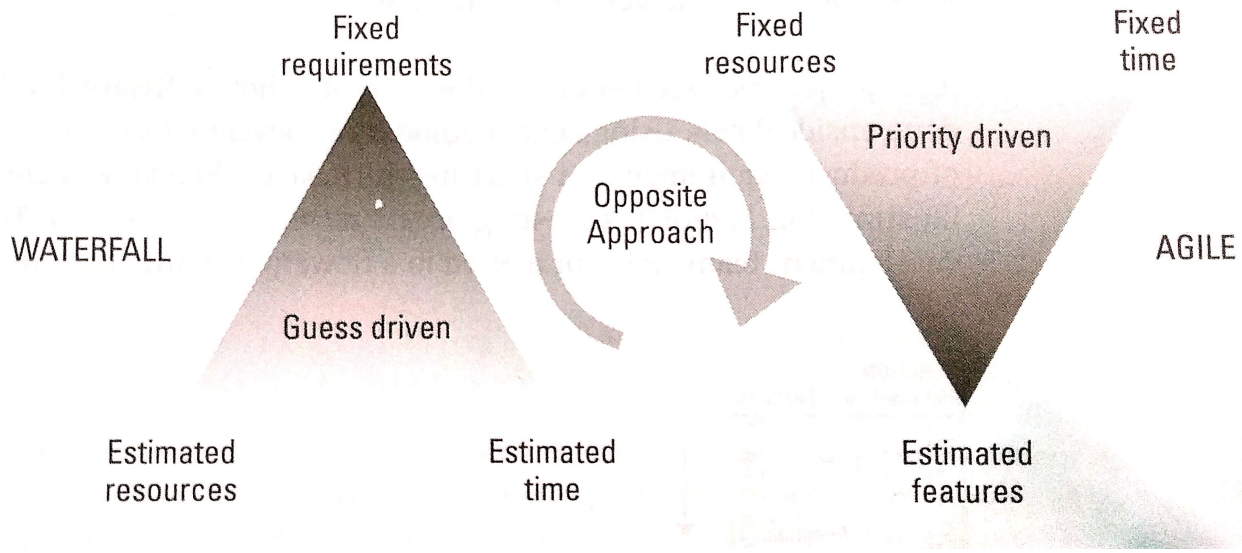

FIGURE 3-1: A comparison of historical project management and agile concepts.

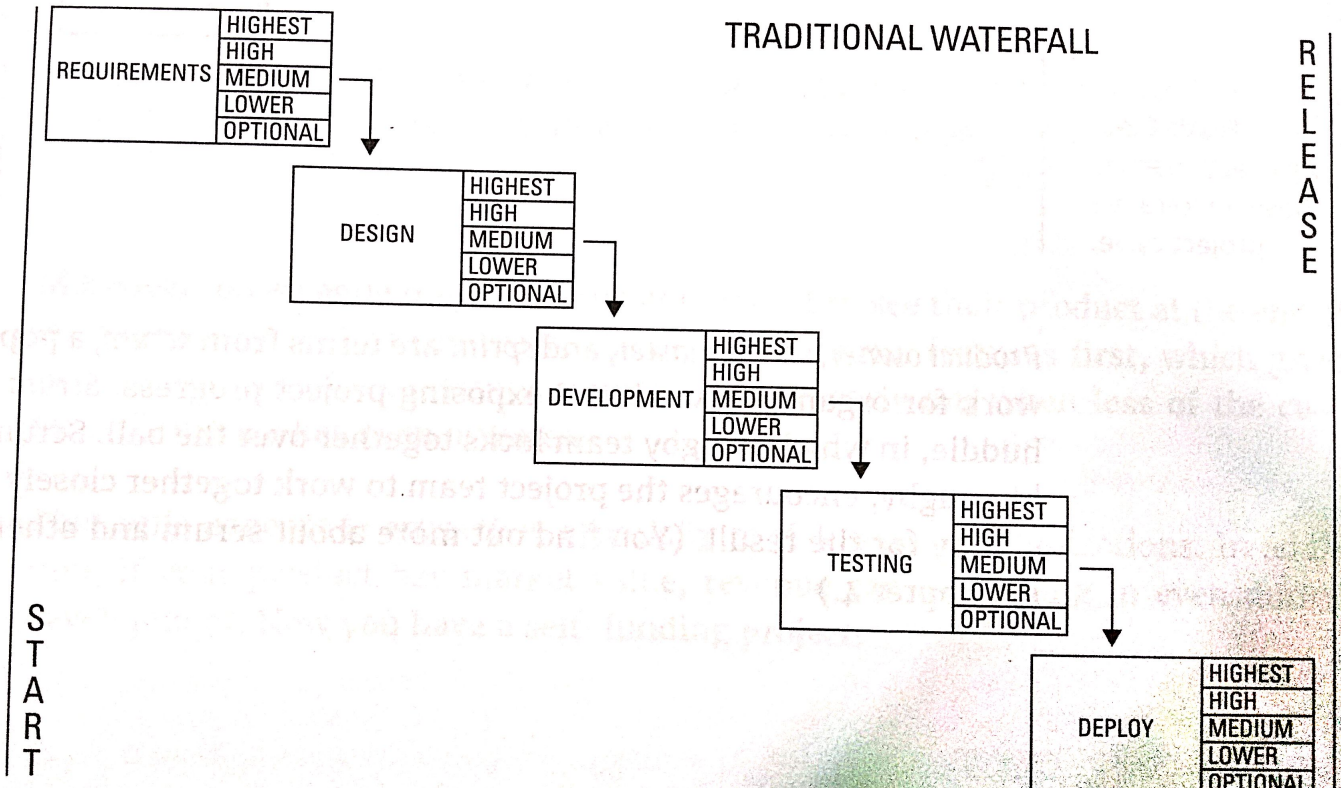

FIGURE 3-2: The waterfall project cycle is a linear methodology.

WHERE THE WATERFALL FALLS SHORT

As we mention in Chapter 1, before 2008, waterfall was the most widely used traditional project management methodology. The following list summarizes the major aspects of the waterfall approach to project management:

- The team must know all requirements up front to estimate time, budgets, team members, and resources. Knowing all the requirements at the project start means you have a high investment in detailed requirements gathering before any development begins.
- Estimation is complex and requires a high degree of competence and experience and a lot of effort to complete.
- The customer and stakeholders may not be available to answer questions during the development period, because they may assume that they provided all the information needed during the requirements-gathering and design phases.
- The team needs to resist the addition of new requirements or document them as change orders, which adds more work to the project and extends the schedule and budget.
- The team must create and maintain volumes of process documentation to manage and control the project.
- Although some testing can be done as you go, final testing can't be completed until the end of the project, when all functionality has been developed and integrated.
- Full and complete customer feedback is not possible until the end of the project, when all functionality is complete.
- Funding is ongoing, but the value appears only at the end of the project, creating a high level of risk.
- The project has to be fully complete for value to be achieved. If funding runs out prior to the end of the project, the project delivers zero value.

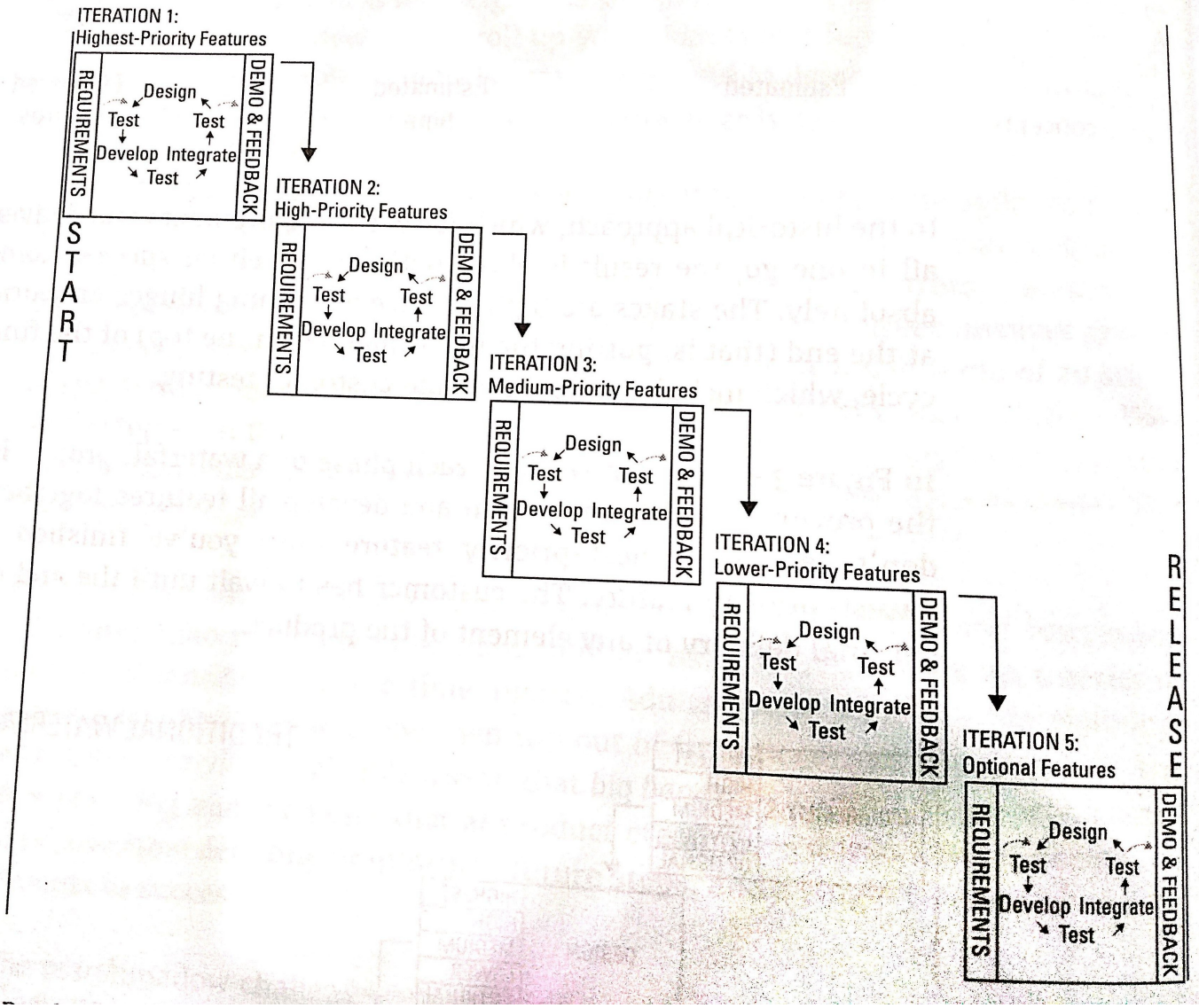

FIGURE 3-3: gile approaches ave an iterative project cycle.

How Agile Approaches Beat Historical Approaches

Agile frameworks promise significant advantages over historical methods, including greater flexibility and stability, less nonproductive work, faster delivery with higher quality, improved development team performance, tighter project control, and faster failure detection. We describe all these results in this section.

However, these results can't be achieved without a highly competent and functional development team. The development team is pivotal to the success of the project. Agile methods emphasize the importance of the support provided to the development team as well as the importance of project team members' actions and interactions.

REMEMBER

The first core value in the Agile Manifesto is "Individuals and interactions over processes and tools." Nurturing the development team is central to agile project management and the reason why you can have such success with agile approaches.

Agile project teams are centered on development teams (which include developers, testers, designers

How Agile Approaches Beat Historical Approaches

- **Product owner:** The *product owner* is a project team member who is an expert on the product and the customer's business needs. The product owner works with the business community and prioritizes product requirements, and supports the development team by being available to provide daily clarifications and final acceptance to the development team. (Chapter 2 has more on the product owner.)
- **Scrum master or agile coach:** The *scrum master or agile coach* acts as a buffer between the development team and distractions that might slow down the development effort. The scrum master also provides expertise on agile processes and helps remove obstacles that hinder the development team from making progress. The scrum master or agile coach facilitates consensus building and stakeholder communication.

Greater flexibility and stability

By way of comparison, agile projects offer both greater flexibility and greater stability than traditional projects. First, you find out how agile projects offer flexibility, and then we discuss stability.

A project team, regardless of its project management approach, faces two significant challenges at the beginning of a project:

- The project team has limited knowledge of the product end state.
- The project team cannot predict the future.

This limited knowledge of the product and of future business needs almost guarantees project changes.