

PART I

Extending Our View beyond Projects

“Computer science is no more about computers than astronomy is about telescopes.”

—E. W. Dijkstra

What Is Software Development?

Some have compared software development to engineering or to building construction. Developers take requirements and build products that customers can use. The problem with this comparison is that, unlike those other disciplines, software development almost never starts with clearly defined requirements and rarely specifies clear approaches for construction. What is needed and how to get there often is often more a process of discovery than a clearly defined, up-front plan.

We often think of software as the end goal. But it is not. Software is a means to an end—a way of getting value to a customer. In software products, the software enables the customer to do things (for example, accounting software enables a company to keep its books in order). In IT organizations, the software supports the services and products of the company. Seen this way, software development can be thought of as the process of discovering what is needed, determining how to build that, and then building it. The advantage of Agile over the Waterfall model is that it enables these three to be done in an evolutionary fashion, incorporating what is learned along the way.

Among other things, this process of discovery helps to mitigate the risks that plague software projects: market risk, the risk that the product specification does not meet the market requirement; and technical risk, the risk that the implementation does not meet the product specification.

Don Reinertsen says, “In general, most product failures are caused by market risk. This is not because marketing people are less competent than designers, but rather because market risk is a much tougher problem than technical risk.” (Reinertsen 1997)

The Software Development Team and Flow

When introducing Agile to an enterprise, it is common to start by introducing Agile to individual teams. Early on, this makes sense; however, a broader view is soon needed. For Agile to become useful to the entire organization, you must consider the entire value stream:¹ from customers to management to product enhancement to development teams to customer deployment.

As shown in Figure PI.1, the flow starts with customers. In commercial product development, these are external customers; in IT shops, these are

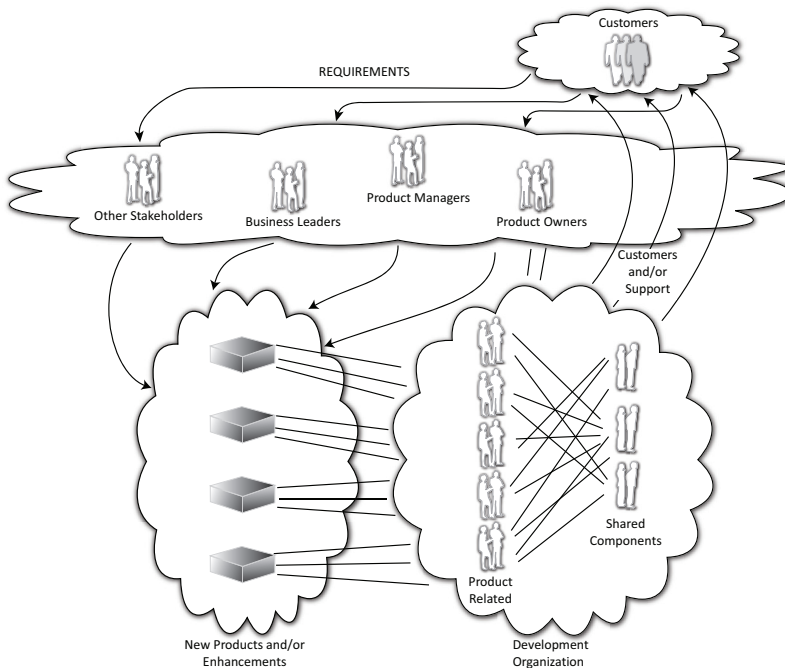


Figure PI.1. The value stream of software development

1. For now, think of a value stream as the chain of actions that flows from customer input/requirements to product deployment and use.

internal customers who will use the product for business purposes. Ideas originate with recognition of customer needs. They are discussed by management, product managers, product owners, and other stakeholders, such as marketing. These people are represented in the long, horizontal cloud just under the Customers cloud. Together, they determine what products will be built, enhanced, or otherwise supported. They launch projects (shown in the lower-left cloud) that provide a budget for this development work. Development teams (on the lower-right side) work directly on the products to be built or enhanced or as support (component) services that these teams use. When development is completed, product deployment is coordinated by support and management (who initiated the product work in the first place).

IN THIS PART

The chapters in this part describe the piece of the software-development value stream that occurs before the development team gets its hands on it. This is important because many projects seem to take longer in their initiation phase than they do in their construction phase. Shortening this start-up time is one key to reducing the time to market.

This part also offers a brief overview of Lean Software Development. It describes some of the things involved in creating an Agile enterprise:

- Picking the right products and product enhancements in order to maximize return on investment and to enable teams to work efficiently
 - Keeping the big picture in mind while working on the small pieces of a project
 - Allocating teams to the products approved for creation or enhancement
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Business-Driven Software Development (BDS) is Net Objectives' proprietary integration of Lean-Thinking with Agile methods across the business, management and development teams to maximize the value delivered from a software development organization. BDS has built a reputation and track record of delivering higher quality products faster and with lower cost than other methods

BDS goes beyond the first generation of Agile methods such as Scrum and XP by viewing the entire value stream of development. Lean-Thinking enables product portfolio management, release planning and critical metrics to create a top-down vision while still promoting a bottom-up implementation.

BDS integrates business, management and teams. Popular Agile methods, such as Scrum, tend to isolate teams from the business side and seem to have forgotten management's role altogether. These are critical aspects of all successful organizations. In BDS:

- **Business** provides the vision and direction; properly selecting, sizing and prioritizing those products and enhancements that will maximize your investment
- **Teams** self-organize and do the work; consistently delivering value quickly while reducing the risk of developing what is not needed
- **Management** bridges the two; providing the right environment for successful development by creating an organizational structure that removes impediments to the production of value. This increases productivity, lowers cost and improves quality

Become a Lean-Agile Enterprise

All levels of your organization will experience impacts and require change management. We help prepare executive, mid-management and the front-line with the competencies required to successfully change the culture to a Lean-Agile enterprise.

Prioritization is only half the problem. Learn how to both prioritize and size your initiatives to enable your teams to implement them quickly.

Learn to come from business need not just system capability. There is a disconnect between the business side and development side in many organizations. Learn how BDS can bridge this gap by providing the practices for managing the flow of work.

Why Net Objectives

While many organizations are having success with Agile methods, many more are not. Much of this is due to organizations either starting in the wrong place (e.g., the team when that is not the main problem) or using the wrong method (e.g., Scrum, just because it is popular). Net Objectives is experienced in all of the Agile team methods (Scrum, XP, Kanban, Scrumban) and integrates business, management and teams. This lets us help you select the right method for you.

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| <p>Assessments</p> <p>See where you are, where you want to go, and how to get there.</p> <p>Business and Management Training</p> <p>Lean Software Development Product Portfolio Management Enterprise Release Planning</p> | <p>Productive Lean-Agile Team Training</p> <p>Team training in Kanban, Scrum Technical Training in ATDD, TDD, Design Patterns</p> <p>Roles Training</p> <p>Lean-Agile Project Manager Product Owner</p> |
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