

3Cs for Agile Project Success

Critical Success Factors & Proven Practices

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Abstract

In outsourced or offshore Software development, teams are geographically distributed to develop products in a collaborative and cost-effective manner by better utilization of global talents. Adopting agile methodologies helps in better ROI by *developing quality products* as per changing market needs in *short span*.

Adopting Agile in global software development shall pose few challenges due to wider geographical distance, time zone differences, and cultural aspects and so on. This report presents 3Cs – Communication, Collaboration and Customer Involvement as *Critical Success Factors* that need to be considered while implementing Agile for Global Software Development. This experience report is based on Author's experience in executing Outsourced Product Development engagements using *Distributed Agile Methodologies* for co-creating Telecom products.

CRITICAL SUCCESS FACTORS

1. Communication

Effective communication among teams, customers, management and business group is the key requirement to achieve Agility.

Key Challenges

- *Geographical Distance*: Wider geographical distance among the agile teams may result in prolonged issue resolution and delayed decisions.
- *Different Time Zones* The time zone difference impacts the effective communication and higher the time gap, lesser the opportunity for informal communications among the agile teams
- *Mutual Trust*: Lack of Trust between the geographically distributed agile teams impact the effective communication. Different culture of agile teams shall influence the trust level among the teams
- *Cross Communication*: In distributed teams, cross communication may create chaos due to parallel discussions.

- *Communication Loops:* Ineffective communication due to the unproductive communication loops between teams in multi site may result in delayed technical decisions.
- *Lack of necessary Product Documentation:* Lack of necessary product documentation impacts the effective communication between teams and it can also lead to misunderstanding of product requirements.

Proven Practices

- *Right mix of Informal and Formal Communication:*

Meetings	Suggested Communication Mode
Sprint Planning	<ul style="list-style-type: none"> · Planning Discussion - Audio Conferencing, Web conferencing and Collaboration tools with Desktop Sharing option · Planning & Tracking -Card Wall and Online SCRUM tools like Scrum Works/Rally and information distribution through email, wiki
Daily Scrum	<ul style="list-style-type: none"> · Audio Conferencing or Video Conferencing <p>It is suggested to share “Brief Status” and “required support” in email prior to external stand-up meeting with Product Owner, which shall help in getting quick inputs to make decisions.</p>
Sprint Review /Sprint Retrospective	<ul style="list-style-type: none"> · Demo/Sprint Review is done using Audio Conferencing, Video Conferencing, Collaboration tools with Desktop Sharing option · Sprint Retrospective is done effectively through audio conferencing and learning shared through email and wiki

- *Architects and SCRUM Master as Communication Bridges:* Architects and Scrum Masters act as Communication Bridge between distributed Agile teams for effective communication.
- *Communication Workshop:* Communication Workshop plays a key role for Active Listening, Language Accent, Written Communication and Spoken Communication at regular intervals based on specific Team needs.

In Agile Team effective communication is measured in terms of “Communication Index” at the end of the iteration. This “communication Index” is subjective rating provided by Product Owner and Team shall be reviewing the effectiveness of communication in Sprint Retrospective and takes necessary action (if required).

- *Planned Sync-up Meetings*: “Sync-up Week” is planned at strategic interval among teams working on team multisite to have common understanding on expected product functionality, architecture, interface and consensus on dependencies
- *More Transparency*: By ensuring more transparent communication, mutual trust is created among the geographically distributed teams. Offshore team has shared the impediments due to team competency issues and external dependencies issues in the sprint delivery proactively with Product Owner well ahead of sprint demo/sprint review. This transparency in team communication has helped in building mutual trust between team and product owner.
- *Value added Formal Documentation*: Necessary technical information like Architecture, interface description, which needs to be shared among the geographically distributed teams working in same project, is documented to prevent any misunderstandings. 1/3 presentation/SAT outcome is prepared for sharing design details across the teams.

Team has consistently reviewed the forthcoming user stories in the product backlog and documented the requirement changes by creating new user stories/modifying existing user stories in Product Backlog grooming sessions along with Product Owner.

2. Collaboration

Agile emphasis on high collaboration both intra team and inter team, which shall be impacted due to following challenges in global software development.

Key Challenges

- *Wider geographical distance and different Time zones*: In geographically distributed agile teams, lack of Face to Face communication may pose challenges in building trust between teams. Time Zone difference forces team to sync-up during late hours may impact the team morale and also results in employee health issues.
- *Cultural Aspects*: Agile lays emphasis on motivated individuals, who are eager to learn from each other, be honest, collaborative, and responsible. In case of geographically distributed agile teams, the societal culture has greater influence in building mutual trust and collaboration between the teams.
- *Personal Traits*: People factor plays a key role in the success of agile methods. Team members may not be necessarily extremely experienced skilled people – having honesty, collaborative attitude, sense of responsibility, readiness to learn, and works with others are considered equally important.
- *Organisation Culture and Leadership Style (Command and Control)*: Most of development organization practices” Command and Control Leadership” in which management makes major decisions

and team just implements the decisions. In this environment people are often discouraged from asking questions, talking about problems like impossible deadlines, or proposing alternatives to the approved decisions.

- *Ineffective communication Methods:* Ineffective communication methods in geographically distributed Agile Teams may have an impact on team collaboration and can lead to lack of openness and mutual trust and wrong perceptions between the teams.

Proven Practices

- *Hiring Focus:* Technical Competence with social skills: Agile approaches emphasis on ecosystems -people, personalities, collaboration, conversations, and relationships. So while recruiting the team member especially for Agile Teams, specific focus on candidate's social skills like communication, team skills needs to be evaluated apart from required Technical Competence.
- *Right Style of Communication:* Communication plays major role in building mutual trust, transparency for better team collaboration. In distributed agile development environment, the teams need to follow the mutually agreed appropriate style of communication (Active or Passive) based on that context.

Agile Methodologies encourages more Active Communication than passive communication for better collaboration between team and other stakeholders.

- *Mutual Visits between the Teams:* In order to build trust between geographically distributed teams, mutual visits needs to be planned at start of the project and periodic visits during the project execution.

In early iterations, key offshore team members can work together with onshore team can help in creating better collaborative environment for effective communication. It is suggested for periodic visit between geographically distributed teams can help in getting rid of any “wrong perceptions”, which can impact the trust, transparency and openness in communication.

- *Cultural Workshop:* Cultural Aspects may play major role in building trust and collaboration between the teams. It is very much required for teams to understand the culture of each other for open and transparent communication.

Cultural workshops are conducted at regular intervals to create the awareness on the societal/organizational values of other teams from different geographic. This cultural awareness has helped teams across geographic to collaborate each other, which will in turn results in effective communication.

Dutch customers use to share bad feedback to individual team member in unpolished way, which had initially impacted team's morale. So we have conducted "Dutch Cultural Workshop" to Offshore Teams to educate them better about customer culture "Direct Dutch", which had helped in improving collaboration.

- *Workshops/short daily status Meetings*: It is good practice to have workshops and short daily status meetings irrespective of co-located or distributed agile teams for better collaboration
- *Organization Culture and Agile Leadership (Servant Leadership)*: Agile emphasis on "Team Empowerment" and "Self Organized Team", which needs a change in the leadership style from "Command and Control" to "Servant Leadership". In Agile Leadership, team is empowered to make major decisions and manager facilitates team by removing any impediments, which are impacting project progress. Organisation culture needs to bring up the culture of openness, culture of giving more responsibility to people who actually

3. Customer Involvement

The Agile Manifesto advocates customer collaboration as one of the important requirements for successful software development

Key Challenges

- *Organizational Maturity on Agile Practices and Processes*: The maturity level of customer on agile practices has an impact on their involvement and collaboration as expected.
- *Collaboration between Product Owner and Development Team*: The lack of collaboration may impact the involvement of customer throughout the project.
- *Lack of knowledge*: The lack of knowledge (product or business) of customer representative may result in delayed responses/decisions and incorrect feedback, which can impact both the team velocity as well as team morale.
- *Lack of Time Commitment*: In case of part-time role, customer representative may not be able to give his/her time for the project, which may result in delayed responses for team's clarification.

Proven Practices

- *Mutual consensus on "Way of Working"*: In distributed Agile Teams, there is a strong need for mutual consensus on "Way of Working" with clear definition on roles and responsibilities, effective communication modes, Definition of Done (DOD) and common tools for development and bug

reporting. This mutually agreed “Way of Working” promotes collaborative work environment, effective communication and high level of customer involvement.

“Team needs to analyze their Way of Working in Sprint Retrospective for Continuous Improvement and Customer needs to be open for team’s suggestion on further improvements”

- *Mutual visits for better collaboration:* In global software development, periodic customer visits to offshore center promote better collaboration and it helps customer to better understand the environment in which the offshore team operates. Team can also leverage this opportunity for better understanding of the customer expectation.

Before start of the Project, it is suggested customer representative to visit offshore development team and also mutual visit during project execution is highly recommended for better collaboration to get rid of any “wrong perceptions” about offshore team, which can impact the trust, team morale and communication.

- *Proxy Product Owner:* In some project situations, customer organization may not be able to assign Product Owner due to various constraints. In that case, agile teams nominate a member of their own team to act as the proxy Product Owner.

The proxy Product Owner is responsible for providing and prioritizing the product requirements on the basis of their interactions with the real customers. They serve as a link between the customers and the agile teams.

Conclusion:

All the proven practices, discussed have helped in achieving the following results:

On Time Delivery with Excellent Quality

Complex Telecom Application delivered for GA (General Availability) on-time with very few minor issues (<5) defects found during Customer Acceptance Testing

No Cost Overrun

Project completed within the budgeted cost

Higher Customer Satisfaction

The Customer Satisfaction score for this project is rated “Highly Satisfied”. Customer has appreciated Team for “Openness” “Transparency” and “Flexibility”