

Managing Impediments: An Agile Case Study

By Dick Carlson



Introduction

This case study involves situations and conditions that arose during a large, enterprise level program involving the modification of a large and complex, commercial-off-the-shelf (COTS) product that was selected to replace existing, obsolete product data management systems. The Scrum approach was selected for managing project execution and implementation, and the project was expected to continue for at least eight years or more. The contract involved defining and developing modifications supporting future deployments.

The program was decomposed into seven technical and domain functions—each of which required a separate Scrum Team, Product Owner, and Scrum Master. As the program’s Agile Coach, I was chartered to train and coach everyone in the program from senior executives to new team members. This paper addresses the impacts that impediments had on the program and the steps taken as the transformation leader to resolve the impediments including several mitigation strategies that were necessary to assure the success of the project.

Background

An impediment is anything that presents an obstruction, hindrance, or obstacle or delays action or work in progress; or it can be any structure, policy, or event that makes progress challenging, difficult, or impossible.

In an Agile project, anything that prevents team members from performing work as efficiently as possible is an impediment. Each team member has an opportunity to identify impediments anytime and especially during the Daily Scrum meeting. The Scrum Master is responsible to ensure impediments are resolved by arranging follow-up meetings after each Daily Scrum meeting.

During pressing times during the workday, teams are tempted to put off the identification of impediments in favor of completing work in progress. Often, team members identify multiple impediments only to never resolve any of them. Both of these actions are *always* judgment errors, so the Scrum Master must assure team members remain disciplined, transparent, and address all impediments as they occur. This project was no exception. The most significant impediments the teams encountered included:

- Unscheduled training required during sprints
- Critical supporting infrastructure, permissions, and technologies not being in place
- Some team members lacked requisite skills or domain knowledge
- Product Owners were either unskilled or untrained in Scrum
- Some Product Owners failed to attend sprint planning meetings
- Too much effort went into design aspects that were planned months or years ahead
- Foundational policies and coding standards were not in place
- Some teams experienced both overstaffing and understaffing issues
- There was little or no intergroup coordination (not communicating)
- Outsourced team members lacked domain and technical knowledge that caused extensive learning delays
- Lack of active support by program management and leadership
- Team members and sponsors lacked commitment
- Unplanned vacations that became a surprise to team members and project management

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The first few sprints were hampered severely by the need to learn certain tools needed to complete work tasks. Thus, the teams were burdened with unfamiliar tools and technologies that had not been set up. Teams lost a significant amount of sprint time by not being able to access certain tools, interfaces, applications, or other components. Most team members lacked the skills to properly utilize the tools and had to be trained, which had a negative impact on sprint activities. Some team members had insufficient domain knowledge. Outsourced team members had a relatively long learning leading time that affected team productivity. Several Product Owners came in with persuasive command and control techniques and were untrained in Scrum, and almost immediately became very disruptive, which did not go well with team members. These Product Owners attempted to “take over” their sprints using traditional controlling techniques, which were attributes inappropriate for people who represented customers, users, and other key stakeholders.

Changes Made

The first and foremost action that I took was training all Product Owners, team members, and Scrum Masters the basics of Scrum before their next sprint’s planning session. Several Product Owners showed up late for sprint planning meetings or joining the project and could not be trained adequately before their sprints began. After a discussion with management, I convinced them that their commitments to support the project and take a firm lead in resolution were important if Scrum was to be used; otherwise they would have to take the blame should things go awry. Once they understood the importance of their roles, they made it mandatory that all project personnel assigned to teams were required to attend my Scrum training sessions.

The next challenge was to have all tools, infrastructures, components, policies, coding standards, and applications needed by developers to perform work properly installed and available for all teams through the end of the project. I suggested a team of “specialists” be established as a *foundational* team that would operate as other teams using the Scrum method. During the same discussion with program leadership, they agreed to follow through with their promises to see that these items were developed, prepared, and made available. Other corrective actions that were taken included:

- Addressing the issue of team members who lacked the requisite skills and domain knowledge, I confronted management and reminded them of their commitment of providing people who possess requisite skills and knowledge.
- All new Product Owners untrained in Scrum were required to take my one-day Agile and Scrum course, or the 2-day Certified Scrum Master course offered by vendors sanctioned by the Scrum Alliance.
- The problem of unavailable Product Owners was largely due to multi-tasking, so I had to remind management that as long as this was allowed to continue, team productivity would continue to suffer. I also recommended that Product Owners who were not available should be replaced immediately by someone having equal domain and technical knowledge who was available.
- Too much design effort was due to some team members who did not understand the Agile principle that says, “*The best architectures, requirements, and designs **emerge** from self-organizing teams.*” They felt compelled to make critical design decisions too early. After they learned that Agile teams design, code, and test a little each sprint, they became more productive and less wasteful of valuable time.

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- Regarding foundational policies and coding standards not being in place, such policies should have been included in guidelines prior to the start of the program. Although this took some time and team resources to accomplish, this was resolved eventually and successfully.
- The problem of little or no intergroup coordination (teams not communicating) were resolved by implementing Scrum-of-Scrums meetings to encourage knowledge sharing between team members, Product Owners, Scrum Masters, and all levels of management.
- The problem of outsourced team members who lacked domain and technical knowledge (long learning curves) caused some team members to spend time with outsourced team members to help bring them up to speed. This activity adversely affected their productivity, which resulted in a loss of time not spent on working their tasks, which created additional team impediments. (Note: Outsourced members were hired from external companies who provided qualified personnel to complete a specified amount of work for an established period of time.)
- The lack of active support by project management and sponsors to resolve impediments that were beyond the sphere of influence of core team members was brought to attention of senior management when I mentioned this at a major project review. By scheduling several meetings with senior managers and sponsors, I was able to point out the adverse effects their lack of active resolution was having to several of the teams using metrics that all were familiar. They realized their mistake and set up methods to better identify, prioritize, and resolve escalated team impediments.
- Vacations, especially during summer months, caused a significant loss in team productivity. Vacations and holidays are natural phenomenon, but through a lack of planning they had not been considered. After experiencing the adverse impact, team members, Scrum Masters, and Product Owners accepted the responsibility for factoring in vacations and holidays when planning each sprint and release.

Conclusion

This program provided interesting insights into the kinds of impediments that a team should be able to identify, manage, and resolve, including the methods for dealing with them. Although not all of the impediments were resolved satisfactorily, at least 75% of existing and new impediments were resolved without further project delays, and the identification of other impediments and their mitigation strategies were established, which helped to speed up their resolution.

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About the Author

Dick Carlson has been an active Agile transformational leader for many small and large projects, and has frequently shared his experiences of successful Agile, Lean, and Scrum implementations at conferences, workshops, and symposia, and regularly advises executives and organizational leaders on the cost, quality, and schedule benefits of using those initiatives and techniques. He has actively coached teams for more than 20 years on Agile and Lean Project Management fundamentals, and follows up with mentoring activities to ensure successful project execution. Dick has also provided concentrated Agile coaching support and led many organizations, programs, and projects ranging in size from six to more than 2,000 engineers that ranged in costs from less than \$50,000 to more than \$1.4B.

Dick used Scrum practices and principles to manage and form the start-up of the Agile & Lean Education Associates (ALEA) Company that began July 2013. He continues to share his practical knowledge of Agile, Lean, and Scrum through more than two decades of experience by means of Agile and Lean training and the right amount of coaching to companies and other activities that want to increase their competitive advantage. The ALEA Company website (<http://www.a2zalea.com>) provides information about who we are and what we do.