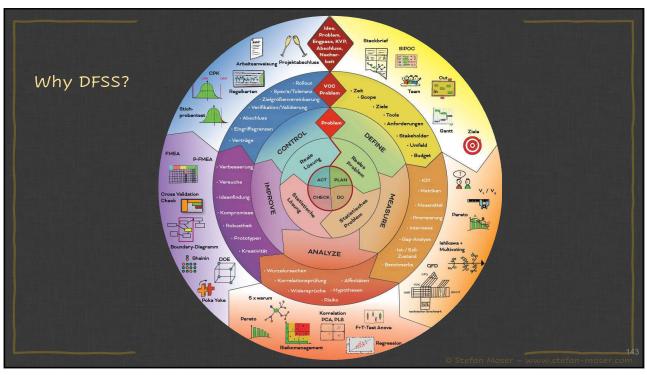
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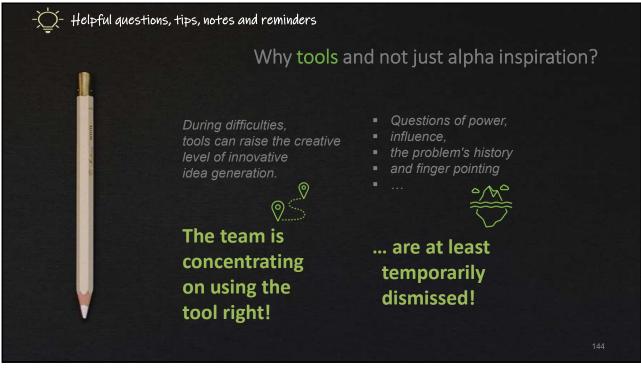
nere to use DMAIC, DMADV	Source: Book design for six sigma * Lean / Lun	
Innovation height	Area of application	Method
1	Process optimization	DMAIC – eliminating negative quality
2	Development of new products based on current processes	
3	Development of new processes to produce existing products	DMADV; generating now positive quality
4	Development of new products and its production process	
5	Basic research	

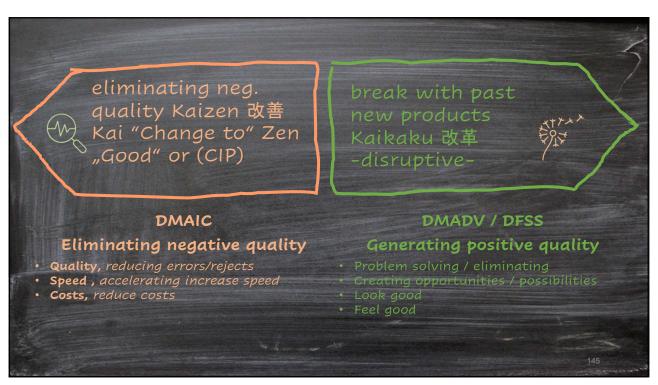


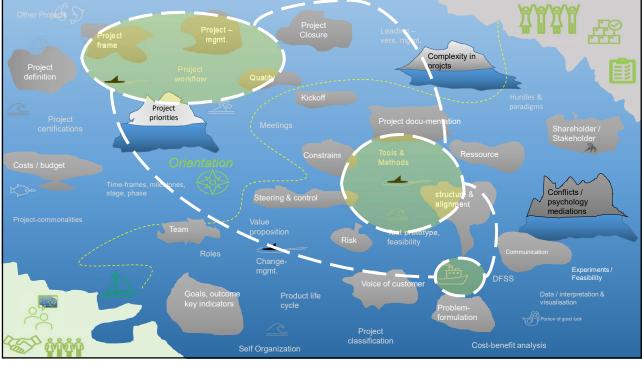


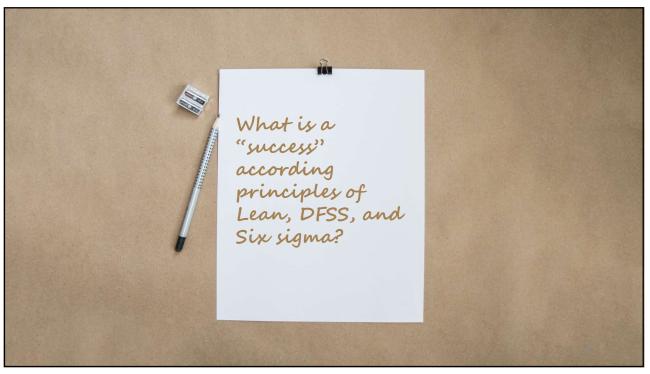


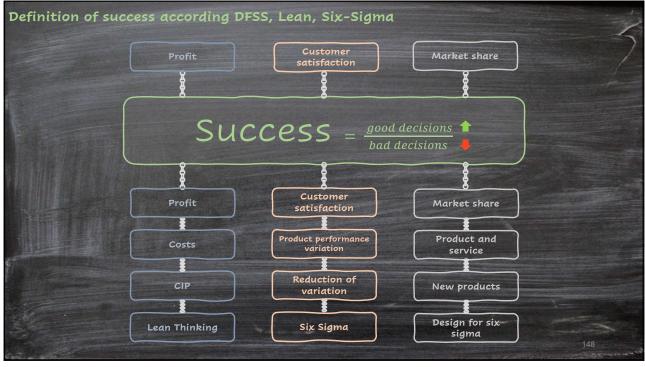




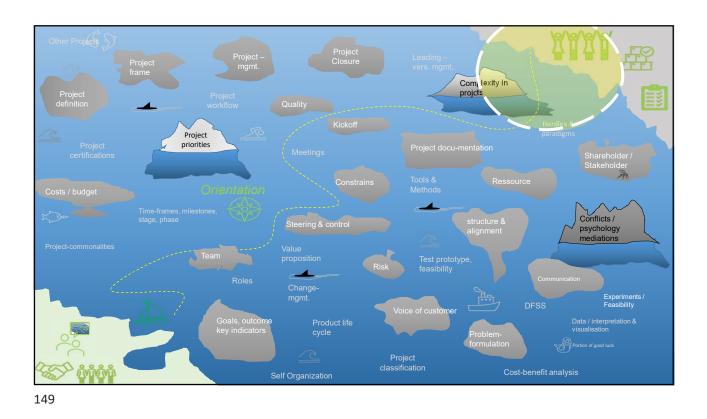




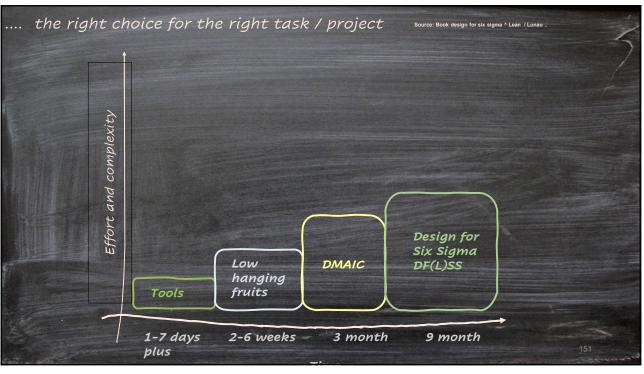


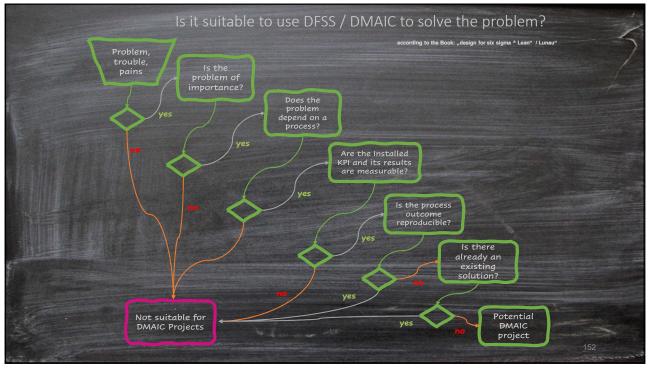


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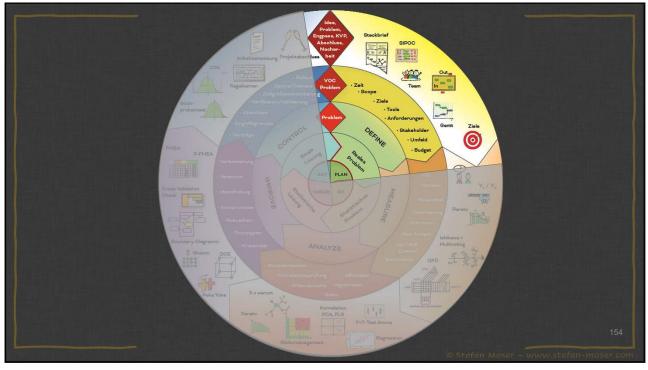




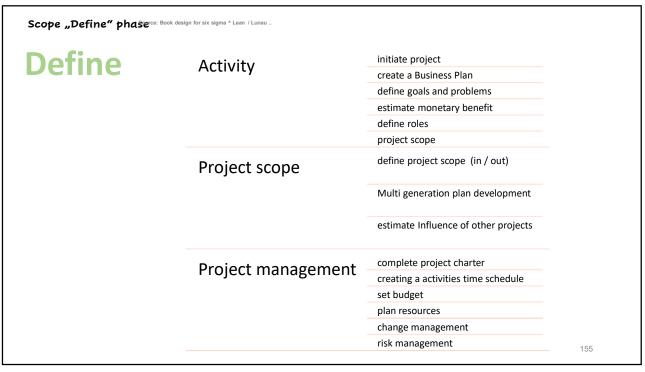


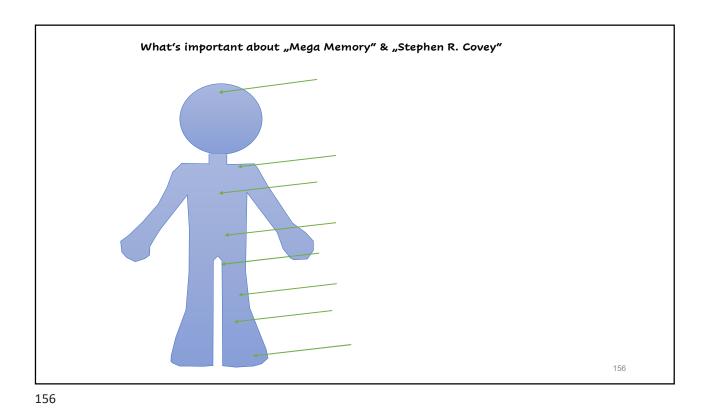


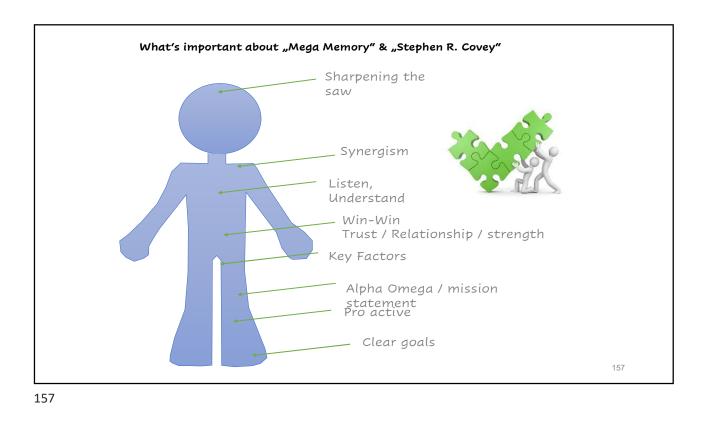




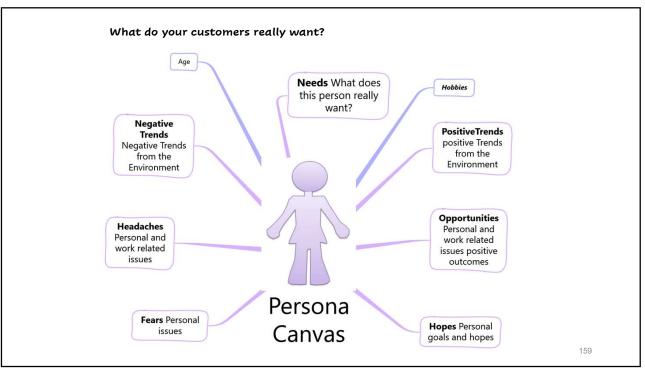


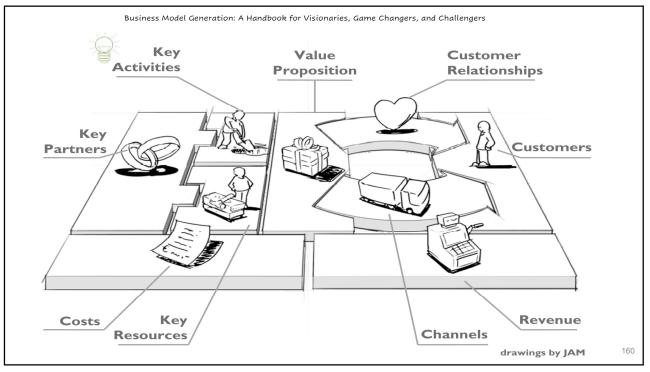




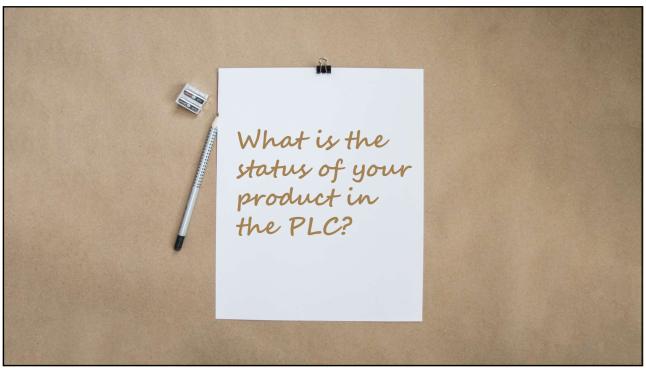


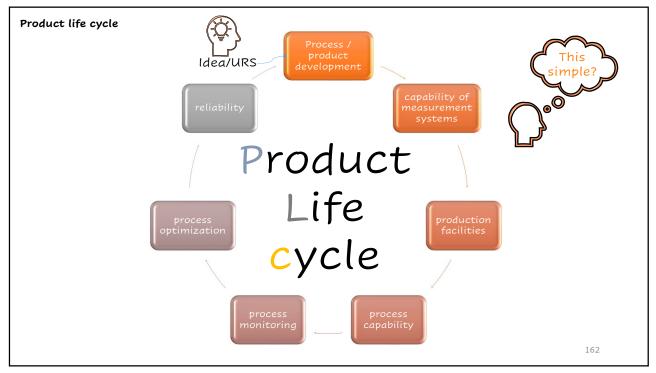


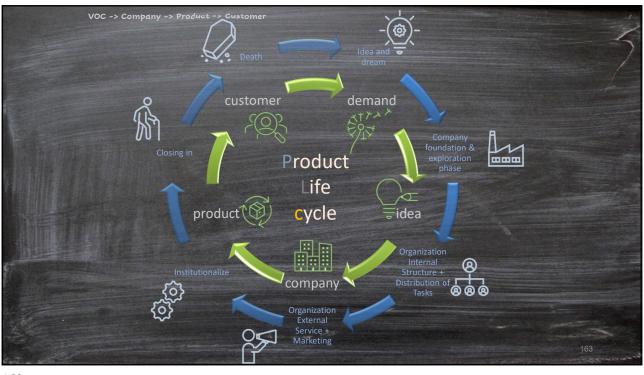


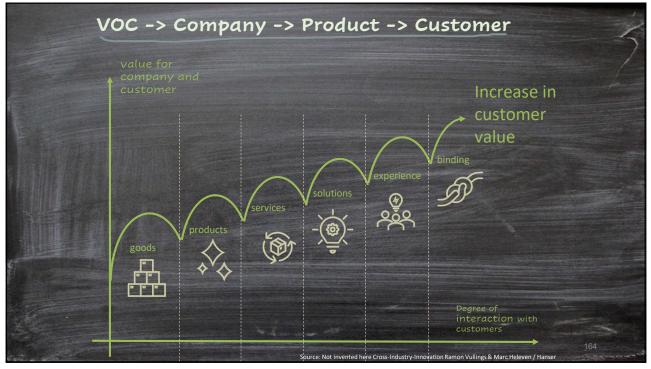




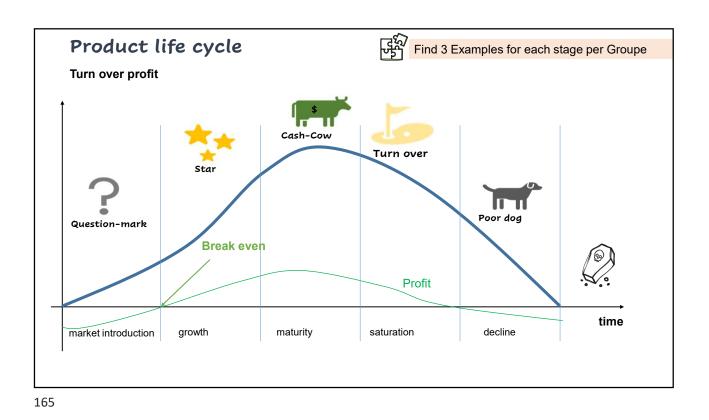


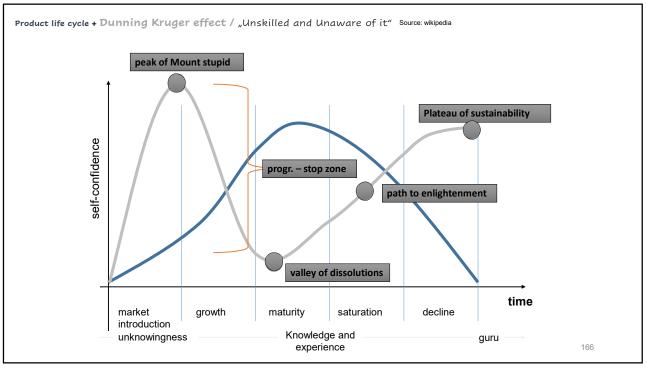


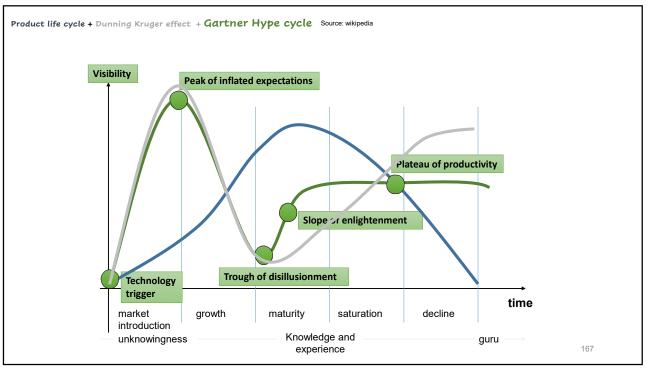


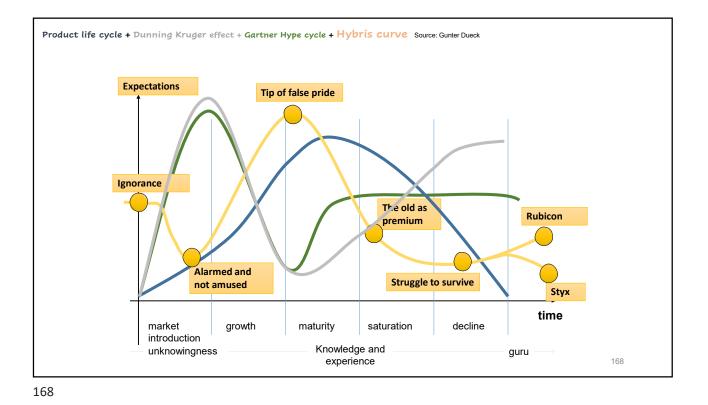


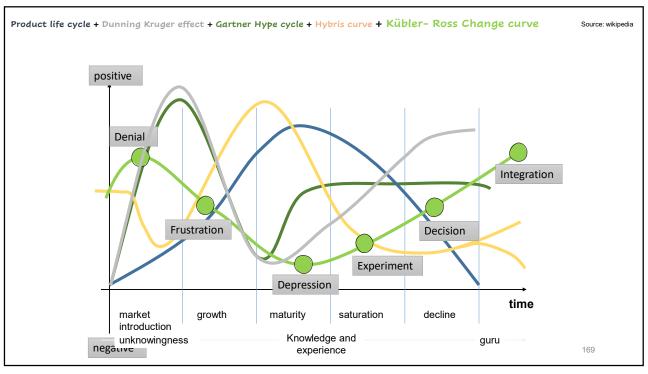


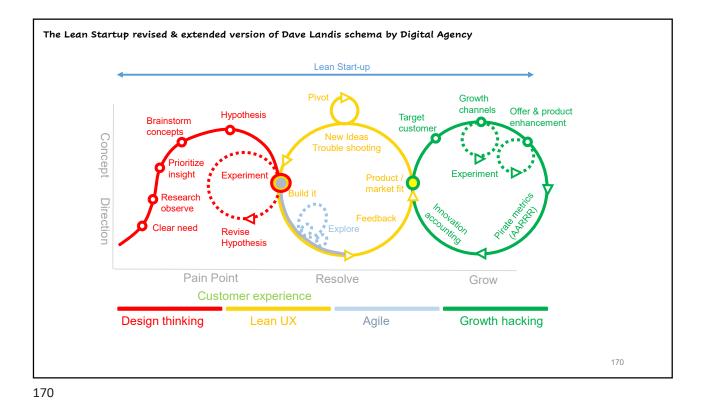


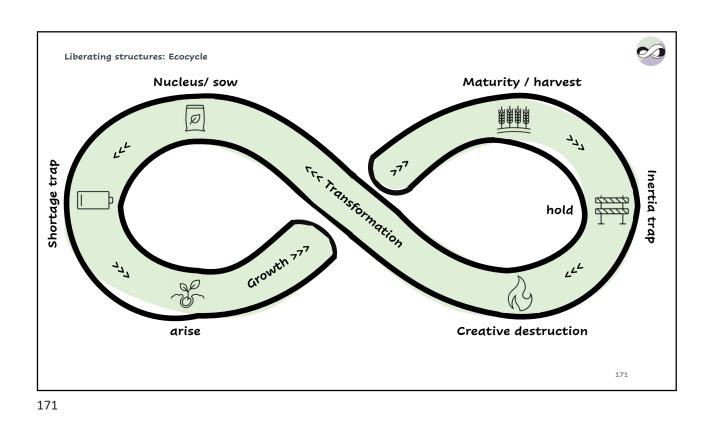


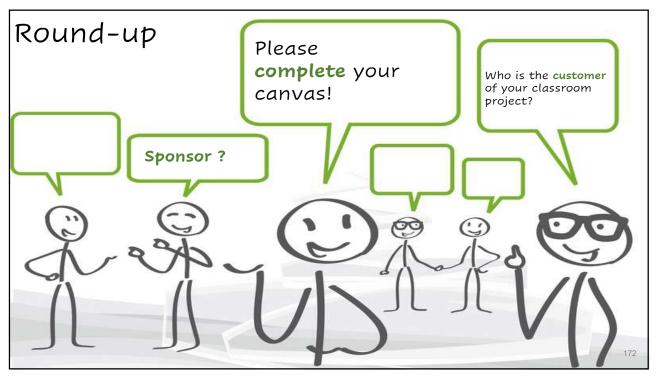


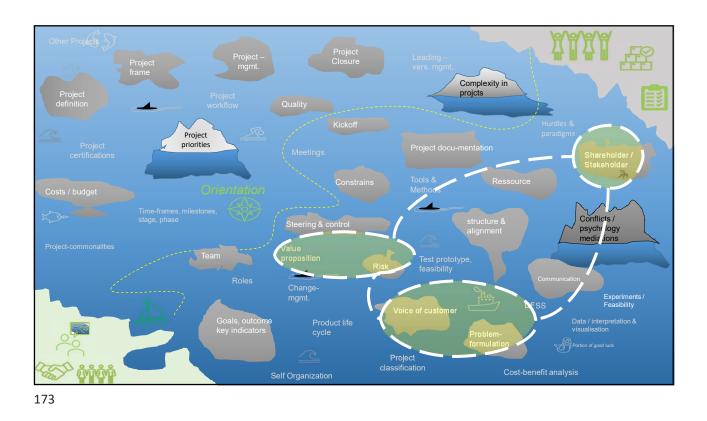


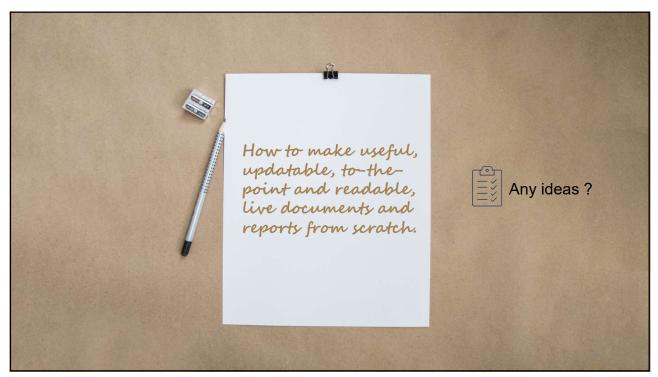






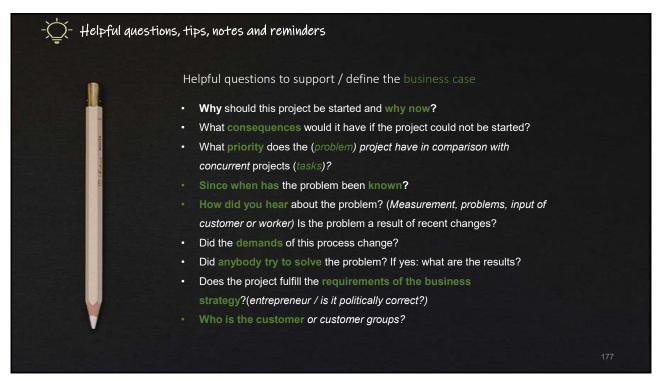


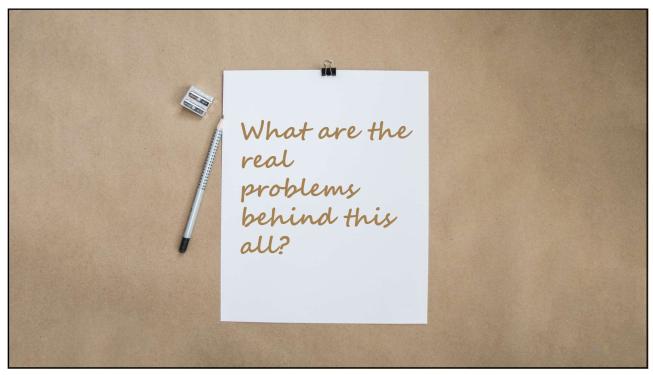




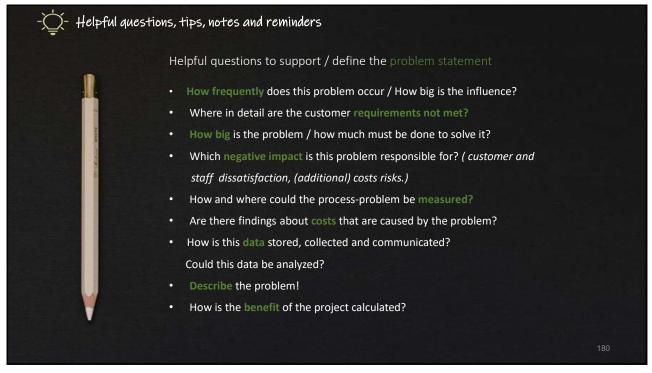
project name Projects name	date	12.04.XXXX vers 0X
business case	project frame	
	in	
	out	
	multi gen. plan	
problem statement	rolls	
	sponsor	big boss
	project lead	Mr. trouble shooter
	team members	Highly skilled worker
money and social benefits	milestones	
	define	Week XX
	measure	
	analyse	
	control	
potential risks	finish	

project name	test of new sealing equip.	date	12.11.23	vers.	03
business case		project frame			
 The production process is not robust enough High amount on rejects is produced with current process Ultrasonic equipment has to be tested and if beneficial implemented 		in	ultrasonic, unchanged tex spec		
		out	enhanced sealing, no leakage		
		multi gen. plan	new products implementation		
problem statement		rolls			
The welding quality varies and differs in shape		sponsor	Big boss		
 The process variety could not be specified with robust specifications to ensure a robust process 	project lead	Mr. trouble shooter			
 Goal is, the process needs to be stabilized with reject <=1% 		team members	highly skilled worker		
money and social b	enefits	milestones			
	 The cost of the ultrasonic device and equipment is 20T€ 		Week XX		
 If the machine could ensure a reject rate the Return on Invest will be <=20 weeks 		measure			
 Motivation of worker could be strongly enhanced by optimizing the process 	orker could be strongly enhanced by optimizing the	analyse			
		control			
potential risks		finish			
 Ultrasonic machine capability when product variation in batches occur Worker could complain about noise More skilled worker are needed 					
	Sign sponsor	sign project lead			





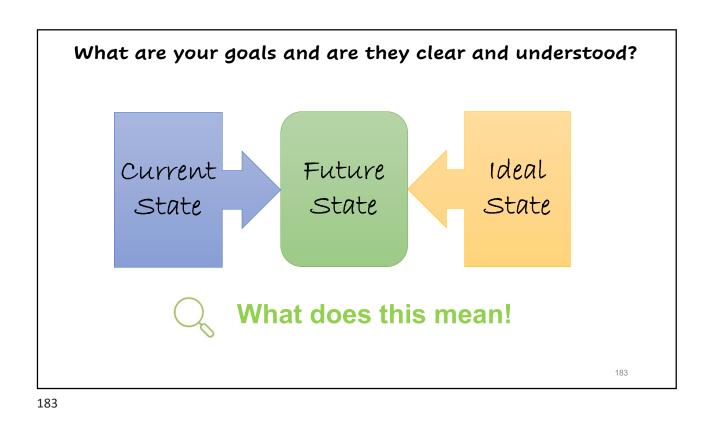






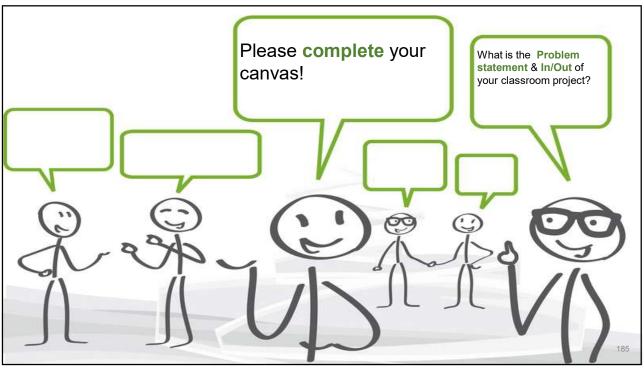
Project charter: define phase: What are (customer) needs and demands and are they constant?

project name	test of new sealing equip.	date	12.11.23	vers.	03
business case		project frame			
The production process is not robust enough		in	ultrasonic, unchanged tex spec		
 High amount on rejects is produced with current process Ultrasonic equipment has to be tested and if beneficial implemented 	out	enhanced sealing, no leakage			
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	measure				
	analyse				
		control			
potential risks		finish			
 Ultrasonic machine e Worker could compl More skilled worker 					
		Sign sponsor	sign project lead		

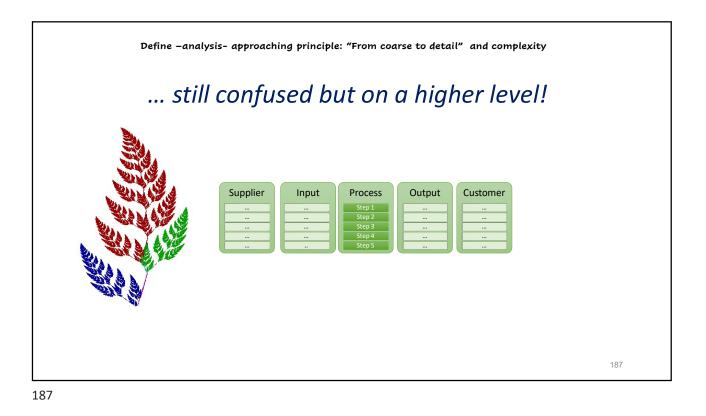


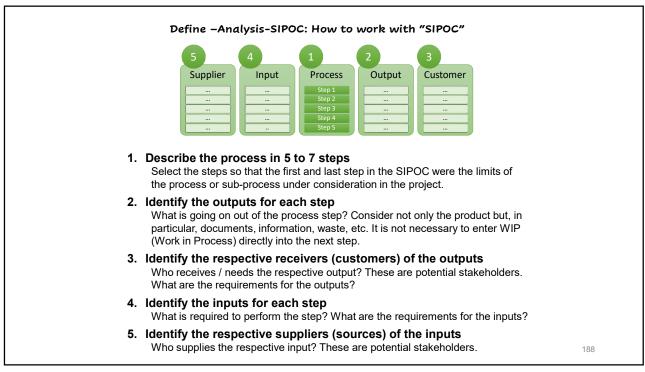


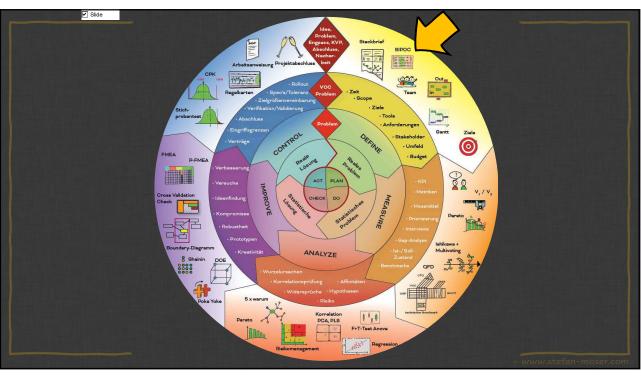


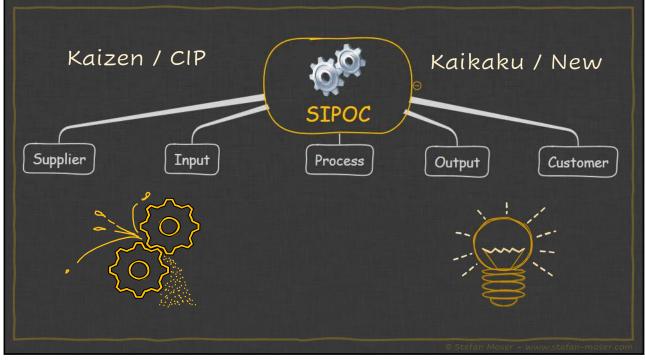




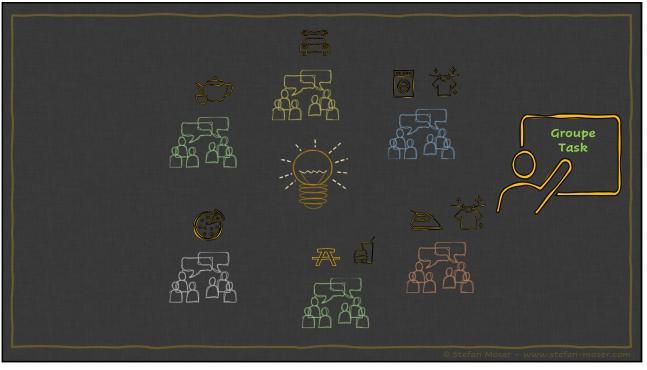


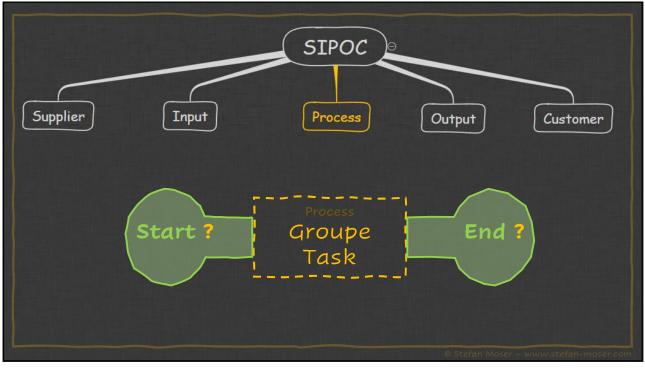






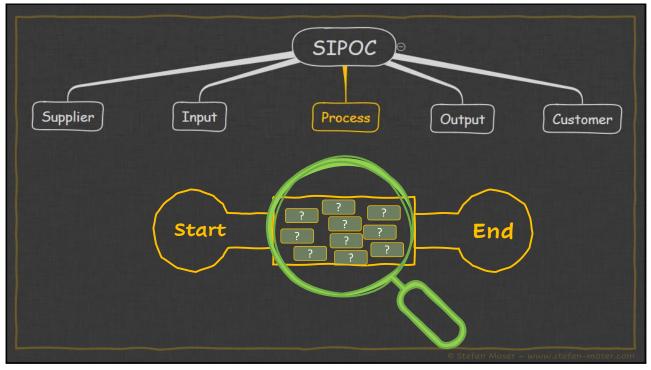




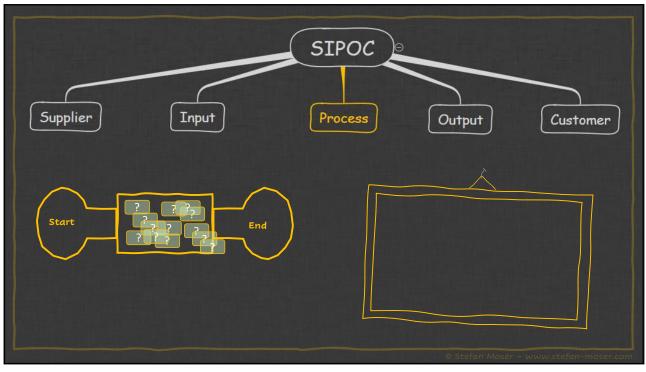


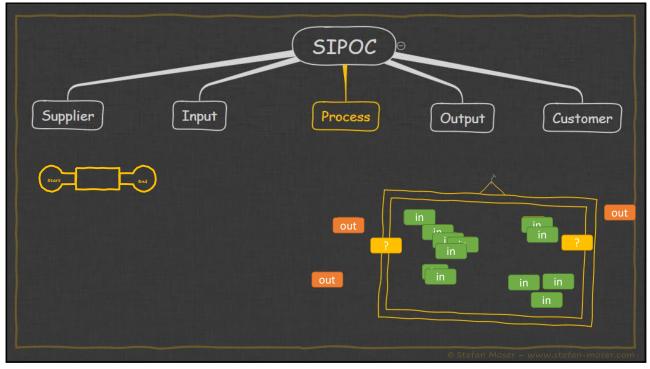


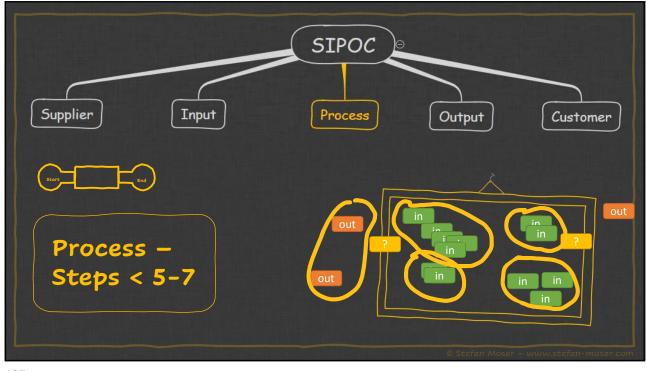


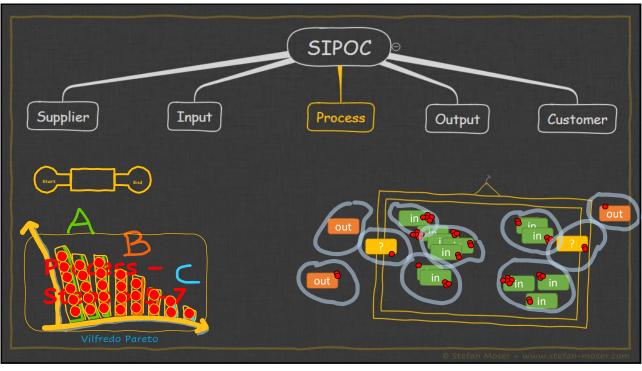




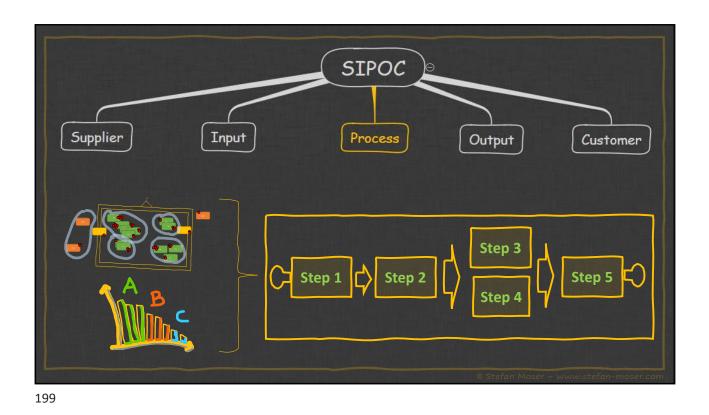


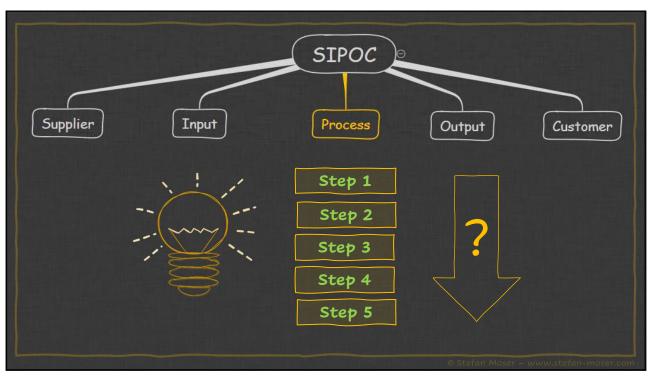




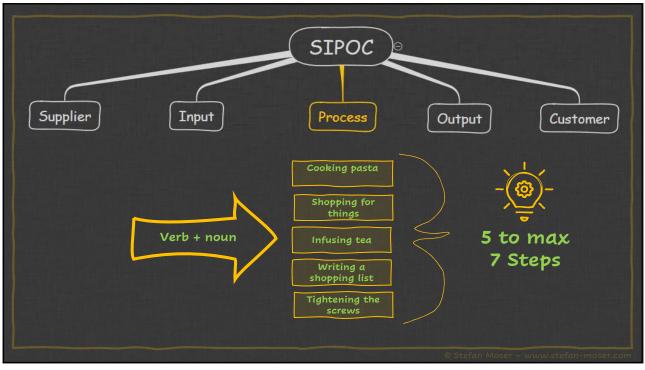


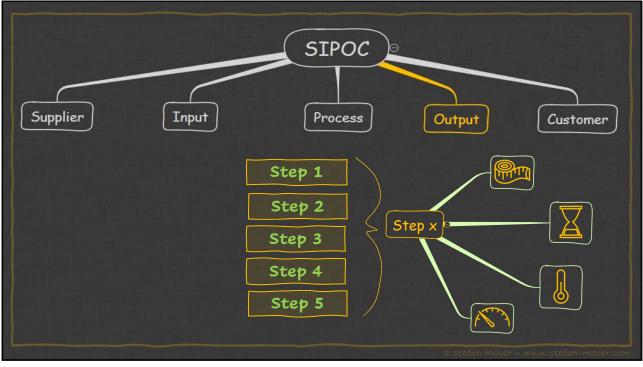


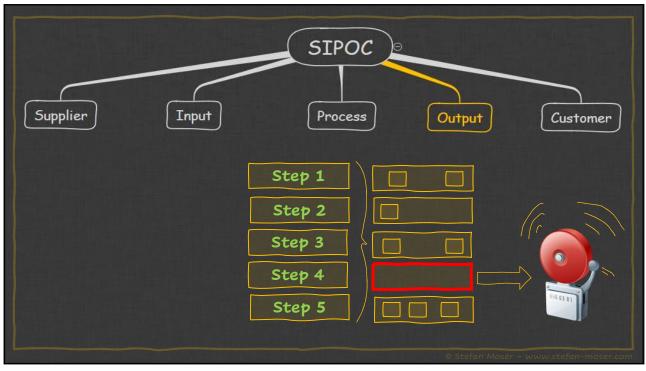


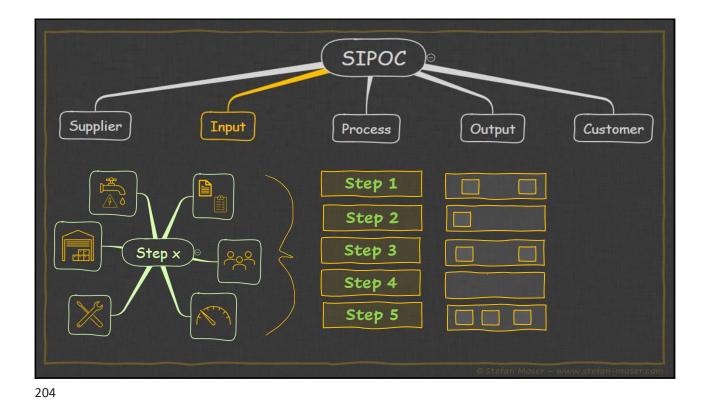


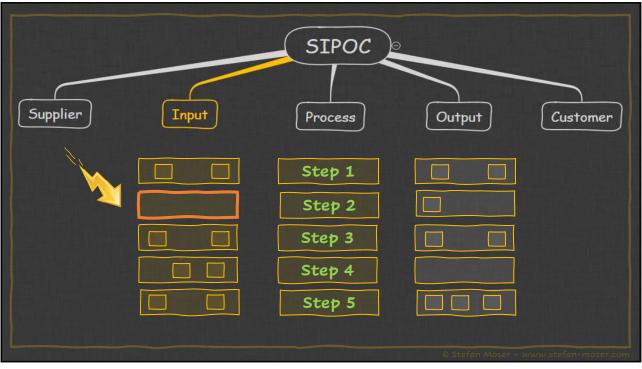


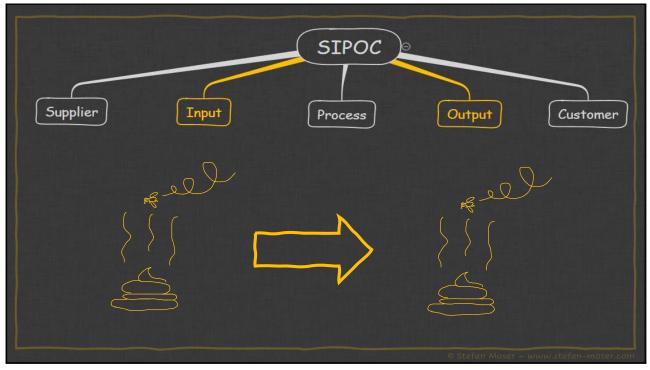




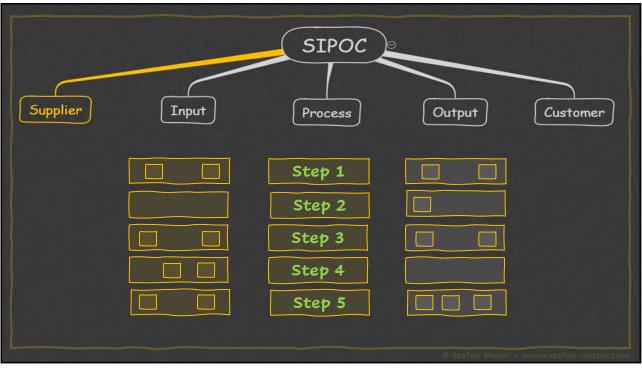


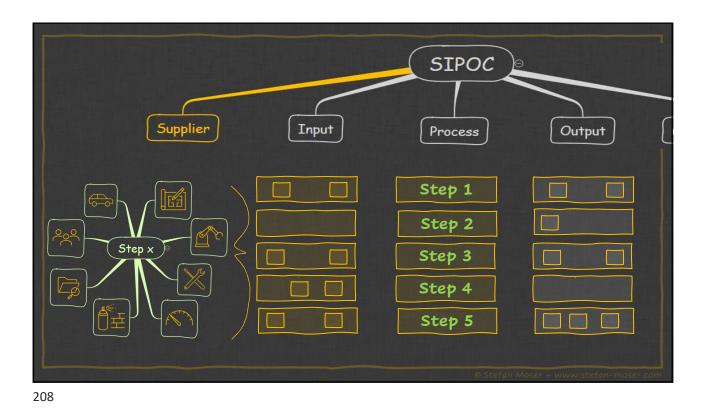


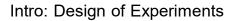


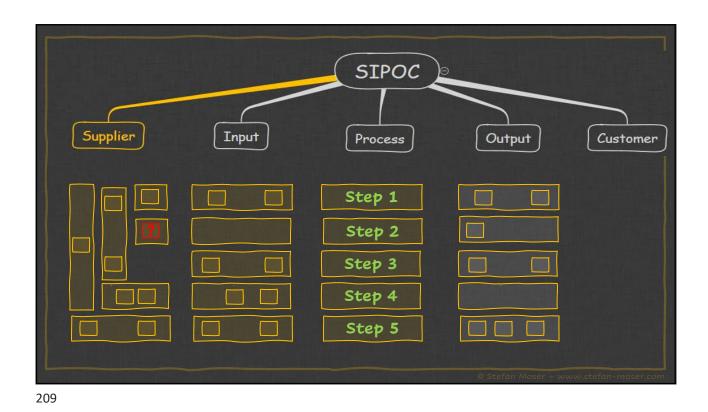


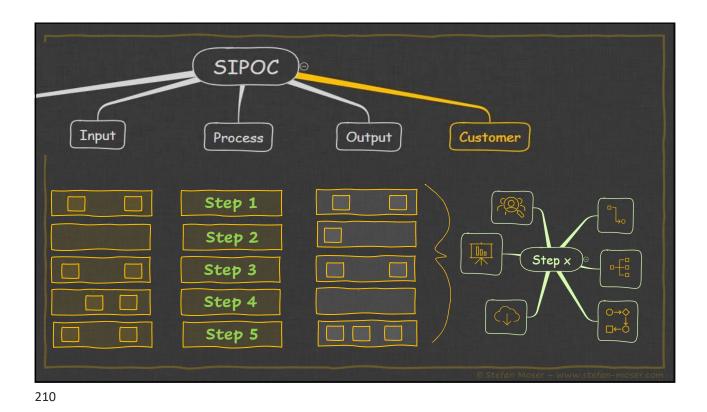


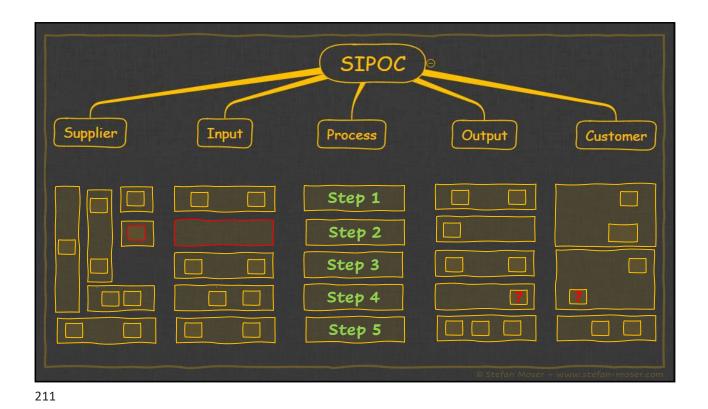


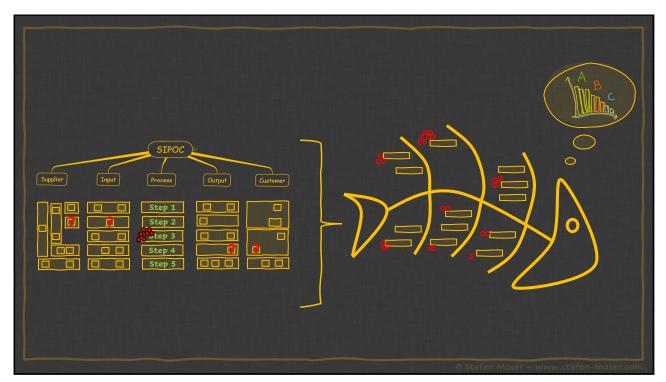




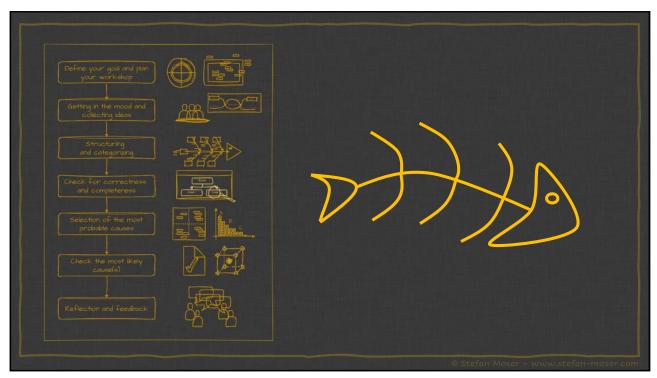


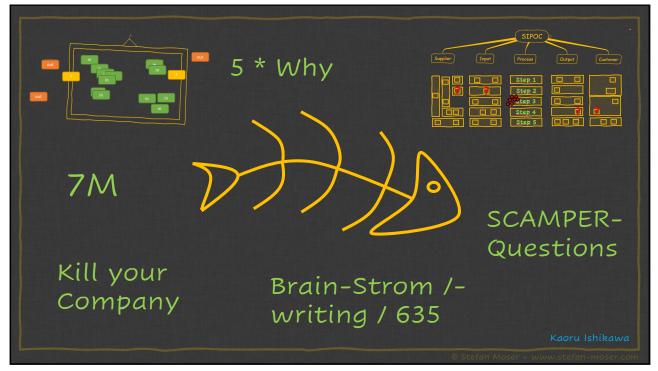


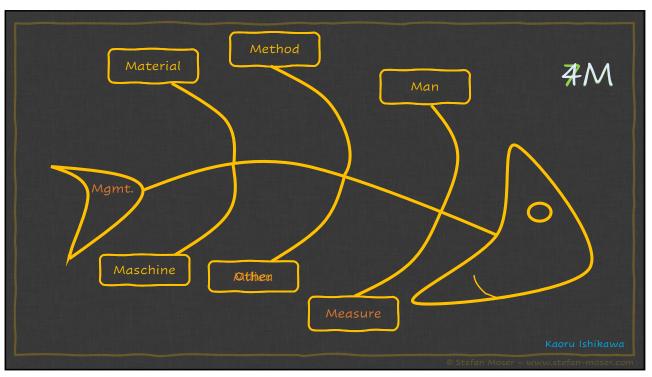


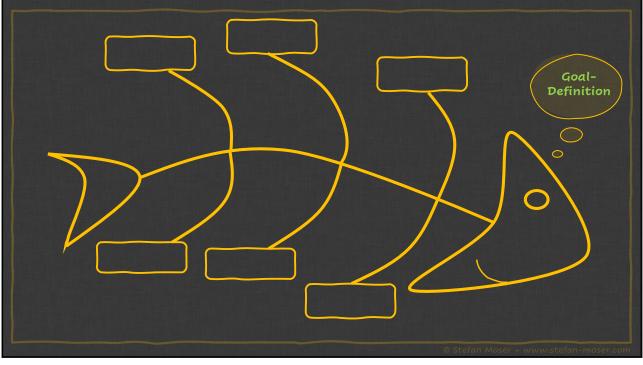




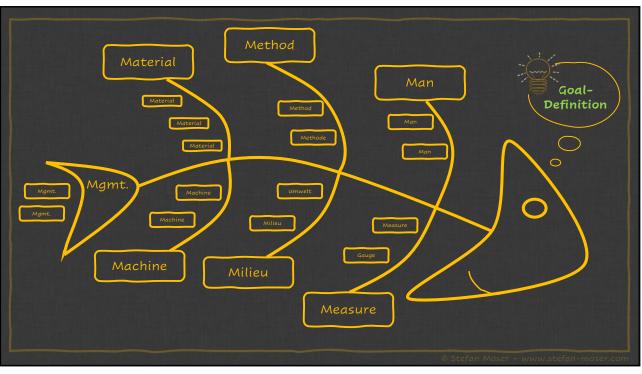


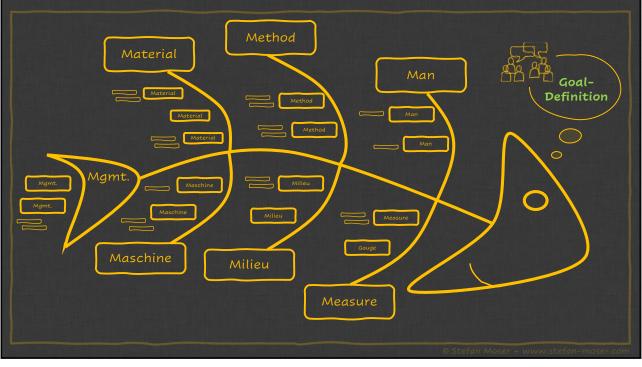




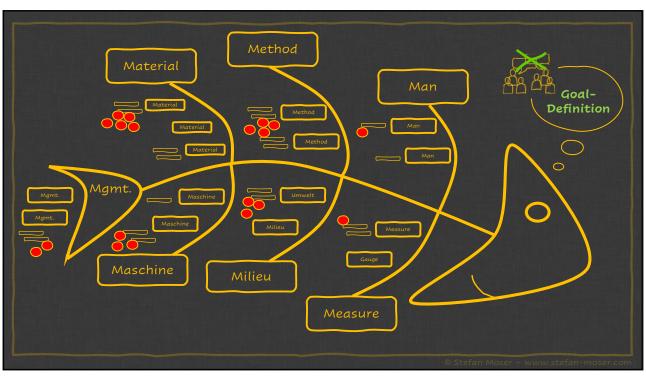


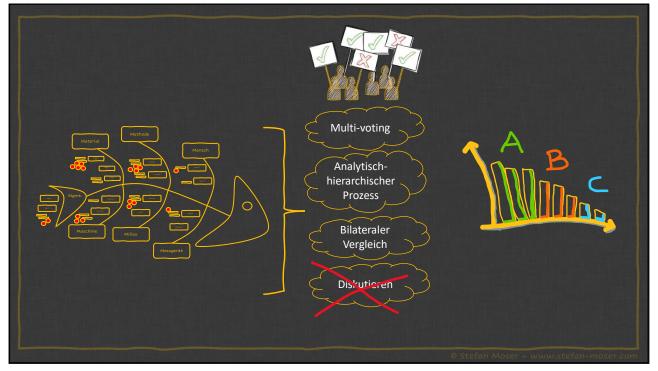




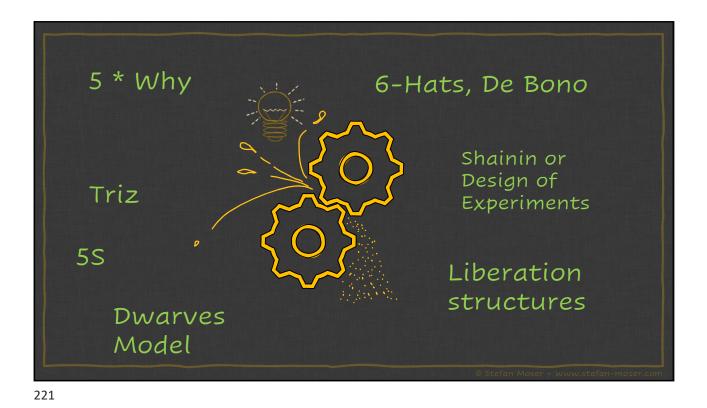


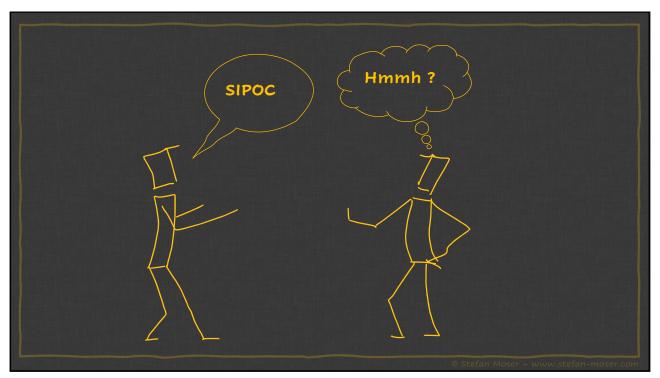




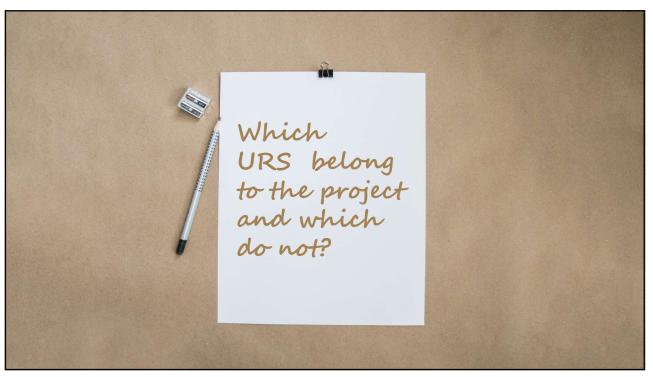


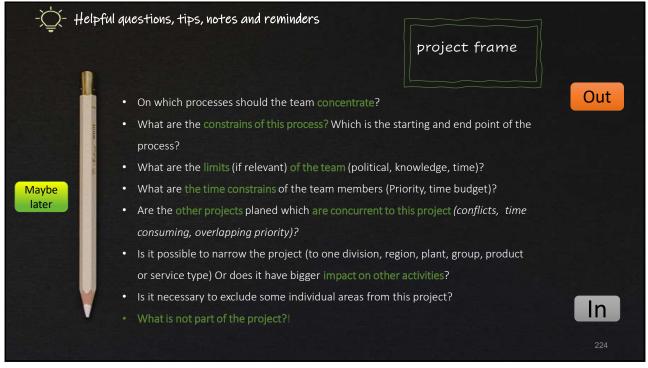










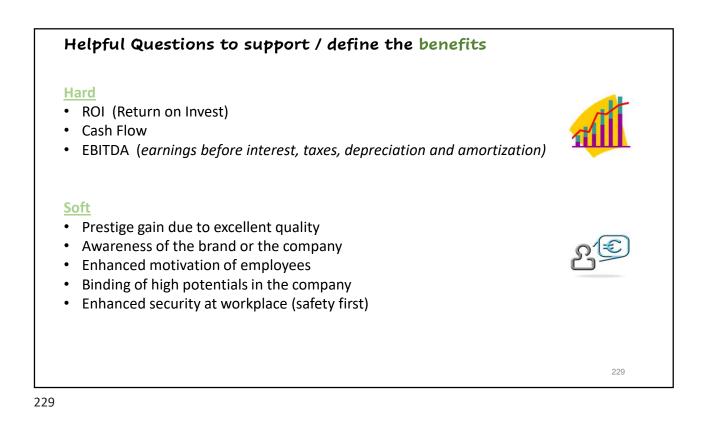


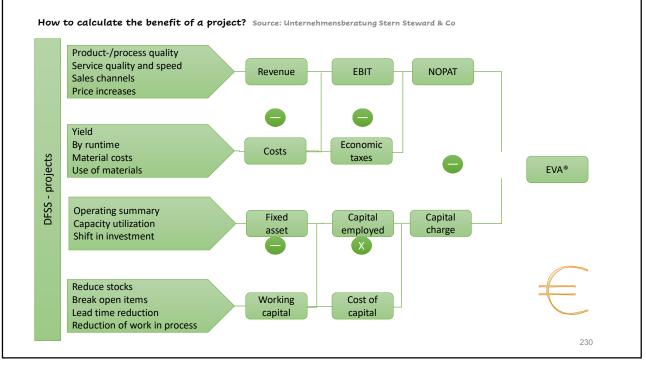
project name	test of new sealing equip.	date	12.11.23	vers.	03
business case		project frame			
	process is not robust enough	in	ultrasonic, unch	anged tex spec	C
-	rejects is produced with current process ment has to be tested and if beneficial implemented	out	enhanced sealin	g, no leakage	
		multi gen. plan	new products im	plementation	
problem statement		rolls			
	lity varies and differs in shape	sponsor	Big boss		
 The process var ensure a robust 	ety could not be specified with robust specifications to process	project lead	Mr. trouble shoc	ter	
	ess needs to be stabilized with reject <=1%	team members	highly skilled wo	rker	
money and social b	enefits	milestones			
	ultrasonic device and equipment is 20T€	define	Week XX		
 If the machine of weeks 	ould ensure a reject rate the Return on Invest will be <=20	measure			
	orker could be strongly enhanced by optimizing the	Analyse			
process		Control			
potential risks		finish			
	ine capability when product variation in batches occur mplain about noise				
	rker are needed				

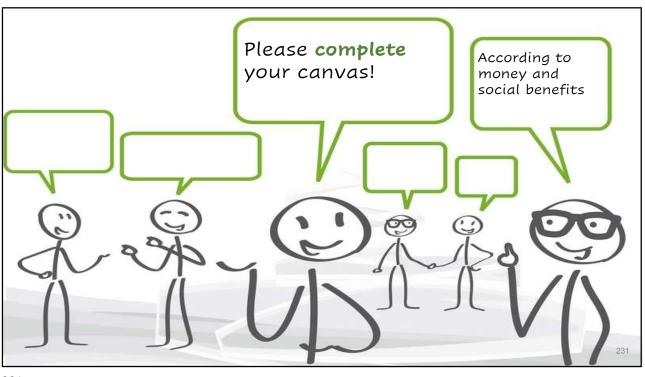


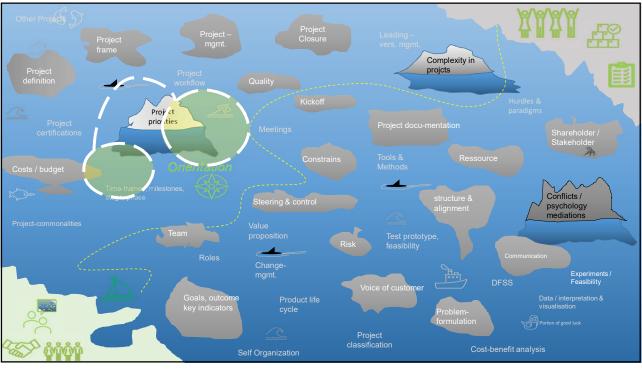


project name	test of new sealing equip.	date	12.11.23	vers.	03
business case		project frame			
	on process is not robust enough	in	ultrasonic, unch	anged tex spec	
0	on rejects is produced with current process guipment has to be tested and if beneficial implemented	out	enhanced sealin	g, no leakage	
		multi gen. plan	new products im	plementation	
problem staten	ent	rolls			
	quality varies and differs in shape	sponsor	Big boss		
 The process ensure a rol 	variety could not be specified with robust specifications to ust process	project lead	Mr. trouble shoc	iter	
	process needs to be stabilized with reject <=1%	team members	highly skilled wo	rker	
money and soc	al benefits	milestones			
	he ultrasonic device and equipment is 20T€	define	Week XX		
 If the mach weeks 	ne could ensure a reject rate the Return on Invest will be <=	20 measure			
Motivation	 Motivation of worker could be strongly enhanced by optimizing the process 				
		control			
potential risks		finish			
Worker cou	achine capability when product variation in batches occur d complain about noise worker are needed				
 More skilled 	worker are needed	Sign sponsor	sign project le	ad	





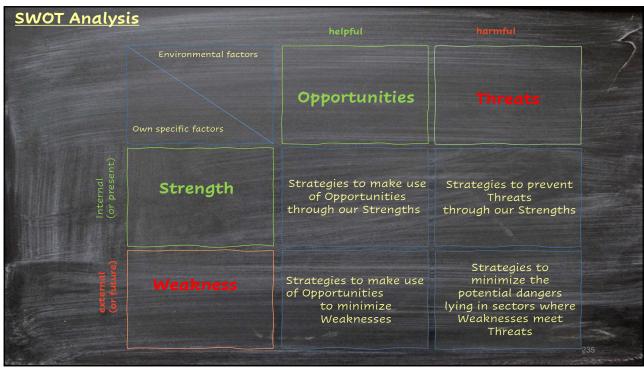


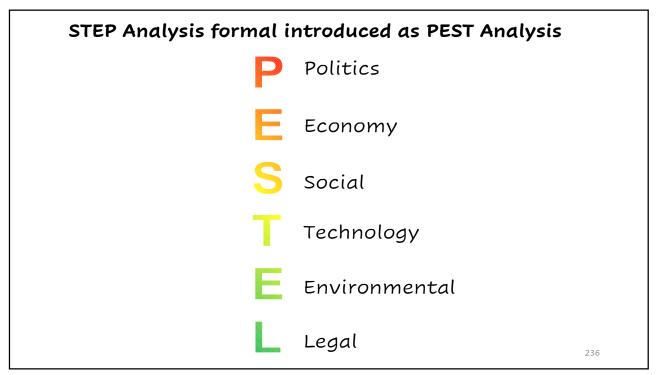


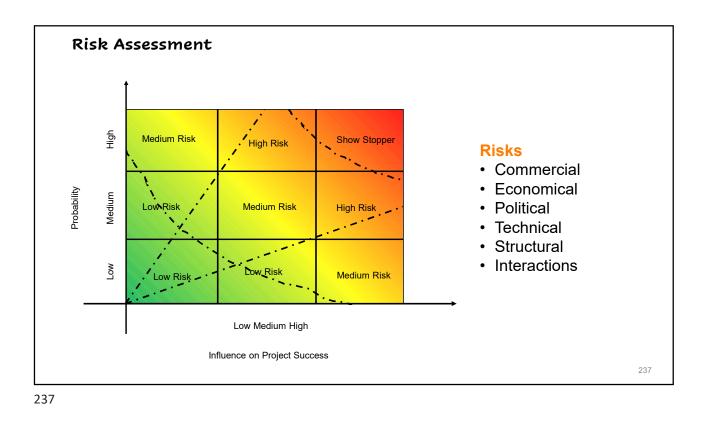


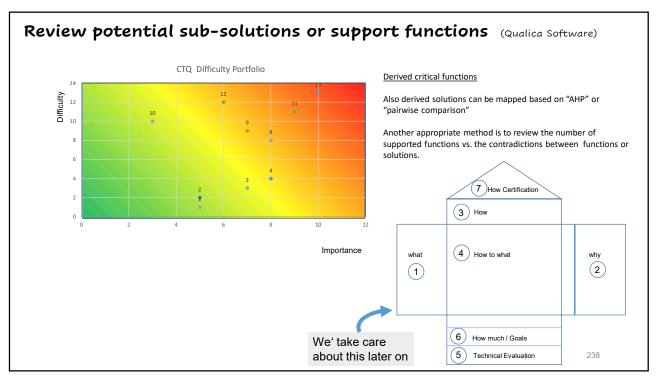


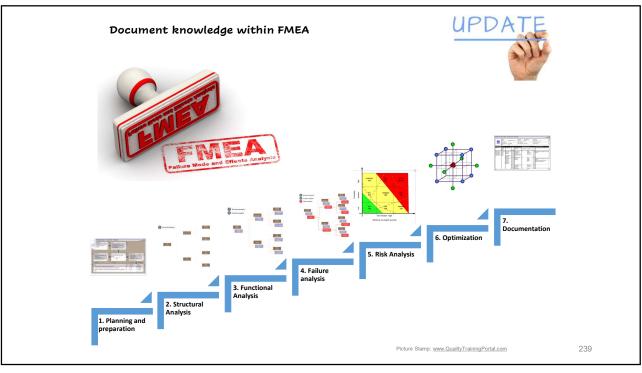
project name	test of new sealing equip.	date	12.11.23	vers.	03	
business case		project frame				
	ocess is not robust enough	in	ultrasonic, unchange	ultrasonic, unchanged tex spec		
0	ejects is produced with current process nent has to be tested and if beneficial implemented	out	enhanced sealing, n	o leakage		
		multi gen. plan	new products implementation			
problem statement		rolls				
01	ty varies and differs in shape	sponsor	Big boss			
 The process varie a robust process 	ty could not be specified with robust specifications to ensure	project lead	Mr. trouble shooter			
	ss needs to be stabilized with reject <=1%	team members	highly skilled worker	r		
money and social be	efits	milestones				
	trasonic device and equipment is 20T€	define	Week XX			
 If the machine co weeks 	uld ensure a reject rate the Return on Invest will be <=20	measure				
Motivation of wo	ker could be strongly enhanced by optimizing the process	analyse				
		control				
potential risks		finish				
	e capability when product variation in batches occur uplain about noise					
- Wore skilled work		Sign sponsor	sign project lead			





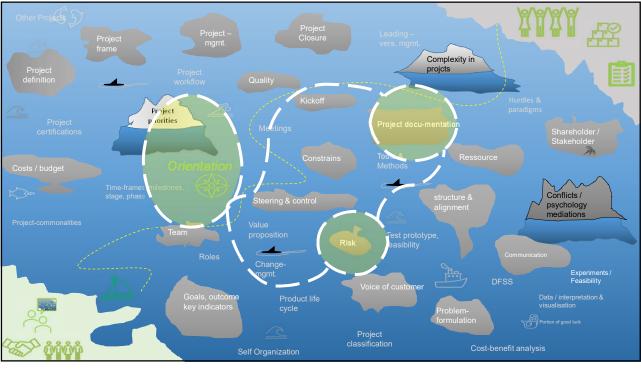






The pr	oject square canvas				
	mental attitude				
	project contract	People (internal & external)		target group	
		key resources			
	damages		benefits		
				240	

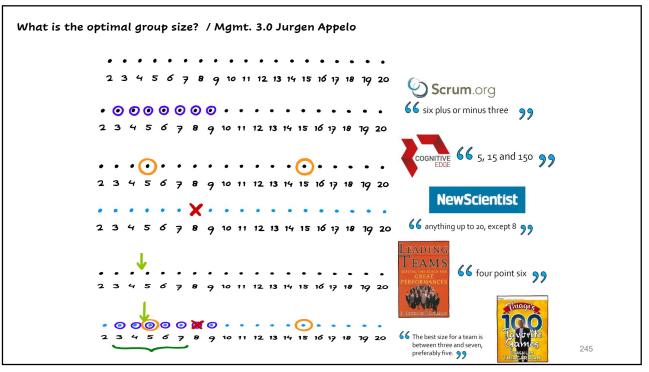


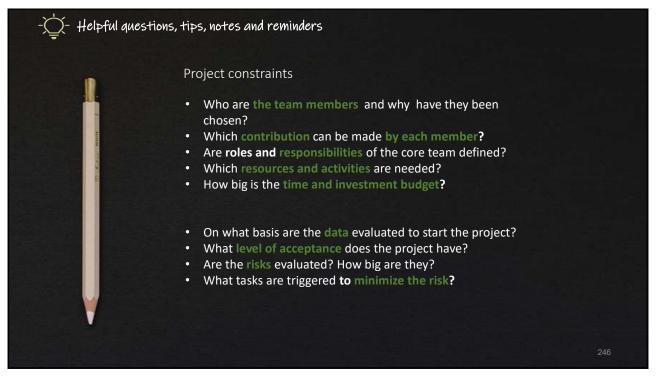




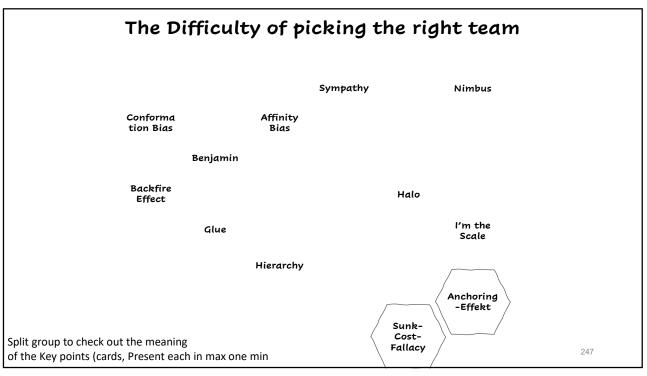


project name	test of new sealing equip.	date	12.11.23	vers.	03	
business case		project frame				
	process is not robust enough	in	ultrasonic, uncha	anged tex spec		
	n rejects is produced with current process pment has to be tested and if beneficial implemented	out	enhanced sealing	g, no leakage		
	р	multi gen. plan	new products im	new products implementation		
problem statement		rolls				
	ality varies and differs in shape	sponsor	Big boss			
 The process va ensure a robustion 	iety could not be specified with robust specifications to process	project lead	Mr. trouble shoo	ter		
	cess needs to be stabilized with reject <=1%	team members	highly skilled wo	rker		
money and social l	enefits	milestones				
	ultrasonic device and equipment is 20T€	define	Week XX			
 If the machine weeks 	If the machine could ensure a reject rate the Return on Invest will be <=20 weeks					
 Motivation of worker could be strongly enhanced by optimizing the process 		analyse				
		control				
potential risks		finish				
 Worker could c 	nine capability when product variation in batches occur omplain about noise yrker are needed					
More skilled wi		Sign sponsor	sign project le	ad		

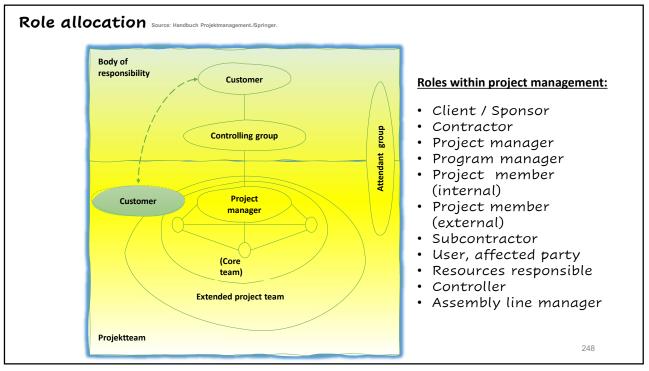


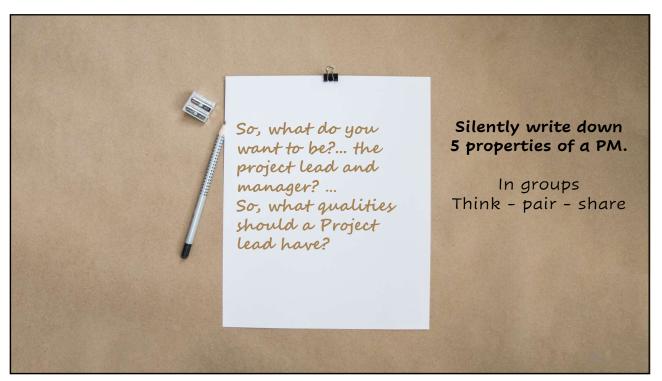




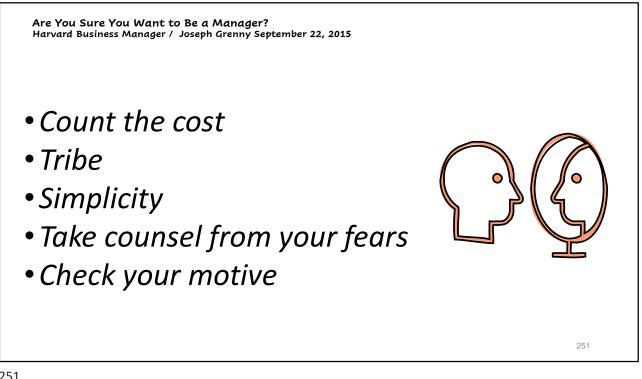


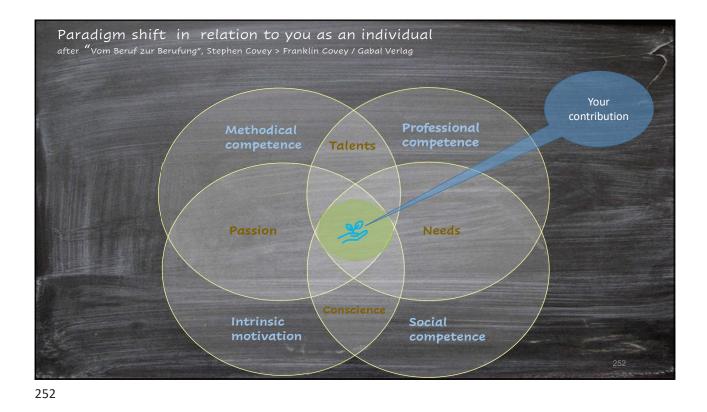
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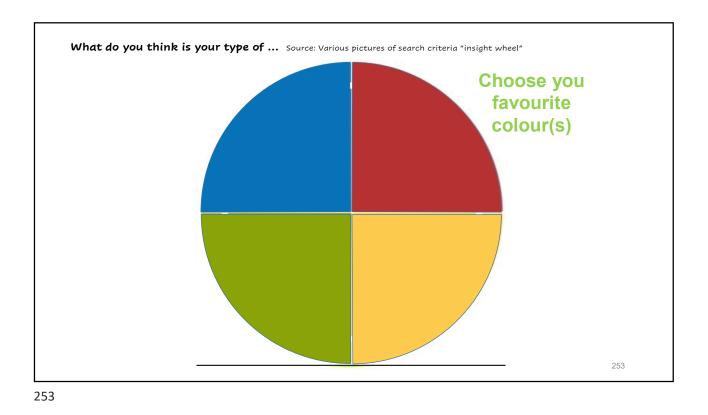


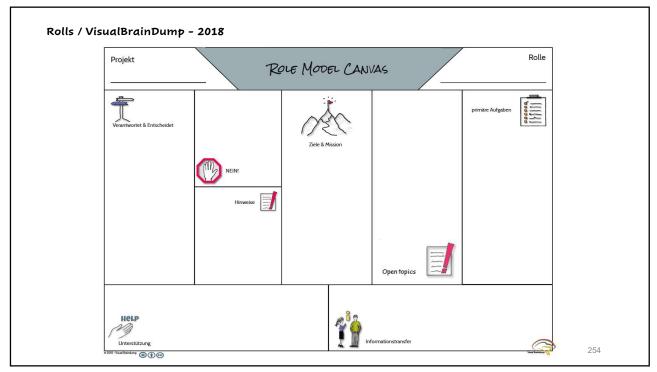


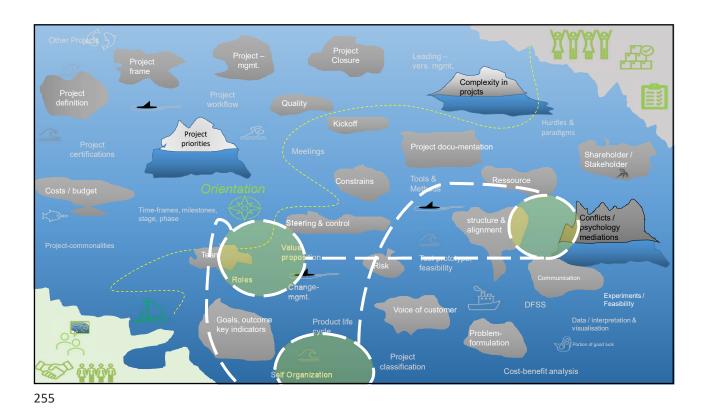










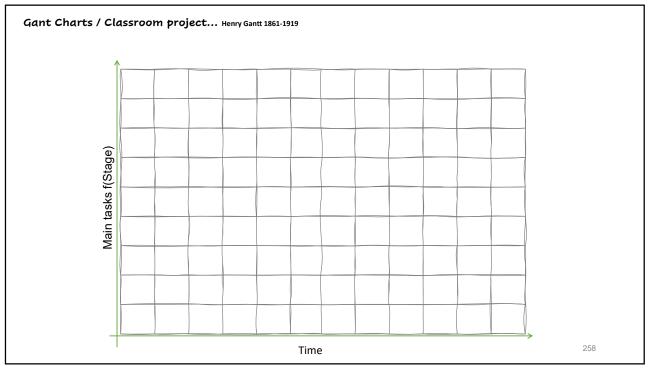


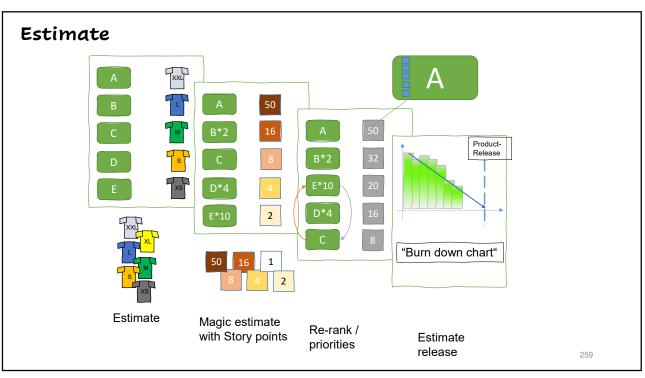




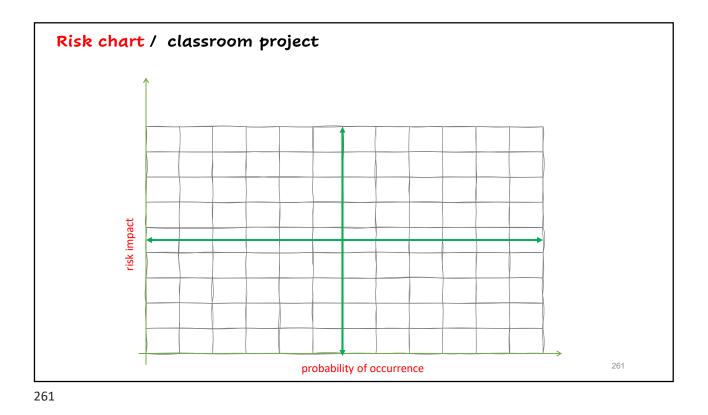
Project charter: define phase: What are (customer) needs and demands and are they constant? test of new sealing equip. date 12.11.23 03 project name vers. business case project frame • The production process is not robust enough ultrasonic, unchanged tex.- spec in High amount on rejects is produced with current process out enhanced sealing, no leakage • Ultrasonic equipment has to be tested and if beneficial implemented new products implementation multi gen. plan problem statement rolls The welding quality varies and differs in shape sponsor Big boss • The process variety could not be specified with robust specifications to ensure project lead Mr. trouble shooter a robust process • Goal is, the process needs to be stabilized with reject <=1% team members highly skilled worker money and social benefits milestones The cost of the ultrasonic device and equipment is 20T€ define Week XX • If the machine could ensure a reject rate the Return on Invest will be <=20 measure weeks . Motivation of worker could be strongly enhanced by optimizing the process analyse control potential risks finish • Ultrasonic machine capability when product variation in batches occur Worker could complain about noise More skilled worker are needed sign project lead Sign sponsor

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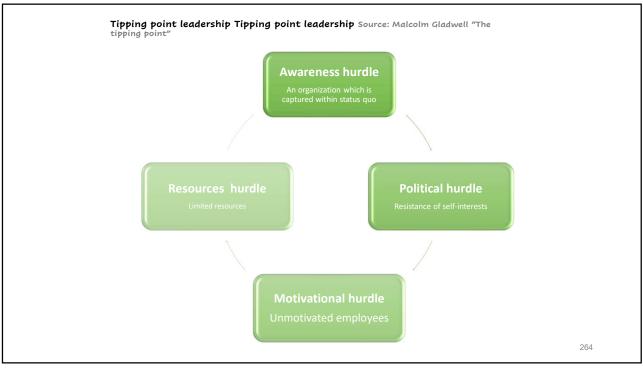


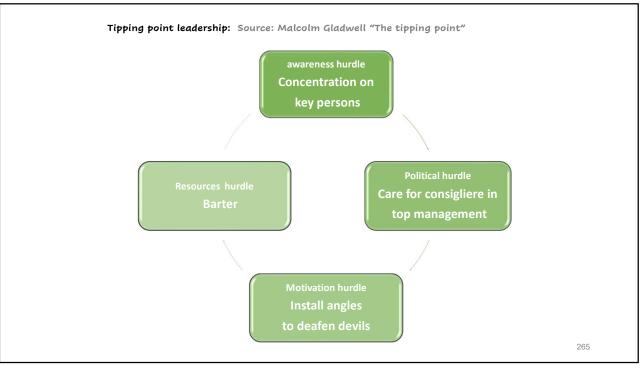


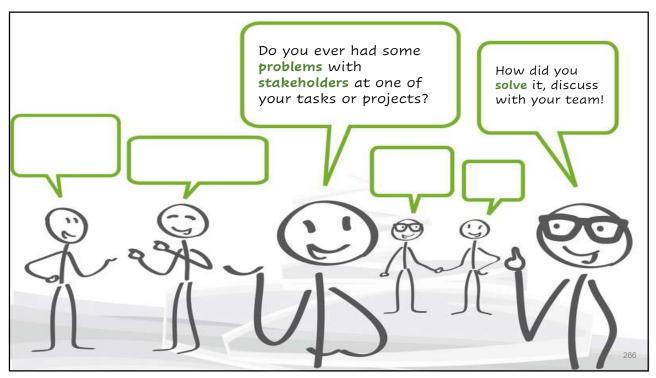


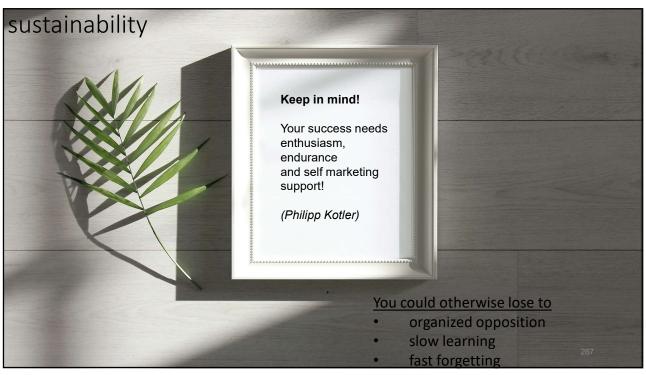


 Recognize Develop si Point of time		oppositior marketing		e project			
Name	Strong opp	osition	Partial opposition	neutral	Partial sup	port	Full support
Mr. A							Х
Mr. B			63				
Mr. C		O					
0 = As-is state X = Targe Strategy of ma							
Stakeholder		Considerin	g issues	lever		Manipulat	ion by
Mr. A	Vr. A Welding technic		lding techniques	Resources/budget			PL
Mr. B		Staff association		Personal cuttings		Sponsor	
Mr. C		Si	afety Inspector	Noise protecti	on		PL







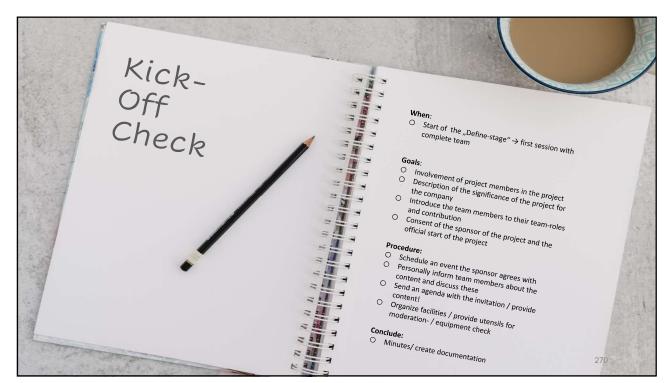


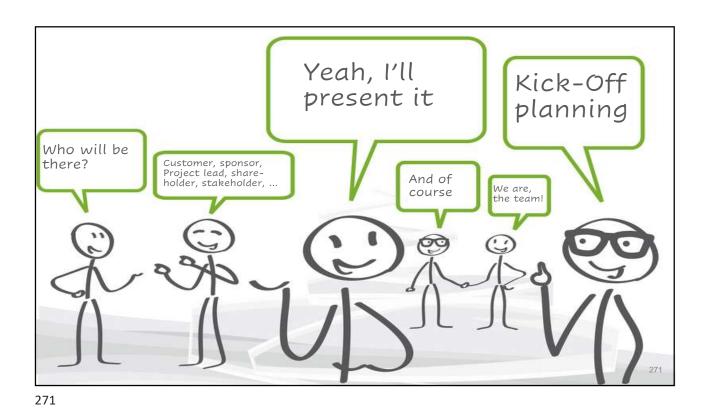


Project charter: define phase: What are (customer) needs and demands and are they constant?

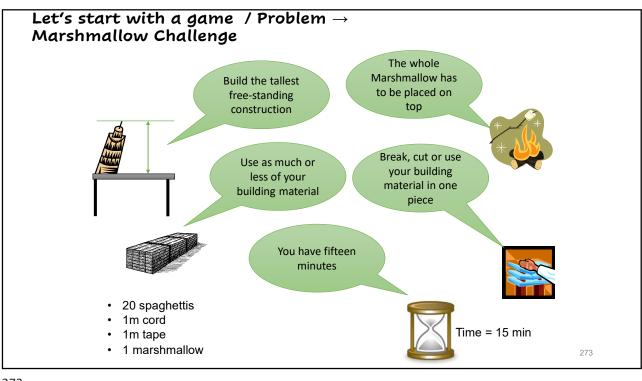
project name	test of new sealing equip.	date	12.11.23	vers.	03	
business case		project frame				
	process is not robust enough	in	ultrasonic, uncha	ultrasonic, unchanged tex spec		
	rejects is produced with current process ment has to be tested and if beneficial implemented	out	enhanced sealing	, no leakage		
		multi gen. plan	new products im	new products implementation		
problem statement		rolls				
	ity varies and differs in shape	sponsor	Big boss			
 The process varie ensure a robust 	ety could not be specified with robust specifications to process	project lead	Mr. trouble shoot	er		
	ess needs to be stabilized with reject <=1%	team members	highly skilled wor	ker		
money and social be	nefits	milestones				
	ltrasonic device and equipment is 20T€	define	Week XX			
 If the machine co weeks 	ould ensure a reject rate the Return on Invest will be <=20	measure				
 Motivation of worker could be strongly enhanced by optimizing the process 	analyse					
		control				
potential risks		finish				
	ne capability when product variation in batches occur nplain about noise ker are needed					
		Sign sponsor	sign project lea	ad		

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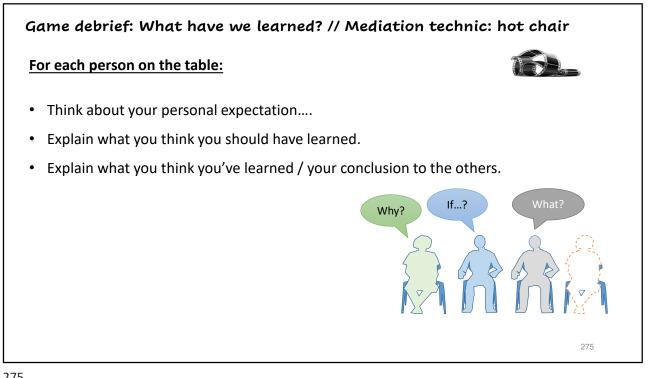






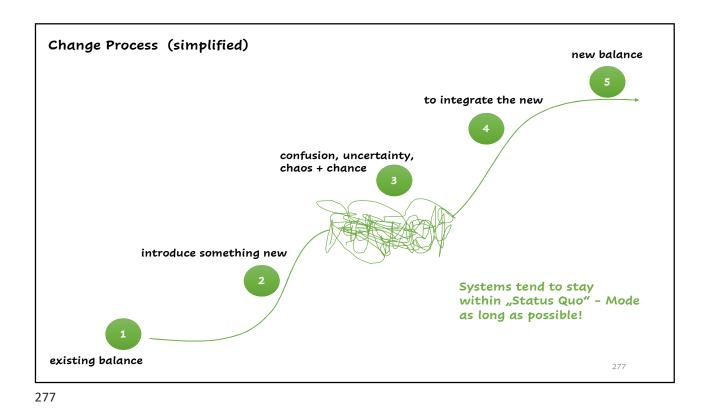


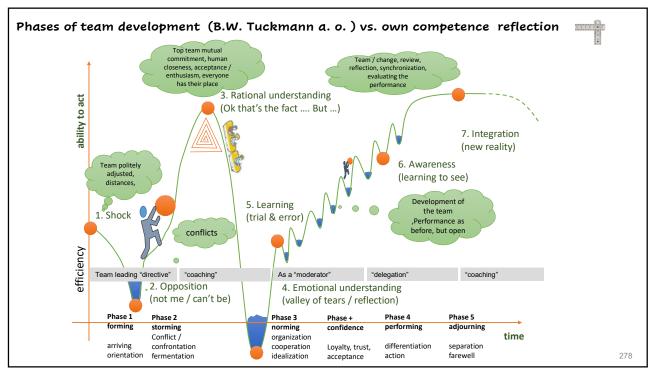
RoundEstimateActualBugs1234569.Choose a controller					Rules
132334546464647891000000000000000000000000000000000000					2. The ball needs to have air-time before moving form
2 4. No ball may be passed on to the direct neighbour 3 5. Start point = end point 6 6	Round	Estimate	Actual	Bugs	
2 5. Start point = end point 3 6 4 6 5 6 6 6	1				
3 3 6. Sprint = 2min 4 7. Retro = 1min 5 8. Several Sprints are played 6 9. Choose a controller	2				
4 7. Retro = 1min 5 8. Several Sprints are played 6 9. Choose a controller	3				
5 8. Several Sprints are played 6 9. Choose a controller	4				
⁶ 9. Choose a controller	5				
•••••••••••••••	6				
the URS					10. Chose one to count the balls within the game fulfille
					274

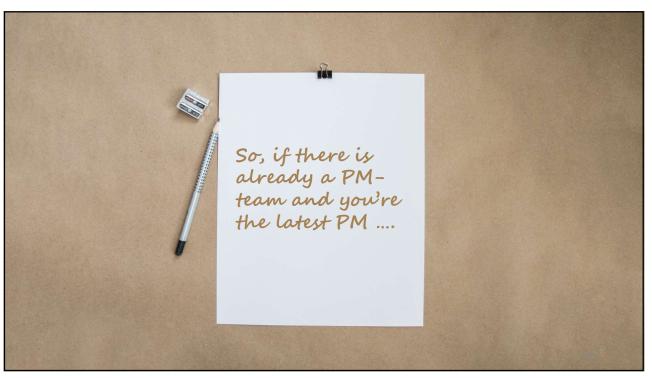






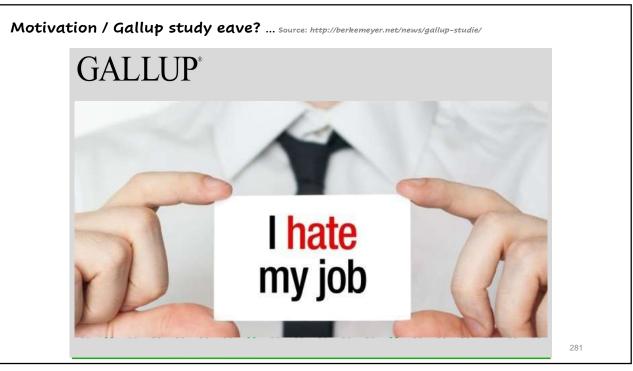


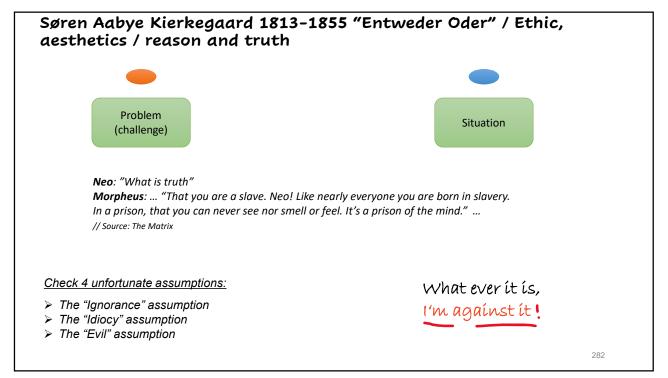




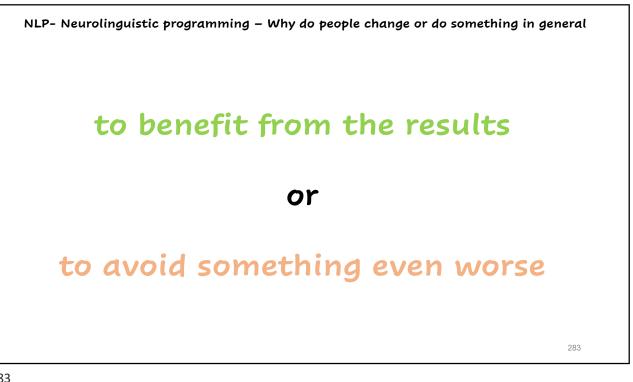






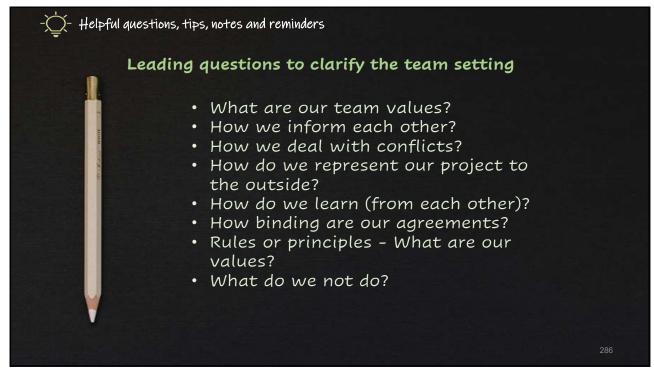


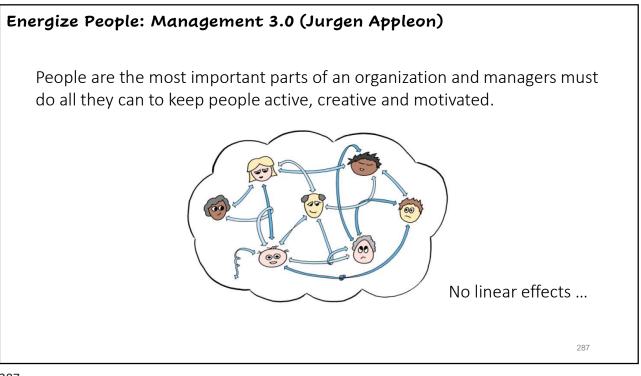


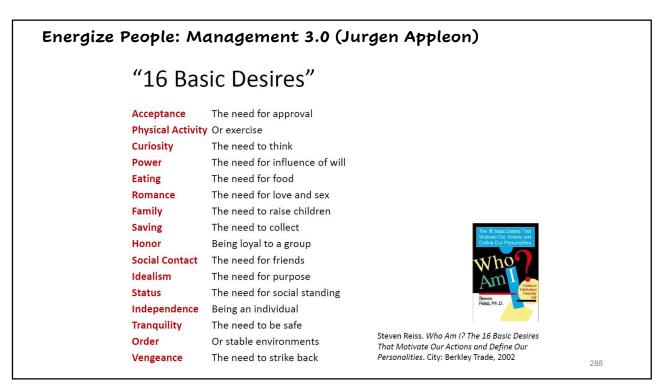






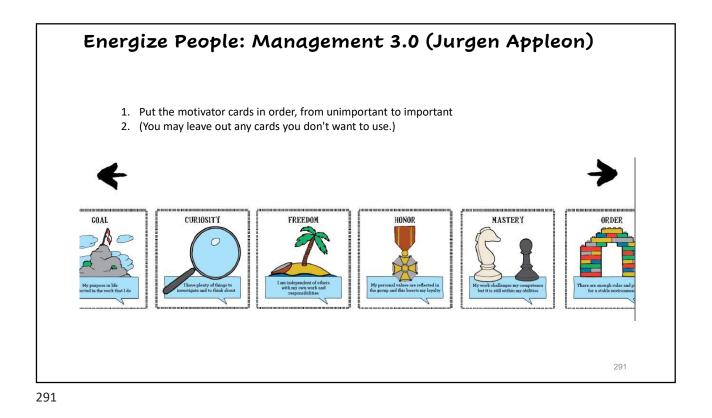


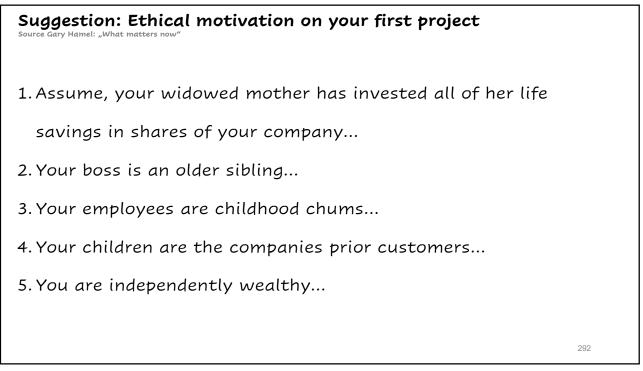


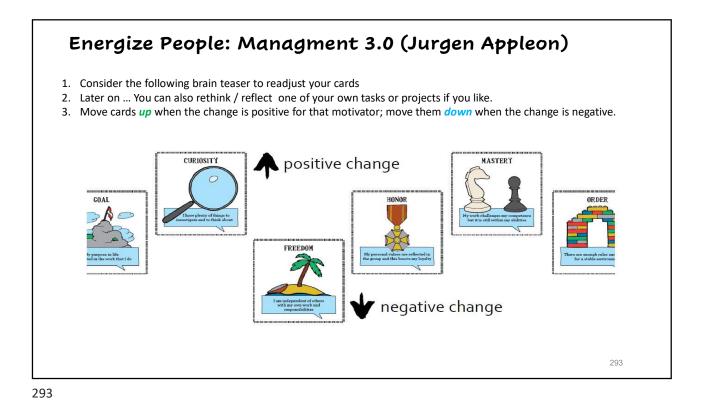




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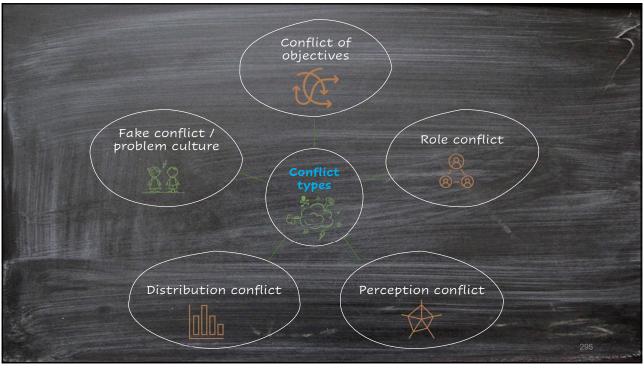


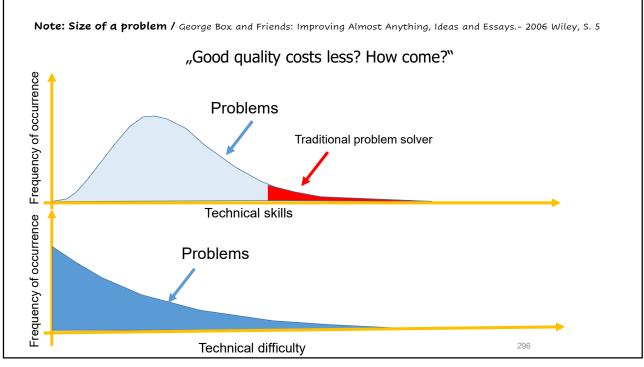


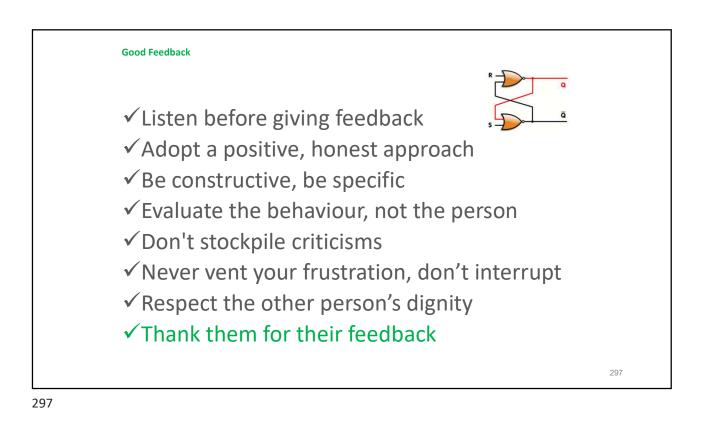


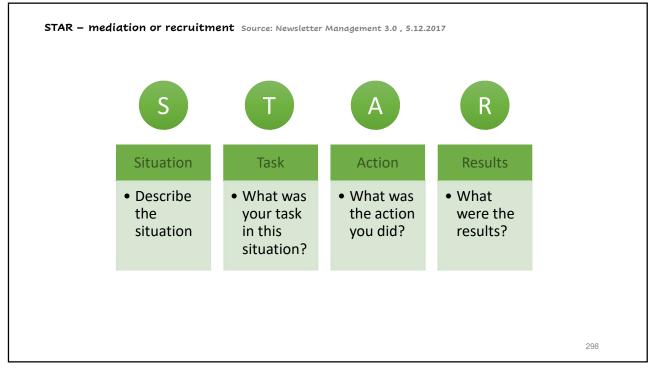
How to deal with trouble and conflicts?...

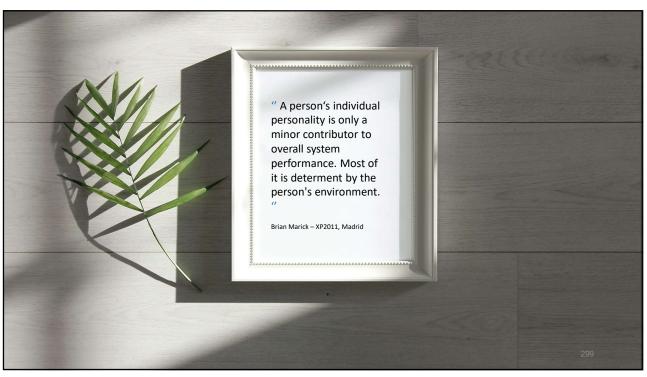


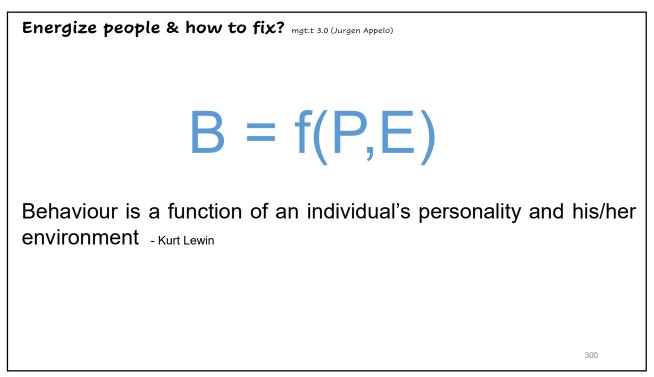


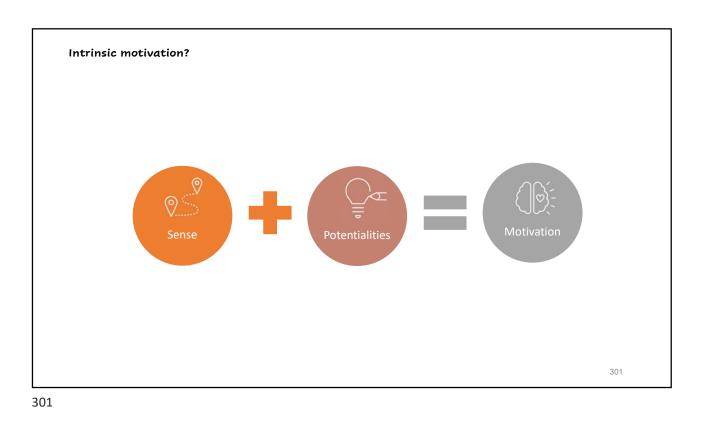




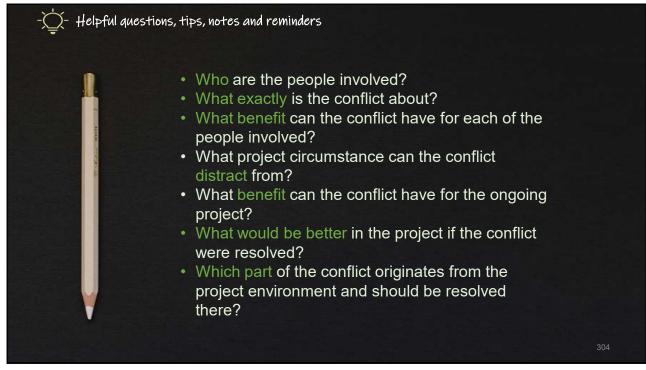


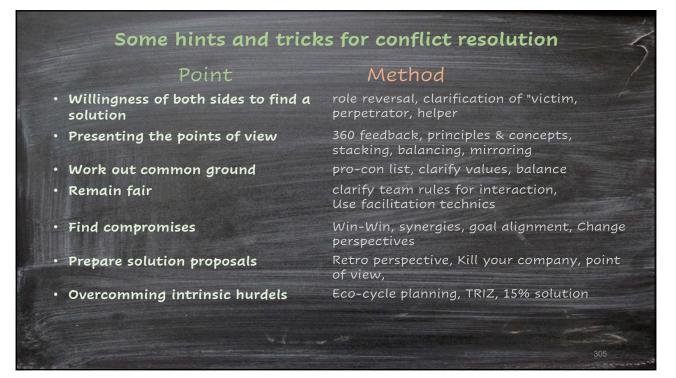


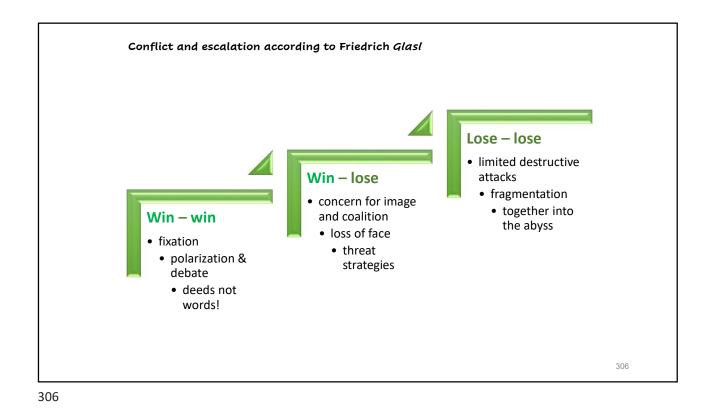


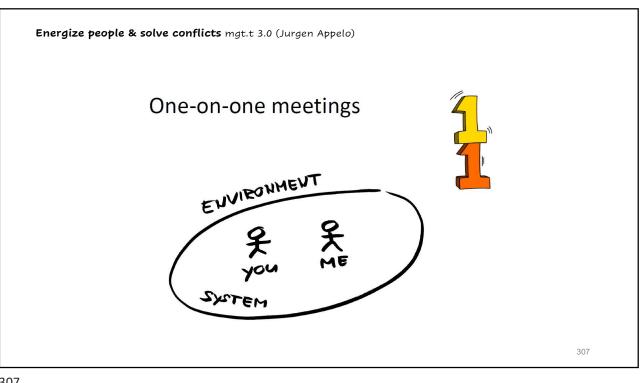




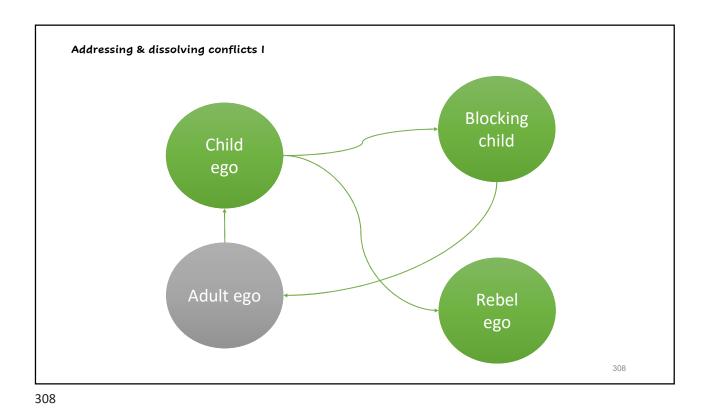


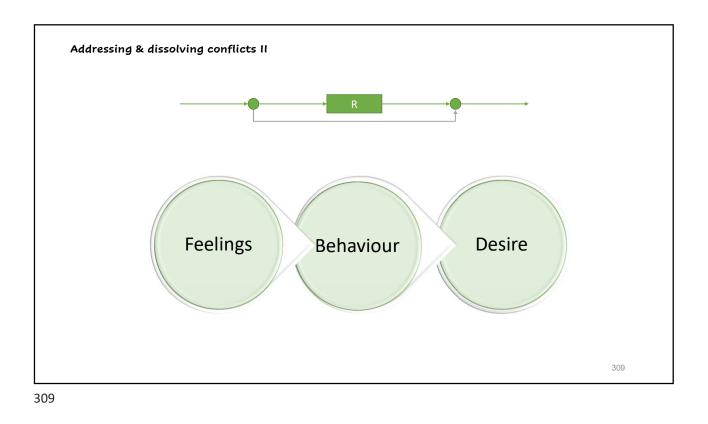


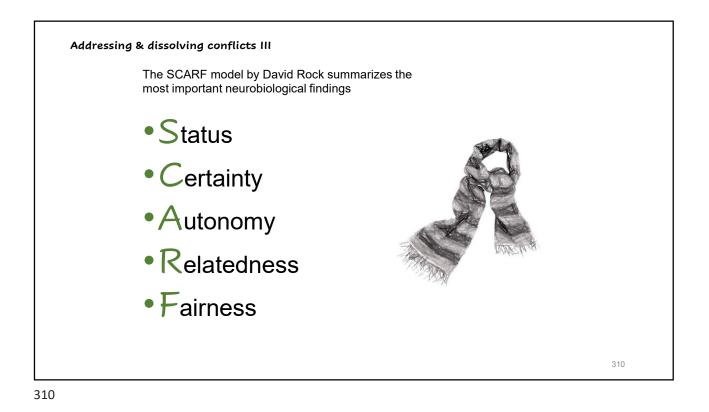






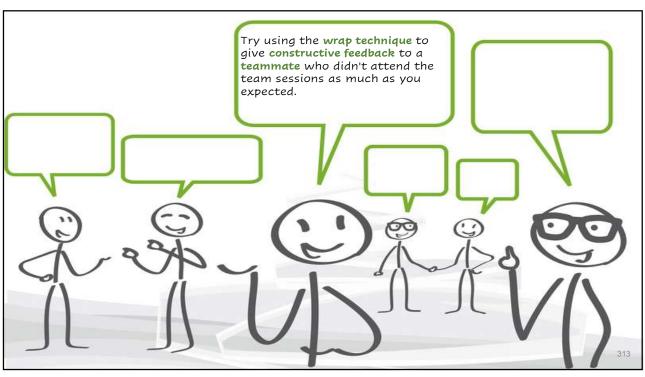






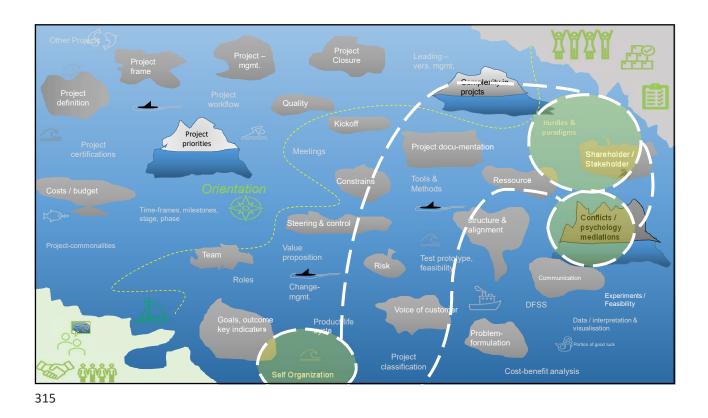
SCARF - Topics	Possible threat / devaluation	Possible reward/appreciation
Status	 Negative reviews Giving advice and instructions Be excluded Comparison with others Unclear roles and tasks 	 Enabling learning and development Receive attention Give positive feedback Recognizing competences
Certainty	 Incomplete or contradictory information Incongruent behavior: "Say what others do" unclear goals / expectations Insecure workplace Changes 	 Clear, understandable goals Repetitive patterns: Same places, people, rituals, etc. Plans and strategies Divide complex processes / projects into individual, smaller steps In uncertain times, set dates when information comes
Autonomy	 Inevitable stress Uncontrollable situations Micro-management Outside control Compulsions 	 Offering Choices Creating room for maneuver Self-directed learning Self-organized work Flexible working hours Home office
Relatedness	 Isolation & Exclusion High turnover Very large teams Absence from important meetings / events 	 Team Mentors., Coaching Programs, Study Groups Success Tandems / Triangles Smaller team "You" German "DU"
Fairness	 Unpaid overtime Overlook Commitment & Accomplishments Preference for individuals Arbitrary "rules" 	



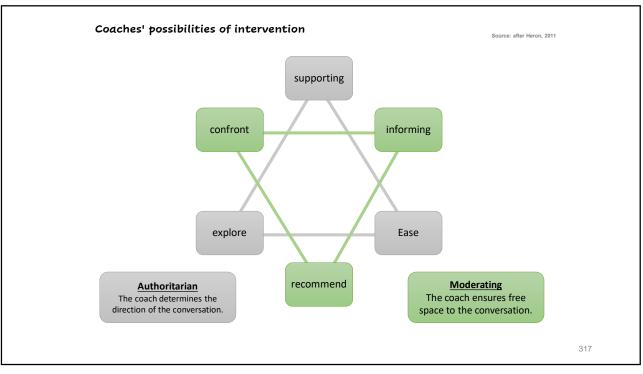


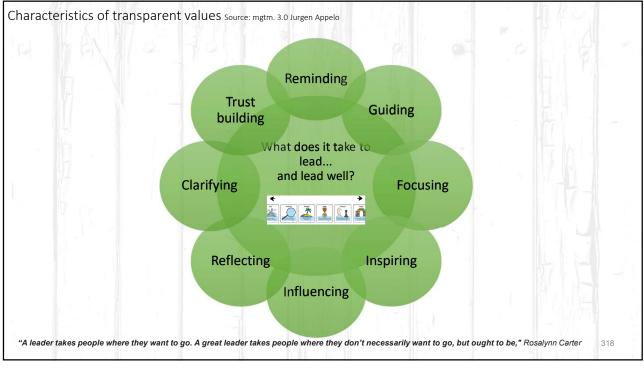












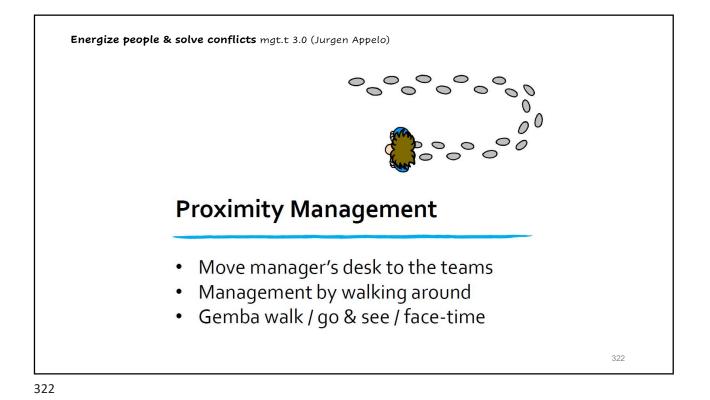


Counse "You do it be your so board	. I will unding	Coach "You did well, you can add this next time."	
Facilita "You did i will attend proces	it, we to the	Teacher "Here are some principles you car use to solve problems of this type"	Modeler "I will do it; you watch so you ca learn from me."
Reflective C "You do it watch an you what and hea	;; I will nd tell t I see	Technical advisor "I will answer your question as you go along"	Hand-on Expert "I will do it for you. I will tell yo what to do."

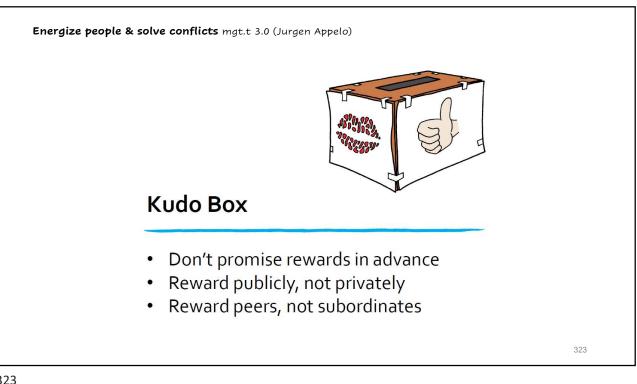


Intro: Design of Experiments



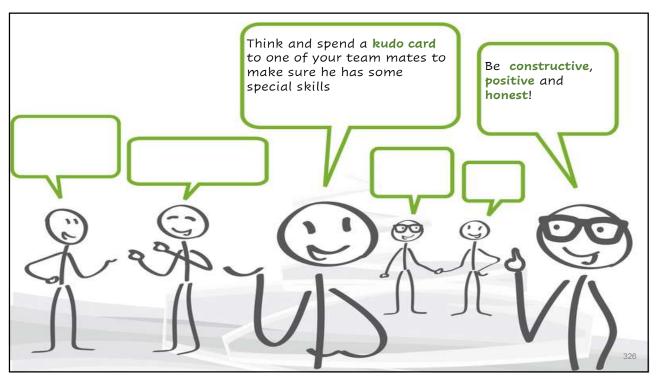


Intro: Design of Experiments



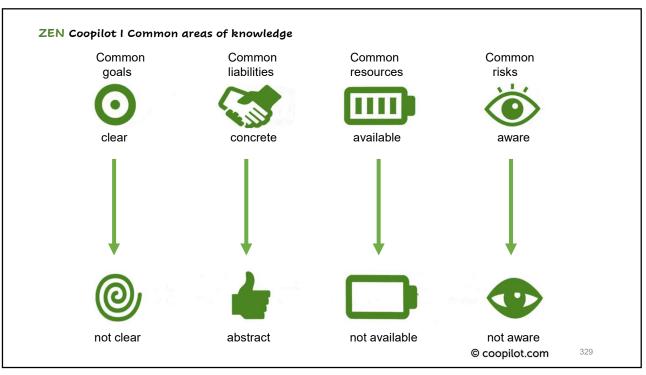




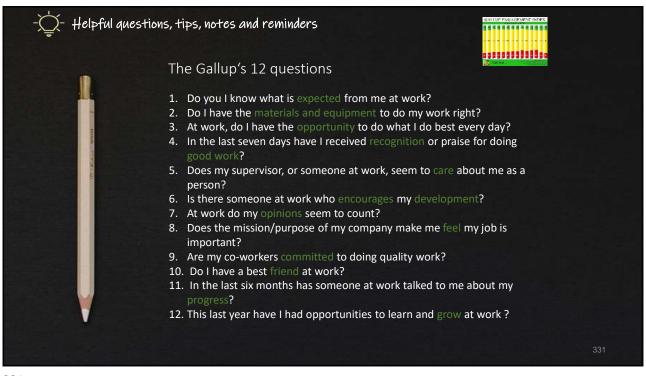


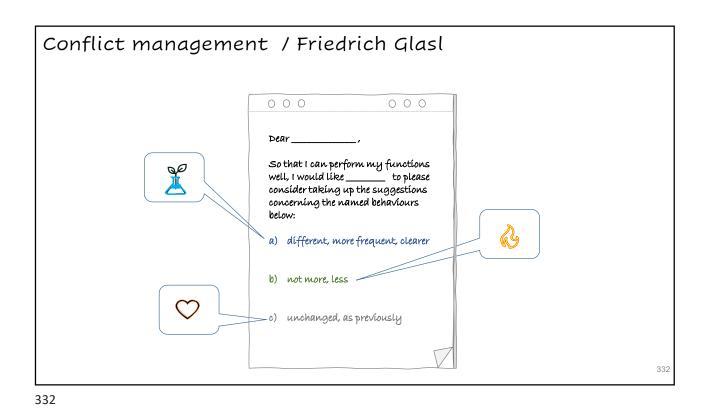






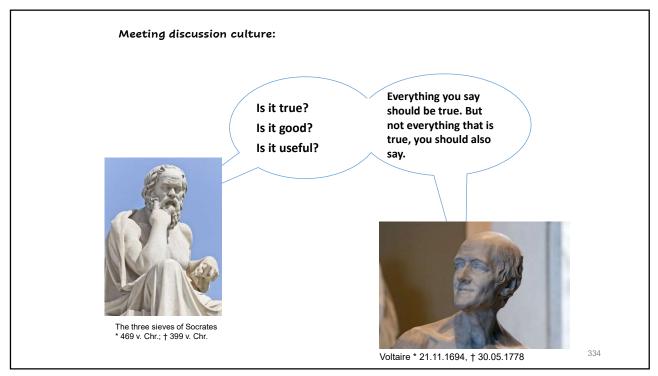
Торіс	not true	very limited	half -half	Mainly true	agree totall
Errors increase					
Performance drops / lacks					
Team atmosphere change for the worse					
Feelings of chronic mental overload and stress increase					
There is less and less time for communication					
Problems are getting whitewashed and will not be discussed openly					
Moaning and complaining are increasing					
Irony, mockery which lead to sarcasm are emerging					
Sub-groups are formed, which didn't exist up to now					
Finger pointing within the team is increasing					
Hostilities outwards are increasing horizontally & vertically					
Team is splitting up					
Team is not reflecting on its situation					
Team members are mentioning leaving the team					

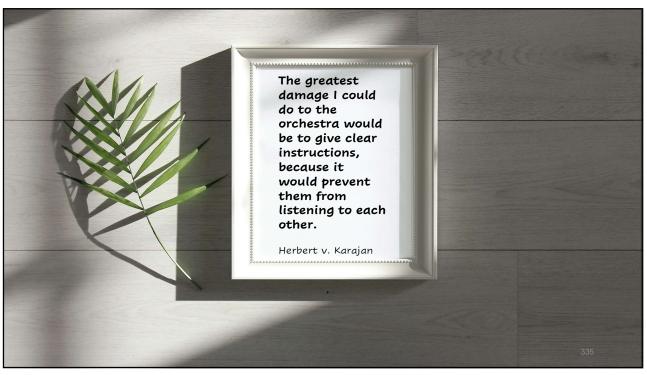




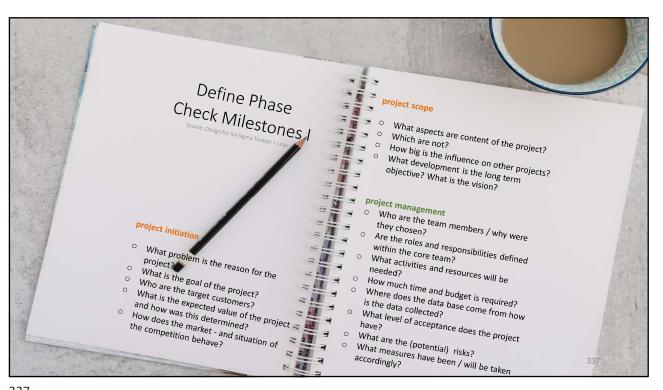
Intro: Design of Experiments









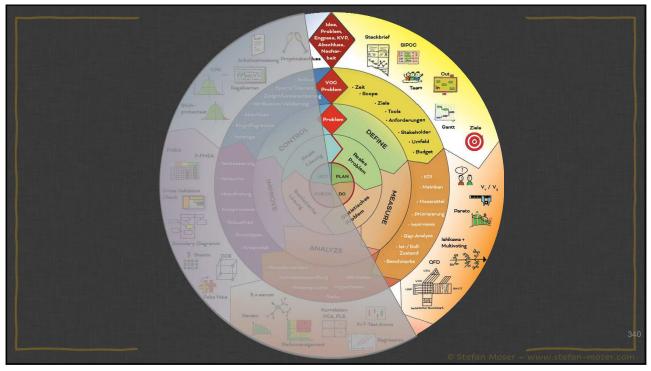




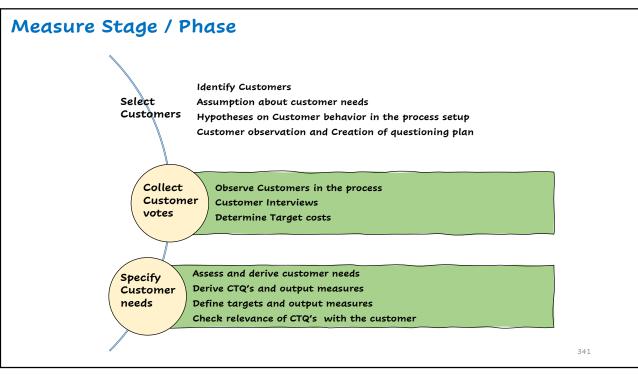


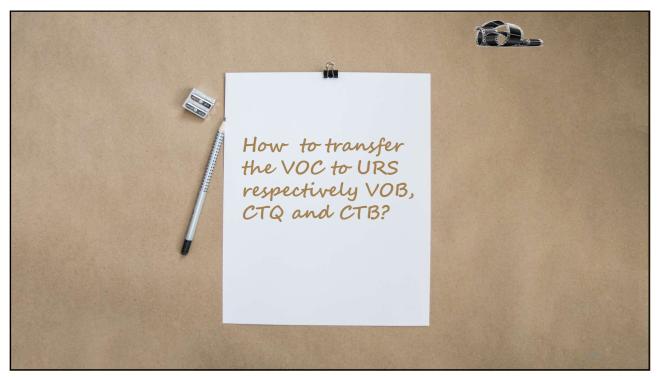


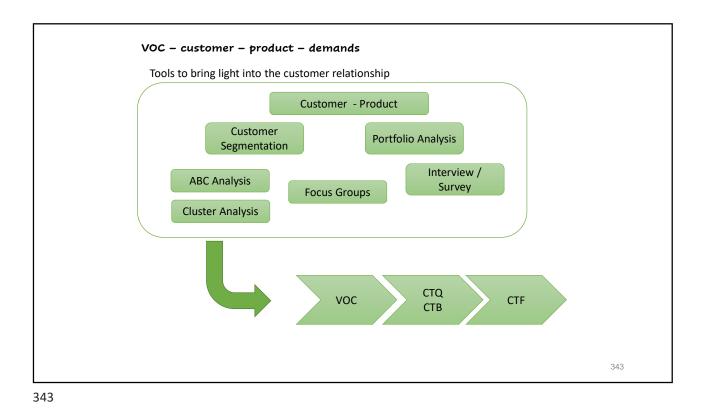


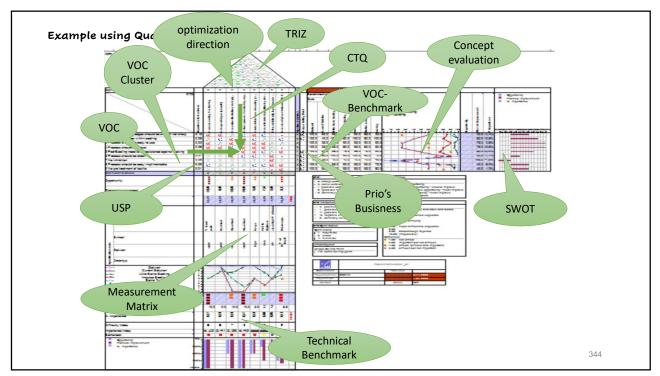


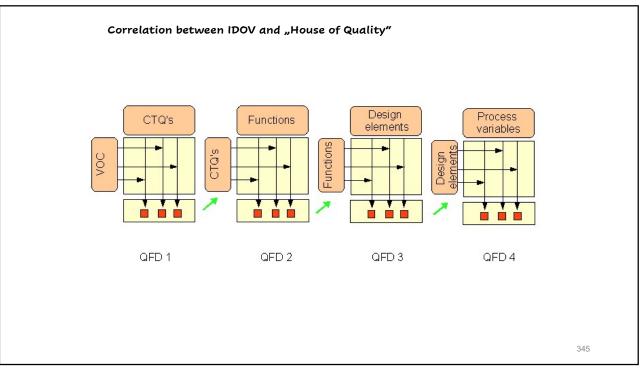


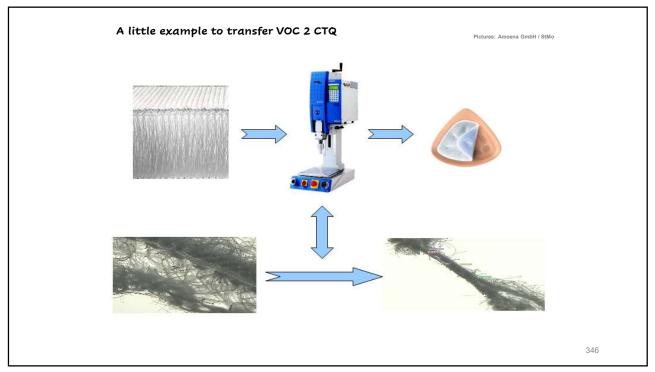


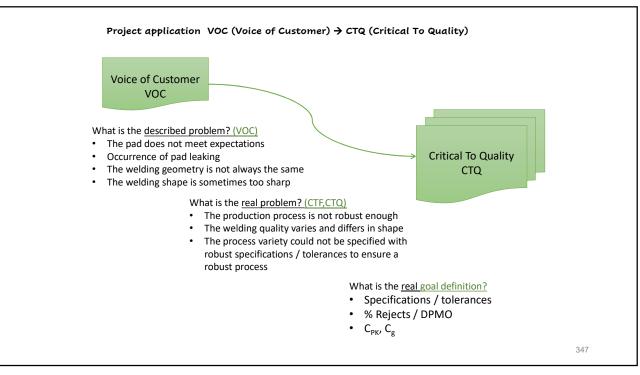




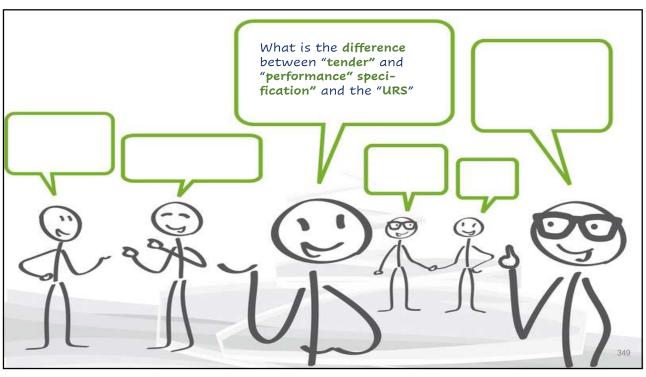




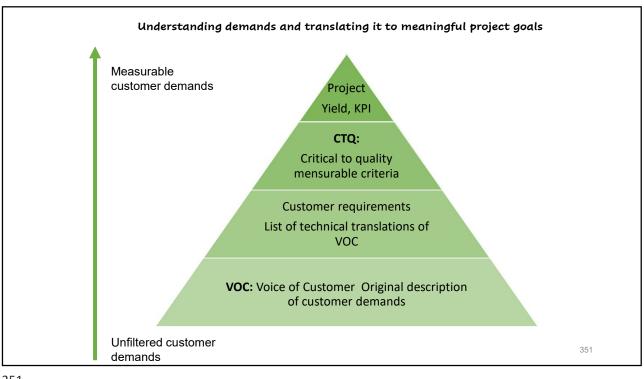


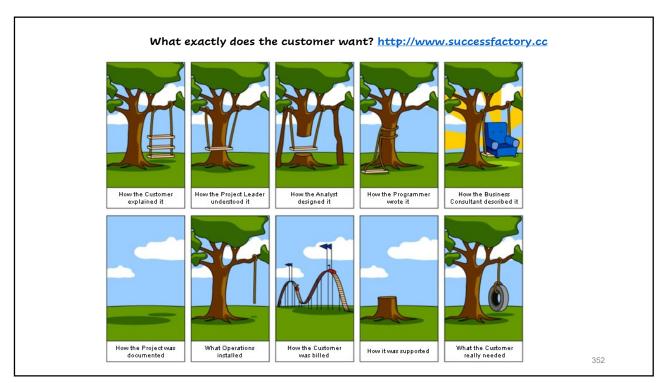


Translation VOC -> CTQ & VOB					
VOC (Voice Of Costumer)	Central demand / Core topic	CTQ (Critical To Quality)			
The pad does not meet expectations	The design caused by the process does not meet customer demand	Revision of the design / process			
Some pads have leakage	The pad must not leak	No leakage			
The welded seam looks different with every pad	Geometry has to be specified and has to be fabricable robustly	Rounded, smooth welding edges			
Sometimes the edges are sharp-edged	There must be no danger for injury caused by the pad	No sharp, but rounded edges			
VOB Voice Of Business	Central demand / Core topic	CTB Critical To Business			
The process is too instable. Rejects and costs are too high!	More robust and reproducible processes	•Improvement of process (Kaizen) or redefinition of the process if necessary (Kaikaku) •Rejects under 2% •Cycle time under 15 sec. •Economization of staff			
Sales are declining	Adaption, cost reduction				
Material consumption too high	Minimization of reject				
Cycle time too high	Reduction of cycle tine, change of				





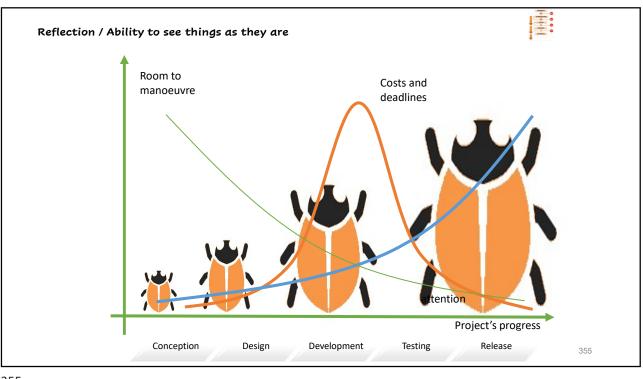


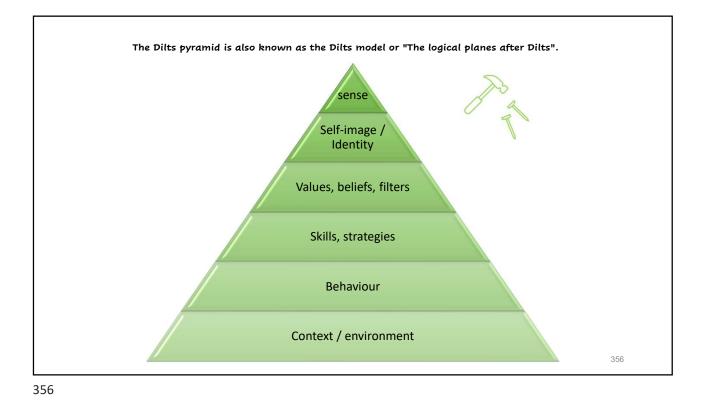


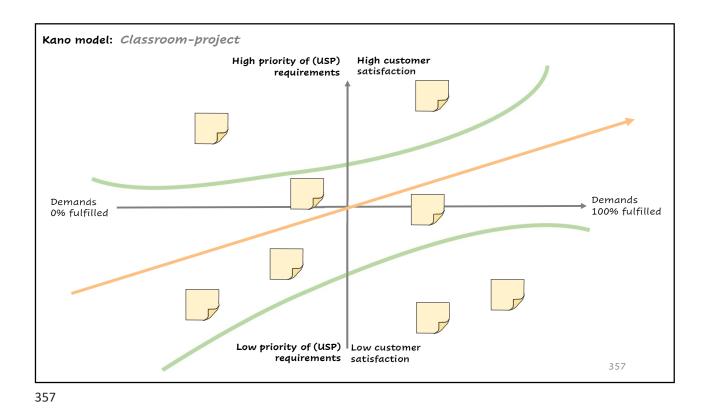


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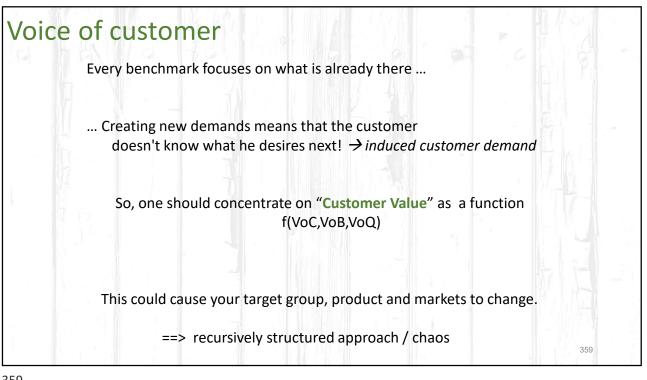


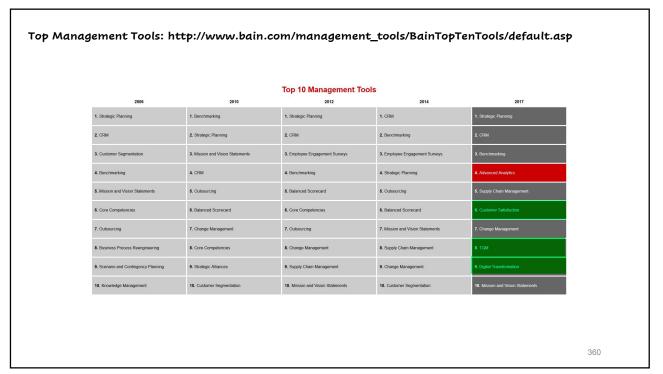


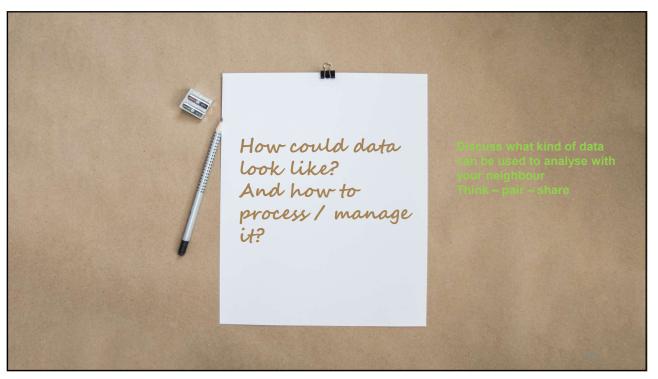






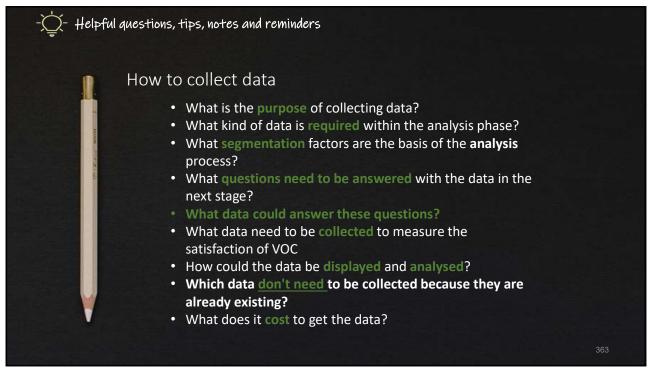




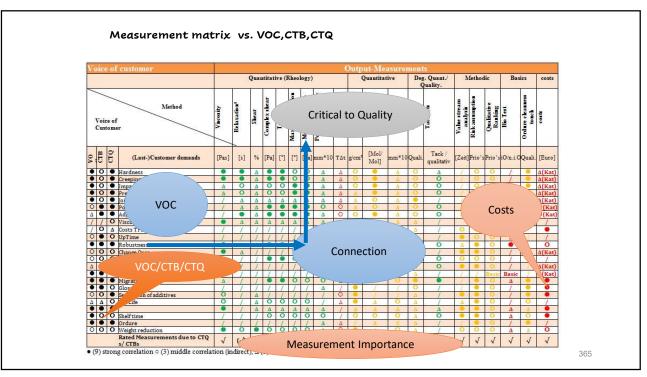




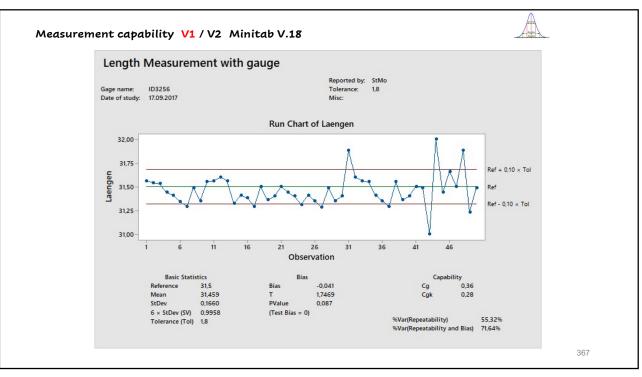


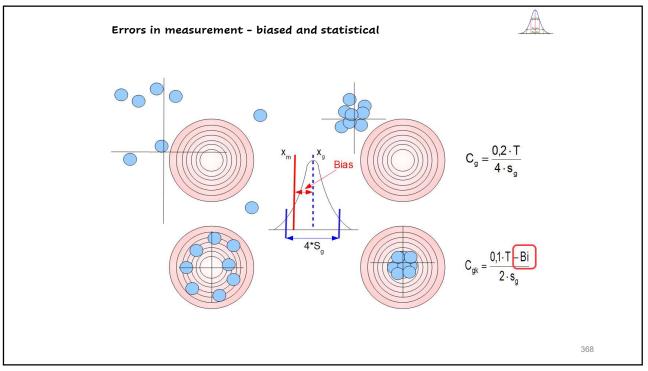


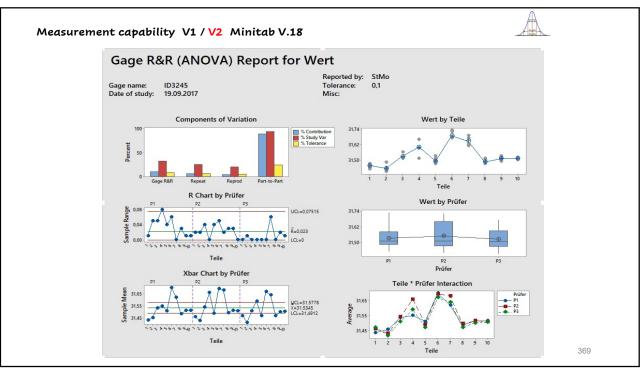
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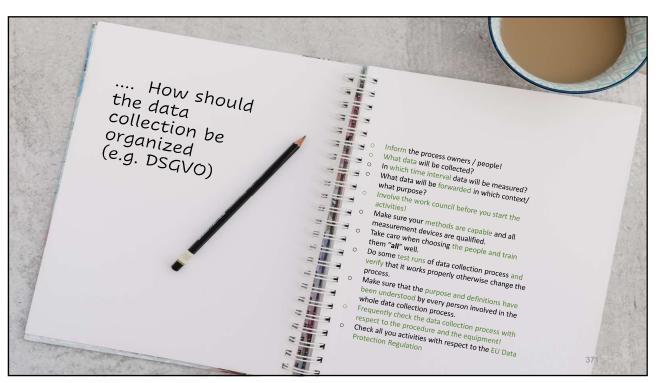


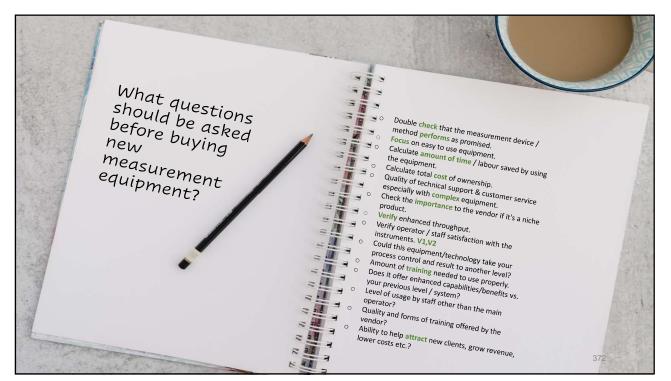






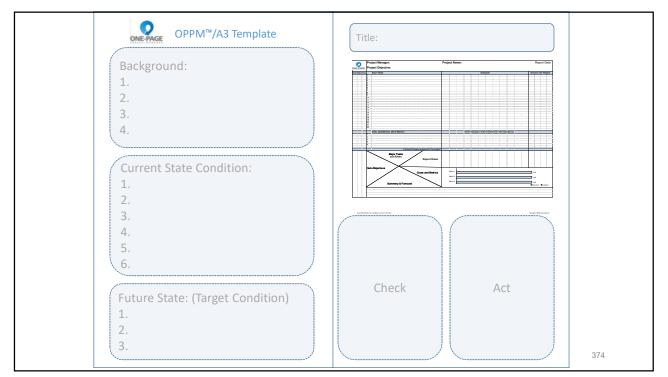


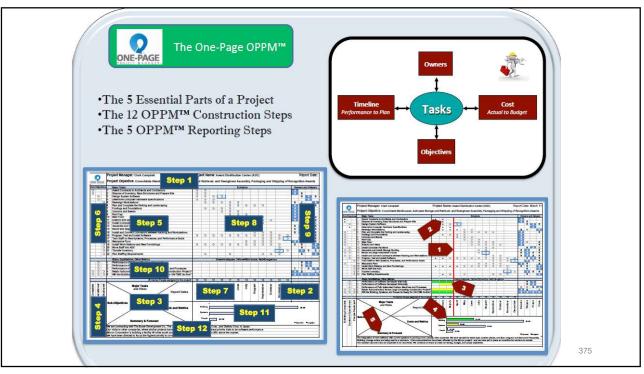


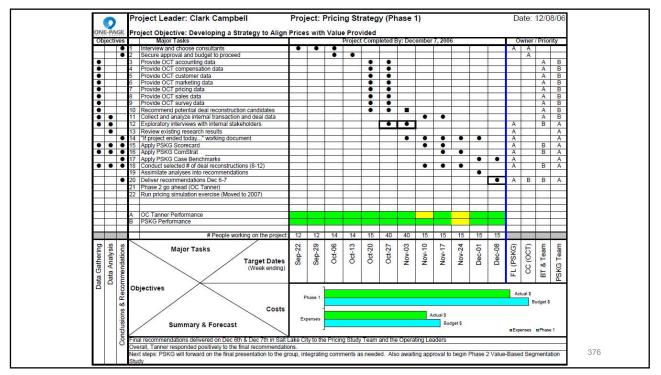




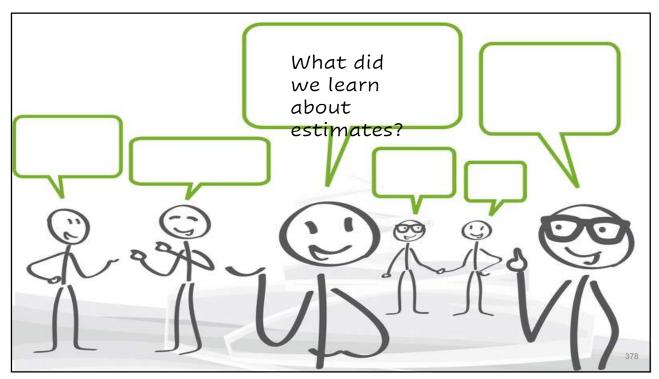


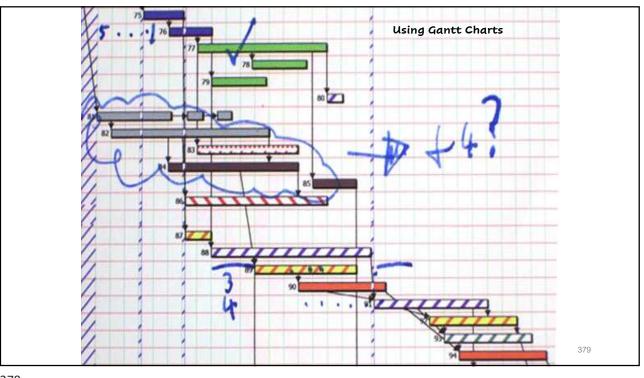


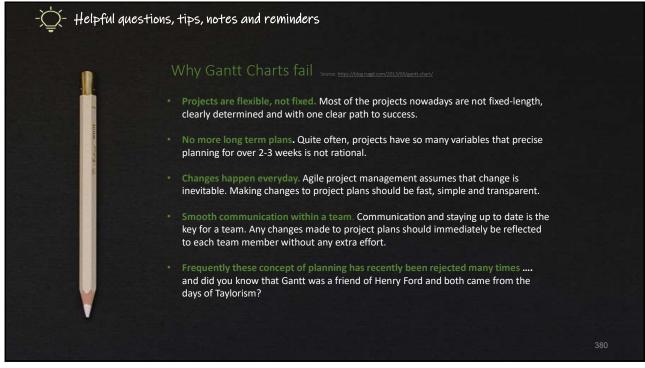




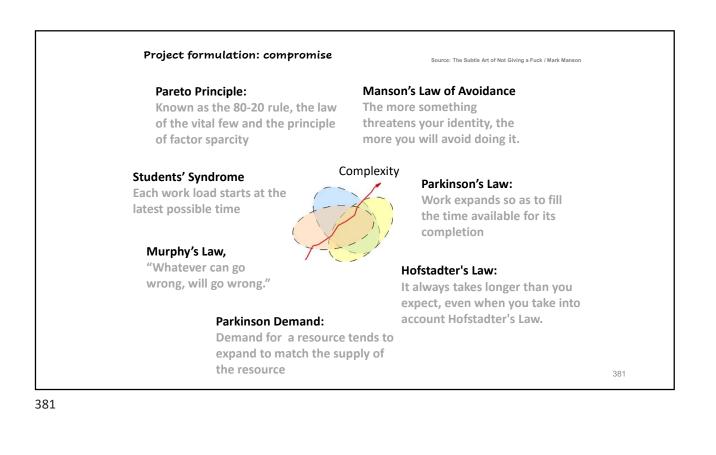


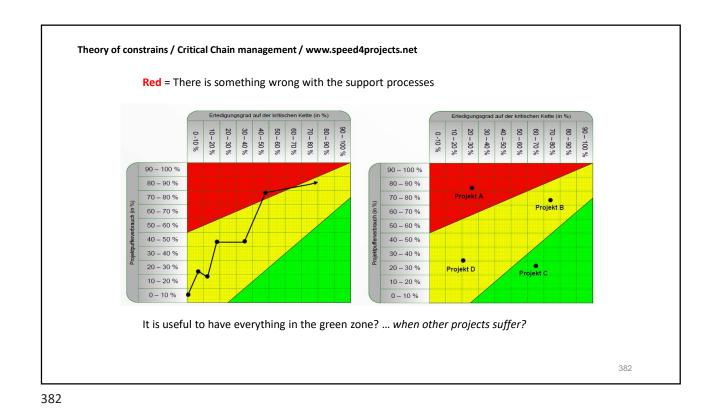




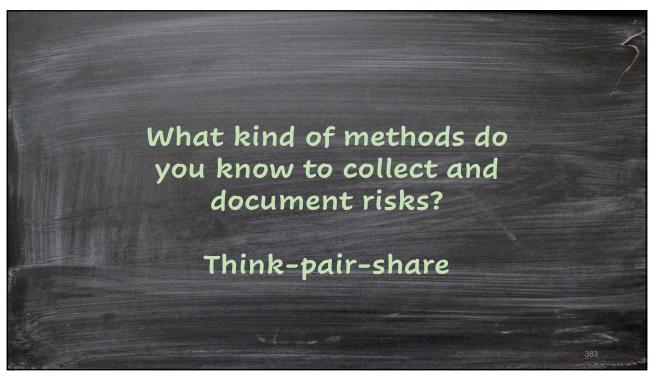




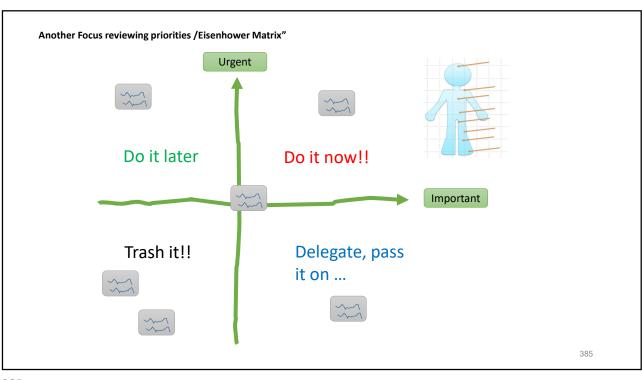


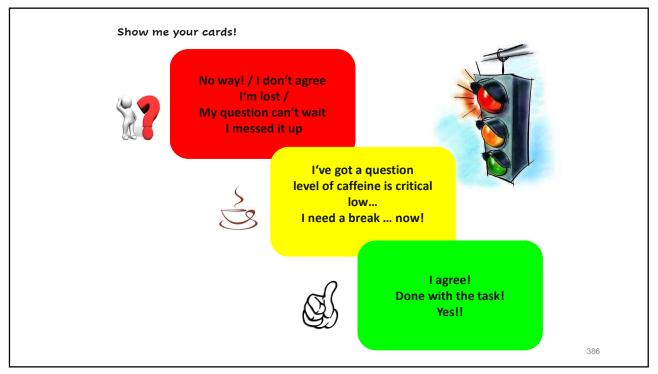


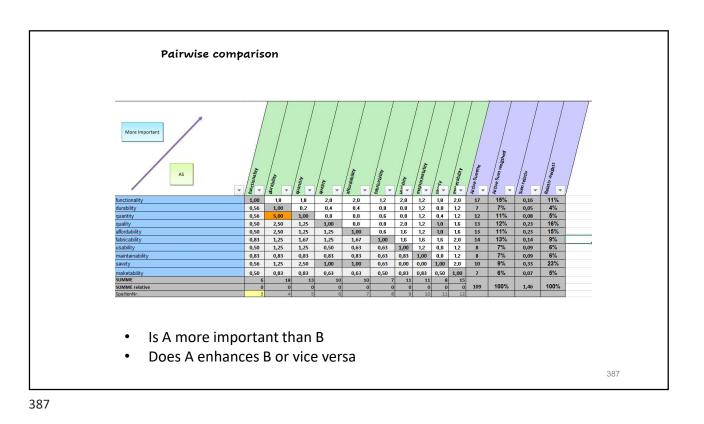
Intro: Design of Experiments

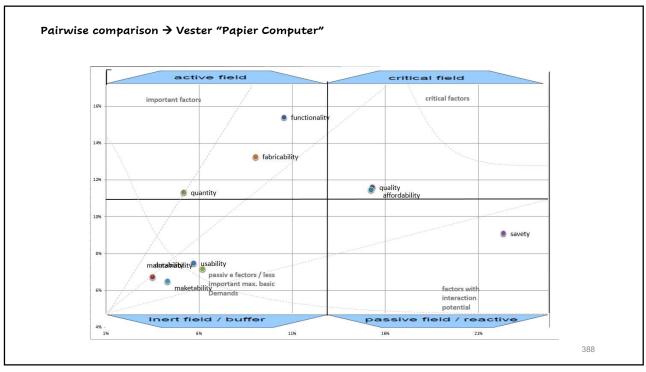




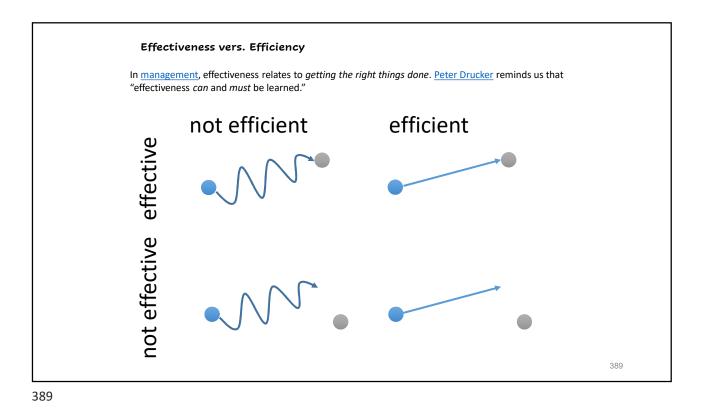


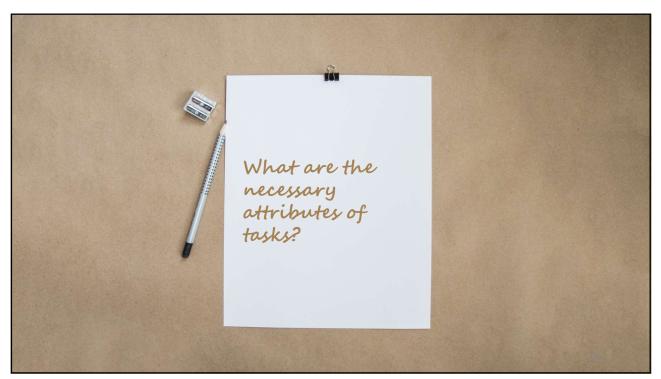


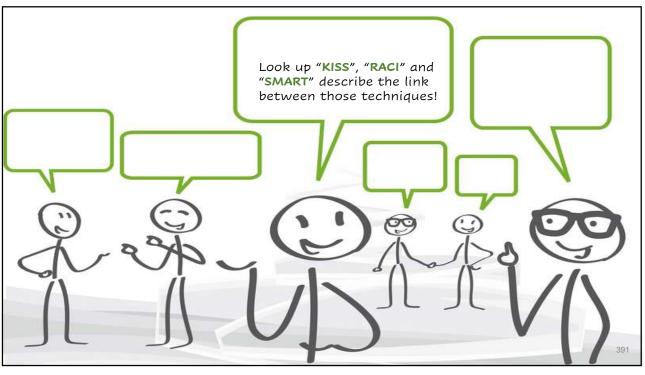






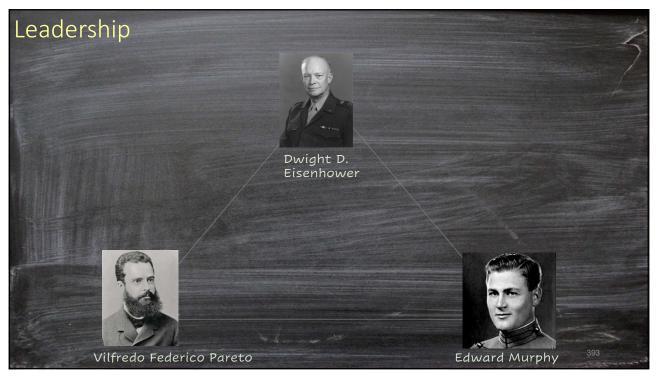


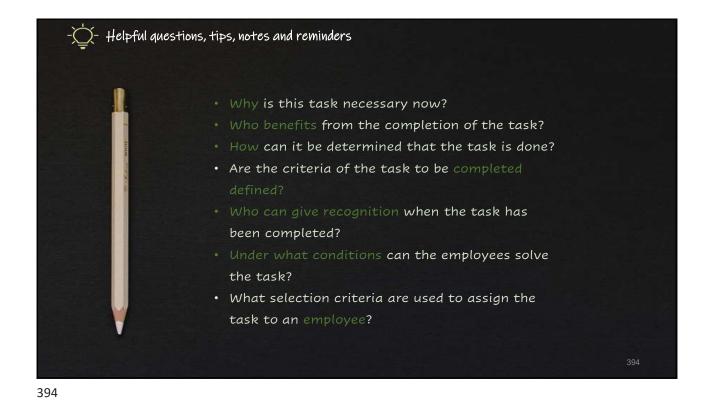


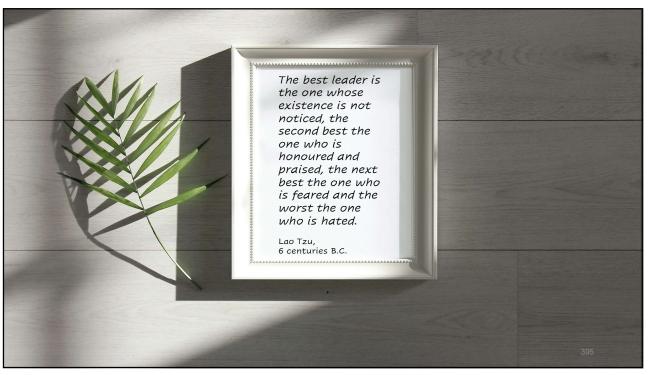




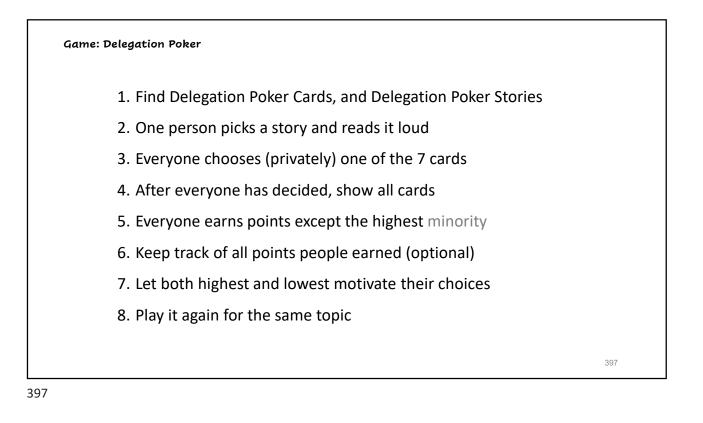


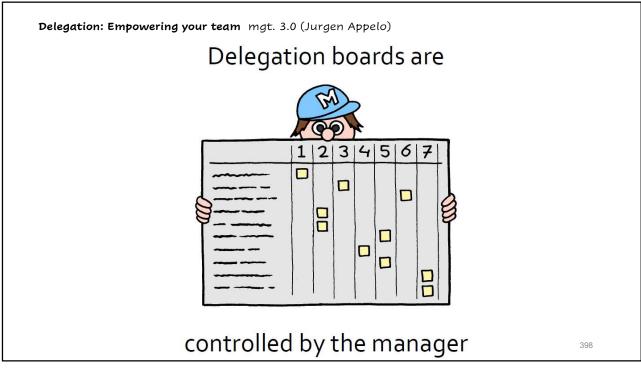


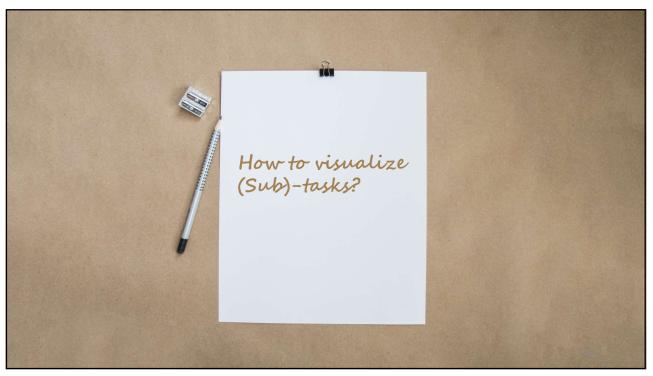


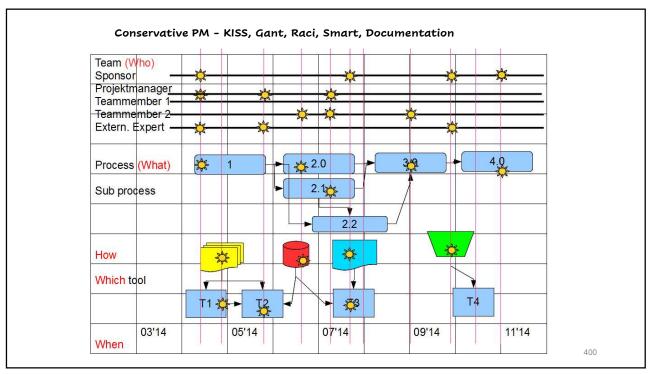


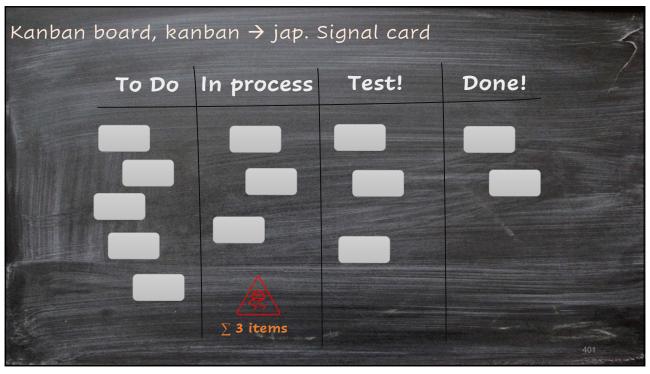






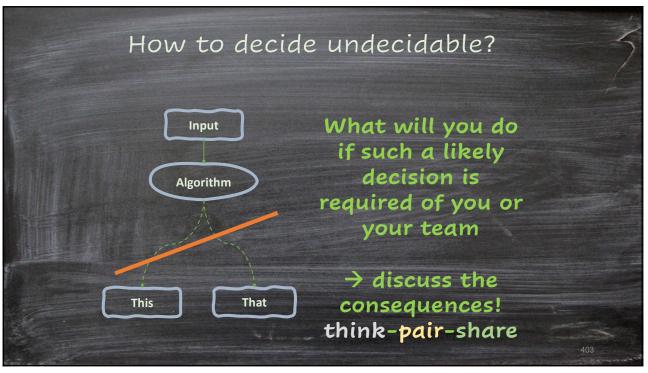


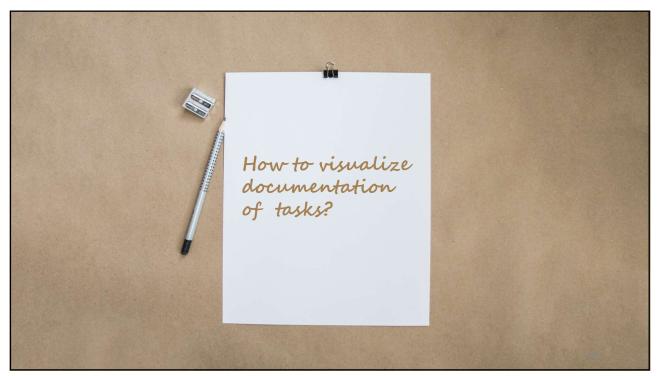


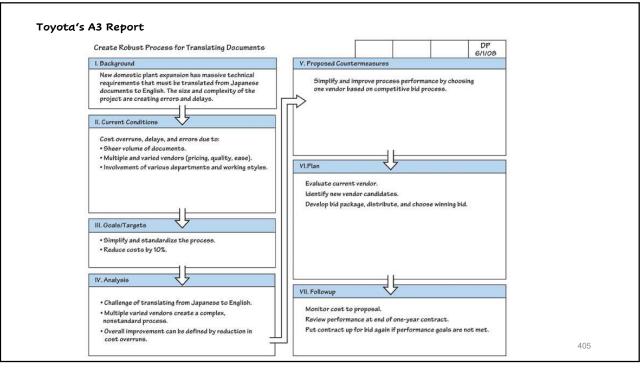


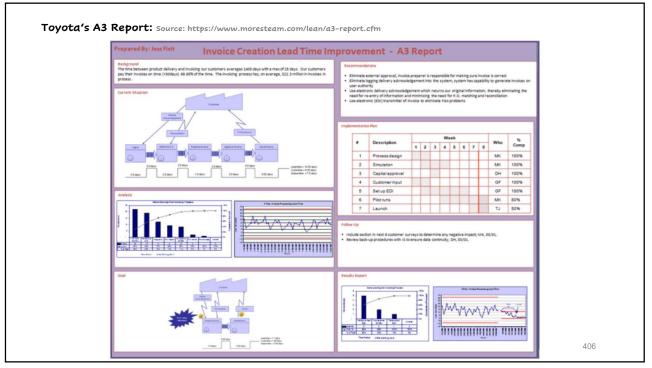


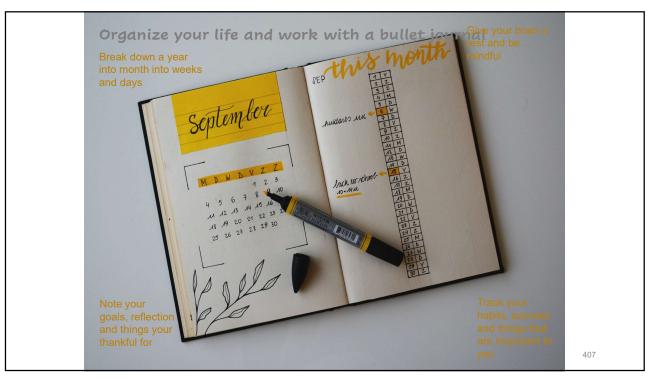


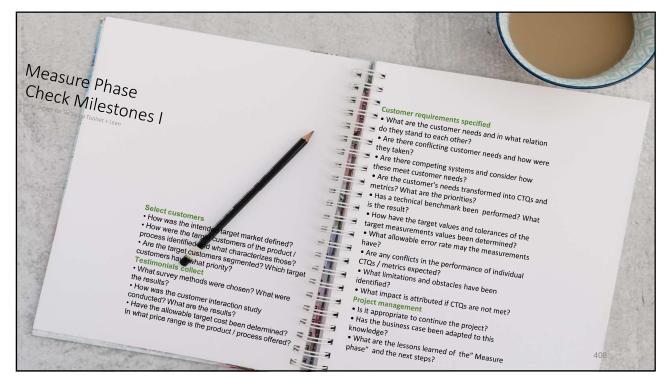




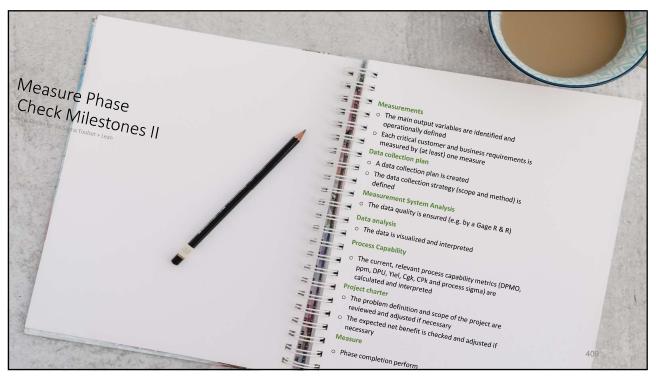


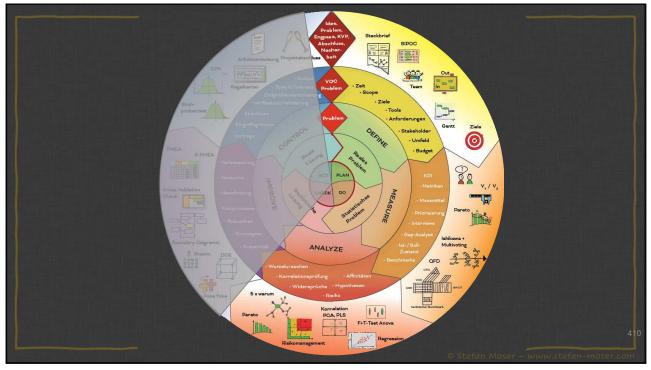






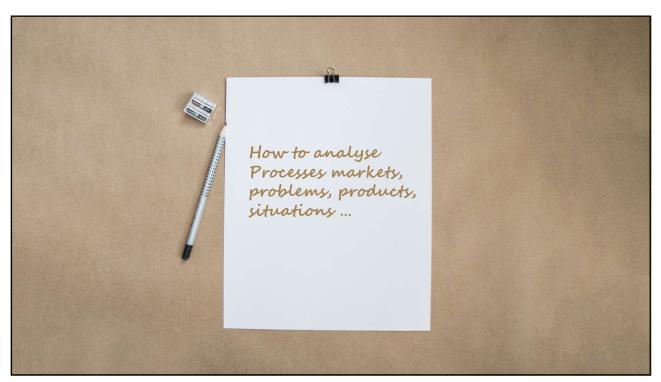


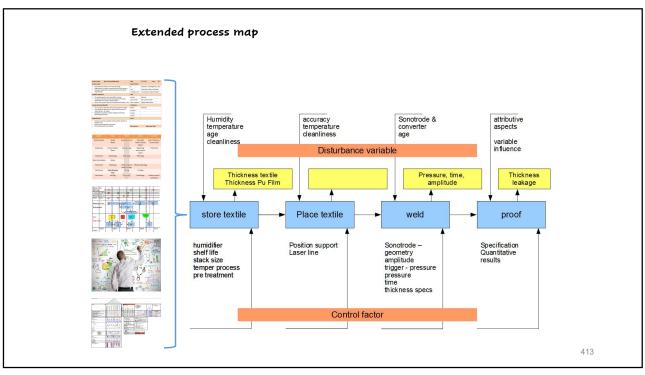


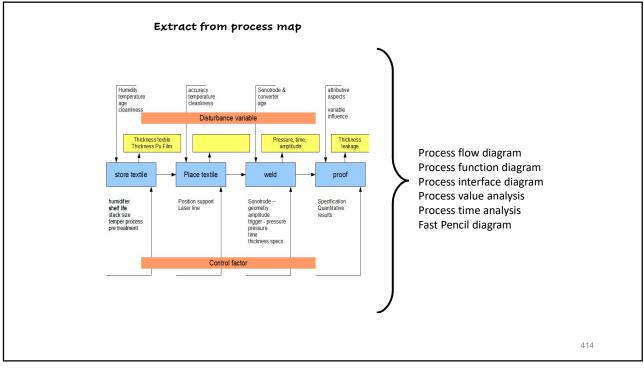


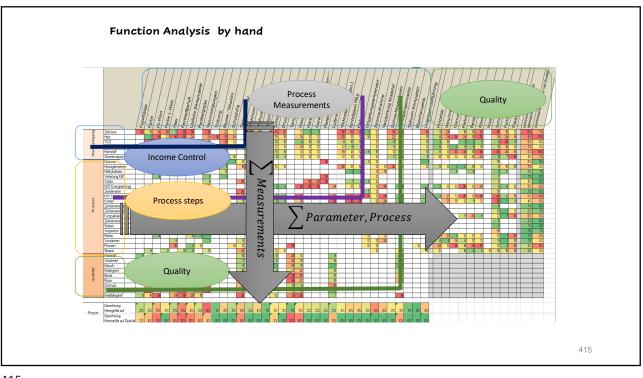


Analyze	Identify	Analyze functions
	design concept	Derived dependencies between system functions and output measures
	concept	Development of several high-level concepts
	Optimize design	Dissolve conflicts in the selected high-level concept
	concepts	Identify the resources needed for the realization
	Check	Pick feedback from customers and stakeholder
	capabilities of the	High level concept finalize
	concept	Estimate development risks

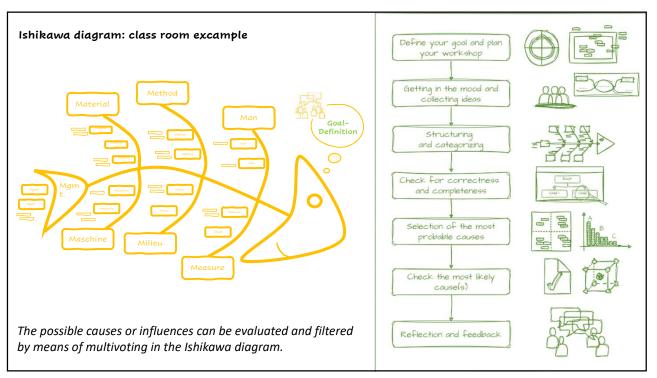


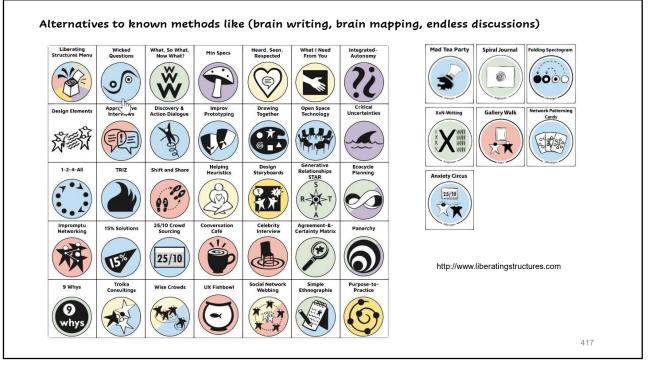


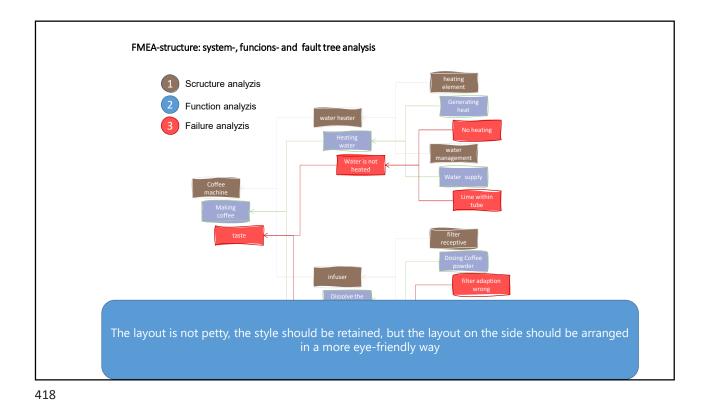


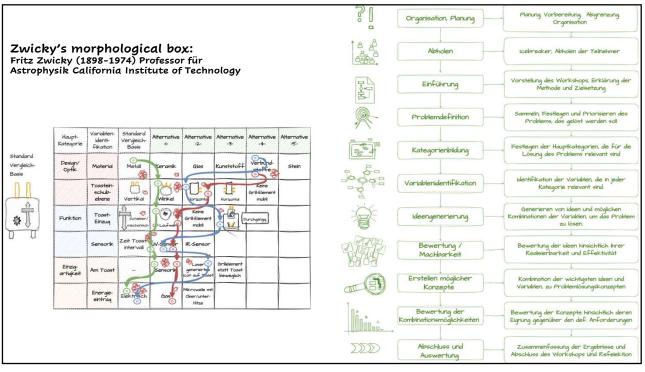






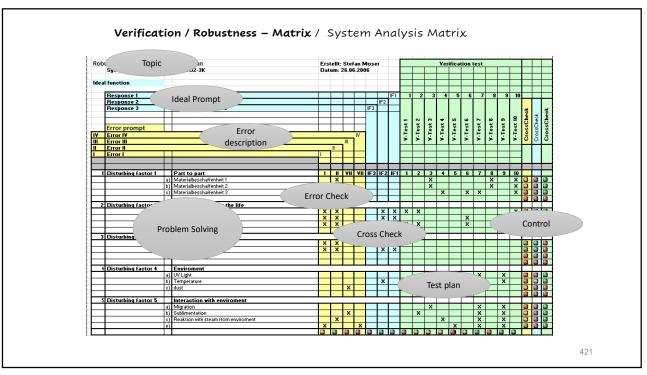






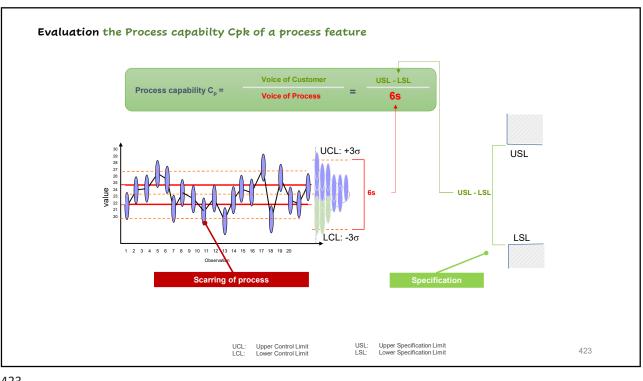
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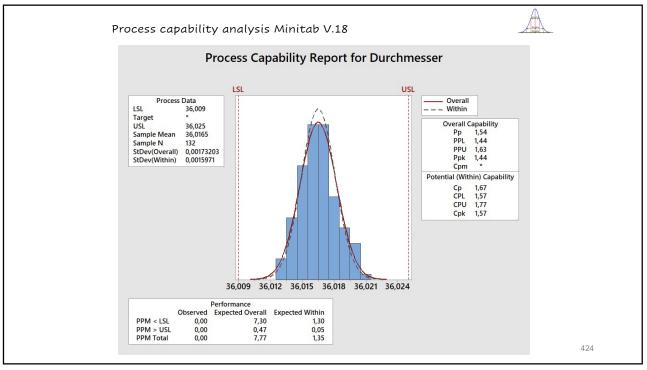
criteria	weighting	concepts			
		Dowel	nail	adhesive hook	
Easy to attach	2	-	0	+	
Permanent strength	8	++	+		
Does not damage the wall	5		+	+	
Number plus		2	2	2	
Number minus		3	0	2	
Number neutral		0	1	0	
Weighted sum		+4	+13	-4	

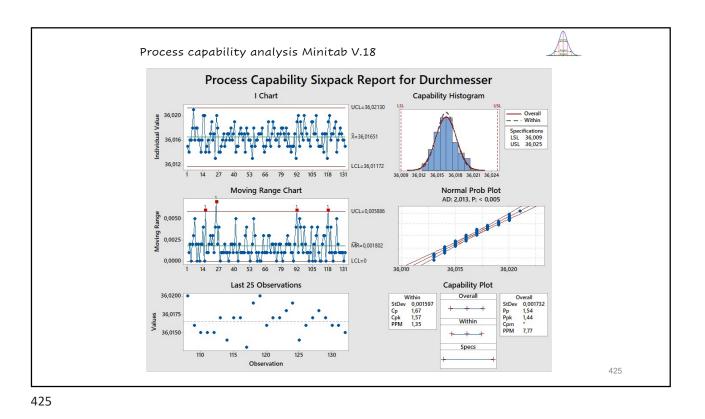






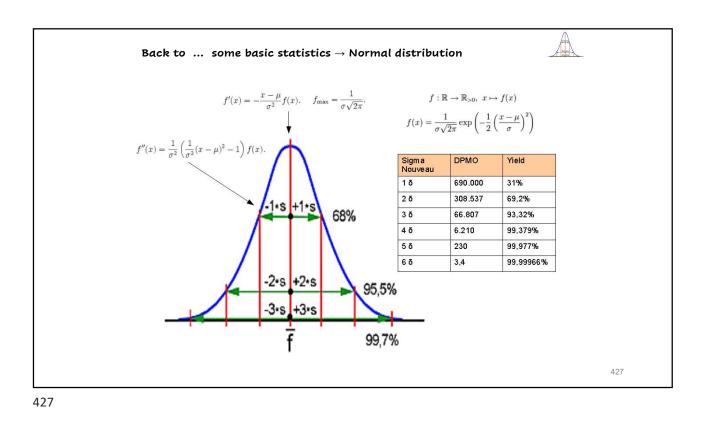




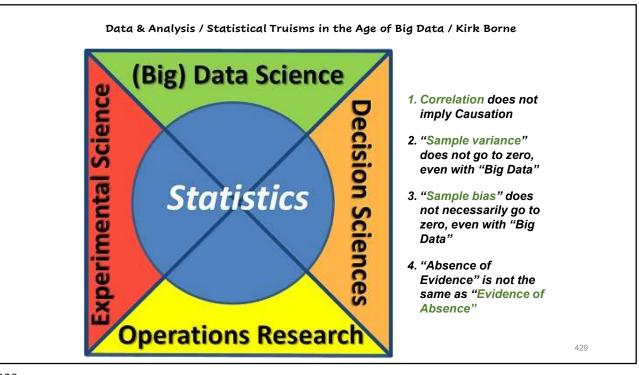


Analysis of process data, Minitab V.18 Graphical Summary of Laengen Summary Report Distribution of Data Examine the center, shape, and variability **Descriptive Statistics** N Mean StDev Minimum Sth percentile 25th percentile Median 50 31,459 0,16596 31,258 31,258 31,35 31,44 31,55 31,88 31,88 32 75th percentile 95th percentile Maximum 31,0 31,2 31,4 31,6 31,8 32,0 95% Confidence Intervals (31,412; 31,506) (31,4; 31,5) (0,13863; 0,20681) Mean Median Data in Worksheet Order tigate any outliers (marked in red). Normality Test Inve Decision P-value Fail <0,005 32,0 Laengen 31,5 31,0-Ó 10 20 30 40 50 426

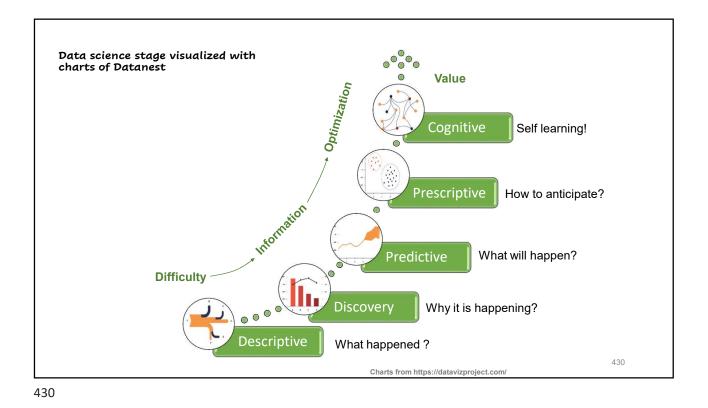


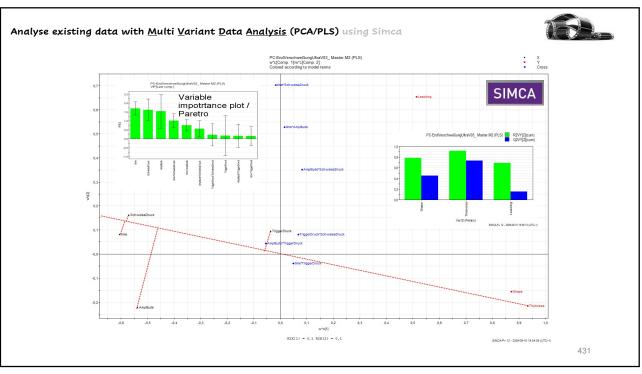


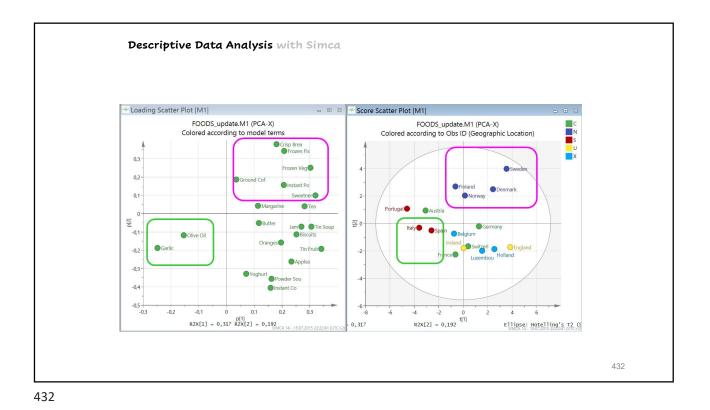


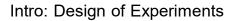


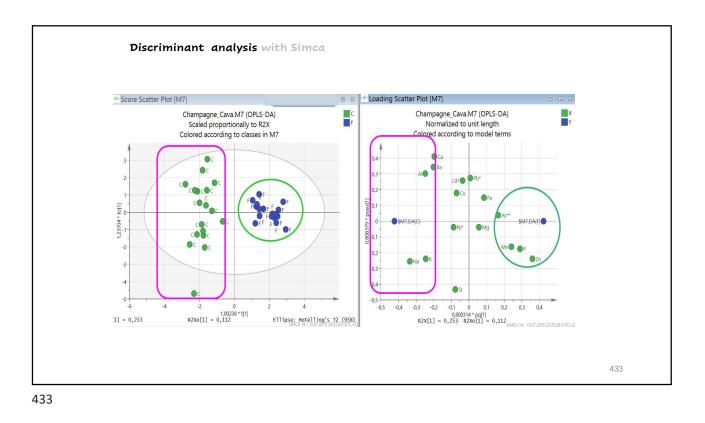






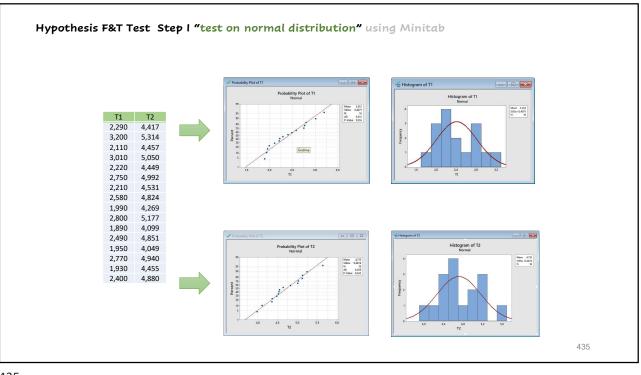




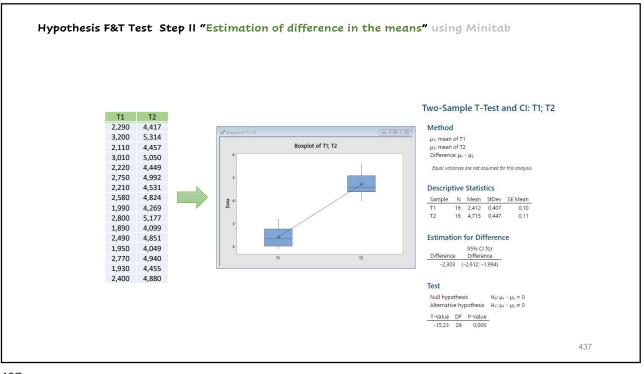


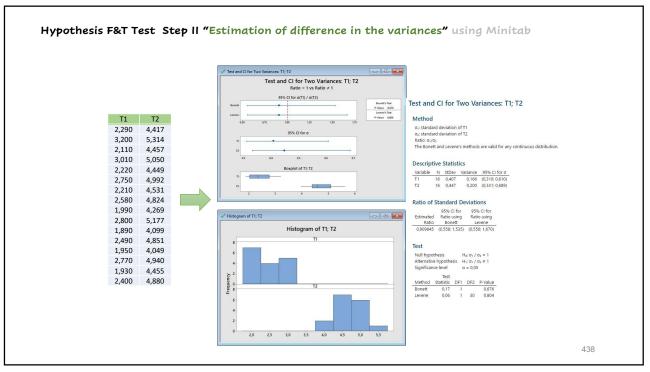


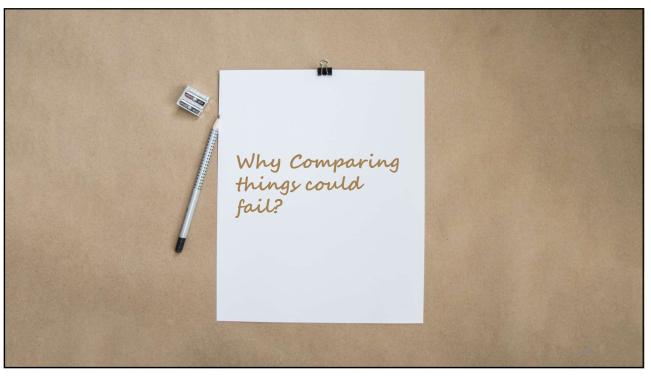


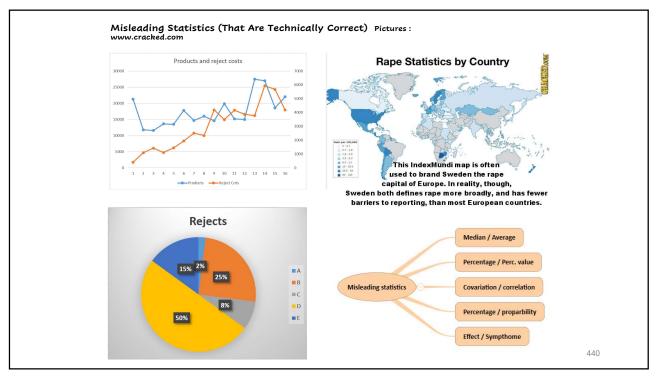


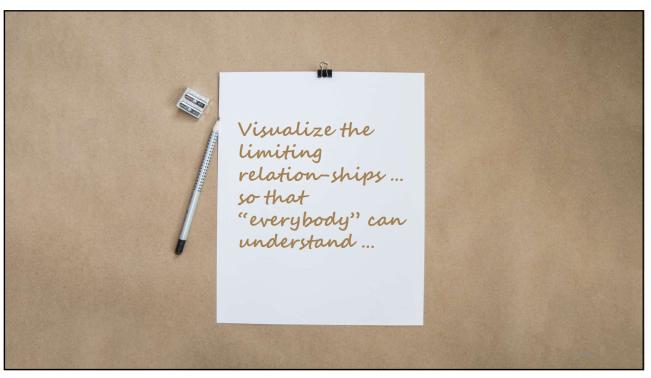


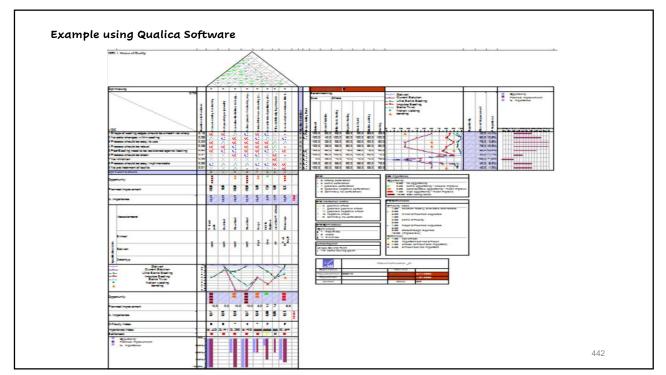


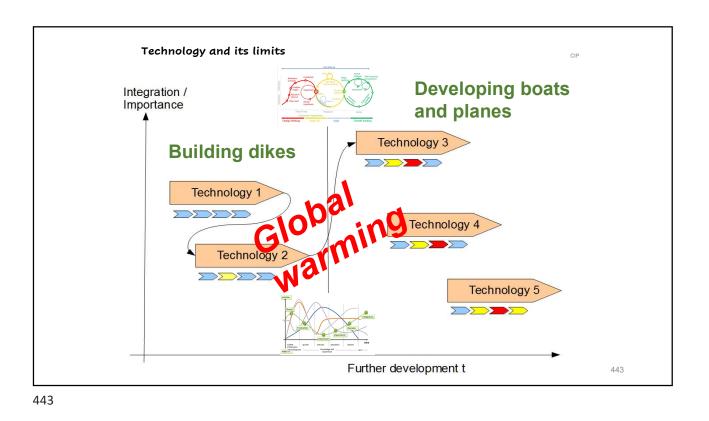


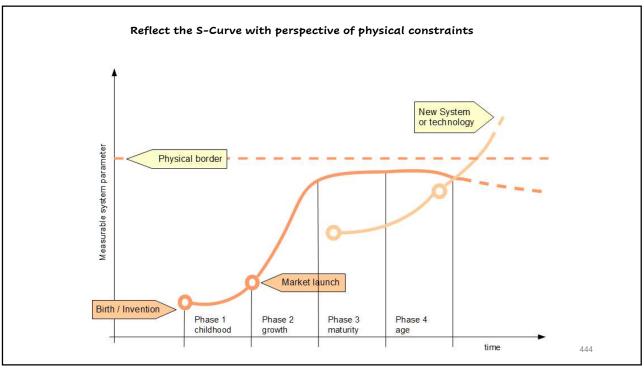




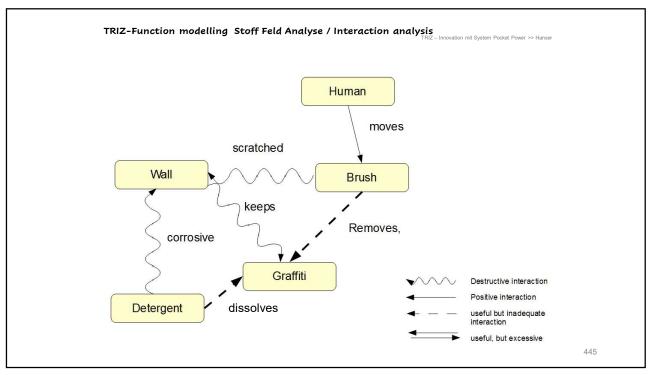






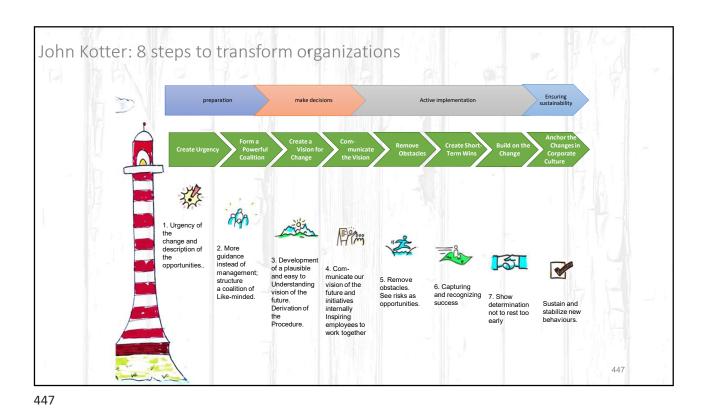


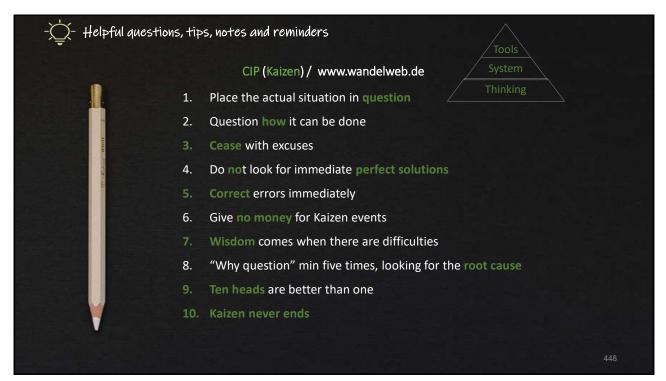




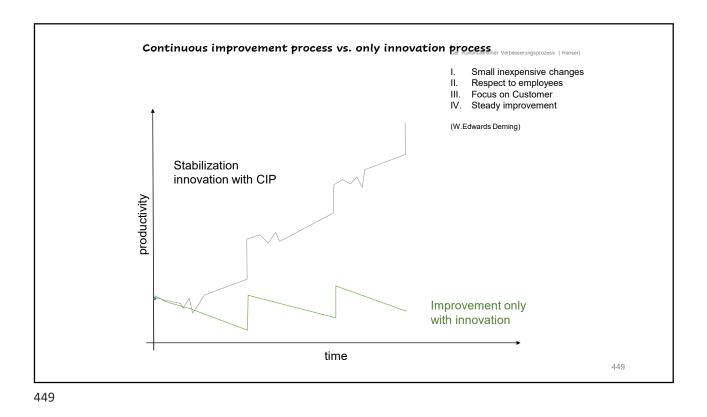


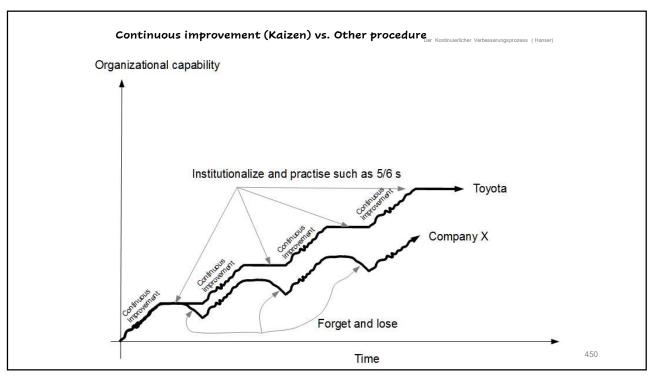


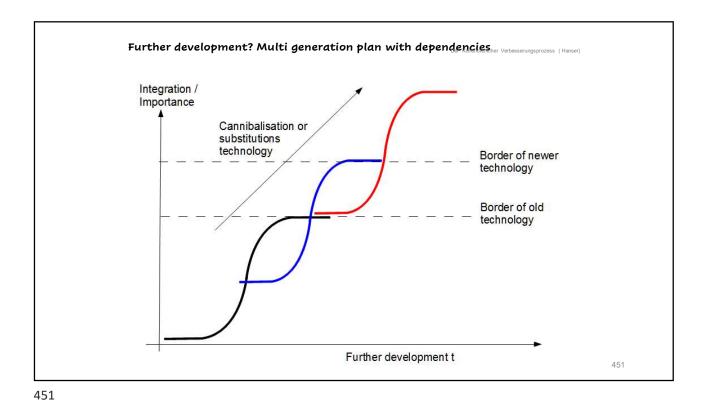


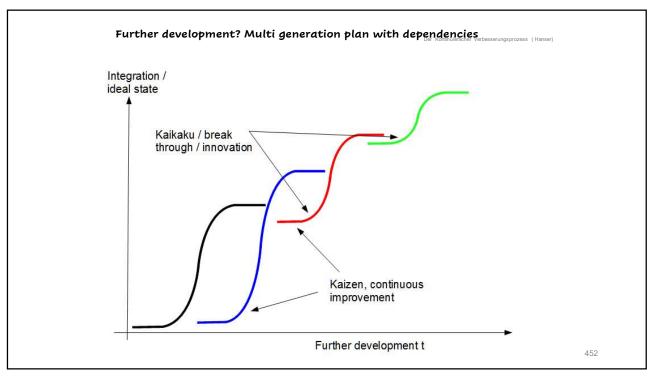


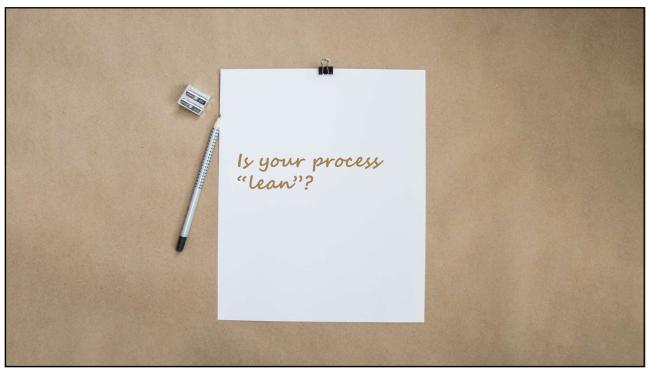


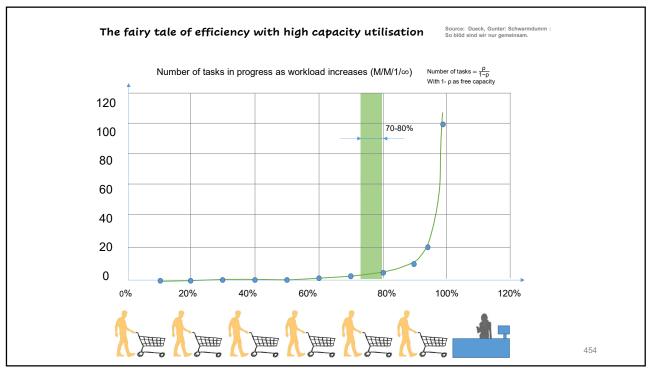




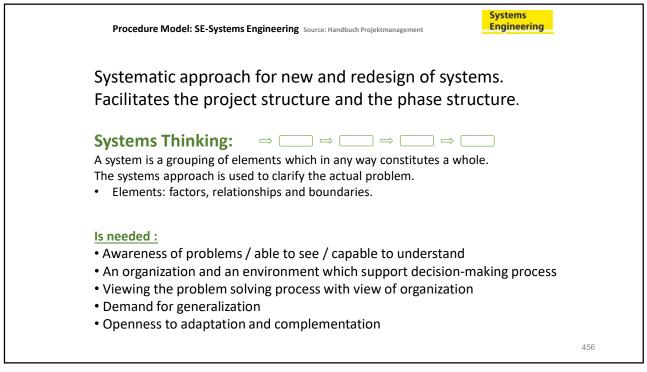


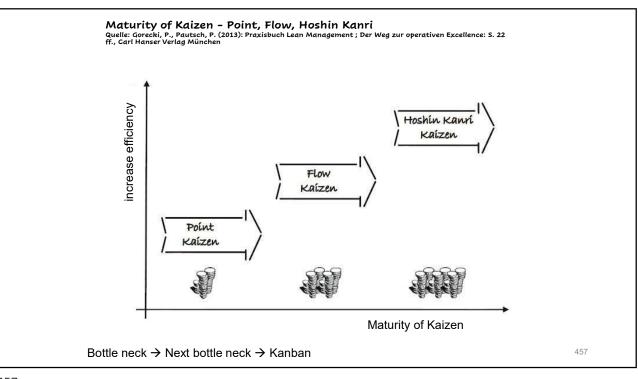


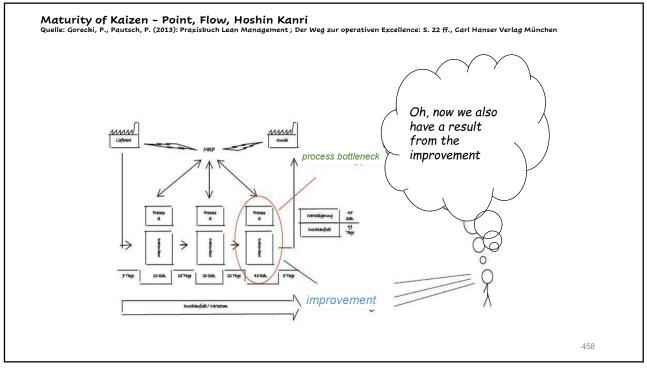


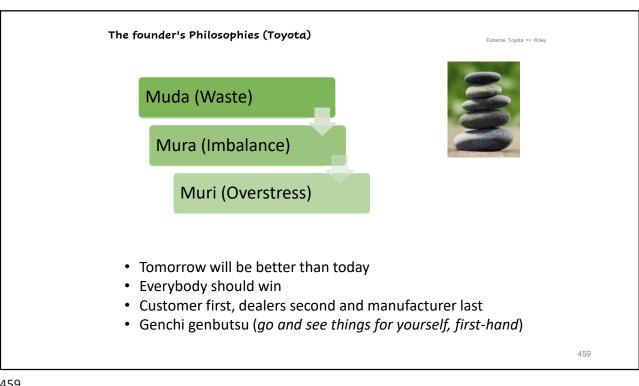


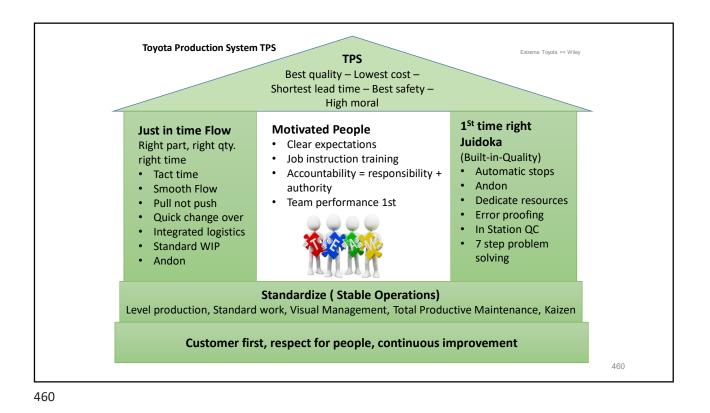




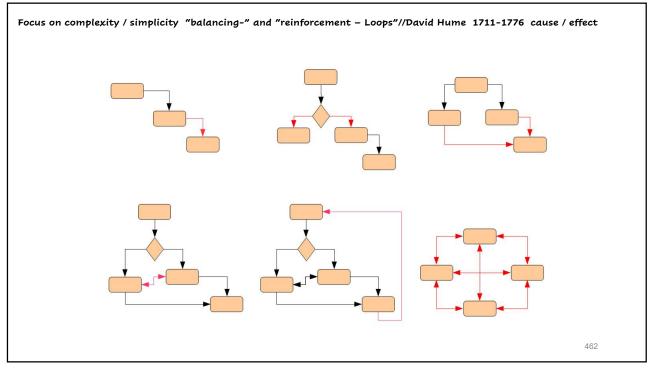


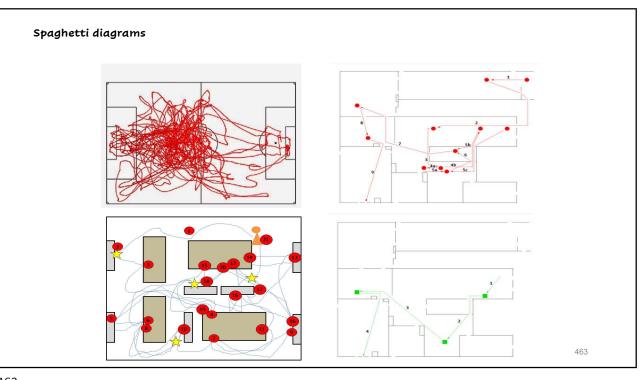


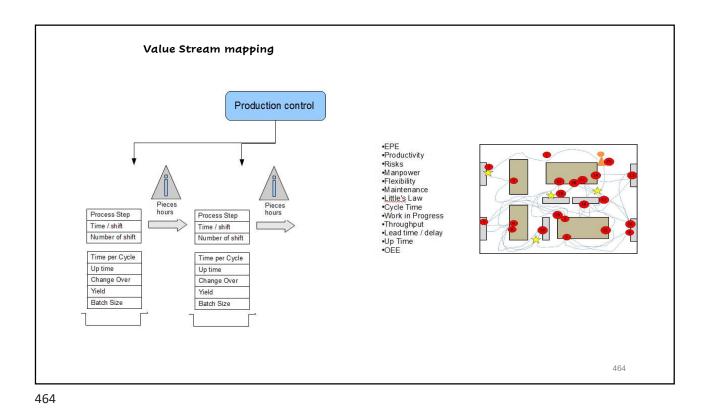


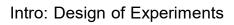


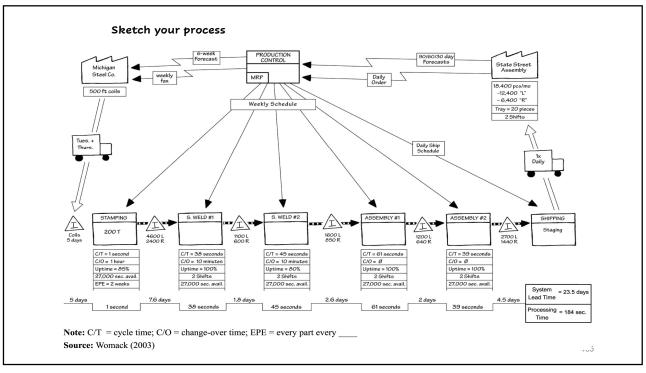








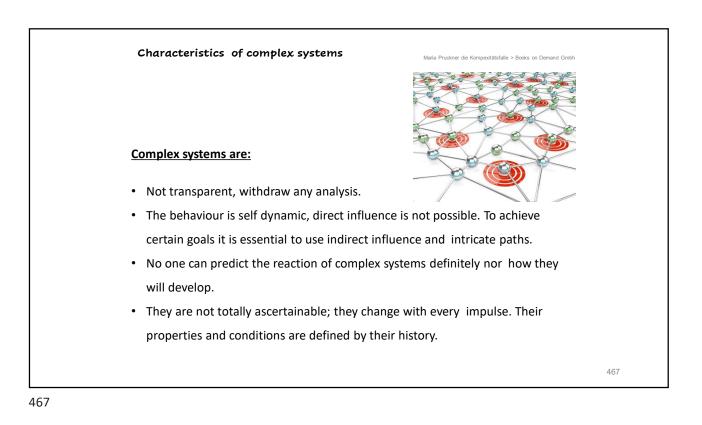


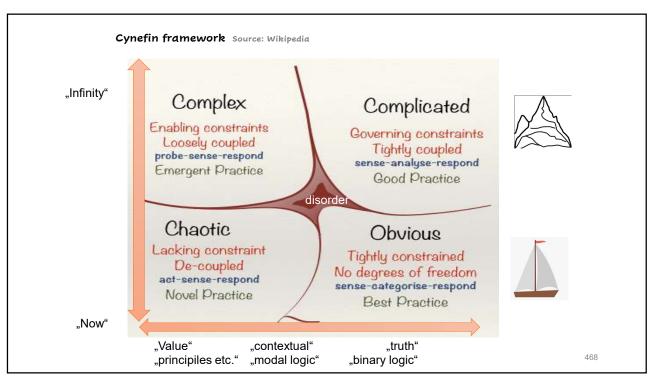


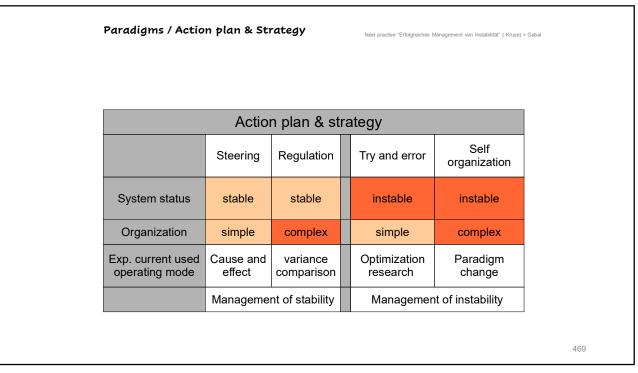


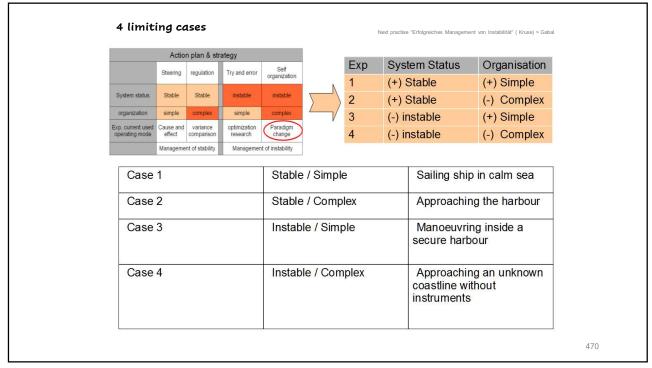


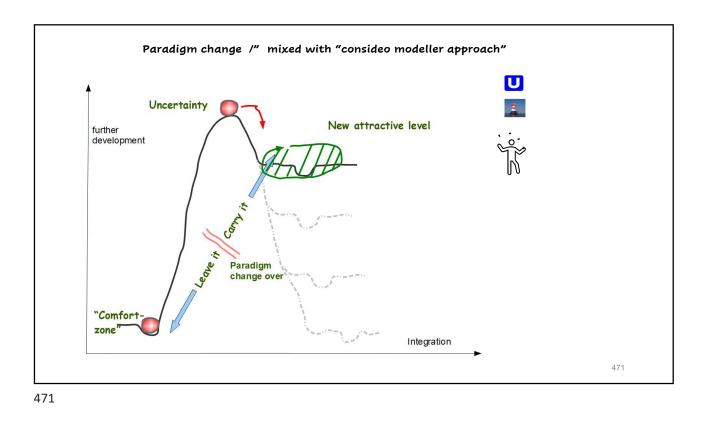


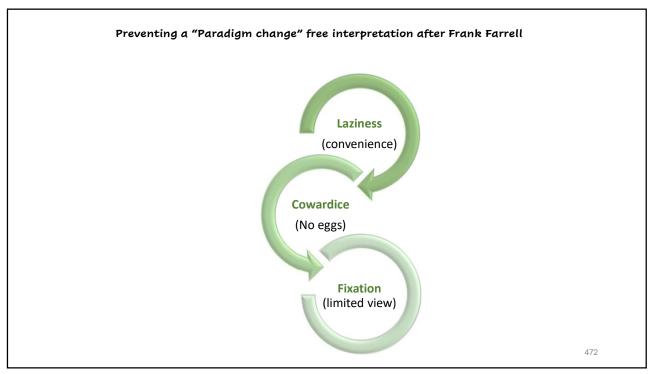


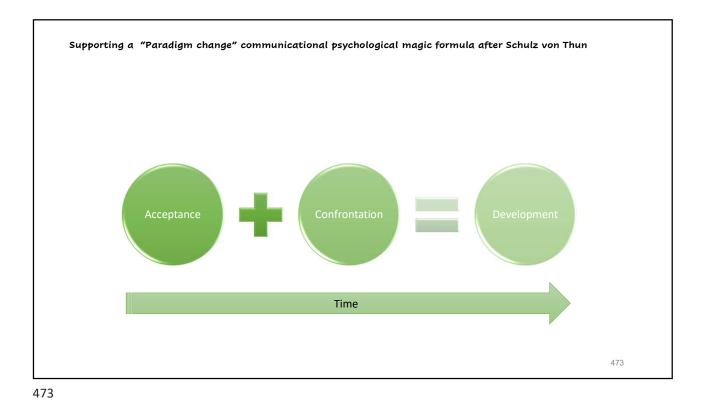


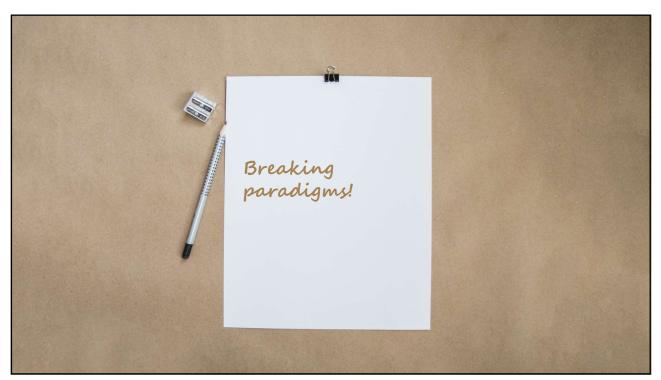




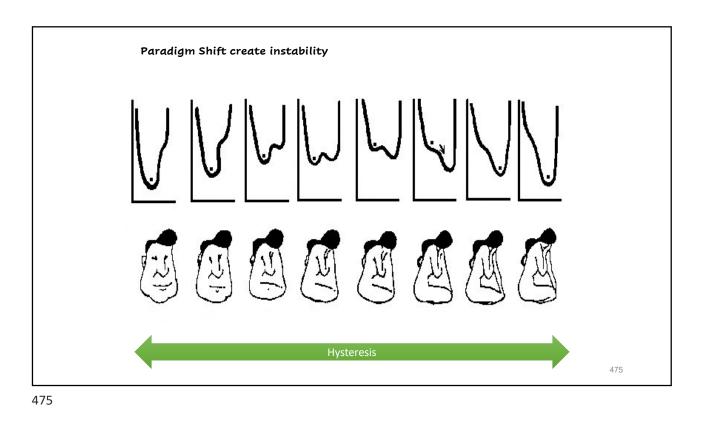


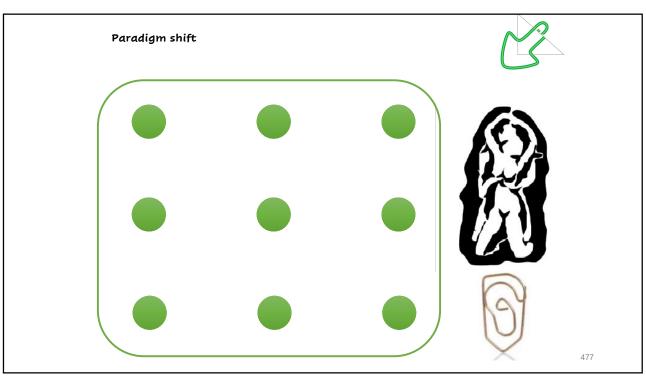


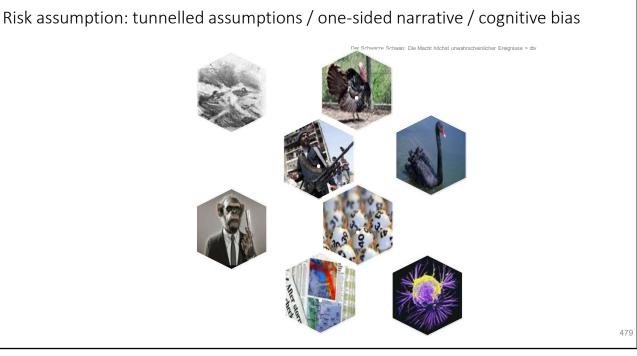










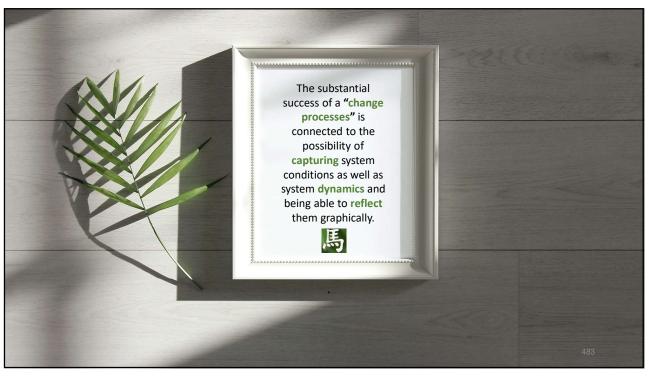


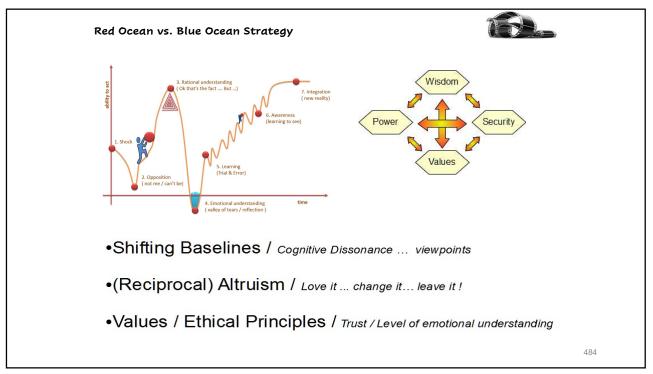






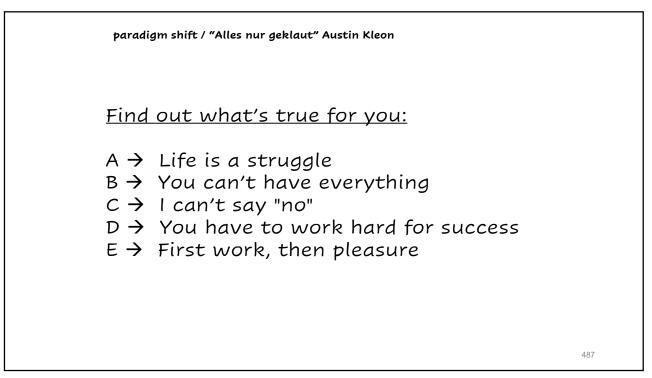


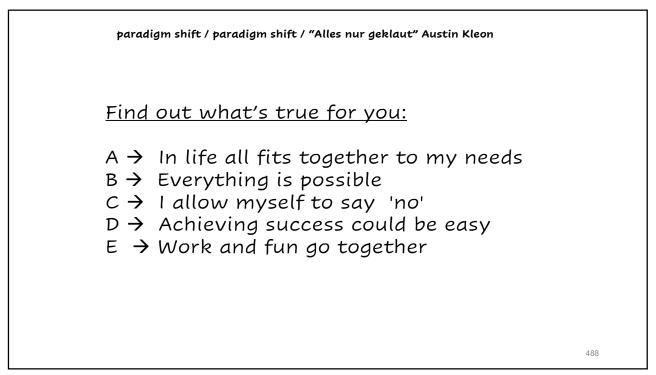




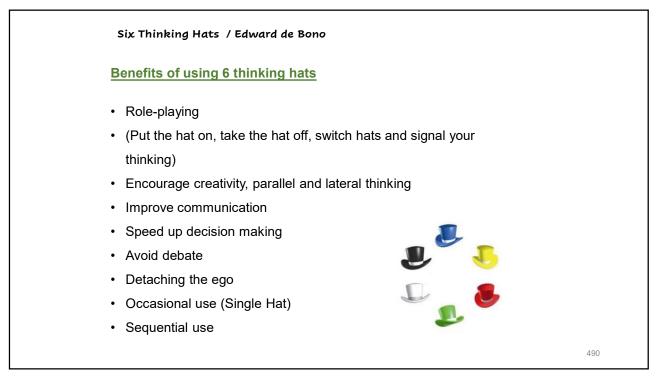


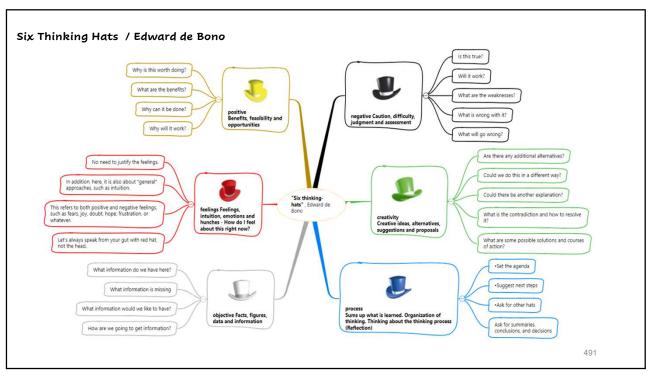
Red Ocean vs. Blue Ocean Strategy	Blue Ocean Strategy > Gabal Verlag v
Strategies of red oceans	Strategies to explore blue oceans
Competition in existing markets	Creating new markets
To fight the competitors	To avoid competition
Use of existing demands / needs	Creating existing demands / needs
Direct interrelation between cost end benefits	To cancel the direct interrelation between cost end benefits
Alignment of total system to entrepreneurship activities due to strategic desiccations of differentiating or low costs.	Alignment of total system to entrepreneurship activities differentiating and low costs.
	48





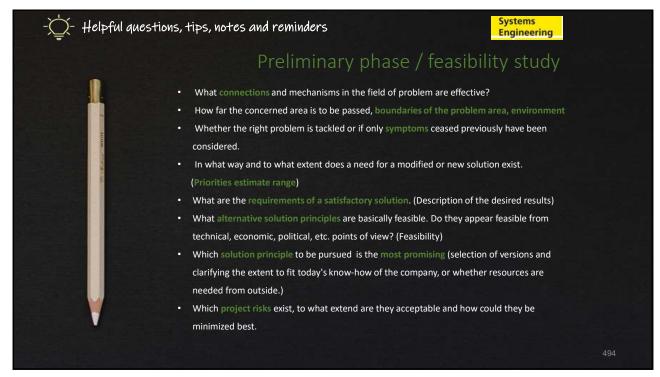




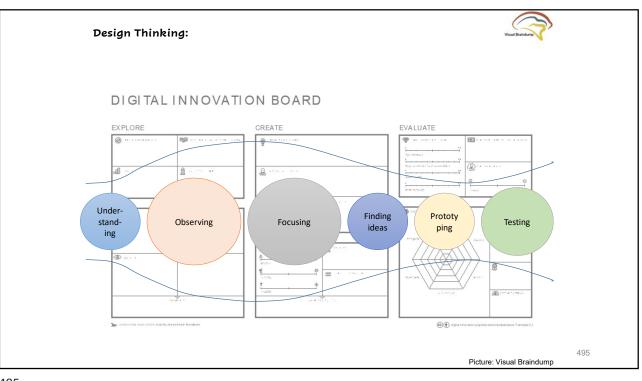


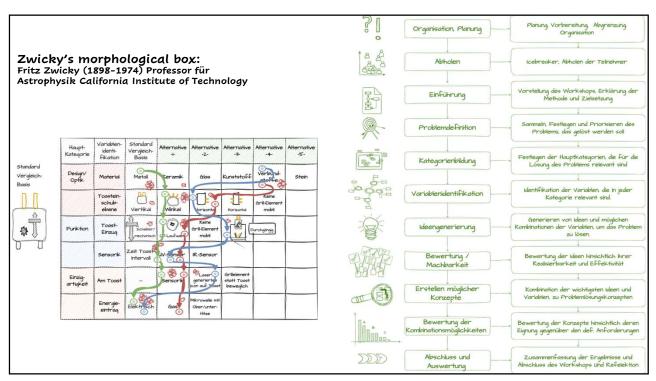


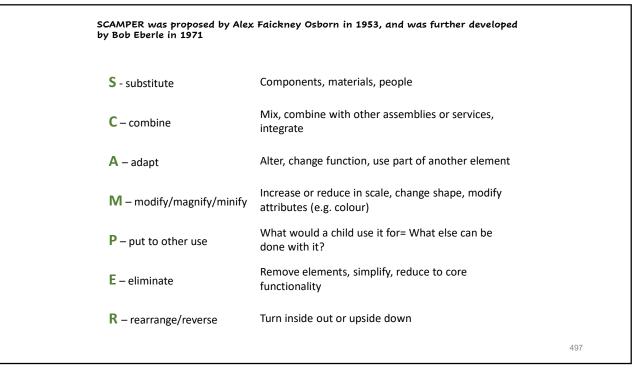


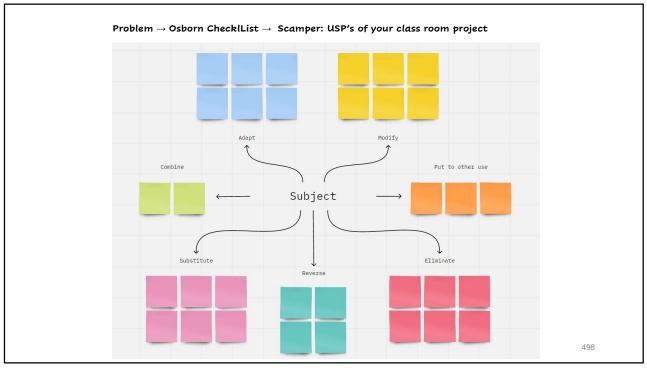


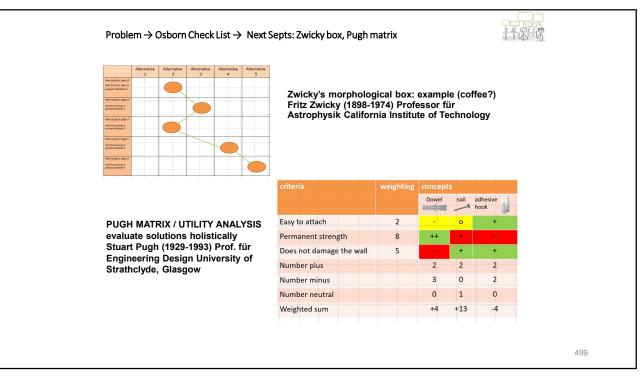


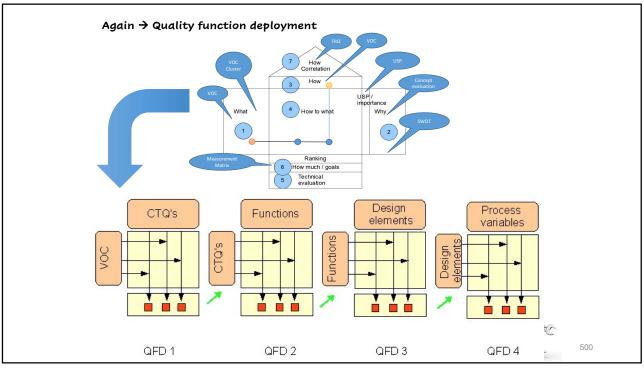


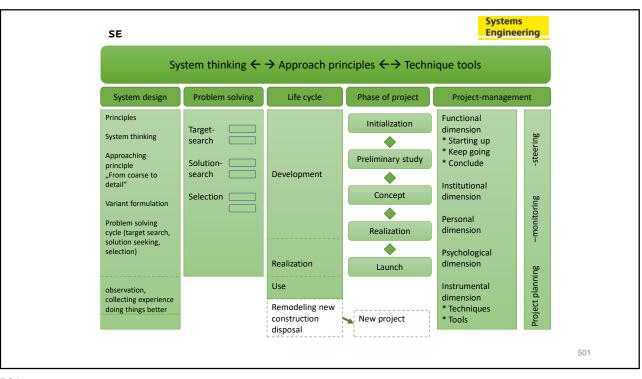


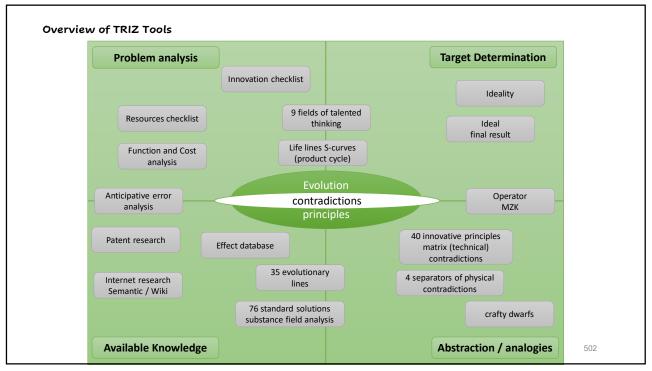




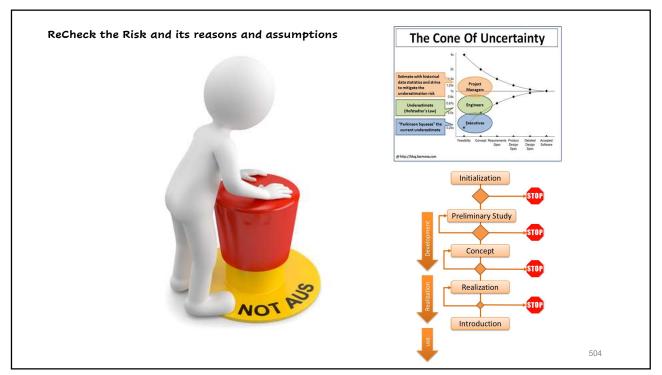


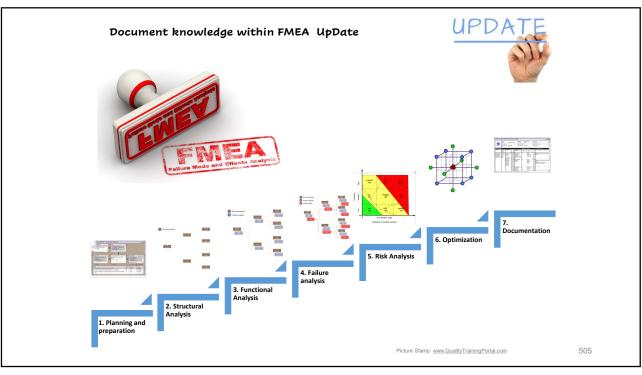


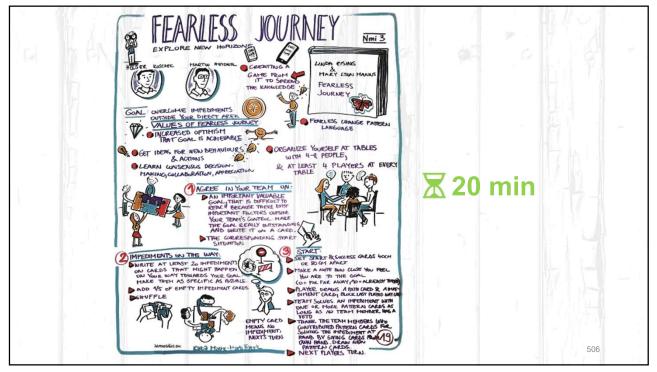


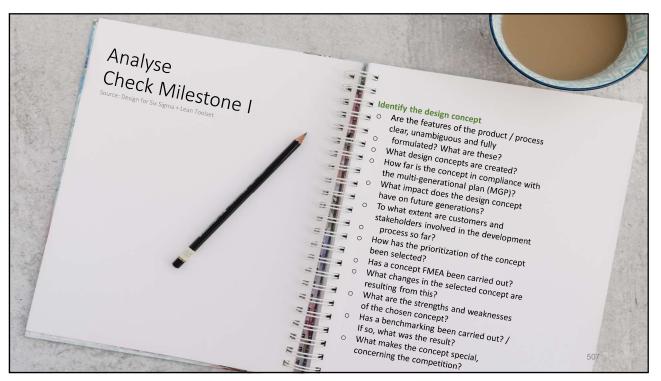


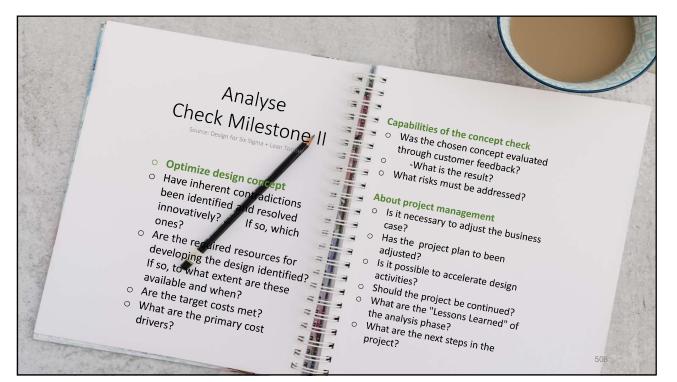








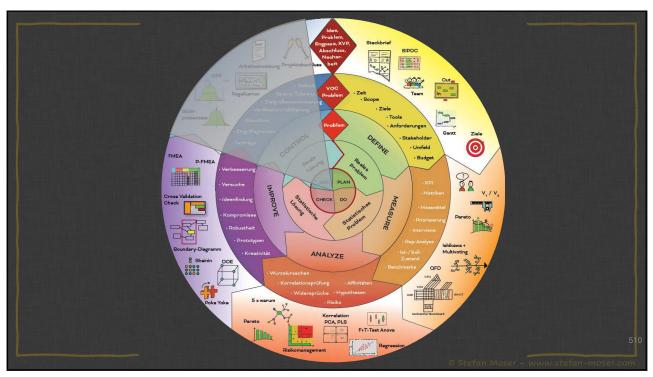






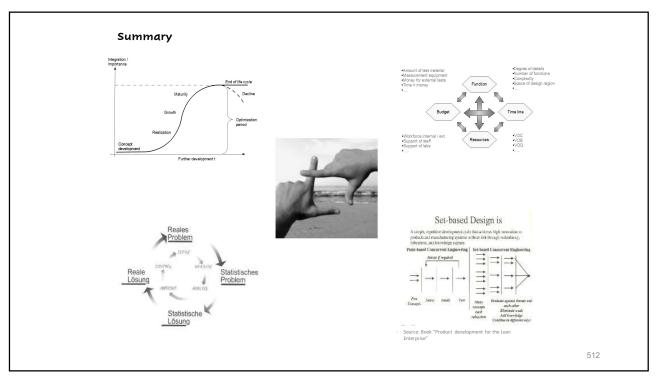


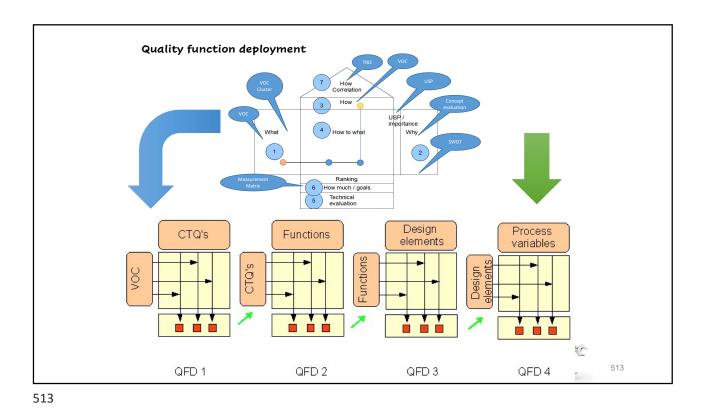


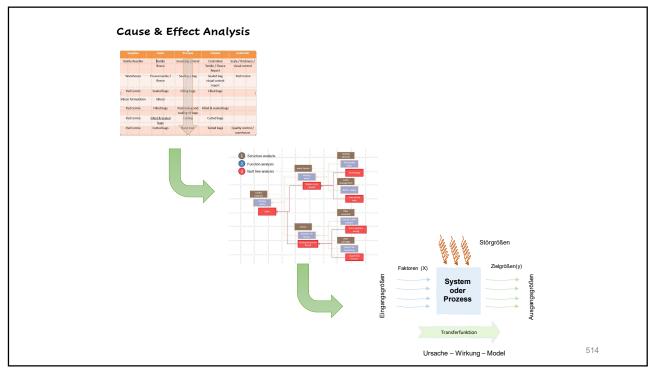


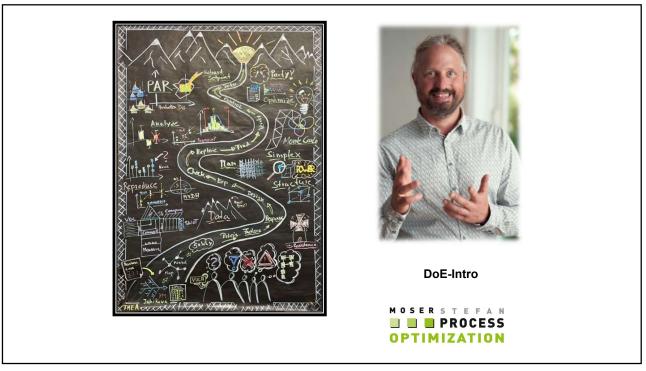


		Design for Six Sigma ^Lean / Lunau Springer Verlag	
Design / Improve	Detailed concept development, test and	Work out concept in detail	
	optimize		
	Check	System capability study	
	capabilities for	Optimize system (product / process)	
	target production	Get feedback from customers and stakeholders	
	•	System design freeze	
	Lean process to	Prepare to process management	
	develop and	Create pilot plan(t)	
	optimize	Create control plan	
		Informed participating employees	

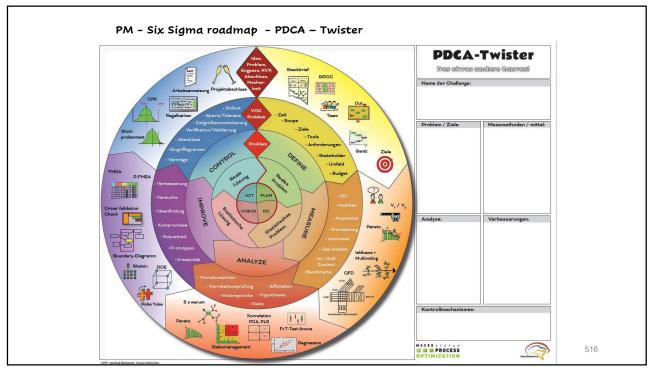


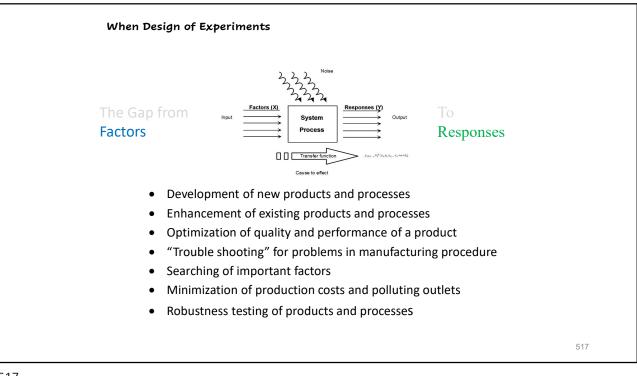


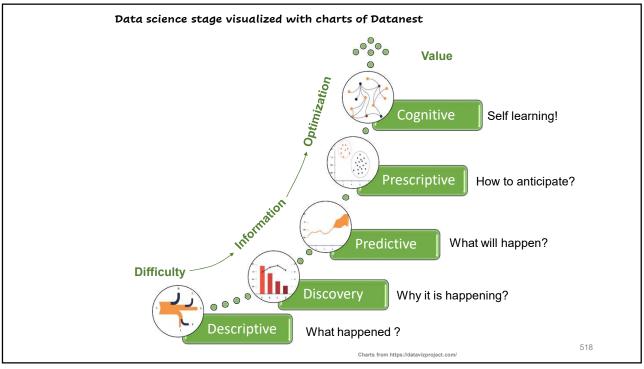




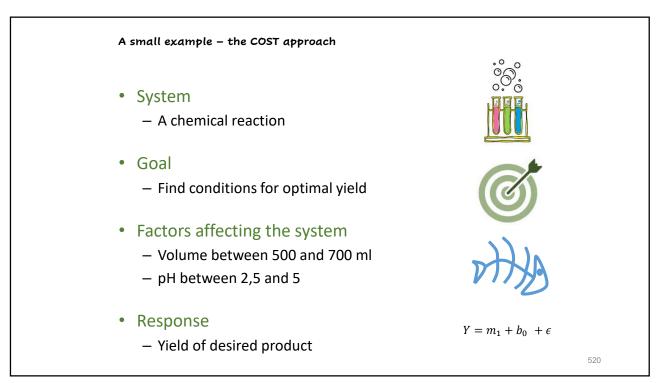
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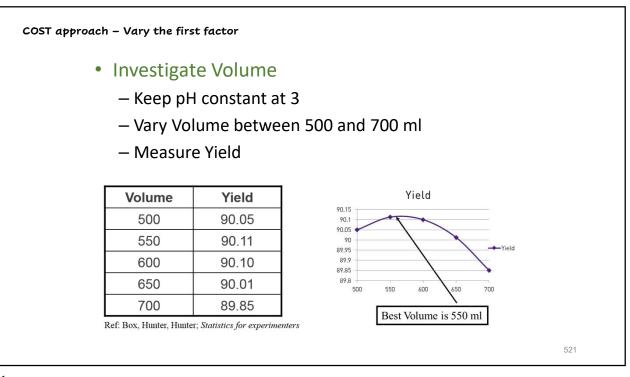


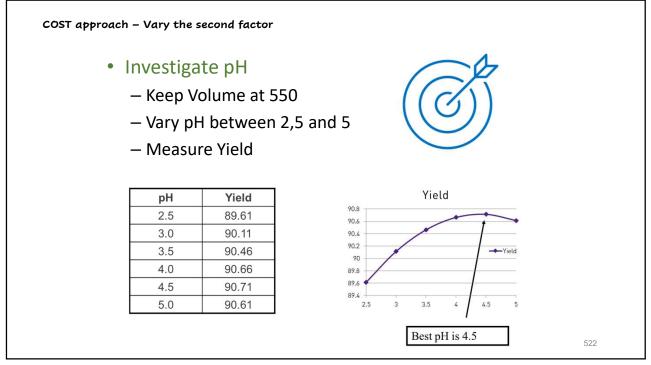


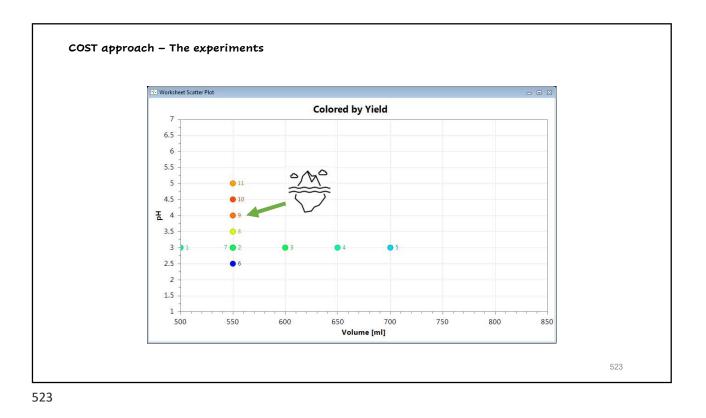


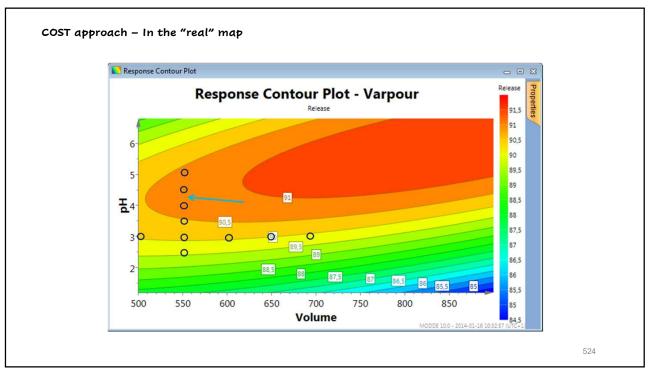




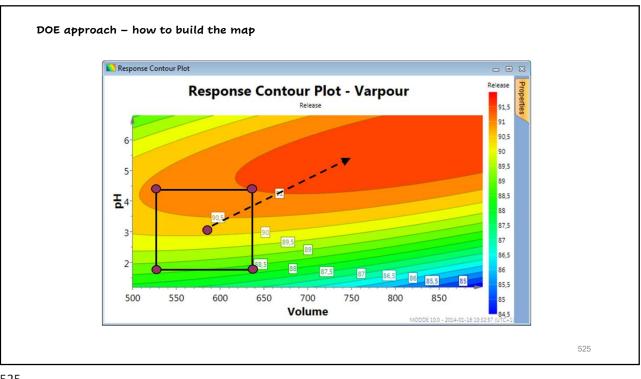




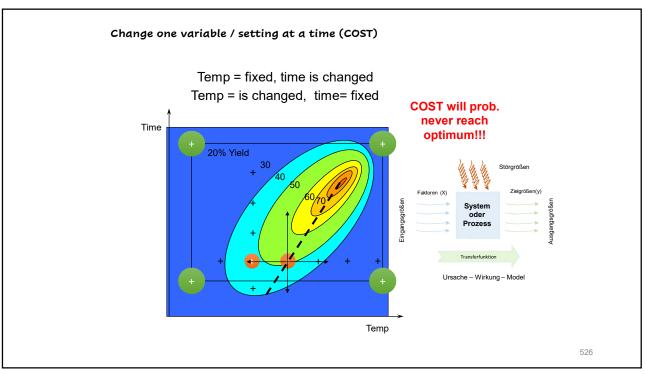




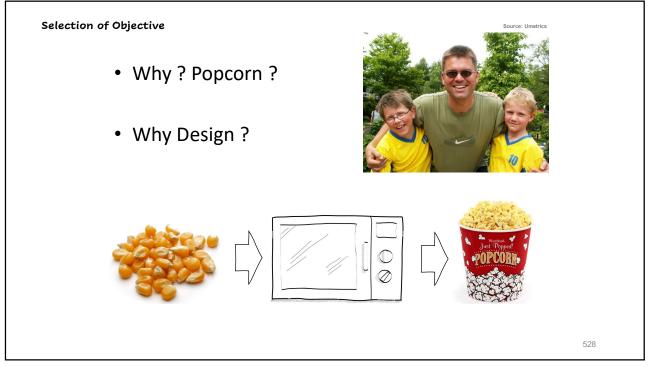


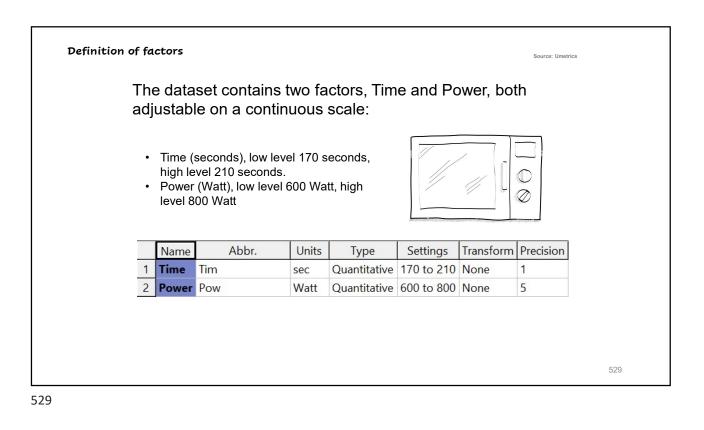


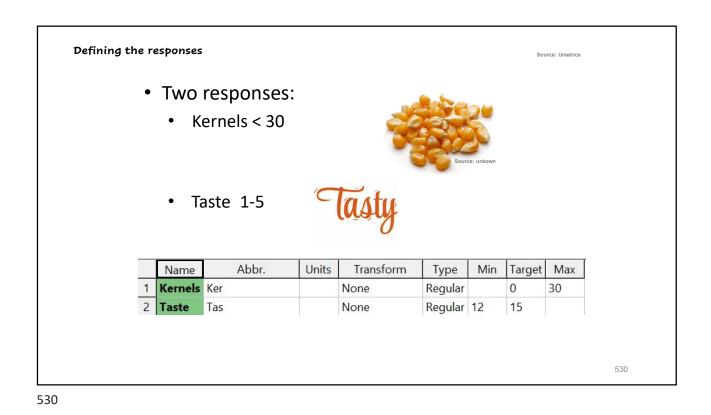


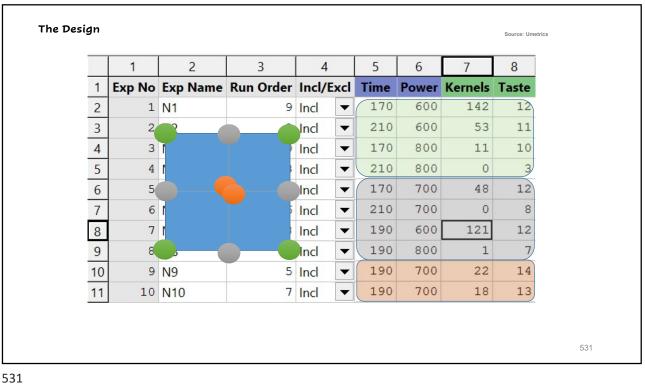




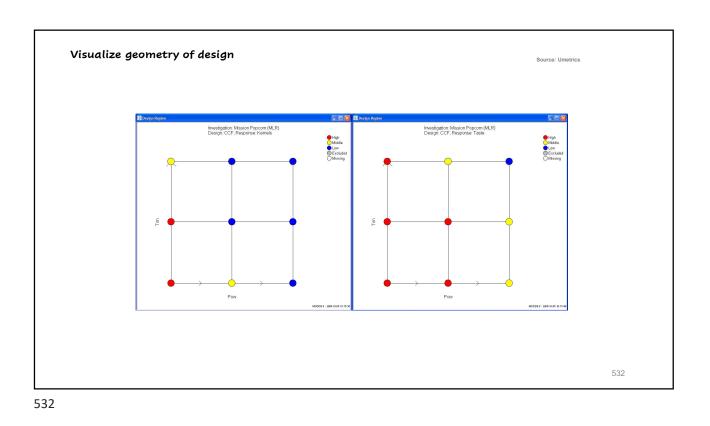


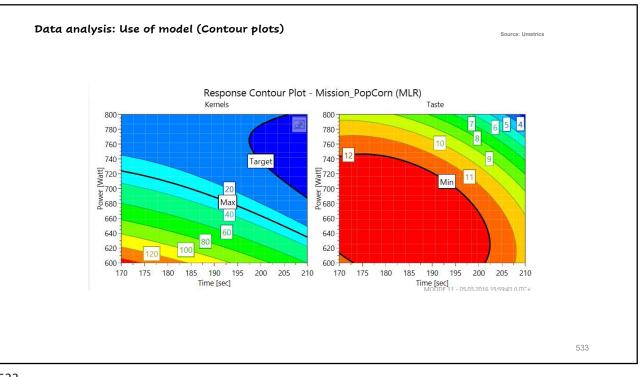


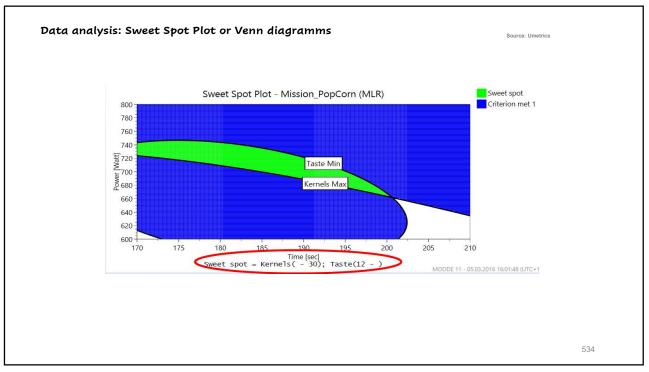


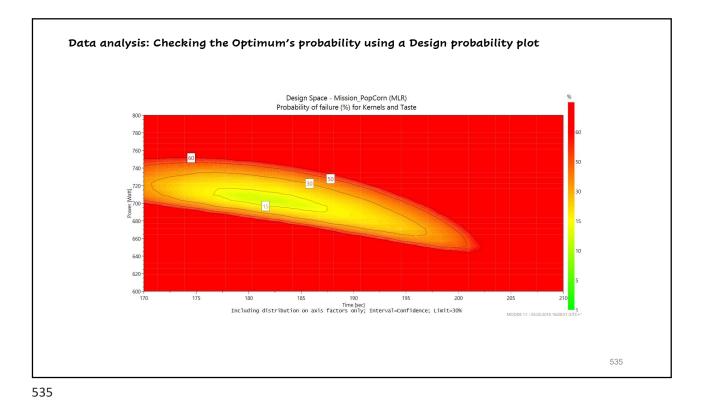






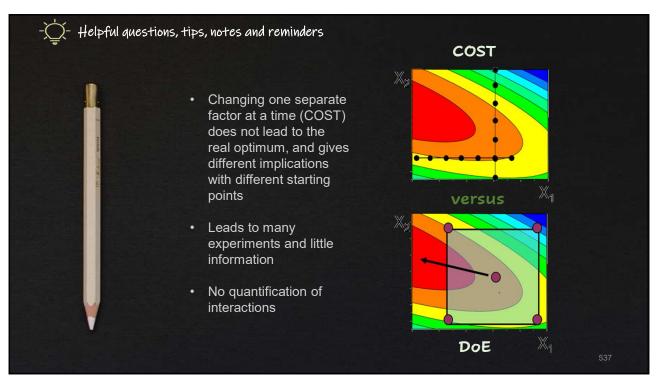






Challinging the results Source: Umetric: Convergence was instantaneous! • Based on our joint efforts, we were able to find out a suitable combination of Time (= 190 secs) and Power (= 700 watts). They are currently using this combination with great ٠ satisfaction. It produces tasty popcorn without undesirable side effects such as burning and unpleasant odour. One resulting bag is seen to the right. The final result (apart from the popcorn) for the two end users (i.e., the two boys) was better understanding of dad's work plus having a lot of fun together with their father. 536

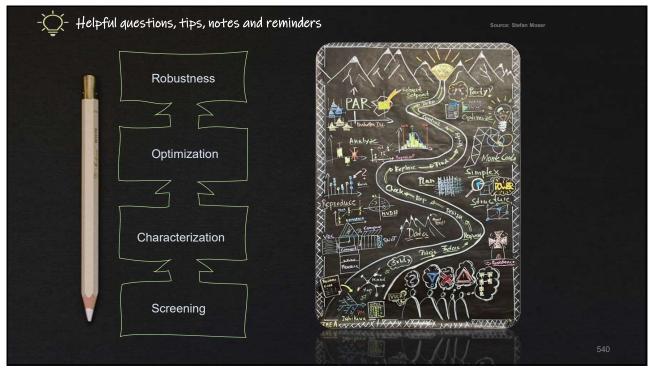
Intro: Design of Experiments



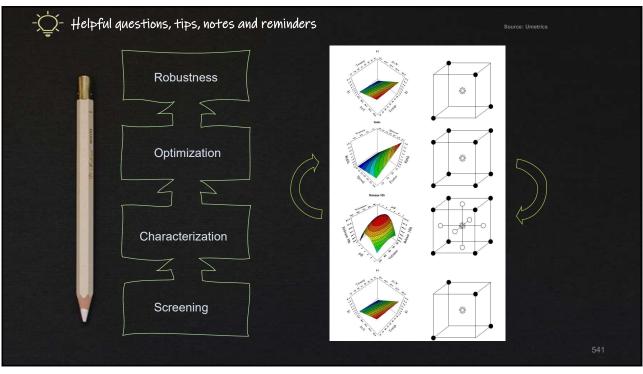






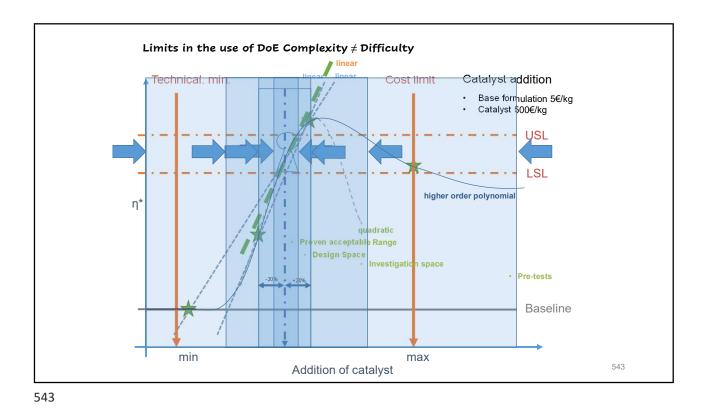


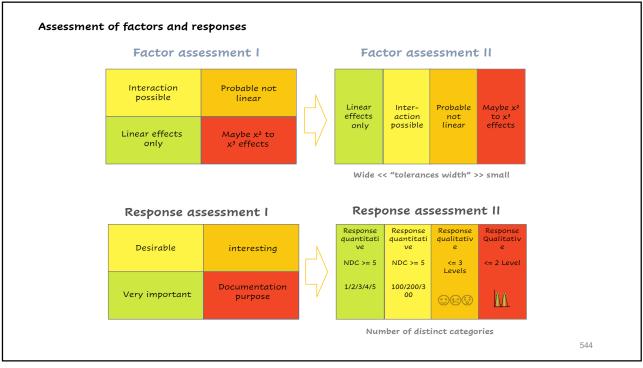


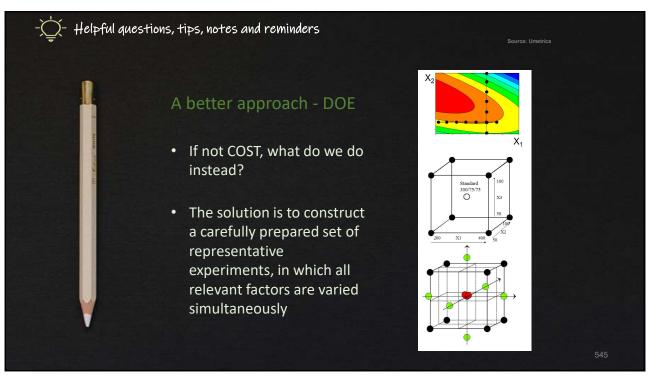


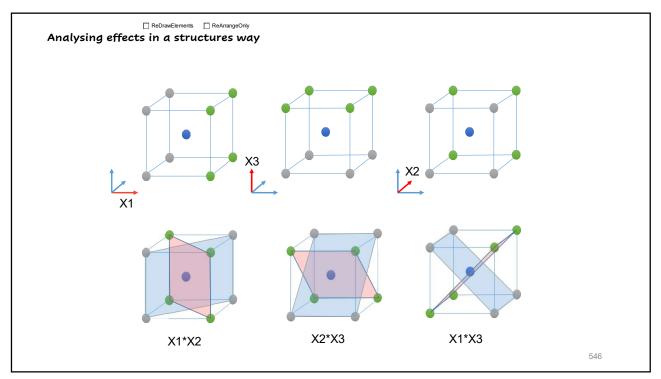


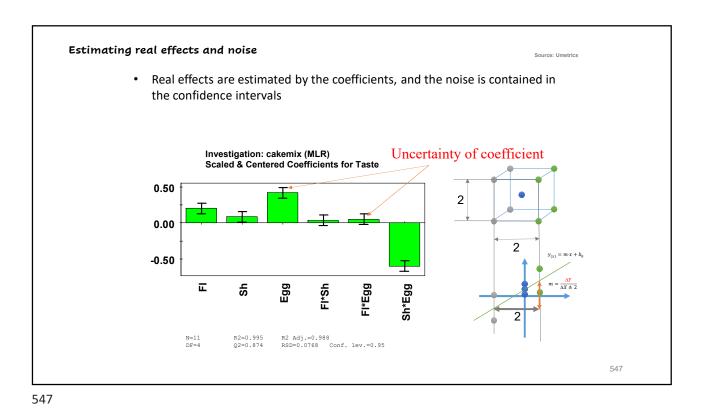






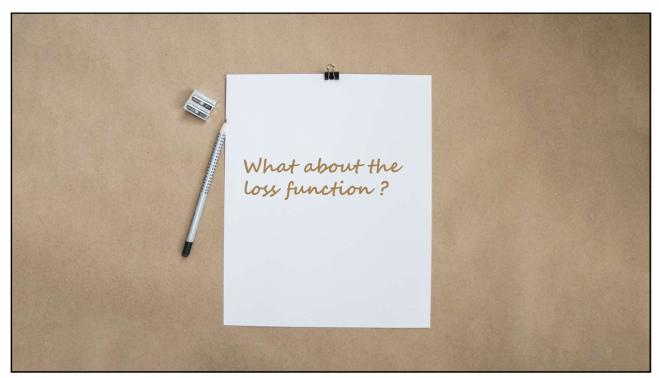




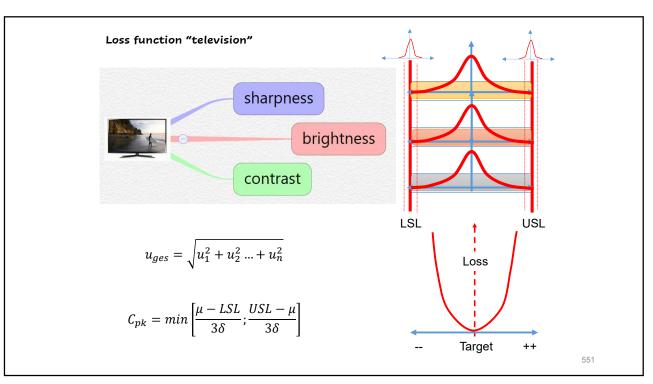


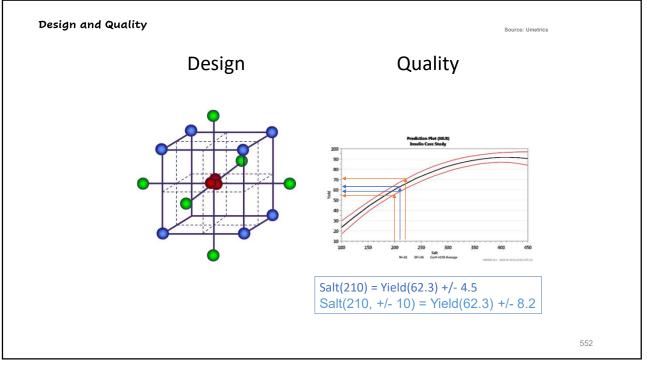
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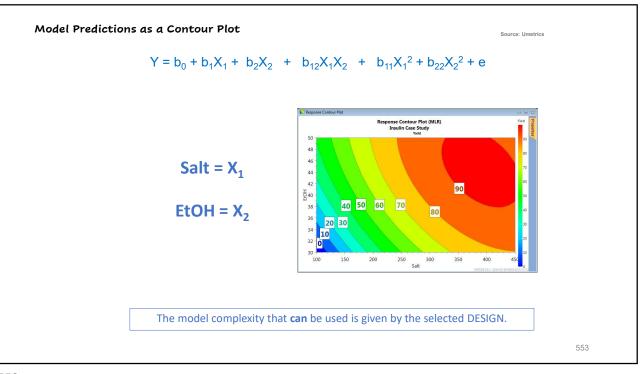


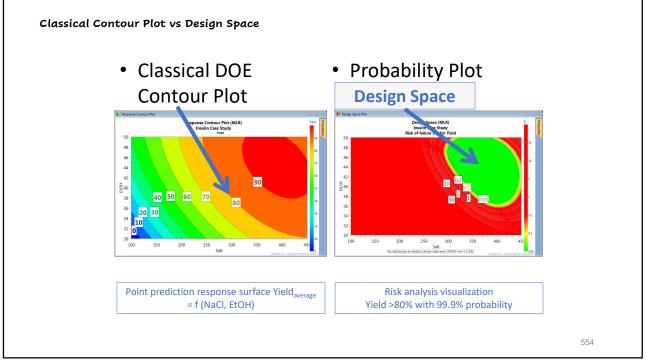


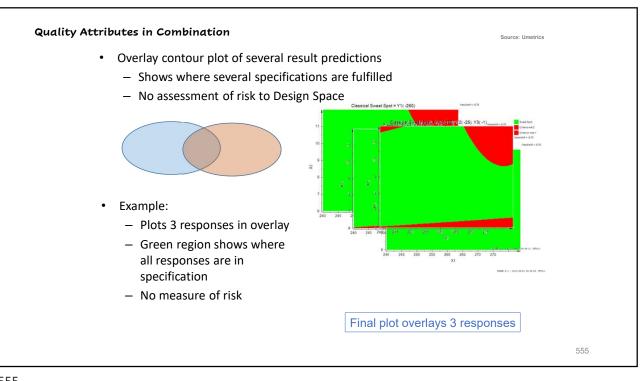


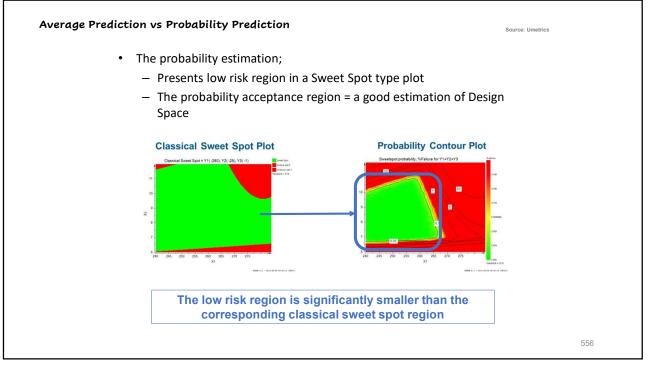


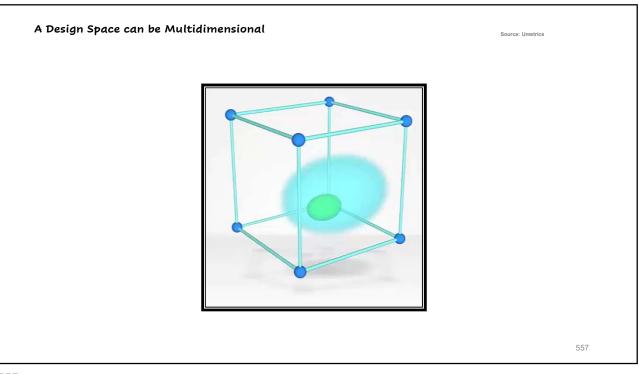


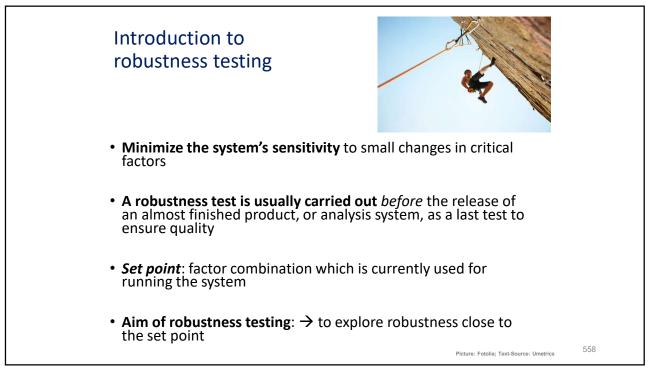


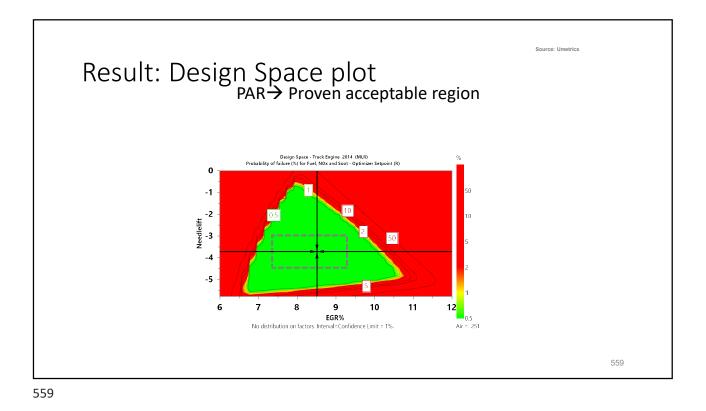


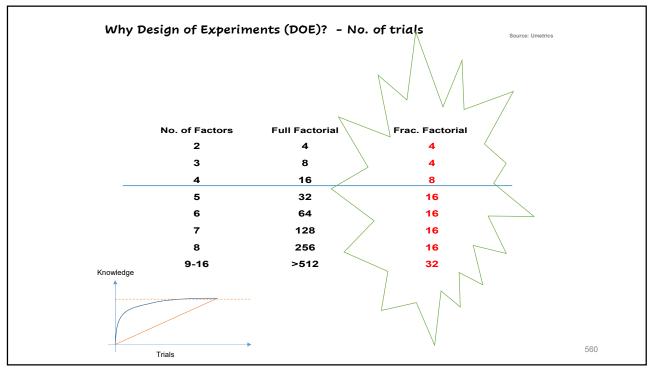




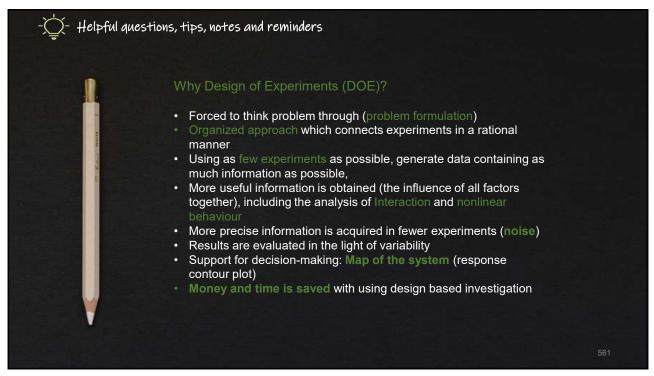






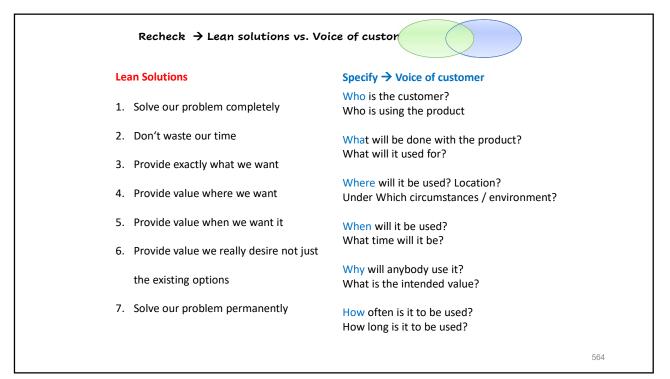


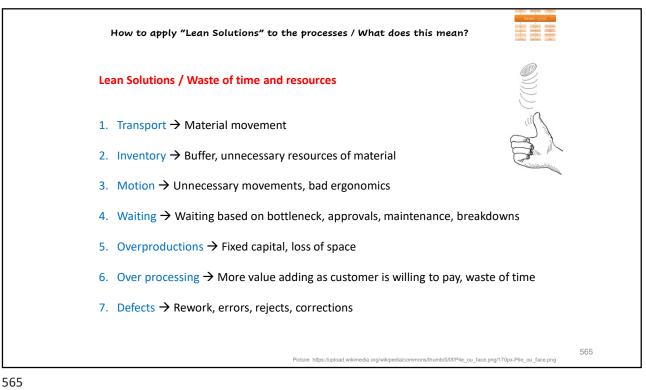




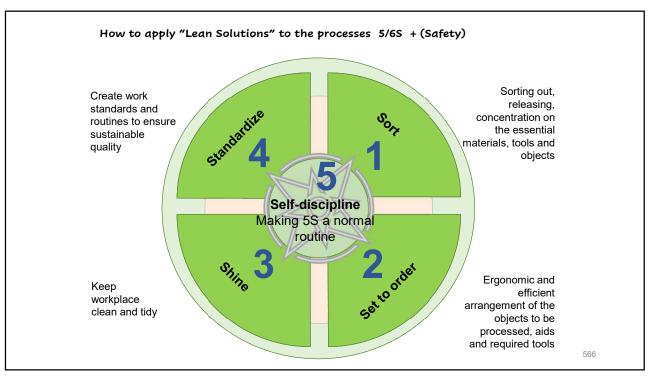












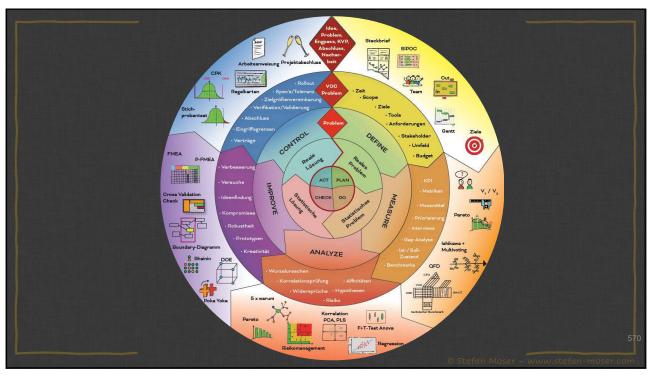




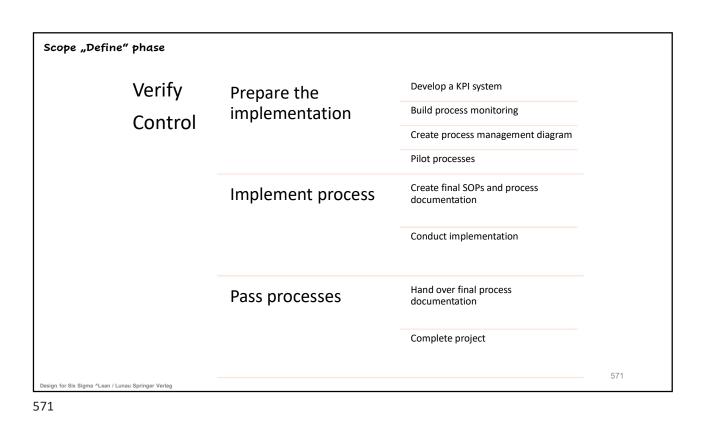


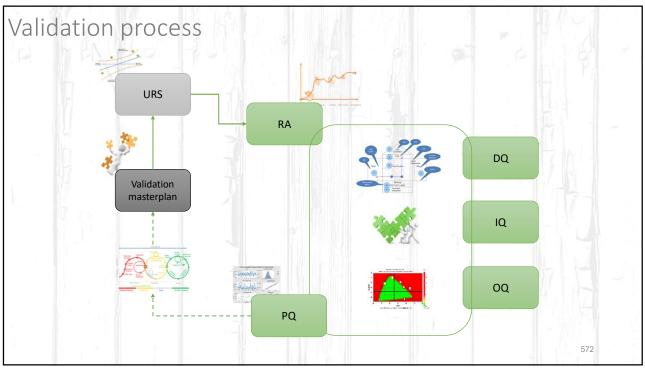




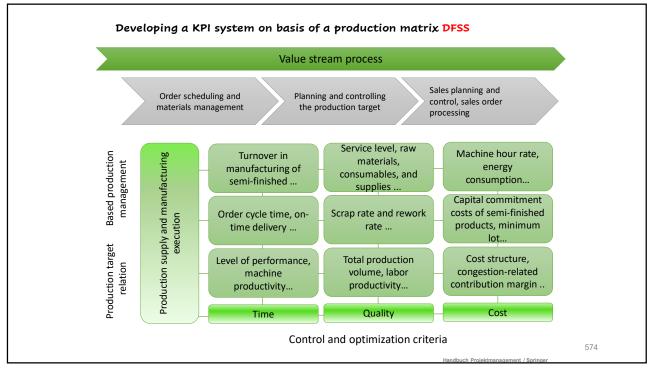


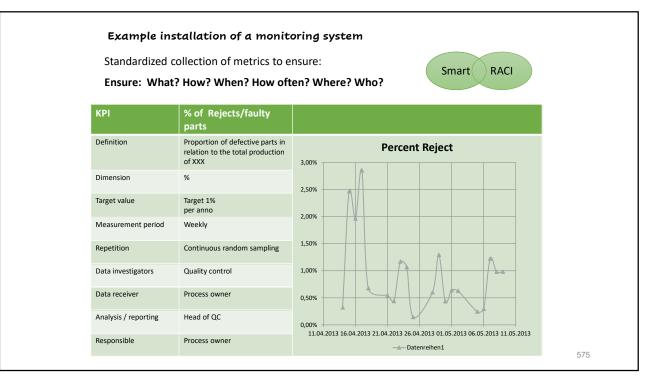


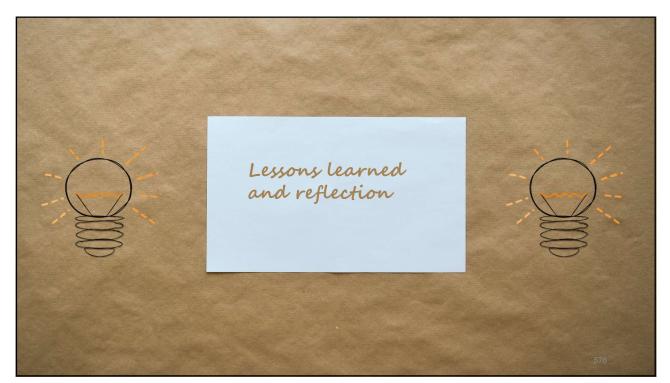






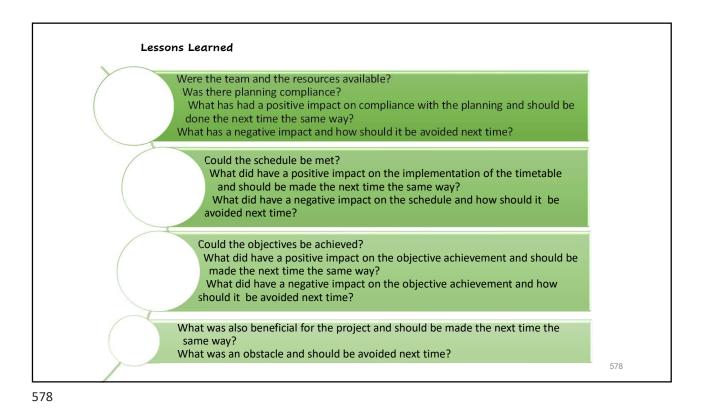


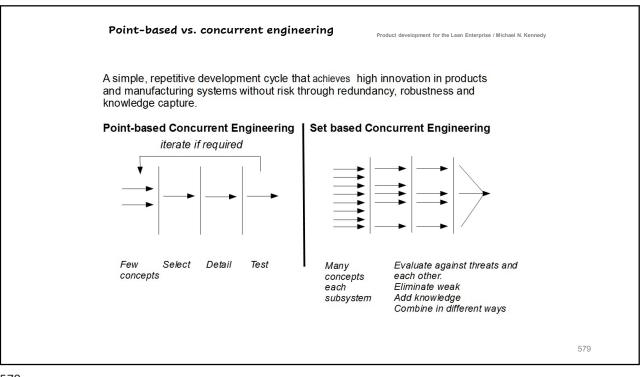


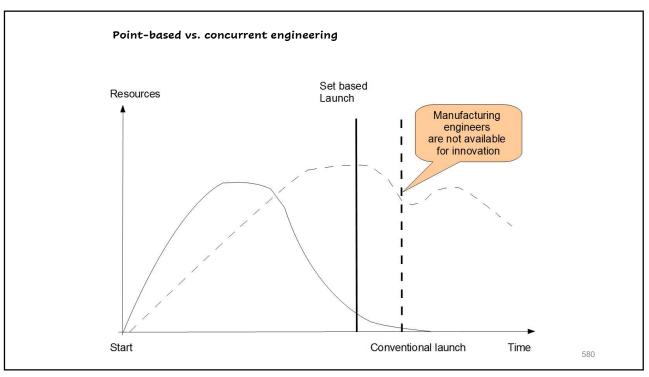


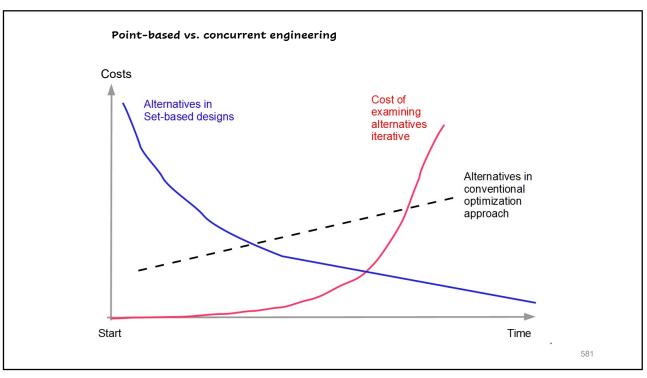


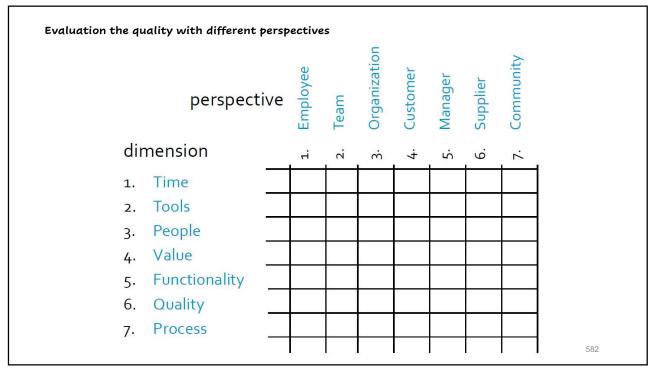
Step	Activity	Result Systems Engineeri	
1. Initialization	Roughly clarified what is important (factual content). Which organizational units are involved?	Rough problem description Rough objectives Request a project at department projects	iy i
	1. Milestone - decision	Decision project or job Initiative project launch	
2. Preliminary study Feasibility study	Project planning (construction + flow) create. Project work + clear. Communication concept.	Procedural concept (scheduling + project org.) Project contract Release application for project committee	
	2. Milestone - decision	Approval of project contract Agreement of the schedule	
3. Basic concept	Develop overall concept of solution alternatives (with variants) Check profitability	Overall concept Approaches (variants) show up and write a review Release application for project committee	
	3. Milestone - decision	Approval status of the project Select Variant	
4. Detail concept	Implementation of maturity solutions (work from variants) Develop detailed cost-effectiveness Realizations (introduction (including training), later support / maintenance plan)	Plan and develop detailed project solution Detailed plans Release application for project committee	
	4. Milestone - decision	Approval of the implementation	
5. Implementation	System build, test launch Training Maintenance organization build up	System introduced Initialized and started training	
	5. Milestone - decision	Acceptance of the system Final release	
6. Introduction	Line pass project	Project report Resolved project organization	

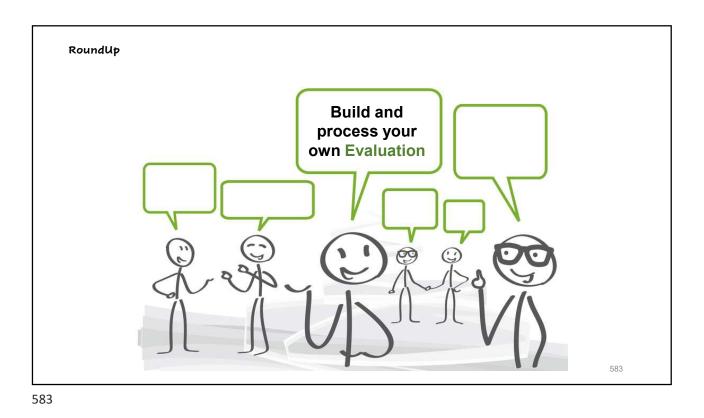




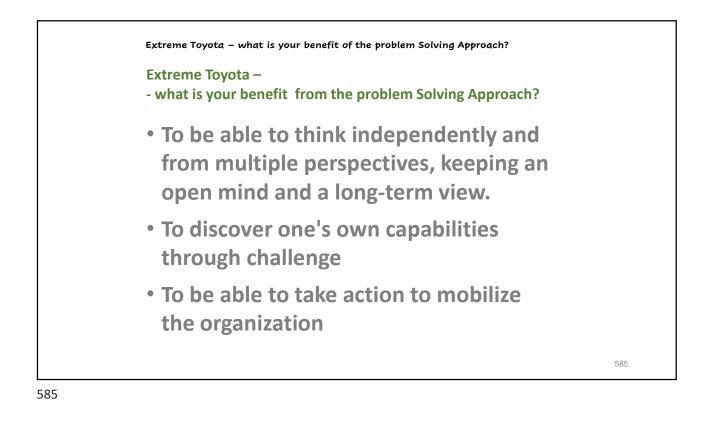


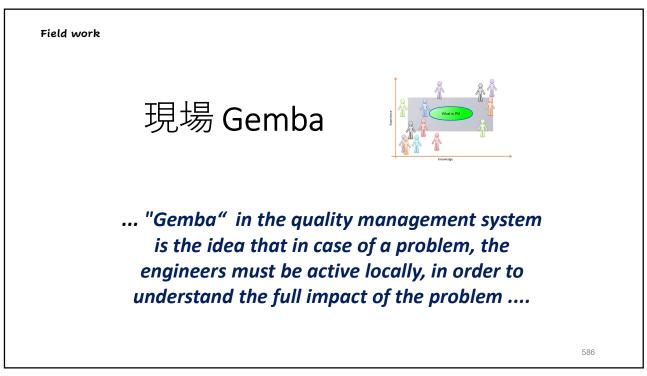


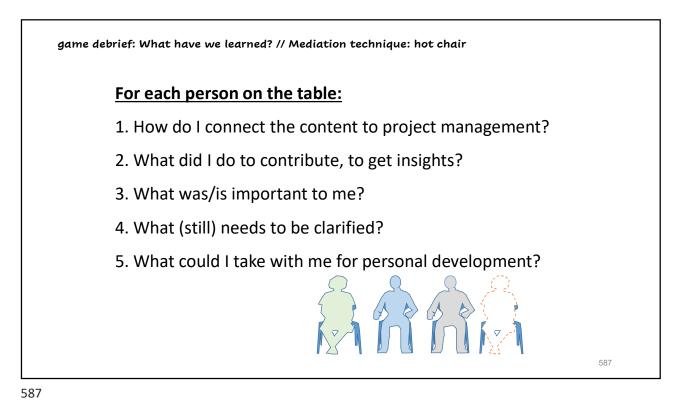




The source of Problems (in my world ...) 95 % of all problems are communication problems What to do? / Things that might help. Improve your awareness -> and learn to hear and observe // "Genchi Genbutsu" • Enhance your rhetoric -> learn to speak, to catch the listener. Learn to give feedbacks / closed loops. ٠ Always listen more than you speak! If nothings helps, train conflict management. ٠ **Techniques** Rhetoric / voice building / quick-witted Pantomimic \rightarrow Samy Molcho or Desmond Morris / kinesiology Maybe : Neuro-linguistic programming • 30 minute programs / see "audible" or book shops. 584







Control Check Milestone Response plan A response plan was developed. ocumentation The process owners understand the • The new, improved process response plan. and fully documented (ac The process owners have permitted use of corporate policies). the response plan. are installed Detailed instructions The implementation is systematically ding to procedures are crea pulled through to successful completion. understandable Monitoring Implementation The key perform The implementation is systematically selected and ice indicators (KPI) are carried out and controlled till complete A data collection plan is created and the completion. Control The presentation and analysis of the data Perform phase completion. 0 The process owners understand the Monitoring is the promised obligingly by





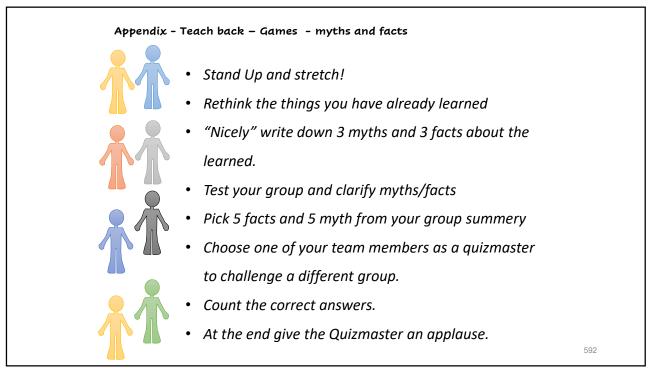


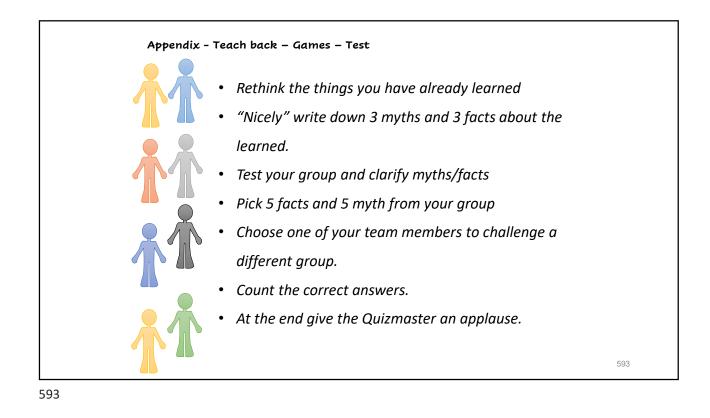
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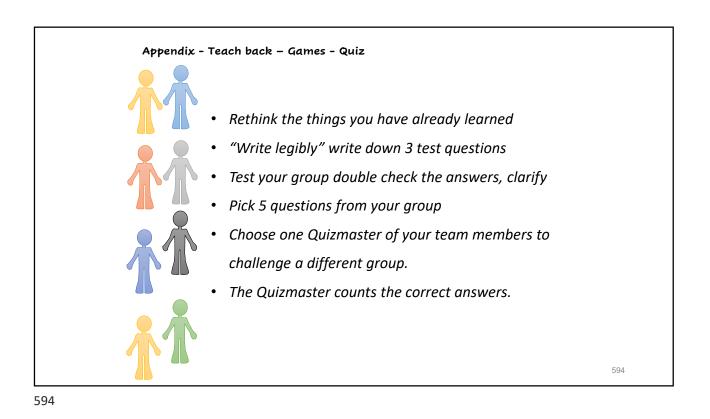
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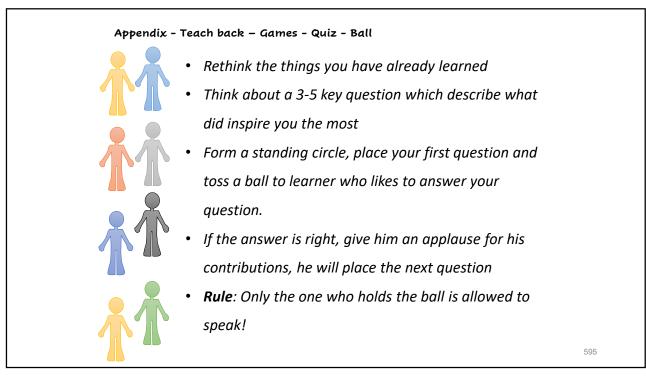
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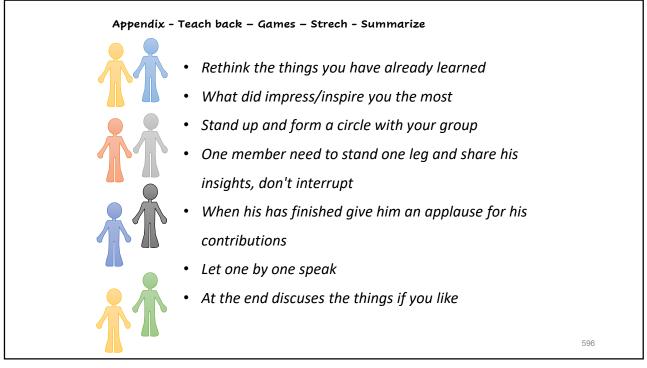
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Slide which have to be redesigned in order to look better, consider objects to be redrawn with PowerPoint Objects on Slides-No.::,30,38,360,364,365,379,450,451,452,457,458,464,468,479,497,498

Slide which have only be rearranged in order to look good Slides-No.:,30,37,360,368,378,379,391,408,409,418,420,423,431,432,433,440,449,450,451,452,457,45 8,464,468,479,492,494,497