

Agile Versus Waterfall Quiz Explanations

1. Which of the following is NOT a characteristic of a traditional plan-driven project approach:|

- Attempts to Define Detailed Requirements Upfront Prior to the Start of the Project
- May be Broken Up into Phases with Phase Gates to Approve Phase Transitions
- Change Control May be Implemented to Manage and Limit Changes in the Project as it Progresses
- Requires breaking up the project into iterations

Explanation: There is no requirement in a traditional plan-driven project to break up the project into iterations. (Don't confuse "iterations" with "phases") A traditional plan-driven project is normally broken up into phases (e.g., requirements, design, test); breaking up a project into iterations is different – that implies delivering part of the functionality incrementally.

2. A plan-driven project management approach is best suited for projects that have high levels of uncertainty

- True
- False

Explanation: A project with high-levels of uncertainty is the worst possible choice for a heavily plan-driven approach because a plan-driven approach attempts to define requirements in detail upfront in order to establish a plan for the project. Attempting to define requirements in that level of detail in a project with a very high level of uncertainty can be futile because it typically involves a lot of speculation which will often be wrong.

3. Documentation is inappropriate in an Agile project

- True
- False

Explanation: There is a misconception that Agile projects do not require any documentation at all. In many plan-driven projects, documentation such as requirements documents, specifications, etc. is a required deliverable to exit a given phase and sometimes that documentation is required to use a standard form and template to ensure that it is complete. Although there is no requirement for specific documentation in an Agile project, documentation is still useful and appropriate in an Agile project **where it adds value**. The key point is that you shouldn't create documentation for the sake of creating documentation.

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4. The problem with Agile and Waterfall is not so much that either approach is inherently bad, it is that they are misapplied

- True
- False

Explanation: There is a common misconception that "Waterfall is bad and Agile is good and that Agile is a better solution to any problem than Waterfall is". That misconception often results in the two approaches being misapplied. Agile and Waterfall should be viewed as complementary to each other rather than competitive and each has pro's and con's that need to be objectively understood to know when to use each of them or a combination of both successfully.

- A Waterfall (or plan-driven) approach works best in situations where there is a relatively low level of uncertainty and there is a need for some level of predictability about the project (for example, building a bridge across a river to fulfill a fixed-price contract).
- An Agile approach works best in situations where there is a relatively high level of uncertainty (for example, finding a cure for cancer would require a lot of trial-and-error and experimentation and would be almost impossible to develop a predictable, detailed plan for).

5. An Agile approach will always result in fastest time to market

- True
- False

Explanation: There is a misconception that Agile projects always results in the fastest time to market and that is not necessarily correct. Agile places a very heavy emphasis on maximizing the value delivered to the customer and some times that might require some trial-and-error experiments and prototyping to find an optimal solution particularly if there is a very high level of uncertainty in the customer's requirements. If the project is simple and the requirements are well-understood, a plan-driven approach might actually be a faster way to deliver the solution.

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6. Scope creep in an Agile project is normal and is to be expected

- True
- False

Explanation: Managing changes in scope is a characteristic of a plan-driven project. An Agile project normally does not limit changes; and, in fact, encourages customers to make changes in the requirements as the project progresses. For that reason, scope creep is normal and is to be expected in an Agile project.

7. An Agile approach should generally result in higher quality results

- True
- False

Explanation: Because the customer is directly involved in reviewing and approving the solution in an Agile project as the project progresses and provides feedback and input continuously, the results of the project are more likely to provide high levels of customer satisfaction. Another factor is that quality and quality testing are integrated into the design effort in an Agile project rather than being done as a sequential effort performed by another group. The entire team as a whole in an Agile project owns responsibility for the quality of the products that they produce – it is not someone else's responsibility to verify or validate the quality of the product. For those reasons, an Agile project should generally result in much higher quality results.

8. Reduced overhead and faster time to market are important characteristics of an Agile approach

- True
- False

Explanation: Overhead is reduced in an Agile project because unnecessary documentation is eliminated and the project management approach is significantly simplified – instead of requiring a separate project manager and additional project management controls, many of the project management functions have been absorbed into the other roles on the team and there is less need for project management controls with an Agile project. Agile projects normally provide faster time-to-market because upfront planning is significantly simplified, solutions are delivered incrementally wherever possible, and there is an emphasis on producing the minimum viable product quickly and then enhancing it only as necessary.

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9. A traditional plan-driven project is more likely to result in maximizing the business value the customer receives from the project

- True
- **False**

Explanation: Because the customer is less directly involved in the development effort in a plan-driven project, there is a much higher probability that the customer requirements may not be well-communicated and may be misunderstood. Also, because a plan-driven project typically involves some level of change control, it is likely to be more difficult to make changes in the requirements for the project to maximize the value delivered to the customer.

10. It is impossible to predict costs and schedules of an Agile project

- True
- **False**

Explanation: There is a common misconception that the choice between Agile and "Waterfall" is a binary, mutually-exclusive choice and the choice is between two extremes:

- An Agile approach that has very little or no upfront planning and where it is impossible to predict the costs and schedules of the project
- A very rigid and highly-controlled Waterfall approach with no flexibility for making any kind of changes once the project is in progress

The truth is that neither of those two extremes is commonly found in the real world and you don't often get the opportunity to do an Agile project with a blank check and no expectations about what the cost and schedule of the project might be. It is not difficult to provide a sufficient level of upfront planning in an Agile project to make an estimate of the scope of the effort in order to predict the costs and schedule of the project; however, it needs to be clearly understood by everyone involved that it is only an estimate and an estimate can never be more accurate than the requirements.

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11. An Agile approach would normally NOT be the most appropriate choice for building a bridge across a river

- True
- False

Explanation: Building a bridge across a river is normally a relatively predictable process that needs to be planned and controlled. In most cases, it would be silly to say that "We'll build the first span of the bridge, see how that comes out, and then decide how to build the remaining spans of the bridge". Such an effort would likely result in a significant amount of design rework if the design of the bridge were to change substantially in the middle of building the bridge and the resulting bridge might not be very reliable if a consistent and well-planned design approach was not used to design and build the bridge.

12. Analyze the following statement:

"According to the 2012 CHAOS report, Agile succeeds three times more often than Waterfall".

Which of the following is NOT a reasonable interpretation of this statement?

- The statement is probably accurate because it is based on an official CHAOS report
- The statement might be misleading because the terms "Agile" and "Waterfall" are used very loosely
- It's difficult to interpret this statement because the definition of "succeeds" isn't clear

Explanation: This statement is a good example of statements that are often made to characterize Agile as good and Waterfall as bad or evil. This kind of broad generalization is often inaccurate and misleading. What was the sample for this statement? How was it determined that Agile succeeds more? What do you mean by Waterfall? What do you mean by Agile?