

# Airports, Software, Manufacturing Lines

## Is there anything in Common?

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Can general project management be applied to all fields - or does the PM need to be a **specialist** in the industry?

The answer is "Yes", but also "yes".





# Illustrated with (mostly) civil engineering projects, but intended for all projects

Success depends on stopping **either/or**  
behavior, shifting to **both/and** behavior.

## Both

*inward & outward* orientation

*formal & ad-hoc* procedures

*short- & long-term* horizons

*promise delivery & respond to change*

*high-touch & high-tech* communication

*people & project* orientation

## All advice is situationally sensitive

E.g.: Upgrading airport in the jungle during rainy season



# Illustrated with (mostly) civil engineering projects, but intended for all projects

1. Systematic, integrative planning
2. Postpone planning uncertain tasks,  
then **get feedback fast**
3. **Isolate** uncertain tasks from certain ones
4. Lead both inward and outward
5. Develop & **sustain teams**, multi-functional,  
multi-organizational
6. **Overlap** project phases
7. Simple procedures
8. **Intensive communication**
9. Monitor systematically



# Illustrated with (mostly) *software engineering* projects, but intended for all projects

## Foster alignment and communication

1. Organic teams
2. Guiding vision

## Encourage emergence, self-organization

3. Simple rules
4. Open information
5. Light touch

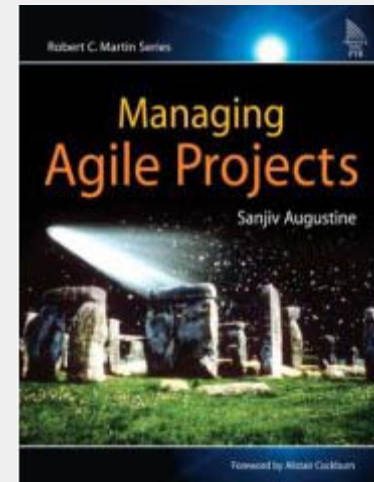
## Institute learning and adaptation

6. Adaptive leadership

## Use both *leadership* and *management*

Leaders *promote, align, build, encourage*

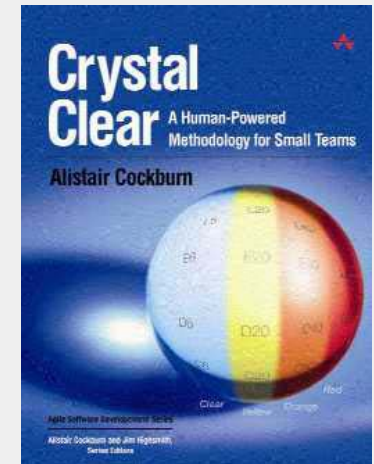
Managers *estimate, develop, facilitate, monitor*



# Illustrated with (mostly) *software* projects and products, but intended for all projects & products

1. Frequent delivery / early integration
2. Close communication
3. Reflective improvement
4. Personal safety
5. Easy access to expert users
6. Focus (priorities & time)
7. Technical environment with automated testing, frequent integration, configuration management

Projects are (resource-limited) *cooperative games* of invention and communication



# Manufacturing

(Toyota: cars, O.C. Tanner: awards)

Toyota makes (lots of kinds of) cars

O.C. Tanner makes (lots of kinds of) awards

Some principles:

Define your organization's philosophy and **live it**

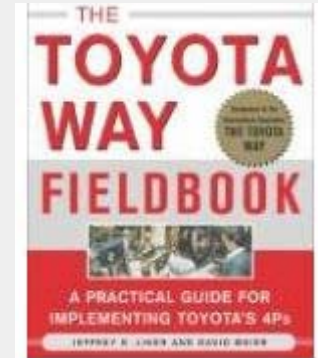
Lead from bottom, middle, & top

Work 1 piece at a time

**Pull** demand for pieces and work

Solve problems through **people thinking**

**Link communities** along the supplier chain



# Lean manufacturing at O.C. Tanner

(Mike Collins, V.P., Lean Enterprise Development, O.C. Tanner)

## Improvements over 5 years:

Order placement to delivery: 18 days -> 6 hours (still dropping)

Quality: 80% -> 99%

On-time delivery: 60% -> 99%

Work-in-process: 500,000 pieces -> 6,000 (still dropping)

## How:

Teams implemented so the collective creative thought of all are harnessed (p.s. improve communication skills)

Management move out of the management mindset, into a mindset of leadership.

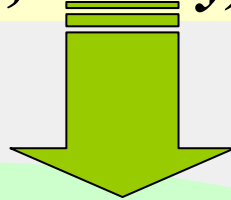
Team members learn multiple job skills, expected to participate in the improvement efforts of the company. Most rotate between assignments during the day (improves motivation, satisfaction, and efficiency)

"We expect efficiency to double again in the next 12 months"

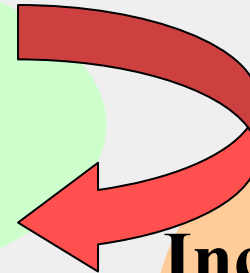


# Critical Project Factors: Do these cross industries?

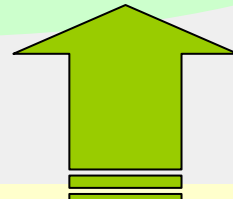
**Nourishment from Executive Sponsors**  
*(decisions, money)*



**Community**  
*(communication, amicability)*  
**Focus**  
*(known priorities, focus time)*



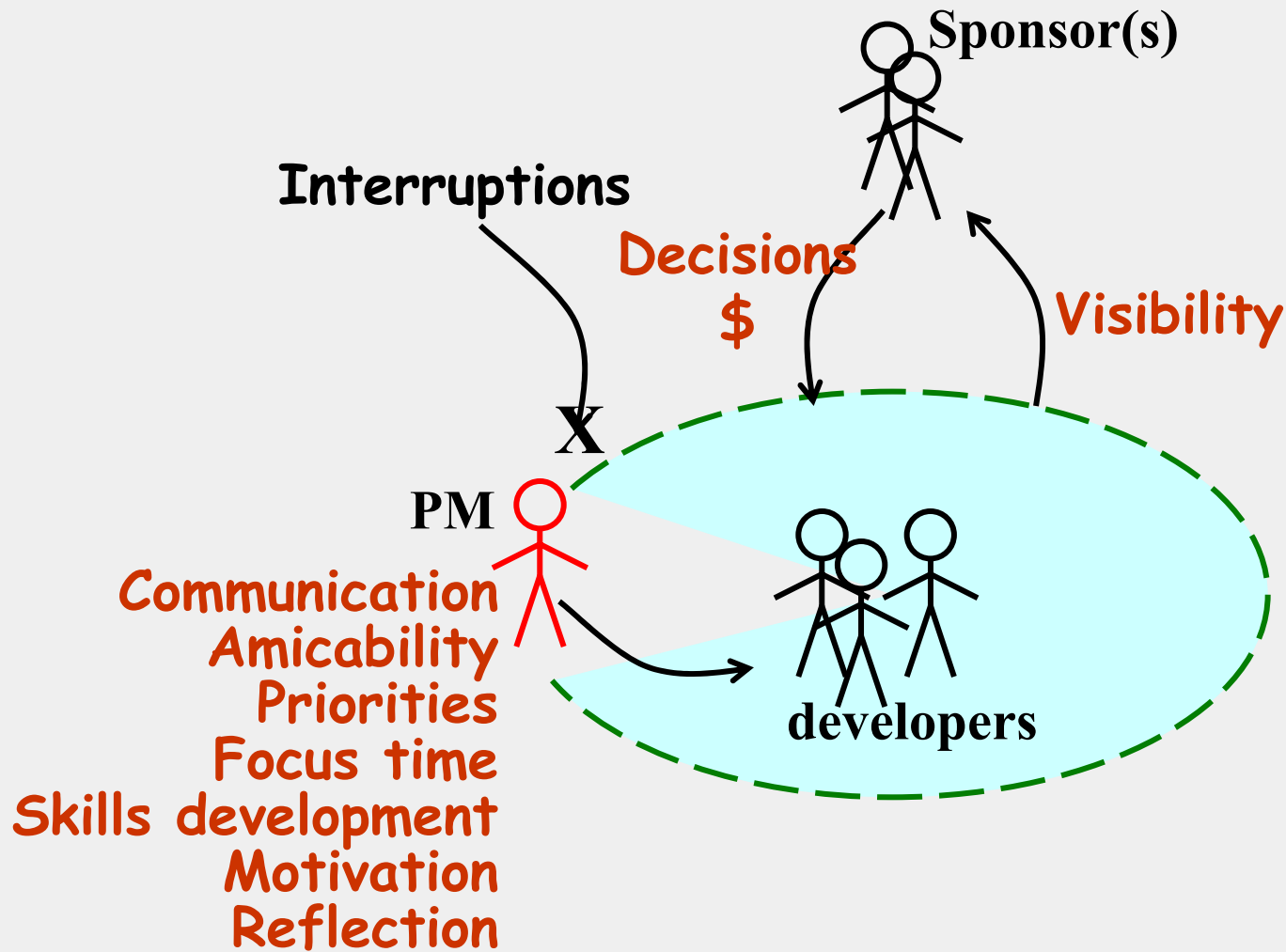
**Incremental  
development  
& Reflection**



**People**  
*(abilities, motivation)*



# Role of the Project Manager (across industries): Pull in support, motivate team, block interrupts.



*People* issues determine much of a project's outcome. People are common across industries

Can they easily detect something needs attention?

*Good at Looking Around*

Will they care enough to do something about it?

*Pride-in-work*

*Community*

*Amicability*

Can they effectively pass along the information?

*Economics of proximity*

*Face-to-face*

*Communications technology*

But these topics are *fluffy!*



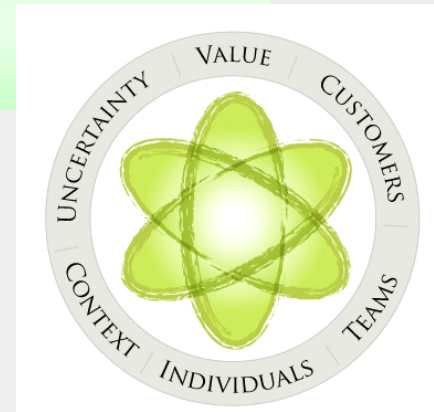
Meet *Fluffy!*



# The project management *Declaration of Interdependence* claims the first "Yes"

*It says that for successful projects -*

- (1) Focus on continuous flow of value*
- (2) Share ownership with customers*
- (3) Expect uncertainty: anticipate, iterate, adapt*
- (4) Help individuals make a difference*
- (5) Use group accountability, shared responsibility*
- (6) Use situationally specific strategies*



*PMDOI.org*



# "Continuous" (single-piece) flow of value example from book publishing project

## Chapter Status

Stages →

John	<i>Alistair</i>	Ellen	<i>Alistair</i>	Cyndi	<i>Alistair</i>	Ellen	<i>Alistair</i>	John	Cindi	Mary	Cindi
Figs	draft	language edit	fix edits	Frame-maker	fix refs	copy-edit	fix edits	retouch figs	line breaks	proof read	camera ready

	CHAPTER →																
stage	T	F	S	P	A	I	1	2	3	4	5	6	A	B	R	i	task
J	-	-	-	-	-	8/23	23	-	27	9/3	28	28	-	-	-	-	figs
A	-	-	-	8/21	21	21	22	22	22	22	23	24	24	27	9/1	9/1	final draft
E	-	-	-	8/23	23	23	23	23	24	24	25	25	25	28	9/1	-	lang edit
A	-	-	-	23	23	23	23	26	26	26	27	27	27	o	9/1		final text
C	9/3	9/3	9/3	8/28	28	28	29	29	29	9/4	30	30	30		o	o	put in Fm
A				9/2	9/2	9/2	9/2	9/2	9/2	9/2	9/2	9/2	9/2				fix refs
A				29	o	29	29	30	30	o	9/1	9/1	o				copy edit
E				30		30	9/3	9/3	9/3	o	9/4	9/4	o				copy edit
J																	retouch figs
C				9/3		9/3	9/3	9/3	9/3		o	o					line breaks
M				?		?	?	?	?								proofread
M				?		?	?	?	?								cross checks
C																	camera rdy



# “Yes” there is commonality across industries

## 1. Getting people to help each other

Increase trust, amicability, personal safety

Lower barriers to trading ideas and observations

## 2. Strategies and techniques

Clarify the mission; visibly show “where we are”

Strategy and technique *lore*



## But ... What happens when the PM is **not** a specialist in the industry?

### Pessimist view:

The PM is *totally reliant* on the chief technical person

The PM can't add his/her own evaluation

The PM is easily perceived as a *pencil-pusher* and then *cut out of the conversation*

### Optimist view:

The PM can encourage sharing of ideas

The PM can listen for missing techniques, strategies

The PM can become a resource for good PM practices and for improved communication

This is a **weak** position



## Vs. ... What happens when the PM is a specialist in the industry?

The field-knowledgeable PM can contribute novel & relevant ideas to the technical team

Civil engineer managing airstrip construction

Software engineer managing software project

The field-knowledgeable PM can *still* listen for missing strategies, missing communication

E.g: NB project with native, knowledgeable, novice PM

This is a **strong** position



# Can general project management be applied to all fields - or does the PM need to be a **specialist** in the industry?

"**Yes**", there are project management practices, techniques, strategies, actions that transcend fields

- Getting people to help each other
- Knowing the lore to apply in different situations

But "**yes**", the PM will do much better if he/she actually is knowledgeable in the field

- Contributing meaningful opinion
- Gaining respect



Read more at <http://Alistair.Cockburn.us>

