Learning, Clarity and Credibility in Teams:

Evidence from an Agile Organization

Maria Guadalupe

INSEAD

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Explaining variation in firm outcomes

- Persistent Performance Differences (PDSSEs)
  - Within narrow industries (Syverson 2011)
- Why firms do not adopt superior practices?
  - Non-adoption in Atkin et al (2017), de Rochambaud (2018)
- "Hard to copy"
  - Culture, Leadership, Management skills, Complementarities
- Importance of Relational Contracts (Gibbons and Henderson, 2010, 2012)

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The relational contract

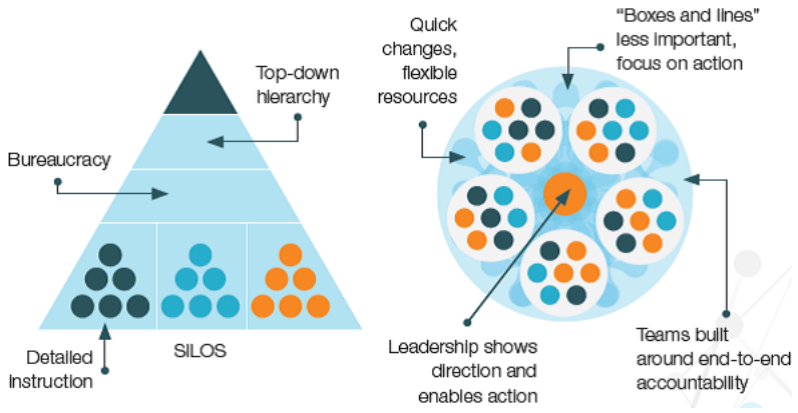
- Context: non-contractible actions
- Sustained cooperation in a repeated game
  - Trust emerges and parties make effort/fulfill promises/cooperate
- In teams:
  - Willingness to cooperate (i.e. not shirk, go the extra mile for the team, sacrifice personal goals for team goals) depends on the strength of the relational contract
- Depends on "credibility" and "clarity" (Gibbons and Henderson, 2012)
- Can credibility and clarity explain PPDs across teams/organizations?
- Can teams learn over time? How?

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Enter: Agile Organizations

- Complexity in environment, digital transformation:
  - Agile manifesto 2001 and IT teams
  - Iteration/prototyping; Customer focused
- But also: Engagement crisis:
  - Self-managed teams ("Teal" Organizations, Laloux 2014)
  - Empowered teams, team decision-making: Extend lean manufacturing (Toyota system) to other parts of the organization

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An Agile firm

- Teams with 8/10 people that are:
  - self-managed,
  - self-contained (end2end),
  - no hierarchy,
  - Multifunctional,
  - Stay together for length of project/purpose (around 1 year)
- The "relational" contract is important:
  - No "boss"
  - Complexity: Creativity, high skill
  - Diverse: Multifunctional teams
  - No pay for performance

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This Paper

- What is the importance of clarity and credibility in explaining outcomes?
- Are better performing teams also more engaged?
- Is there convergence over time?

- "Insider econometrics"
  - One firm, complex transformation
  - + Field work: interviews
  - Follow teams for 5 surveys (2 years)
  - Rich questionnaire on drivers of performance and "life inside the team"
    - Created with research questions in mind

- Limits:
  - No causality
  - Complex and diverse outcomes/products. Performance?

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Outline

1. Life inside the agile teams
   1. Clarity and Credibility
   2. Path dependence
2. Data description: The 5 surveys
3. Results
   1. Performance measures
   2. Clarity and Credibility
   3. Complementarities
   4. Learning
   5. Performance assessment

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1] Framework (G&H 2013):
The relational contract in agile teams

- Teams of 10 work together every day
- Individuals can "work hard" or shirk/free ride
- Working "hard" is costly to the worker
- Team effort is necessary: different skills
- Successful teams get:
  - good evaluation/year-end raise
  - peer effects
  - reputation (chose future projects)
  - personal satisfaction
- Why would an individual "collaborate" more?

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What sustains the RC?
(1) Credibility

- Can the parties **believe** another's promise?
  - "Trust" matters
- Distrust if differences in parameters:
  - Discounting, competitive environment, player types.
- "bad parameters" leads to heterogeneity in costs of adopting/sustaining the RC

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What sustains the RC?
(2) Clarity

- Can one party **understand** another's promise?

Need shared understanding of:

- "Task" knowledge: what is supposed to happen?
- "Relational" knowledge: what happens if parties do not do what is supposed to happen?

- If one does something unexpected, is it miscommunication or gaming?

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In Sum

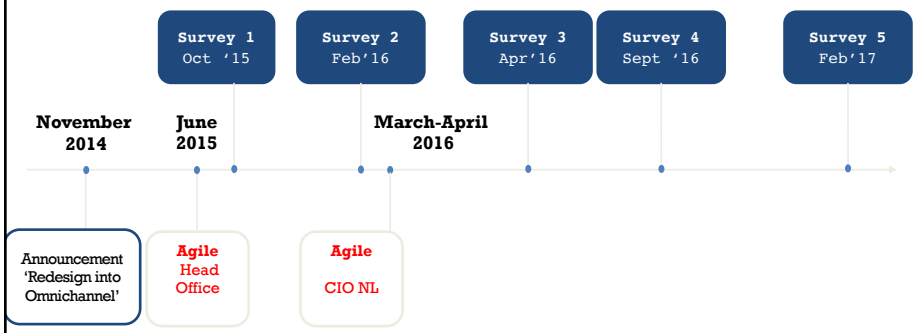
- Teams require a lot of collaboration that cannot be specified ex-ante (creativity, adaptation to unknown)
- Team efficiency depends on: credibility (believe) and clarity (understand)
- Is there path dependence or can teams "learn" over time?
- Are credibility and clarity complements?
- GOAL: identify these in the data

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2] Data description: The 5 surveys

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Timing of Five Surveys



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From Individuals to Teams

- Survey of individuals:
  - around 3000 employees organized in 300 teams
  - grouped in 13 "Tribes" (e.g. mortgages, payment services)
- Can link answers to teams but not to individuals
- Collapse the data at the team level: team average.

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(Team) Response Rate

Survey number	# Of Teams	Total (ING input)	Response rate
1	200	297	67
2	174	272	64
3	144	315	46
4	114	260	44
5	157	290	54
Total	789	1434	55

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Drivers of engagement, efficiency (and time to market)

- The stated goal was to see how to improve:
  - Talent retention/engagement
  - Efficiency
- These will be our "outcome" variables in what follows.

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Outcome Measures

- Efficiency:
  - My team/squad is working together efficiently
- Engagement:
  - My work gives me a sense of personal accomplishment
  - I would prefer to stay with ING even if I was offered a similar job elsewhere
  - I have a strong sense of belonging to my team/squad
  - I feel motivated to achieve the purpose of my team/squad
  - I add value to my team/squad and it suits my personal development needs
  - I feel empowered to take important decisions in my job

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3] Results

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Efficiency Measure

	(1)	(2)	(3)	(4)
Team Measure:	Efficiency	Efficiency	Efficiency	Efficiency
Sample:	Agile Coaches	Tribe Leads	Agile Coaches	Tribe Leads
Efficiency (AC-s3)	0.426**		0.392	
	(0.189)		(0.305)	
Efficiency (TL-s3)		0.289		0.368*
		(0.174)		(0.197)
Culture (AC-s3)			0.0401	
			(0.273)	
Culture (TL-s3)				-0.168
				(0.194)
Constant	1.507	-0.344	1.514	-0.279
	(0.885)	(0.449)	(0.910)	(0.457)
Agile Coach FE	yes		yes	
Tribe Lead FE		yes		yes
Observations	35	53	35	53

Standard errors in parentheses

Answers from 6 (of 13) Tribe Leads and 13 (of 60) agile coaches

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Analysis of drivers

- All are correlations
- Within team variation over time:
  - Response bias, "rating" differences by teams (controlled)
  - Entry and exit of teams (time invariant controlled)
  - Note: Generally, very high explanatory power (R-squared)

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Clarity and Credibility

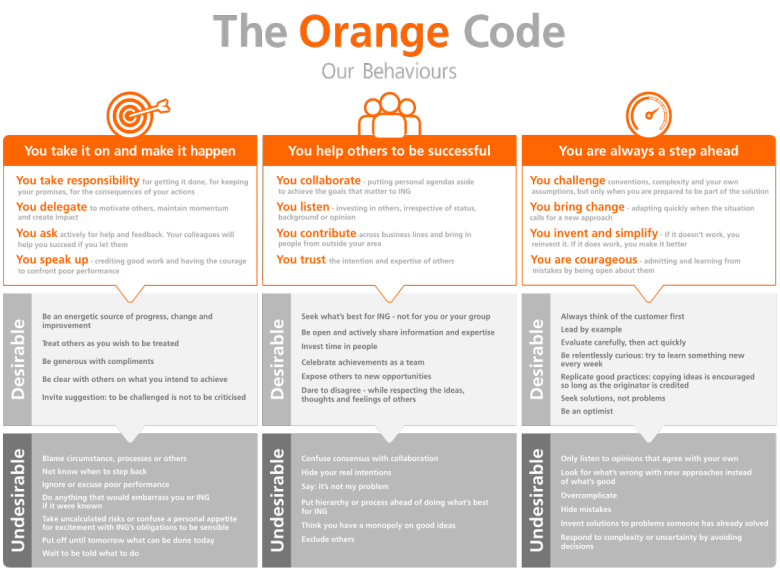
- Credibility:
  - Trust team members: I feel I can completely trust each and every member of my team
  - Stable team: We have worked with the exact same team members within our team over the last 2 months
  - Duration: how many periods team has existed
- Clarity:
  - Communication: In my day to day job communication is easy and there are never any misunderstandings with other team members
  - Clear Division of labor "between": It is clear to me how responsibilities are divided among teams within my Tribe
  - Clear Division of labor "within": It is clear to me how responsibilities are divided within teams within my Tribe
  - Culture: alignment with 2 culture statements

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Culture: Orange Code

- Developed bottom up by the organization.
- Emphasizes "performance" behaviors
- Led to 3 Main Behaviors
  - "You take it on and make it happen" → My team excels at taking on challenges and making them happen
  - "You help others to be successful"→ In my team we are really good at helping each other to be successful
  - "You are always a step ahead" → no question

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	(1) Efficiency	(2) Efficiency	(3) Efficiency	(4) Efficiency	(5) Efficiency	(6) Efficiency	(7) Efficiency	(8) Efficiency
Credibility	0.596***	0.645***			0.214***	0.294***	0.196***	0.244***
	(0.061)	(0.114)			(0.049)	(0.088)	(0.050)	(0.089)
Clarity			0.894***	0.892***	0.826***	0.832***	0.795***	0.737***
			(0.044)	(0.065)	(0.046)	(0.065)	(0.056)	(0.077)
Trust in tribe lead							-0.020	0.029
							(0.038)	(0.048)
Choose team							-0.079	0.025
							(0.056)	(0.082)
Worked with AC							-0.040	0.083
							(0.056)	(0.086)
Clear client needs							0.108***	0.248***
							(0.039)	(0.049)
Decide on Epics							-0.046	-0.028
							(0.037)	(0.055)
End2End							0.093***	-0.044
							(0.031)	(0.048)
Team FE		yes		yes		yes		yes
Survey FE	yes	yes	yes	yes	yes	yes	yes	yes
Observations	784	784	784	784	784	784	732	732
R-squared	0.136	0.126	0.416	0.396	0.430	0.413	0.467	0.480

Standard errors in parentheses, clustered by firm

* p<0.10; ** p<0.05; *** p<0.01

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	(9) Engagement	(10) Engagement	(11) Engagement	(12) Engagement	(13) Engagement	(14) Engagement	(15) Engagement	(16) Engagement
Credibility	0.511***	0.521***			0.185***	0.208**	0.049	0.133
	(0.065)	(0.124)			(0.056)	(0.103)	(0.056)	(0.088)
Clarity			0.765***	0.784***	0.706***	0.741***	0.397***	0.400***
			(0.055)	(0.083)	(0.057)	(0.083)	(0.069)	(0.090)
Trust in tribe lead							0.249***	0.251***
							(0.043)	(0.065)
Choose team							0.076	0.206**
							(0.056)	(0.081)
Worked with AC							0.047	-0.042
							(0.058)	(0.096)
Clear client needs							0.178***	0.135**
							(0.049)	(0.066)
Decide on Epics							0.182***	0.167***
							(0.040)	(0.058)
End2End							0.050	0.057
							(0.039)	(0.058)
Team FE		yes		yes		yes		yes
Survey FE	yes	yes	yes	yes	yes	yes	yes	yes
Observations	785	785	784	784	784	784	732	732
R-squared	0.108	0.088	0.313	0.307	0.323	0.316	0.450	0.446

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		(1) Efficiency	(2) Efficiency	(3) Efficiency	(4) Engagement	(5) Engagement	(6) Engagement
Trust in team	Credibility	0.479***		0.133**	0.414***		0.097*
		(0.059)		(0.062)	(0.059)		(0.059)
Stable Team		-0.008		0.016	-0.033		0.016
		(0.045)		(0.036)	(0.050)		(0.043)
Duration		0.100***		0.044	0.048		0.047*
		(0.031)		(0.027)	(0.033)		(0.027)
Culture (Orange Code)			0.446***	0.362***		0.278***	0.138*
			(0.047)	(0.052)		(0.073)	(0.073)
DoL between	Clarity		0.124***	0.091**		0.174***	0.111**
			(0.042)	(0.043)		(0.048)	(0.050)
DoL within			0.135**	0.120*		0.219***	0.116*
			(0.058)	(0.064)		(0.065)	(0.061)
Easy communication			0.171***	0.133**		0.119*	0.020
			(0.054)	(0.056)		(0.063)	(0.061)
Trust in tribe lead				0.009			0.237***
				(0.050)			(0.065)
Team FE		yes	yes	yes	yes	yes	yes
Survey FE		yes	yes	yes	yes	yes	yes
Controls				yes			yes
Observations		775	774	725	775	774	725
R-squared		0.227	0.437	0.512	0.172	0.319	0.453

Standard errors in parentheses, clustered by firm
* p<0.10; ** p<0.05; *** p<0.01

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Complementarities

	(1) Efficiency	(2) Engagement	(3) TTM
Clarity	0.829***	0.772***	0.475***
	(0.069)	(0.094)	(0.067)
Credibility	0.296***	0.190*	0.011
	(0.088)	(0.101)	(0.077)
ClarityXCredibility	0.008	-0.095	0.046
	(0.070)	(0.110)	(0.072)
Team and Survey FE	yes	yes	yes
Observations	784	784	784
R-squared	0.413	0.318	0.198

Standard errors in parentheses, clustered by firm
* p<0.10; ** p<0.05; *** p<0.01

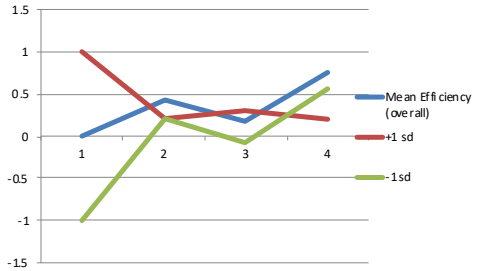
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Learning

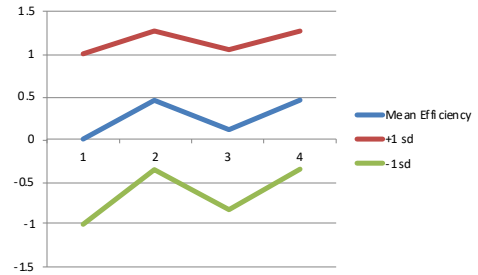
Do teams "improve" over time?

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All variation



Within teams



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	(5) Engagement	(6) Engagement	(7) Engagement	(8) Engagement
Duration =2	0.010	-0.040	-0.287	-0.111
	(0.105)	(0.110)	(0.298)	(0.308)
Duration =3	-0.012	-0.074	-0.069	-0.167
	(0.126)	(0.163)	(0.355)	(0.364)
Duration =4	0.038	0.021	0.589*	0.284
	(0.138)	(0.138)	(0.329)	(0.313)
T0 Engagement			0.122*	
			(0.070)	
Duration =2 *T0			0.081	0.005
			(0.105)	(0.107)
Duration =3*T0			-0.022	-0.032
			(0.141)	(0.148)
Duration =4*T0			-0.204	-0.079
			(0.138)	(0.123)
Constant	0.076	0.101**	-0.198	0.129**
	(0.066)	(0.050)	(0.181)	(0.053)
Tean FE		yes		yes
Survey FE	yes	yes	yes	yes
Observations	440	440	350	350
R-squared	0.000	0.002	0.035	0.035

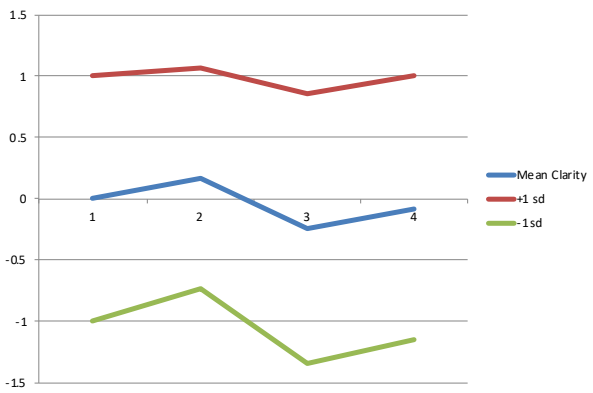
Some convergence in engagement, largely between teams

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	(9) Clarity	(10) Clarity	(11) Clarity	(12) Clarity
Duration =2	-0.144*	-0.249***	0.079	-0.173
	(0.079)	(0.093)	(0.235)	(0.258)
Duration =3	0.068	0.016	0.002	-0.240
	(0.096)	(0.114)	(0.285)	(0.324)
Duration =4	0.106	0.057	0.081	-0.076
	(0.100)	(0.119)	(0.244)	(0.312)
T0 Clarity			0.172***	
			(0.050)	
Duration =2 *T0			-0.102	-0.012
			(0.077)	(0.087)
Duration =3*T0			0.013	0.102
			(0.096)	(0.112)
Duration =4*T0			0.012	0.077
			(0.087)	(0.109)
Constant	0.105**	0.149***	-0.339**	0.102**
	(0.048)	(0.048)	(0.138)	(0.049)
Tean FE		yes		yes
Survey FE	yes	yes	yes	yes
Observations	440	440	350	350
R-squared	0.016	0.054	0.091	0.060

Clarity is very persistent, does not converge, if anything DIVERGES

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Specification tests and Robustness

- Sample selection of survey respondents?
  - Within team: answers not correlated with number of respondents
  - Team into/out of the sample: exit from sample not related to main variables.
- Persistence of variables: 0.2 to 0.3, highly significant

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Summary of Results

- Clarity and credibility both contribute to efficiency, but clarity measure has bigger explanatory power.
- Only clarity contributes to engagement
  - Trust in leader important for engagement
- Clarity and credibility are additive (no complementarity)
- Learning:
  - Heterogeneity in experience of teams (depends on starting point)
  - Convergence in efficiency
  - Significant Path dependence/Limited "learning" over time (none in clarity, some in trust)

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