

The Key Factors and Attributes of Teams and Teamwork for Agile Project Management

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Agile project management continues to gain momentum as an early 21st century approach for managing the development of innovatively new products and services. It is a lightweight, flexible, and highly-adaptable, yet disciplined approach that is particularly well-suited for high-risk, time-sensitive, and often complex research and development-oriented projects.

The agile project management paradigm is based on large doses of customer collaboration and interaction. It is also based on intensive teamwork between project participants and frequent delivery of working products and services at regular intervals. Even more importantly, it is based on responding to changing customer and market needs rather than rigid prescriptive plans.

At the heart of agile methods is the key tenet that teams and teamwork are better than individual contributions and effort. Try to remember what's at stake (i.e., high-risk, time-sensitive, research and development-oriented, often complex, products and services)! The Agile Manifesto assumes that teams are required to create complex new products and services and they can do so faster:

- *Business people and developers must work together daily throughout the project.*
- *Build projects around motivated individuals, give them the environment and support they need, and trust them to get the job done.*
- *The best architectures, requirements, and designs emerge from self-organizing teams.*
- *At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.*

Today, the word 'team' is used quite frequently and tossed around in a rather loose fashion. A project manager often refers to his or her participants as 'my team.' People often regard themselves as part of 'this team' or 'that team.' However, what exactly is a team? What are the definitions of a team and teamwork? What constitutes a team? What isn't a team for that matter?

Furthermore, what constitutes teamwork? How does one know when one is part of a team? How do we know when a team is exhibiting teamwork? What's the difference between a good and a bad team? Is there a difference? How do we know when a team is performing effectively? Some researchers even question whether teams are any more effective than individuals acting alone?

In its simplest terms, a team is a group of people linked with a common purpose. According to Katzenbach and Smith, "*a team is a small number of people with complementary skills who are committed to a common purpose, performance goals, and approach for which they are mutually accountable.*" Furthermore, teams are often considered necessary for solving complex problems.

The concept of teams goes back at least 60 years, stemming from the human behavior school of management. It was the antithesis of scientific management by Frederick Taylor. Its goal was to encourage managers to share decision making responsibilities, and resulted in self-determined work groups (1950s), autonomous work groups (1960s), and self-managed work groups (1970s).

Today, there are an infinite variety of teams. These include quality circles, executive teams, committees, management teams, employee teams, tiger teams, concurrent teams, simultaneous teams, integrated product teams, cross functional teams, etc. Information technology-specific teams emerged in the early days, such as chief programmer teams and code inspection teams.

There were test, quality assurance, and configuration management teams throughout the last four decades. There were project management, requirements, architecture, design, graphical user interface, human factors, usability, verification, validation, security, certification, accreditation, automation, training, documentation, and audit teams of every size, shape, and form.

Most people have been on some type of team and believe in their basic value. However, what do we really know about teams? Most people are familiar with the basic elements of teams. Teams should have leaders and well-defined roles. There should be a measure of cooperation, regular meetings, and a charter. Some even suggest rigid governance structures and personality profiling.

In practice and experience however, team formation is often ad hoc and difficult and many teams struggle to form properly, if at all. Team members often bicker endlessly and some teams meander aimlessly for months on end. Oftentimes, one or two individuals end up doing all of the work. Some teams do manage to get off of the ground, but can quickly come to a screeching halt.

Being on a team can be very stressful once the honeymoon stage is over. It's even more daunting to lead a team and be responsible for its success. Even the most experienced people refuse to lead teams or be part of teams in lieu of individual tasks. Many times people will quit the team, leave a project, or resign altogether, and sometimes people are voted off the island or need to detoxify.

Following the emergence of autonomous work groups in 1962, Tuckman's model of teamwork formation burst onto the global scene in 1965 (i.e., forming, storming, norming, and performing). He realized that teams were not that easy in spite of their promise. Today, all teams go through these same basic stages. The first two stages often destroy teams or undermine their morale.

Some people feel that careful facilitation by skilled moderators is the key to successful teams. Others feel rigidly defined teamwork models with time-boxed stages and expert moderation is key. Intensive coaching and mentoring have proven useful for particularly difficult teams. Yet others suggest elaborate conflict management models together with heavy doses of compromise.

Code inspections from the 1970s were an interesting paradigm. They consisted of a 30 minute planning phase, a one hour overview phase, a one hour study phase, a meticulously moderated review meeting, a one hour rework phase, and a half hour follow-up phase. However, they were very expensive, programmers were often attacked, and researchers disputed their effectiveness.

Agile project management introduces some interesting ideas as well. It consists of time-boxed release and iteration planning stages. Planning poker, a form of the Wideband Delphi technique, is employed to democratize decision making. Pair programming, daily standup meetings, and project retrospectives are used to maximize productivity, collaboration, and problem solving.

Multiple types of facilitators are often used in agile teams. Product owners serve as the customer proxy, visionary, and requirements manager. Scrum masters act as process facilitators. Coaches and mentors sniff out subtle problems, fix them, and help teams reach peak performance, much like an athlete's personal trainer. Lightweight governance structures are used for larger projects.

Thus, a contemporary definition of a team is evolving from the agile project management paradigm. An agile team is *"a temporary group of risk-tolerant, entrepreneurial people with clear leadership, boundaries, empowerment, competence, structure, manageability, and motivation, who are assembled to create a high-risk, mission critical new product or service."*

Factor	Attributes
Leadership	Credible, experienced, likeable, and nurturing project champion
Boundaries	Clear vision, mission, goals, and objectives
Empowerment	Adequate time, money, tools, and authority
Competence	Applicable skills, knowledge, experience, and personality
Structure	Clear roles, responsibilities, technical approach, and operating rules
Manageability	Small, collaborative, cohesive, and frequently-communicating teams
Motivation	Adequate compensation, incentives, desire-to-succeed, and consequences

Although agile teams are often referred to as self-organizing, self-managed, or self-directed, they are not leaderless. A strong leader is a major success factor. The leader must have instant credibility, experience, and charisma. Although somewhat hard driving, they must be strong, bold, visionary, articulate, well-respected, and have clear formal authority over the team.

Clear and unmistakable project boundaries are a leader's best friend. A successful project must have a clear vision and mission, which must be constantly communicated and reinforced to key stakeholders throughout the life of the project. There must also be clear goals and objectives. A short, time-boxed project schedule with simple deliverables is the ideal set of project boundaries.

A key tenet of agile teams is the notion of democratic decision making, if not full empowerment for most of the implementation decisions. Agile teams must be given adequate time, money, tools, authority, and other resources necessary to complete the job. This doesn't mean they are without oversight. However, this should never be in the form of day-to-day micromanagement.

Agile project management reintroduces the notion of individual talent after three decades. More than 70% of data is tacit, rather than explicit knowledge. Therefore, team members should be highly skilled, knowledgeable, experienced, and have good people skills. It's important to note that moderate talent is better than expert talent if the experts begin to destroy team morale.

Agile projects should also be well-structured. They should have clear roles, responsibilities, a technical approach, and operating rules. The technical approach should be well-suited for new product development and they should understand their customer's operating rules. However, the project should lend itself to democratic decision making concerning all design matters.

The notion of manageability can be challenging. Teams should be small, collaborative, cohesive, and should communicate frequently. There should be a high degree of cooperation. Divisiveness and a constant struggle for power and control are a death knell. Manageability may be achieved in-part with adequate motivational factors such as clear consequences for poor behavior.

Teams with clear rewards for success and swift consequences for failure often perform quite well. Bold, visionary leaders and project champions are often catalysts for team success. Teams usually encounter some barrier to success. Expert coaching and mentoring can help restart stalled teams and help them achieve an order of magnitude better performance over traditional teams.

Some projects are extremely difficult, if not seemingly impossible. Some people may be difficult to manage and may not easily succumb to the measures of teamwork. However, if the team size, timelines, and deliverables can be kept small and manageable, then the probability of success increases dramatically. In today's environment, a good definition of project success is "done."

Agile project management posits that teams are the best approach to solve complex problems. It combines many traditional ideas into a unified paradigm for managing teams in the 21st century. It leverages the power of small teams and short timelines. However, it also recognizes today's projects are in dire need of leadership now more than ever to 'git-r-done' in spite of the odds.

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