



# Projects Approaches

أنواع المشاريع

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## Projects Life Cycles

Predictive Life Cycle

Iterative Life Cycle

Incremental Life Cycle

Agile Life Cycle

Hybrid Life Cycle

Degree  
of  
Change

Frequency  
of  
Delivery

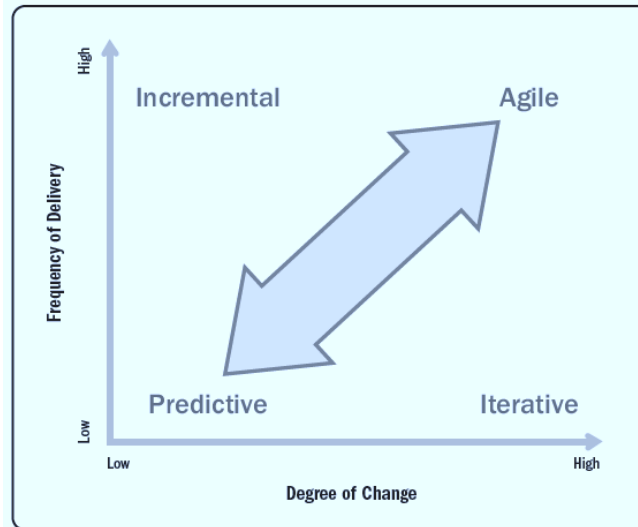
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Frequency  
of  
Delivery



Degree  
of  
Change

## Characteristics

Approach	Requirements	Activities	Delivery	Goal
Predictive	Fixed	Performed once for a given increment	Single delivery	Manage cost
Iterative	Dynamic	Repeated until correct	Single delivery	Correctness of solution
Incremental	Dynamic	Performed once for a given increment	Frequent smaller deliveries	Speed
Agile	Dynamic	Repeated until correct	Frequent small deliveries	Customer value via frequent deliveries and feedback

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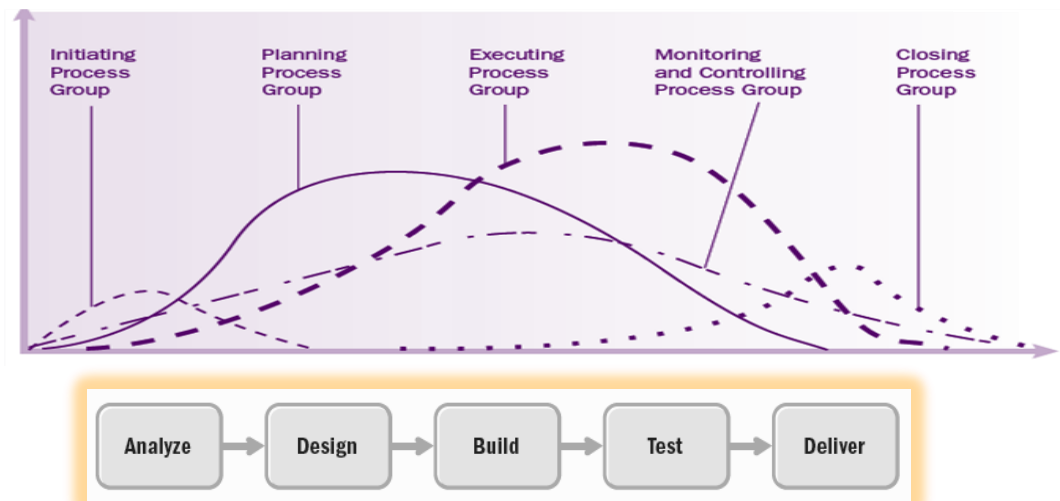
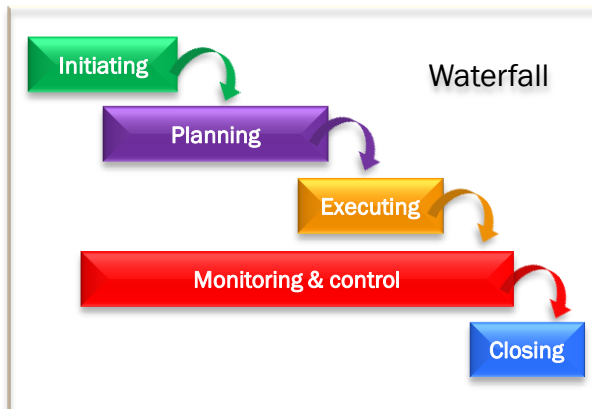


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## Predictive Life Cycle التنبؤ

- ❑ A more **traditional** approach, with the bulk of **planning** occurring **upfront**, then executing in a single pass; a sequential process.
- ❑ Predictive life cycles expect to take advantage of **high certainty** around firm requirements, a **stable team**, and **low risk**.
- ❑ When the team creates detailed requirements and plans at the beginning of the project, they can articulate the constraints. The team can then use those **constraints to manage risk and cost**. As the team progresses through the detailed plan, they **monitor and control changes** that might affect the **scope, schedule, or budget**.
- ❑ Predictive projects **do not typically deliver business value until the end of the project**. If the predictive project encounters changes or disagreements with the requirements, or if the technological solution is no longer straightforward, the predictive project will incur **unanticipated costs**.



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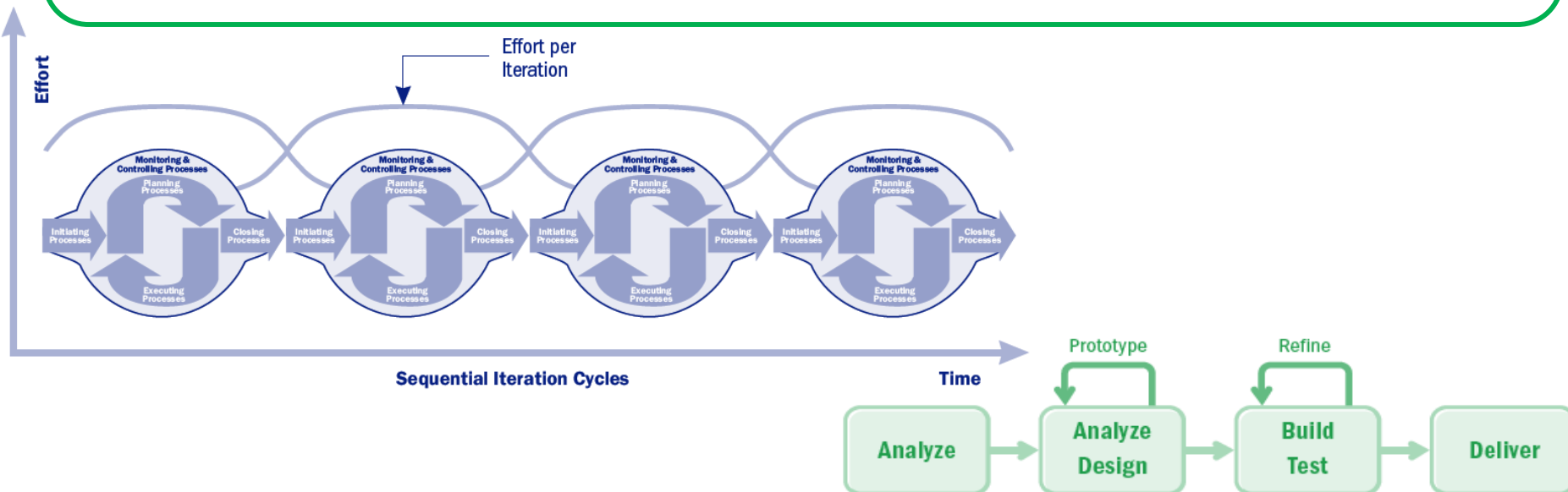


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## Iterative Life Cycle تكراري

- ❑ An approach that allows **feedback** for unfinished work to improve and modify that work.
- ❑ Projects benefit from iterative life cycles when **complexity is high**, when the project incurs **frequent changes**, or when the scope is subject to **differing stakeholders' views** of the desired final product.
- ❑ Iterative life cycles improve the product or result through successive **prototypes** or proofs of concept. Each new prototype yields new **stakeholder feedback** and team insights. Then, the team incorporates the new information by repeating one or more project activities in the next cycle.
- ❑ **Iterations** help **identify and reduce uncertainty** in the project.
- ❑ Iterative life cycles may **take longer** because they are optimized for learning rather than speed of delivery.



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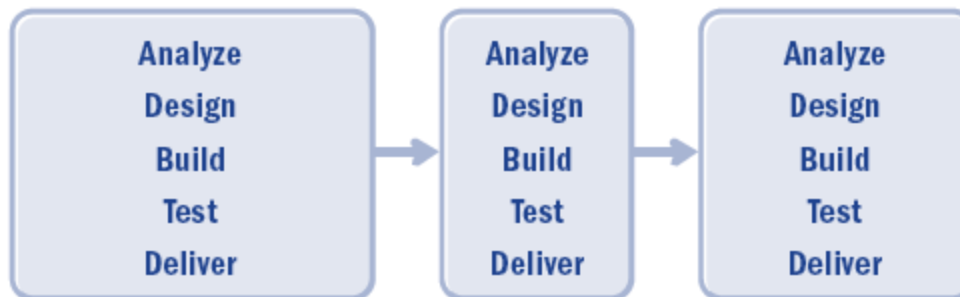


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## Incremental Life Cycle تدریجی

- ❑ An approach that provides finished deliverables that the customer may be able to use immediately.
- ❑ Some projects optimize for speed of delivery. Many businesses and initiatives cannot afford to wait for everything to be completed; in these cases, customers are willing to receive a subset of the overall solution. This frequent delivery of smaller deliverables is called an incremental life cycle



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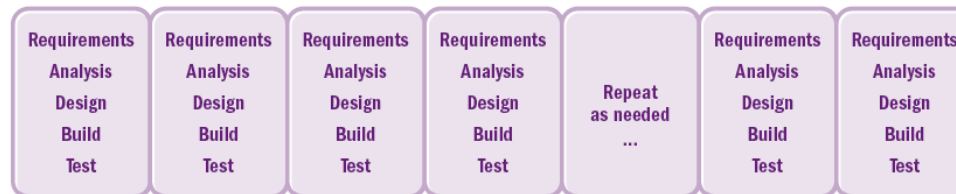
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## أساليب رشيقية (مرنة) Agile Life Cycle

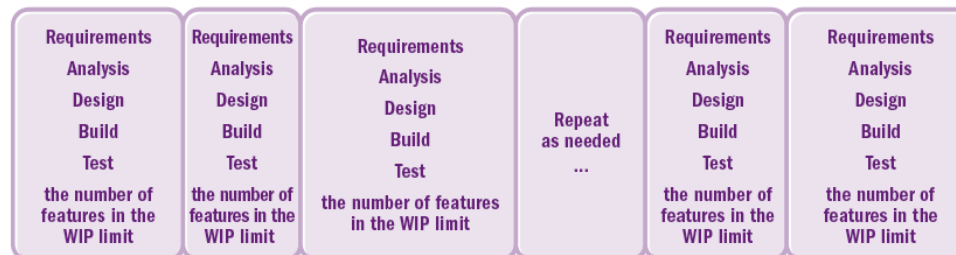
- ❑ An approach that is both **iterative** and **incremental** to **refine work items** and **deliver frequently**.
- ❑ Agile life cycles combine both iterative and incremental approaches in order to adapt to **high degrees of change** and deliver project **value more often**.
- ❑ Agile life cycles are those that fulfill the principles of the Agile Manifesto. In particular, customer satisfaction increases with **early** and **continuous delivery of valuable products**. Moreover, an incremental deliverable that is functional and provides value is the primary measure of progress.

### Iteration-Based Agile



NOTE: Each timebox is the same size. Each timebox results in working tested features.

### Flow-Based Agile



NOTE: In flow, the time it takes to complete a feature is not the same for each feature.

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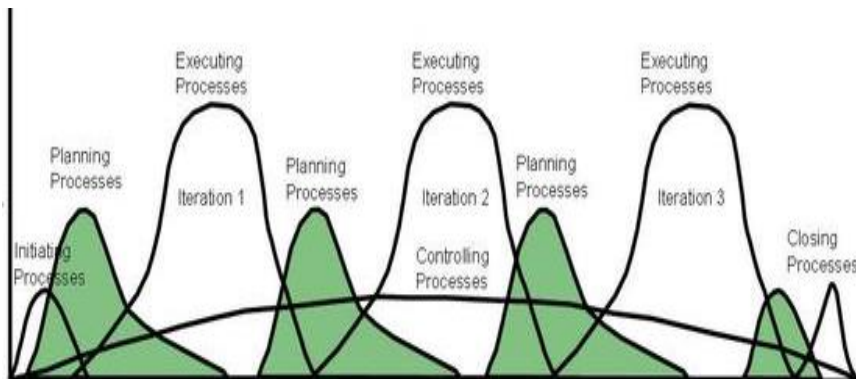
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## أساليب رشيقية (مرنة) Agile Life Cycle

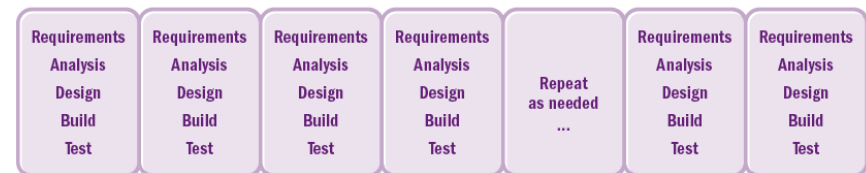
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## Adaptive Planning



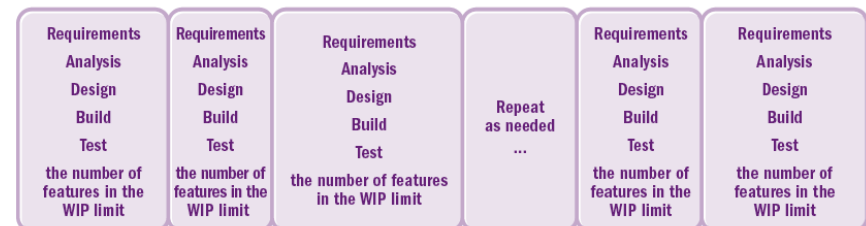
Rolling Wave  
الموجة

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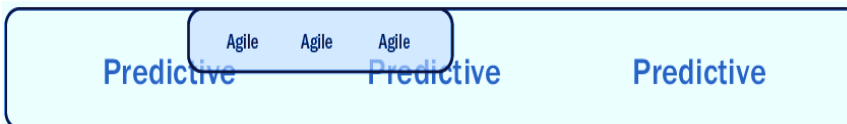


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## Hybrid Life Cycle هجين

- ☐ A combination of **predictive, iterative, incremental, and/or agile**
- ☐ It is not necessary to use a single approach for an entire project. Projects often combine elements of different life cycles in order to **achieve certain goals**.



- Can be used when there is **uncertainty, complexity, and risk** in the development portion of the project that would benefit from an agile approach, followed by a defined, repeatable rollout phase that is appropriate to undertake in a predictive way, perhaps by a different team.
- **Example :** the development of a new high-tech product followed by rollout and training to thousands of users.
- A combination of both predictive and agile approaches are used in the same project.
- **Example :** Perhaps the team is incrementally transitioning to agile and using some approaches like **short iterations, daily standups, and retrospectives**, but other aspects of the project such as upfront **estimation, work assignment, and progress tracking** are still following predictive approaches.
- A portion of the project with **uncertainty, complexity, or opportunity for scope creep** is being tackled in an agile way, but the remainder of the project is being managed using predictive approaches.
- **Example :** an engineering firm that is building a facility with a new component.
- This approach might be used when a particular element is **non-negotiable or not executable** using an agile approach.
- **Examples :** include integrating **an external component developed by a different vendor** that cannot or will not partner in a collaborative or incremental way. A single integration is required after the component is delivered.