Lean & Agile Project Management

for farge Distributed Virtual Jeams

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Agile Capabilities: http://davidfrico.com/rico-capability-agile.pdf

Agile Resources: http://www.davidfrico.com/daves-agile-resources.htm

Agile Cheat Sheet: http://davidfrico.com/key-agile-theories-ideas-and-principles.pdf

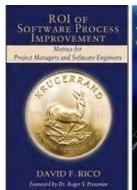
Dave's NEW Business Agility Video: https://www.youtube.com/watch?v=-wTXqN-OBzA

Dave's NEWER Development Operations Security Video: https://vimeo.com/214895416

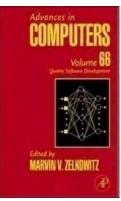
DoD Fighter Jets vs. Amazon Web Services: http://davidfrico.com/dod-agile-principles.pdf

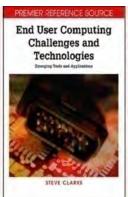
Author Background

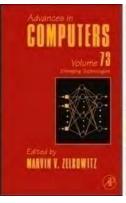
- □ Gov't contractor with 34+ years of IT experience
- □ B.S. Comp. Sci., M.S. Soft. Eng., & D.M. Info. Sys.
- □ Large gov't projects in U.S., Far/Mid-East, & Europe

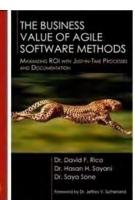














- → Career systems & software engineering methodologist
- → Lean-Agile, Six Sigma, CMMI, ISO 9001, DoD 5000
- → NASA, USAF, Navy, Army, DISA, & DARPA projects
- → Published seven books & numerous journal articles
- → Intn'l keynote speaker, 195+ talks to 14,300 people
- → Specializes in metrics, models, & cost engineering
- → Cloud Computing, SOA, Web Services, FOSS, etc.
- → Adjunct at 7 Washington, DC-area universities

Agenda



Intro to Agile Project Mgt.

Intro to Agile Virtual Teams Types of Agile Virtual Teams **Practices of Agile Virtual Teams Examples of Agile Virtual Teams Metrics for Agile Virtual Teams Summary of Agile Virtual Teams**

What is Agility?

- □ A-gil-i-ty (ə-'ji-lə-tē) Property consisting of quickness, lightness, and ease of movement; <u>To be very nimble</u>
 - The ability to create and respond to change in order to profit in a turbulent global business environment
 - The ability to quickly reprioritize use of resources when requirements, technology, and knowledge shift
 - A very fast response to sudden market changes and emerging threats by intensive customer interaction
 - Use of evolutionary, incremental, and iterative delivery to converge on an optimal customer solution
- Maximizing **BUSINESS VALUE** with right sized, justenough, and just-in-time processes and documentation



What are Agile Methods?

- People-centric way to create innovative solutions
- Product-centric alternative to documents/process
- □ Market-centric model to maximize business value



Customer Collaboration

- Frequent comm.
- Close proximity
- Regular meetings
- Multiple comm. channels
- Frequent feedback
- Relationship strength



Contracts

- Contract compliance
- Contract deliverables
- Contract change orders

Individuals & Interactions

- Leadership
- Boundaries
- Empowerment
- Competence
- Structure
- Manageability/Motivation



Processes

- Lifecycle compliance
- Process Maturity Level
- Regulatory compliance



Working Software

- Clear objectives
- Small/feasible scope
- Acceptance criteria
- Timeboxed iterations
- Valid operational results
- Regular cadence/intervals

valued more than

Documentation

- Document deliveries
- Document comments
- Document compliance



- Org. flexibility
- Mgt. flexibility
- Process flexibility
- System flexibility
- Technology flexibility
- Infrastructure flexibility

valued more than

Project Plans

- Cost Compliance
- Scope Compliance
- Schedule Compliance



Agile Manifesto. (2001). *Manifesto for agile software development*. Retrieved September 3, 2008, from http://www.agilemanifesto.org Rico, D. F., Sayani, H. H., & Sone, S. (2009). *The business value of agile software methods*. Ft. Lauderdale, FL: J. Ross Publishing. Rico, D. F. (2012). *Agile conceptual model*. Retrieved February 6, 2012, from http://davidfrico.com/agile-concept-model-1.pdf

How Do Lean & Agile Intersect?

- Agile is naturally lean and based on small batches
- → Agile directly supports six principles of lean thinking
- Agile may be converted to a continuous flow system

Agile Values	Lean Pillars	Lean Principles	Lean & Agile Practices	Flow Principles		
Empowered Teams		 Relationships Team authority, empowerment, and resources Team identification, cohesion, and communication 				
	Customer Collaboration Respect	Gustomer value • Product scope, constraints, and business value				
		Value Stream	 As is policies, processes, procedures, and instructions To be business processes, flowcharts, and swim lanes Initial workflow analysis, metrication, and optimization 	WIP Constraints & Kanban		
Iterative Delivery		Continuous Flow	 Batch size, work in process, and artifact size constraints Cadence, queue size, buffers, slack, and bottlenecks Workflow, test, integration, and deployment automation 	Control Cadence & Small Batches		
	Continuous Improvement to Change	Customer Pull	 Roadmaps, releases, iterations, and product priorities Epics, themes, feature sets, features, and user stories Product demonstrations, feedback, and new backlogs 	Fast Feedback		
		Perfection	 Refactor, test driven design, and continuous integration Standups, retrospectives, and process improvements Organization, project, and process adaptability/flexibility 	Manage Queues/ Exploit Variability		







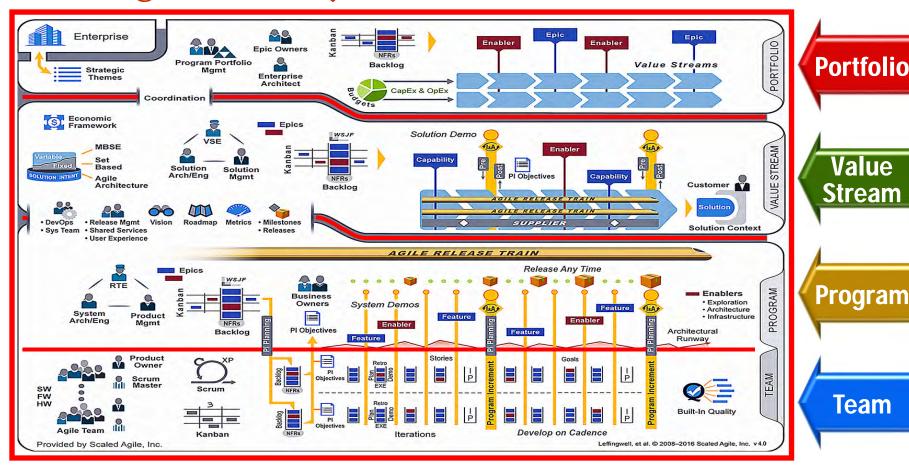
Highsmith, J. A. (2002). Agile software development ecosystems. Boston, MA: Addison-Wesley.

Larman, C., & Vodde, B. (2008). Scaling lean and agile development: Thinking and organizational tools for large-scale scrum. Boston, MA: Addison-Wesley. Womack, J. P., & Jones, D. T. (1996). Lean thinking: Banish waste and create wealth in your corporation. New York, NY: Free Press.

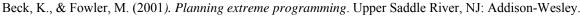
Womack, J. P., & Jones, D. 1. (1996). Lean thinking: Banish waste and create wealth in your corporation. New York, NY: Free Press. Reinertsen, D. G. (2009). The principles of product development flow: Second generation lean product development. New York, NY: Celeritas.

Agile Enterprise Delivery Model

- Begins with a high-level product vision/architecture
- Continues with needs development/release planning
- Includes agile delivery teams to realize business value







Highsmith, J. A. (2010). Agile project management: Creating innovative products. Boston, MA: Pearson Education.

Larman, C., & Vodde, B. (2010). Practices for scaling lean and agile development. Boston, MA: Addison-Wesley.

Leffingwell, D. (2011). Agile software requirements: Lean requirements practices for teams, programs, and the enterprise. Boston, MA: Pearson Education.

When to use Lean/Agile Proj. Mgt.

Exploratory or research/development projects
 When fast customer responsiveness is paramount
 In organizations that are highly innovative/creative

Traditional Project Management

- Predictable situations
- Low technology projects
- Stable, slow moving industries
- Low levels of technological change
- Repeatable operations
- Low rates of changing project performance
- Long term, fixed price production contracts
- Achieving concise economic efficiency goals
- Highly administrative contracts
- · Mass production and high volume manufacturing
- Highly predictable and stable market conditions
- Low margin industries such as commodities
- · Delivering value at the point of plan

Agile Project Management

- High levels of uncertainty and unpredictability
- High technology projects
- Fast paced, highly competitive industries
- Rapid pace of technological change
- Research oriented, discovery projects
- Large fluctuations in project performance
- Shorter term, performance based RDT&E contracts
- Achieving high impact product/service effectiveness
- Highly creative new product development contracts
- Customer intensive, one off product/service solutions
- Highly volatile and unstable market conditions
- High margin, intellectually intensive industries
- Delivering value at the point of sale

Agile World View

- □ "Agility" has many dimensions other than IT
- ☐ It ranges from leadership to technological agility
- □ The focus of this brief is program management agility



Agenda

<u>Intro</u> Agile Project Mgt.

Intro to Agile Virtual Teams

Types of Agile Virtual Teams

Practices of Agile Virtual Teams

Examples of Agile Virtual Teams

Metrics for Agile Virtual Teams

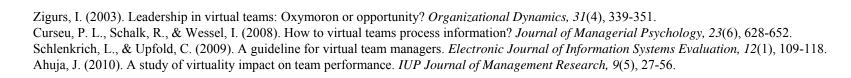
Summary of Agile Virtual Teams

What are Virtual Teams?

	Virtual	teams are o	ften non-col	located	project teams
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- Often communicate using asynchronous technology
- Geographically and sometimes nationally dispersed

Traditional vs Virtual	Zigurs 2003	Curseu 2008	Schlenkrich 2009	Ahuja 2010	
Collocated vs distributed	\checkmark	\checkmark	✓	\checkmark	
F2F vs electronic collaboration	\checkmark	✓	✓	\checkmark	
Different vs similar goals		✓	✓		
Similar vs different hours			✓	\checkmark	
Similar vs diverse culture			✓	\checkmark	
Same vs different organization			✓		
Specialized vs cross functional			✓		
Single vs multiple teams			✓	\checkmark	
Static vs shifting teams			✓	\checkmark	
Office bldg vs telecommuting				√	



Why Use Virtual Teams?

Oft cited benefit of virtual teams is reduced expenses
 Access to global talent pool is probably best reason
 Other advantages such as cycle time are oft cited

Advantage of Virtual Teams	Bergiel 2008	Labrosse 2008	Shachaf 2008	Kuruppuara- chchi 2009	Siebdrat 2009
Reduced operating expenses	\checkmark	✓		\checkmark	\checkmark
Utilize global talent pool	✓	✓	✓	✓	✓
Staffing flexibility		✓		✓	
Improved productivity		✓		✓	
Workforce diversity	✓	✓		✓	✓
Reduced travel expenses	✓	✓		✓	✓
Faster cycle time			✓	✓	✓
Better work life balance				✓	
Reduced environmental footprint		✓			
Improved business advantage	✓	✓		✓	✓

Bergiel, B. J., Bergiel, E. B., & Balsmeier, P. W. (2008). Nature of virtual teams: A summary of their advantages and disadvantages. *Management Research News*, 31(2), 99-110. LaBrosse, M. (2008). Managing virtual teams. *Employment Relations Today*, 35(2), 81-86.

Shachaf, P. (2008). Cultural diversity and information and communication technology impacts on global virtual teams. *Information & Management*, 45(2), 131-142. Kuruppuarachchi, P. R. (2009). Virtual team concepts in projects: A case study. *Project Management Journal*, 40(2), 19-33. Siebdrat, F., Hoegl, M., & Ernst, H. (2009). How to manage virtual teams. *MIT Sloan Management Review*, 50(4), 63-68.

What are the Pitfalls?

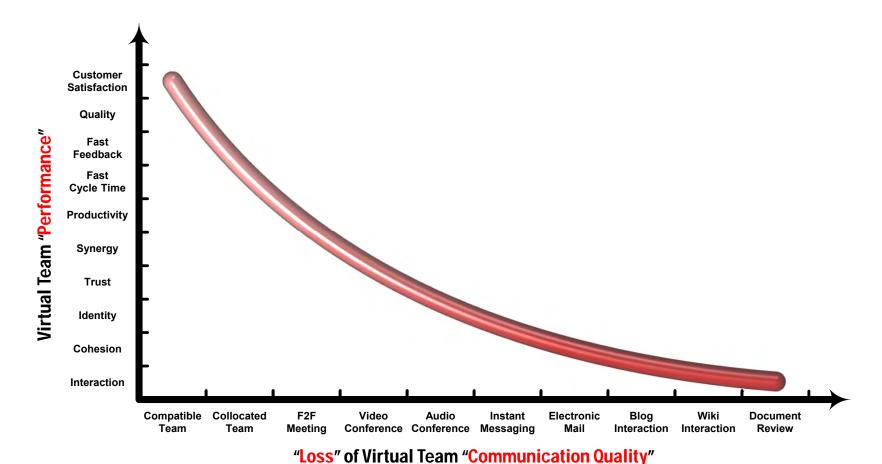
Culture and language difference most oft cited pitfalls
 Time zones and communications are frequently cited
 Lack of visioning, context, and requirements are key

Disadvantage of Virtual Teams	Α	В	С	D	E	F	G	н	1	J
Cultural differences		√	√	√		√			√	√
Language differences		√	√	✓			√		√	√
Time zone		√	√	✓		✓			√	
Coordination breakdown	√		√	✓				✓		
Lack of visioning			√	✓				✓	✓	
Technology issues			√	√	√				√	
Loss of communication richness	√	√	√							
Loss of team cohesion	√			√						√
Lack of trust			√	√		√				
Lack of F2F communications			√						√	√
Ambiguous requirements				✓		✓		✓		

Alves, C. H., et al. (2008). A qualitative risk model for offshoring IT applications. *IEEE SIEDS Conference, Charlottsville, Virginia, USA*, 317-322 Chatfield, A. T., & Wanninayaka, P. (2008). IT offshoring risks and governance capabilities. *41st HICSS Conference, Waikaloa, Hawaii, USA*, 436-444. Yalaho, A., & Nahar, N. (2008). Risk management in offshore outsourcing of software projects. *PICMET Conference, Cape Town, South Africa*, 1721-1748.

What is the Paradox?

- □ Collocation & F2F interaction are a means to success
- Virtual teams communicate less undermining success
- □ Low productivity, quality, customer satisfaction results



Rico, D. F. (2010). The paradox of agile project management and virtual teams. *Gantthead*. Carmel, E. (1999). *Global software teams: Collaborating across borders and time zones*. Upper Saddle River, NJ: Prentice-Hall.

Agenda

Intro to Agile Project Mgt.Intro to Agile Virtual Teams

Types of Virtual Teams

Practices of Agile Virtual Teams

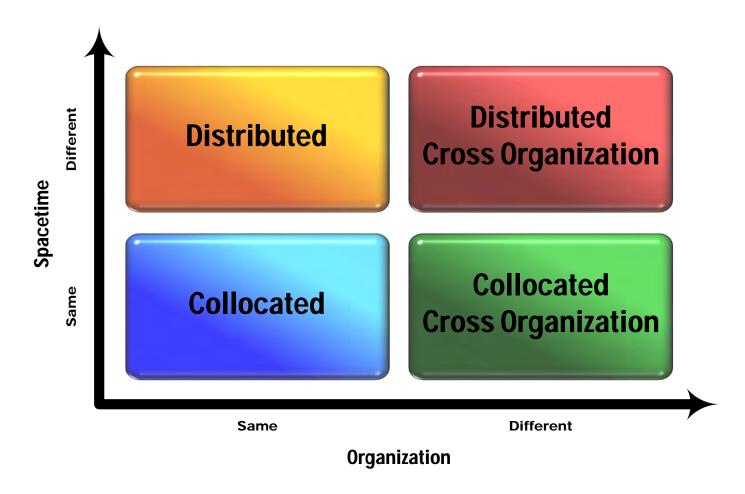
Examples of Agile Virtual Teams

Metrics for Agile Virtual Teams

Summary of Agile Virtual Teams

Basic Varieties of Teams

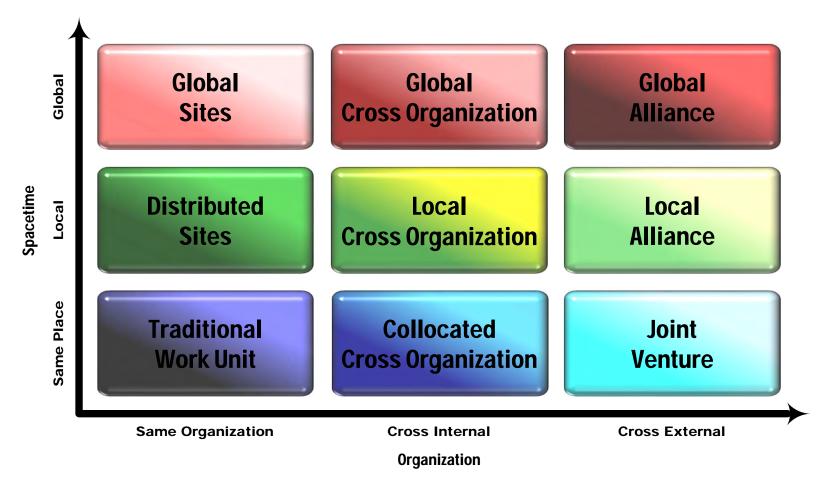
- Lipnack created a model for virtual teams in 1997
- □ Distribution & organization are its major dimensions
- □ Distributed, cross organizational teams most complex



Lipnack, J., & Stamps, J. (1997). Virtual teams: Reaching across space, time, and organizations with technology. New York, NY: John Wiley & Sons.

Varieties of Virtuality

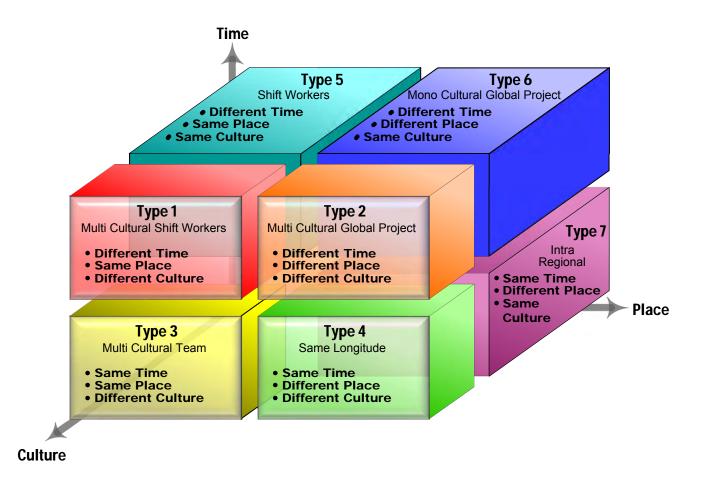
- □ Lipnack extended her model for virtual teams in 2000
- ☐ Included notion of external joint ventures & alliances
- External, global alliances are most complex types



Lipnack, J., & Stamps, J. (2000). Virtual teams: People working across boundaries with technology. New York, NY: John Wiley & Sons.

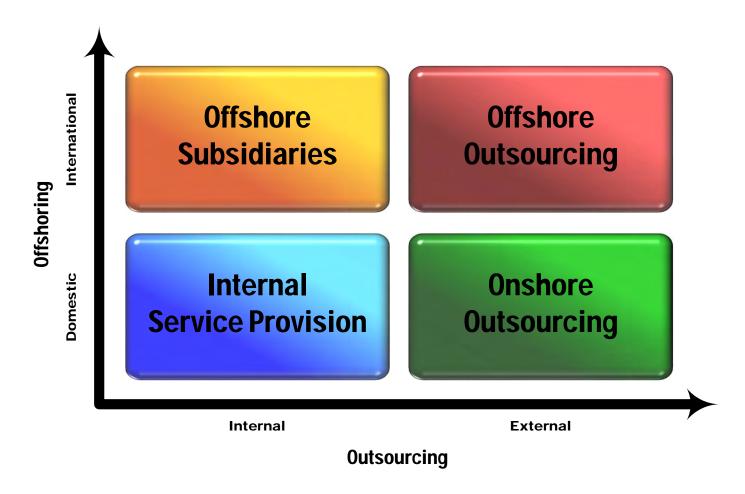
More Varieties of Virtuality

- □ Fisher developed a three dimensional model in 2001
- □ Includes the dimensions of time, place, and culture
- Type 2 multi cultural projects are most ambitious



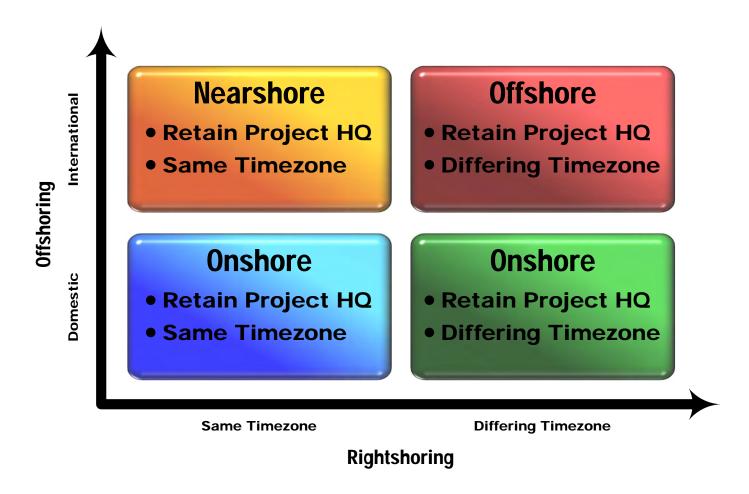
Outsourcing vs. Offshoring

- Schaaf compared outsourcing vs. onshoring in 2004
- □ His model disambiguates outsourcing vs. onshoring
- Combining outsourcing & offshoring is the riskiest



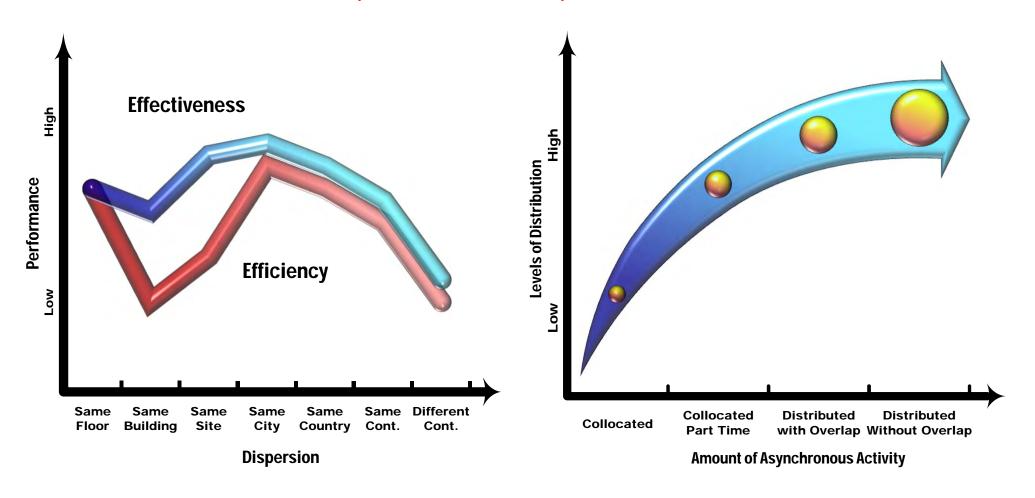
Rightshoring vs. Offshoring

- Hendel introduced the concept of rightshoring in 2004
- There are alternatives to just onshoring vs. offshoring
- A popular notion is to nearshore to similar timezones



Team Dispersion

- Siebdrat simplified types of virtual teams in 2009
- Woodard made basic model of agile teams in 2010
- □ Both agree hi-synchronicity is necessary to succeed



Agenda

Intro to Agile Project Mgt.Intro to Agile Virtual TeamsTypes of Agile Virtual Teams

Practices of Agile Virtual Teams

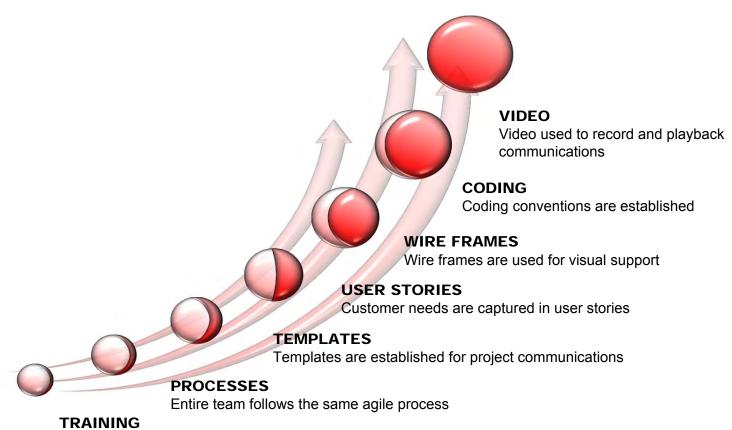
Examples of Agile Virtual Teams

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Summary of Agile Virtual Teams

Standard Practices

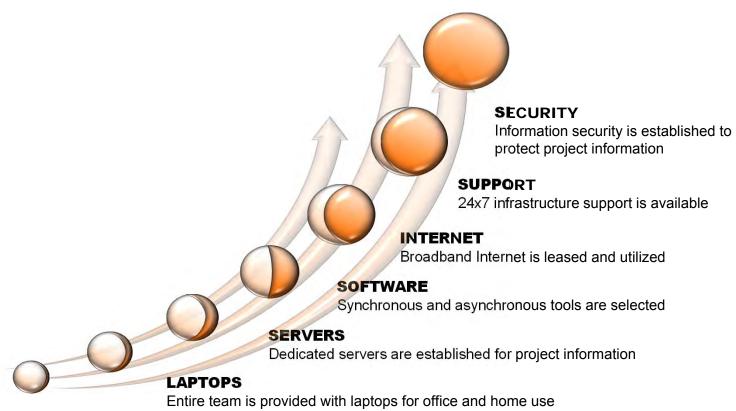
- Standard practices is an oft cited aid to virtual teams
- Agile methodologies are not known in every country
- Training should be provided and standards created



Entire team is trained on agile methods

Virtual Infrastructure

- □ Infrastructure needs are most often overlooked
- Many countries do not have adequate computers
- □ Internet service is also a luxury in across the globe

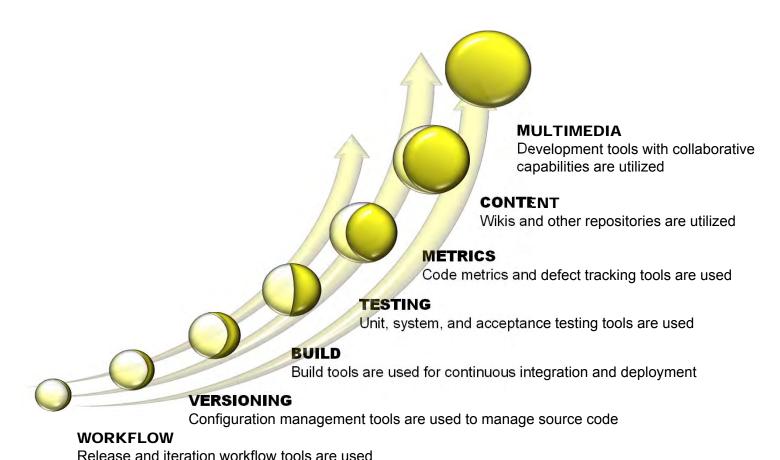


MOBILE

Entire team is provided with cell phones, smart phones, tablets, etc.

Virtual Tools

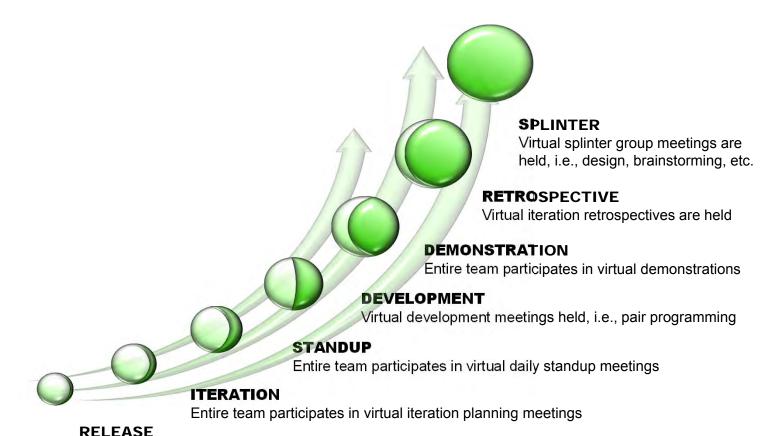
- Many projects do not standardize development tools
- Complete development tools are easy to assemble
- Development environments should be integrated



Cannizzo, F., Marcionetti, G., & Moser, P. (2008). Evolution of the tools and practices of a large distributed agile team. Agile Conference, Toronto, Canada, 513-518.

Virtual Meetings

- □ Frequent communication is a key to project success
- Communication is better than documentation alone
- A critical key is to encourage frequent interactions

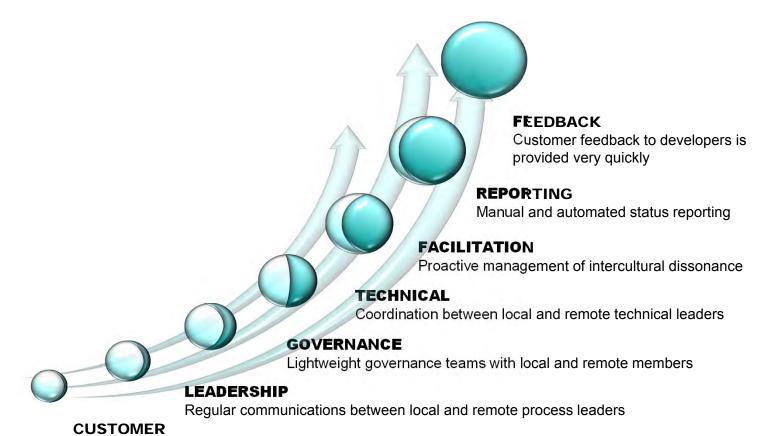


Summers, S. (2008). Insights into an agile adventure with offshore partners. Agile Conference, Toronto, Canada, 513-518.

Entire team participates in virtual release planning sessions

Light Coordination

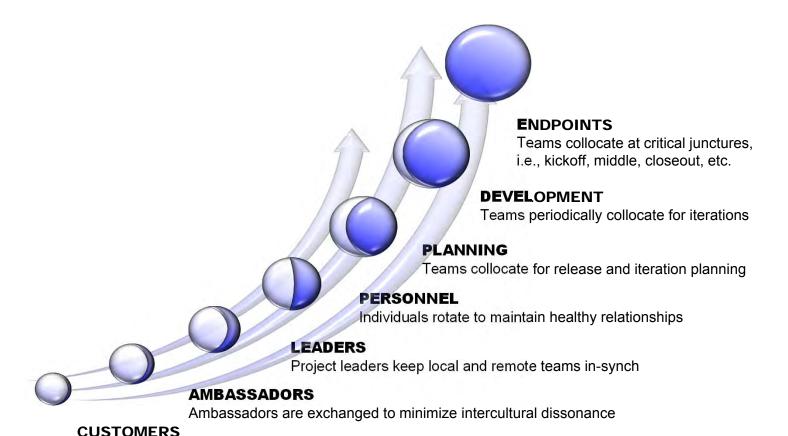
- □ The work of two or more teams requires facilitation
- Local/remote team leaders must communicate often
- □ All team leaders can then pass on critical information



Regular communications between customers and remote teams

Periodic Rotations

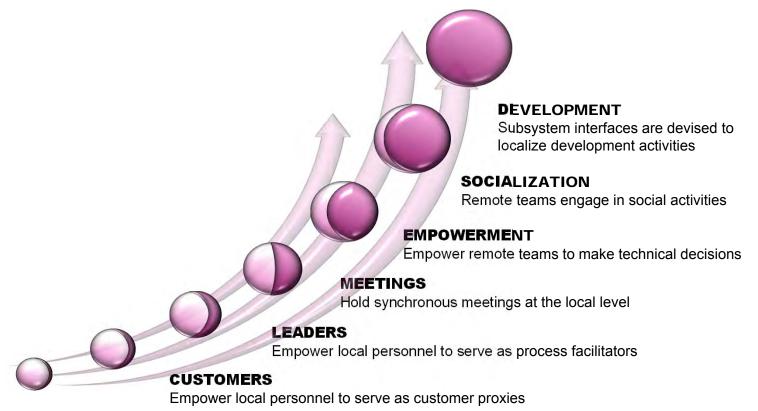
- □ Periodic F2F interaction is a CSF for virtual teams
- □ Teams should meet at critical junctures, i.e., kickoff
- Rotating customers and leaders helps establish trust



Customer apprises remote teams of product vision, mission, goals, objectives, etc.

Regional Localization

- Minimizing interfaces between timezones is oft cited
- Products should be structured to localize activities
- It's easier to communicate with nearshore teams



TIMEZONES

Minimize organizational interfaces and organize teams by timezones

Agenda

Intro to Agile Project Mgt.Intro to Agile Virtual TeamsTypes of Agile Virtual TeamsPractices Agile Virtual Teams

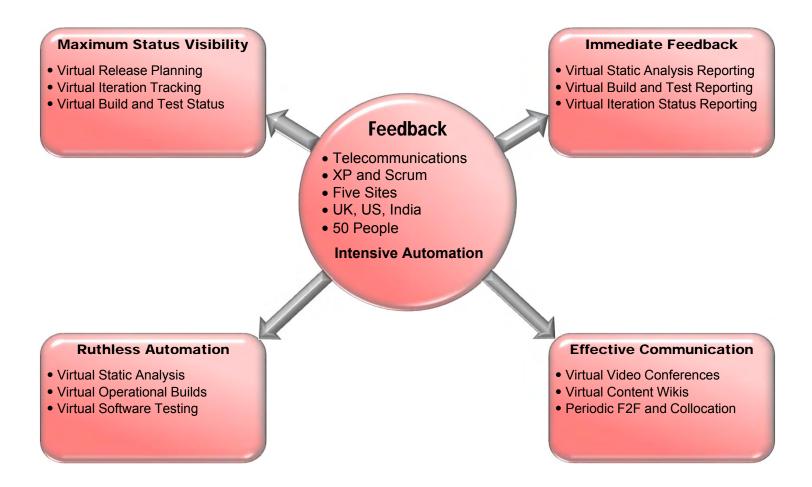


Metrics for Agile Virtual Teams

Summary of Agile Virtual Teams

British Telecom

Middleware products for phone call processing
 Goal was to obtain fast feedback with virtual teams
 Satisfied using intensive automation for fast feedback



Yahoo!

 Development of commercial Internet services Goal was to adapt agile methods for virtual teams Satisfied by minimizing use of synchronous meetings

Internet Services

• US, India, Norway, UK

Reduce Dependencies

 Scrum Six Sites

• 90 People

Periodic Leadership Meetings Reporting Good and Bad News **Adaptation**

Periodic F2F Meetings

Localized Meetings

Localized Scrum Meetings

- Quarterly F2F Release Planning
- Periodic F2F Sprint Planning
- Periodic F2F Sprint Collocation

Virtual Sprint Planning

- Virtual Sprint Planning Initiation
- Localized Sprint Planning Closure
- Virtual Sprint Planning Followups

Localized Proxies

- Localized Product Owners
- Localized Scrum Masters
- Periodic Meetings to Synchronize

Near Realtime Info Sharing

- Localized Information Radiators
- Virtual Wiki Content Repositories
- Shared Electronic Image Content

Task Localization

- Reduce Cross Site Dependency
 - Localized Team Independence
 - Periodic Virtual Scrum of Scrums

ThoughtWorks

- Development of web applications for global clients
- Goal was to maintain high levels of communications
- Satisfied with F2F visits and detailed status reporting

Visits & Rotations

- Face to Face Kickoff Meetings
- Customer and Leadership Visits
- Developer and Tester Rotations

Sharing Progress

- Virtual Timezone Standups
- Localized Standup Meetings
- Virtual Daily Leadership Meetings

Communications

- Periodic Reporting Between Sites
- Following Up Meetings with Notes
- Up To Date Wiki Content Sharing

- Web Applications
- Scrum
- Three Sites
- US, India, HK, and China

Communication

• 115 People

Status Reporting

Common Understanding

- Agree on Development Practices
- Setup Wiki Process Repositories
- Share Templates and Artifacts

Regional Accommodations

- Plan for Local Non Work Days
- Exchange Data Before Absences
- Use Overlapping Work Schedules

Product Visioning

- Periodic Visioning Meetings
- Localized Prototypes and Models
- Recorded Expert Videos

Infrastructure Needs

- Supply Laptops to All Personnel
- Supply Mobile Computing Devices
- Supply Internet Services

Wipro Technologies

- □ Development of software engineering products
- Goal was to be productive across different cultures
- Satisfied by use of intensive coaching and mentoring

Project Setup

- Setup Release Planning Tools
- Setup Modeling Tools
- Setup Code and Defect Tools
- Setup Automated Test Tools
- Setup Wiki Content Repository

Ramping Up

- Software tools
- XP
- Two Sites
- India, China
- 24 People

Coaching & Mentoring

Project Kickoff

- Face to Face Kickoff Meeting
- Communicate Using Diagrams
- Use Wikis for Content Sharing
- Localize Work if Needed
- Periodically Merge Code

Local & Remote Mentoring

- Use Mentors as Customers
- Assign Automation Advisors
- Use Release Planning Tools
- Daily Standups with Mentoring
- Post Daily Standups Data in Wiki

CampusSoft

- Development of software systems for academia
- □ Goal was to improve quality results of global teams
- Achieved by using agile methods and onsite visioning

Product Visioning

- Onsite Product Visioning
- Virtual Product Owner Meetings
- Open Communications
- Utilize Stories for Discussion
- Start With Easy User Stories

Quality

- Educational Software
- Scrum
- Three Sites
- UK, Romania, India
- 44 People

Agile & Visioning

Working Practices

- Standardized Development Tools
- Virtual Shared Content Wikis
- Virtual Defect Tracking Tools
- Virtual Source Code Repositories
- Virtual Build and Integration Tools

Sprint Planning

- Virtual Release Planning
- Local Release Planning Experts
- Virtual Planning Poker Sessions
- Virtual Sharing During Planning
- Wikis for Release Planning Data

Ongoing Meetings

- Periodic Face to Face Sprints
- Virtual Brainstorming Meetings
- Virtual Daily Standup Meetings
- Virtual Sprint Review Meetings
- Virtual Retrospective Meetings

Testing and Integration

- Joint Early Test Planning
- Automated Testing
- Localized Testing and Debugging
- Automated Deployments
- Virtual Daily Operational Builds

Elastic Path/Luxoft

- □ Development of electronic commerce websites
- Goal was to maintain context with distributed team
- Satisfied with coordination in overlapping time zones

Nearshore Resources

- Use Nearby Coordinators
- Use Resources Within Timezone
- Use Face to Face Interactions
- Interaction within Two Timezones

Context

- E-Commerce
- Scrum
- Five Sites
- Canada, Russia
- 14 People

Partial Nearshoring

Coordination

- Virtual Scrum of Scrums
- Scrummasters as Product Owners
- Unrestricted Communications
- Create Architecture Liaison

Processes and Tools

- Standard Agile Practices
- Virtual Release Planning Tools
- Virtual Source Code Repository
- Virtual Build and Testing Tools

Communication Plans

- Provide Mobile Computing Tools
- Periodic Virtual Standup Meetings
- Use Asynchronous Retrospectives
- Use Multi Media Communications

Shared Workspaces

- Establish Infrastructure Servers
- Virtual Content Workspaces
- Establish Security Measures
- 24x7 Infrastructure Support

Scandinavia

Development of internal & external web applications
 Goal was to determine if agile practices are scalable
 Satisfied with routine face-to-face & virtual meetings

Scrum Meetings

- Virtual Audio Standup Meetings
- Weekly Video Standup Meetings
- Multimedia Splinter Meetings
- Virtual Weekly Scrum of Scrums

Sprints

- Synchronized Sprints
- One to Many Sprints
- Clear Sprint Deadlines and Goals
- Periodic Release Sprints

Sprint Planning

- Virtual Sprint Planning
- Virtual Sprint Application Sharing
- Periodic F2F Sprint Planning
- Virtual Audio Planning Followups

Communication

- Periodic Leadership Rotations
- Periodic Personnel Rotations
- Periodic Face to Face Sprints
- Multimedia Communication

Scalability

- Backoffice Systems
- Scrum
- Six Sites
- Fin, Latvia, DE, NO, Malay.
- 67 People

F2F & Virtual Meetings

Development Environment

- Virtual Sprint Planning/Tracking
- Virtual Backlog Management
- Virtual Wiki Content Servers
- Shared Development Tools

Reviews & Retrospectives

- Virtual Sprint Review Meetings
- Virtual Sprint Review Sharing
- Periodic F2F Sprint Reviews
- Virtual Sprint Retrospectives

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Offshore Outsourcing Metrics

- Vashistha has complete guide to offshore outsourcing
- Strategic framework for evaluating offshore locations
- Offers metrics and data to support decision making

			<u> </u>						~ ~		
Factors	Subfactors	India	Phil	China	Canada	Lat Am	Ireland	Czech	Poland	Hungary	Russia
Exogenous	Geopolitical Environment										
Factors that define the characteristics	Government Support		0								
of the country beyond influence of	Educational System		\bigcirc			0					
organization	Infrastructure	\bigcirc		0							$\overline{}$
Cotolyot	Cost Advantage				0				0	0	
Catalyst Factors that drive	Language	\bigcirc									
offshore service delivery in a country	e service Culture 🔷 🔷 🦱										
	Timezone										
Business	Labor Pool										
Factors related to	Competency										
direct advantages, supplier skills, and											
business issues	Attrition		$\overline{}$			0					

Costs and Benefits

- □ Unfacilitated virtual teams are less effective than F2F
- Offshoring saves about 25% due to lower labor costs
- Offshore savings vary based on leadership methods

Variable	F2F	Virtual
Team score	82%	78%
Interactions	24.9	17.6
Task effort	5.8 hrs	7.1 hrs
Trust	84%	72%
Cohesion	79%	66%
Outcome sat	86%	78%
Process sat	86%	76%
Emergent leader	60%	75%
Free riders	2%	9%
Deserters	0%	2%
	83%	74%

%	Cost	Low	Med	High
46%	\$17.5m	\$2.2m	\$4.8m	\$8.7m
20%	\$7.6m	\$1.0m	\$2.1m	\$3.8m
7%	\$2.7m	\$0.3m	\$0.7m	\$1.3m
4%	\$1.5m	\$0.2m	\$0.4m	\$0.8m
1%	\$0.4m	\$0.0m	\$0.1m	\$0.2m
9%	\$3.4m	\$0.4m	\$0.9m	\$1.7m
3%	\$1.1m	\$0.1m	\$0.3m	\$0.6m
4%	\$1.5m	\$0.2m	\$0.4m	\$0.8m
3%	\$1.1m	\$0.1m	\$0.3m	\$0.6m
3%	\$1.1m	\$0.1m	\$0.3m	\$0.6m
	\$38.0m	\$4.8m	\$10.5m	\$19.0m
	46% 20% 7% 4% 1% 9% 3% 4% 3%	46% \$17.5m 20% \$7.6m 7% \$2.7m 4% \$1.5m 1% \$0.4m 9% \$3.4m 3% \$1.1m 4% \$1.5m 3% \$1.1m 3% \$1.1m 3% \$1.1m	46% \$17.5m \$2.2m 20% \$7.6m \$1.0m 7% \$2.7m \$0.3m 4% \$1.5m \$0.2m 1% \$0.4m \$0.0m 9% \$3.4m \$0.4m 3% \$1.1m \$0.1m 4% \$1.5m \$0.2m 3% \$1.1m \$0.1m 3% \$1.1m \$0.1m	46% \$17.5m \$2.2m \$4.8m 20% \$7.6m \$1.0m \$2.1m 7% \$2.7m \$0.3m \$0.7m 4% \$1.5m \$0.2m \$0.4m 1% \$0.4m \$0.0m \$0.1m 9% \$3.4m \$0.4m \$0.9m 3% \$1.1m \$0.1m \$0.3m 4% \$1.5m \$0.2m \$0.4m 3% \$1.1m \$0.1m \$0.3m 3% \$1.1m \$0.1m \$0.3m 3% \$1.1m \$0.1m \$0.3m

Vashistha, A., & Vashistha, A (2006). *Offshore nation: Strategies for success in global outsourcing and offshoring*. New York, NY: McGraw-Hill. De Pillis, E., & Furumo, K. (2007). Counting the cost of virtual teams: Studying the performance, satisfaction, and group dynamics of virtual and face to face teams. *Communications of the ACM*, 50(12), 93-95.

Agenda

Intro to Agile Project Mgt. **Intro to Agile Virtual Teams** Types of Agile Virtual Teams **Practices of Agile Virtual Teams Examples of Agile Virtual Teams Metrics for Agile Virtual Teams**

Summary of Agile Virtual Teams

Leadership Considerations

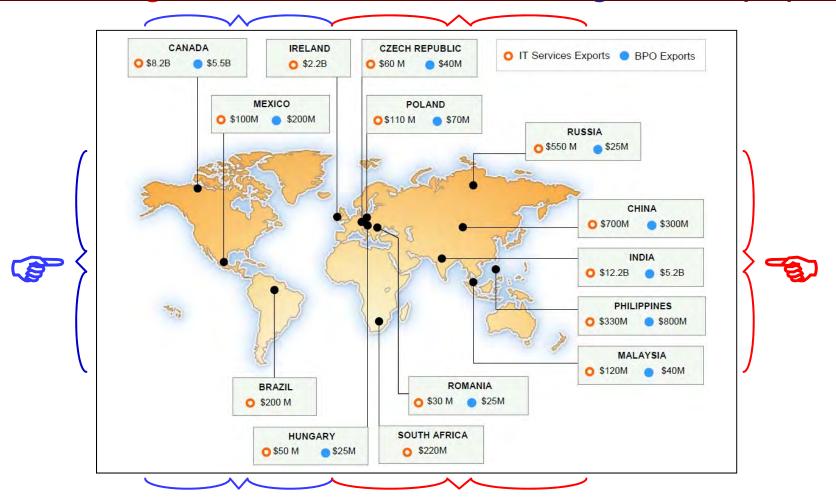
- Agile management is delegated to the lowest level
- There remain key leadership roles & responsibilities
- □ Communication, coaching, & facilitation are key ones

	Customer Communication	Facilitate selection of methods for obtaining and maintaining executive commitment, project resources, corporate communications, and customer interaction
)	Product Visioning	Facilitate selection of methods for communicating product purpose, goals, objectives, mission, vision, business value, scope, performance, budget, assumptions, constraints, etc.
	Distribution Strategy	Facilitate selection of virtual team distribution strategy to satisfy project goals and objectives
•	Team Development	Facilitate selection of methods for training, coaching, mentoring, and other team building approaches
	Standards & Practices	Facilitate selection of project management and technical practices, conventions, roles, responsibilities, and performance measures
	Telecom Infrastructure	Facilitate selection of high bandwidth telecommunication products and services
	Development Tools	Facilitate selection of agile project management tools and interactive development environment
	High Context Meetings	Facilitate selection of high context agile project management and development meetings
3	Coordination Meetings	Facilitate selection of meetings and forums for regular communications between site coordinators
	F2F Communications	Facilitate selection of methods for maximizing periodic face to face interactions and collaboration
	Performance Management	Facilities selection of methods for process improvement, problem resolution, conflict management, team recognition, product performance, and customer satisfaction

Maholtra, A., Majchrzak, A., & Rosen, B. (2007). Leading virtual teams. *Academy of Management Perspectives*, 21(1), 60-70. Hunsaker, P. L., & Hunsaker, P. L. (2008). Virtual teams: A leadership guide. *Team Performance Management*, 14(1/2), 86-101. Fisher, K., & Fisher, M. D. (2001). *The distance manager: A hands on guide to managing off site employees and virtual teams*. New York, NY: McGraw-Hill.

Current Trends & Directions

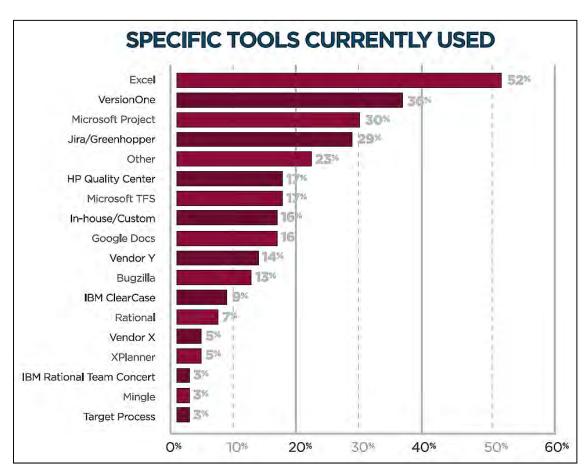
- □ Virtual teamwork is 21st century business model
- Opens the door to offshore/nearshore outsourcing
- □ Farshoring is normal but nearshoring is also popular

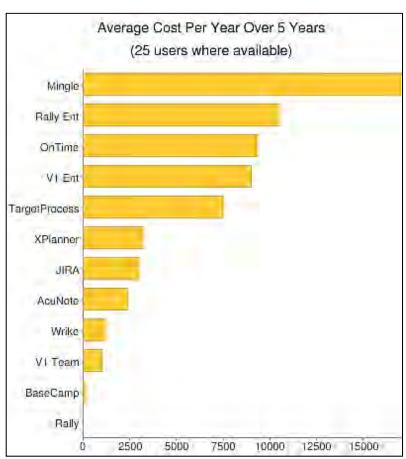


Gidwana, J. (2005). Research summary: Mapping offshore markets update. San Ramon, CA: NeoIT.

Agile Project Mgt. Tools

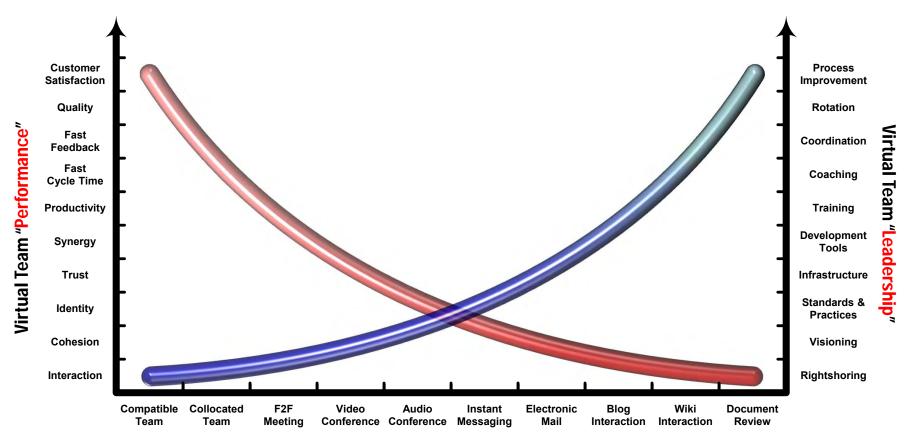
- □ There are literally dozens, if not 100s of APM tools
- □ There are dozens of free open source software tools
- Annual tool & price surveys are frequently conducted





Key Points & Takeaways

- Virtual teams communicate less undermining success
- □ A key is not to eliminate them in favor of F2F teams
- A better answer is to support them with leadership



"Loss" of Virtual Team "Communication Quality"

Key Agile Scaling Pointers

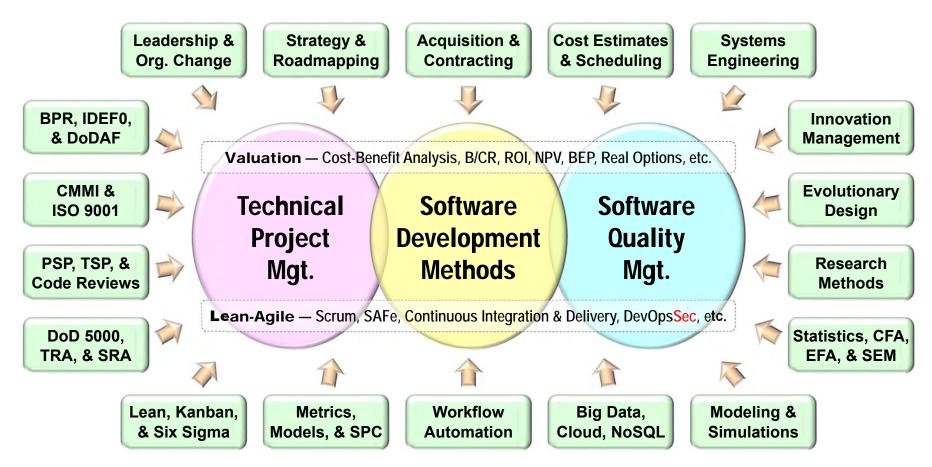
- □ One must think and act small to accomplish big things
 □ Slow down to speed up, speed up 'til wheels come off
 □ Scaling lowers productivity, quality, & business value
 - EMPOWER WORKFORCE Allow workers to help establish enterprise business goals and objectives.
 - ALIGN BUSINESS VALUE Align and focus agile teams on delivering business value to the enterprise.
 - Perform Visioning Frequently communicate portfolio, project, and team vision on continuous basis.
 - REDUCE SIZE Reduce sizes of agile portfolios, acquisitions, products, programs, projects, and teams.
 - ACT SMALL Get large agile teams to act, behave, collaborate, communicate, and perform like small ones.
 - BE SMALL Get small projects to act, behave, and collaborate like small ones instead of trying to act larger.
 - ACT COLLOCATED Get virtual distributed teams to act, behave, communicate and perform like collocated ones.
 - Use Small Acquisition Batches Organize suppliers to rapidly deliver new capabilities and quickly reprioritize.
 - Use Lean-Agile Contracts Use collaborative contracts to share responsibility instead of adversarial legal ones.
 - Use Enterprise Automation Automate everything with Continuous Integration, Continuous Delivery, & DevOps.

Conclusion

Agile methods DON'T mean deliver it now & fix it later
Lightweight, yet disciplined approach to development
Reduced cost, risk, & waste while improving quality

	What	How	Result
	Flexibility	Use lightweight, yet disciplined processes and artifacts	Low work-in-process
	Customer	Involve customers early and often throughout development	Early feedback
	Prioritize	Identify highest-priority, value-adding business needs	Focus resources
	Descope	Descope complex programs by an order of magnitude	Simplify problem
P	Decompose	Divide the remaining scope into smaller batches	Manageable pieces
	Iterate	Implement pieces one at a time over long periods of time	Diffuse risk
	Leanness	Architect and design the system one iteration at a time	JIT waste-free design
3	Swarm	Implement each component in small cross-functional teams	Knowledge transfer
3	Collaborate	Use frequent informal communications as often as possible	Efficient data transfer
	Test Early	Incrementally test each component as it is developed	Early verification
	Test Often	Perform system-level regression testing every few minutes	Early validation
	Adapt	Frequently identify optimal process and product solutions	Improve performance

Dave's Professional Background



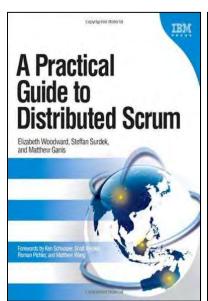
STRENGTHS – Data Mining • Gathering & Reporting Performance Data • Strategic Planning • Executive & Management Briefs • Brownbags & Webinars • White Papers • Tiger-Teams • Short-Fuse Tasking • Audits & Reviews • Etc.

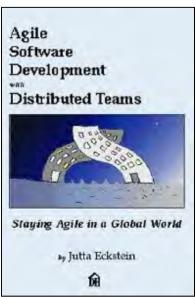


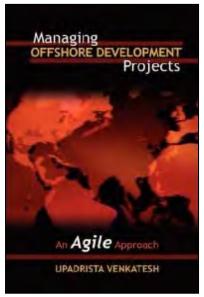
- Data mining. Metrics, benchmarks, & performance.
- Simplification. Refactoring, refinement, & streamlining.
- Assessments. Audits, reviews, appraisals, & risk analysis.
- Cooking Diamoning debugging 0 rectarting stelled are
- Coaching. Diagnosing, debugging, & restarting stalled projects.
- Business cases. Cost, benefit, & return-on-investment (ROI) analysis.
- Communications. Executive summaries, white papers, & lightning talks.
- Strategy & tactics. Program, project, task, & activity scoping, charters, & plans.

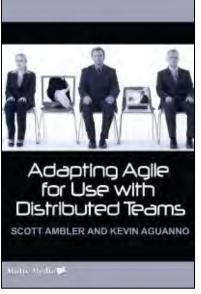
Books—Agile Virtual Teams

- Virtual teams are the last frontier in agile methods
- Numerous books emerging on agile virtual teams
- Books by Woodward & Eckstein among the best







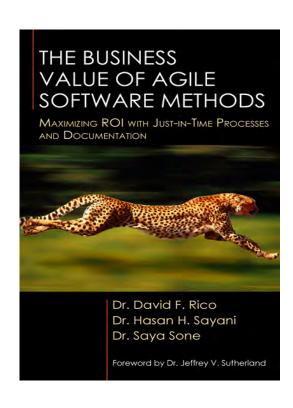


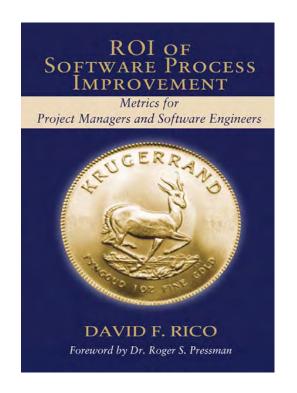


Books on ROI of SW Methods

- Guides to software methods for business leaders
- Communicates business value of software methods
- Rosetta stones to unlocking ROI of software methods









- http://davidfrico.com/agile-book.htm (*Description*)
- http://davidfrico.com/roi-book.htm (*Description*)