# 📐 Chapter 8 — Defining and Estimating the Work of the Project

## **8.1 Introduction**

Defining and estimating project work is **essential for predictable delivery**. AgilePM v3 emphasizes **precision** in definition and **flexibility** in estimation to balance control and agility.

This chapter covers:

* Clear definition of **features, tasks, and deliverables**.
* Prioritization using **MoSCoW**.
* Estimation techniques: **T-Shirt Sizing, Fibonacci Story Points, Planning Poker, Ideal Hours**.
* Integration with **timeboxes and team capacity**.
* **Risk-adjusted estimation** to account for uncertainty.

## **8.2 Work Definition Principles**

Work is defined hierarchically to ensure all efforts map back to business value:

1. **Feature:** Delivers measurable **business functionality** (High-level).
2. **Task:** Concrete **technical actions** to implement a feature (Low-level).
3. **Deliverable:** Completed and **verified output** (The actual working product increment).

**Table 1 — Work Hierarchy and Estimation Method**

| **Level** | **Definition** | **Example** | **Owner** | **Estimation Method** |
| --- | --- | --- | --- | --- |
| **Feature** | Business functionality | Customer login | BA / Team | T-Shirt / Fibonacci |
| **Task** | Technical steps | Backend API implementation | Team | Ideal Hours / Fibonacci |
| **Deliverable** | Verified output | Tested login module | QA | Ideal Hours |

## **8.3 Product Breakdown Structure (PBS) vs. Work Breakdown Structure (WBS)**

AgilePM uses two structures for definition:

* **PBS (Product Breakdown Structure):** Focuses on **what** the project is delivering (the products/deliverables).
* **WBS (Work Breakdown Structure):** Focuses on **how** the work will be done (the tasks/activities).

**Best Practice:** Define the **PBS first** to ensure alignment on outcomes, then derive the WBS (tasks) from the products defined in the PBS.

## **8.4 Prioritization using MoSCoW**

MoSCoW is the definitive prioritization method in AgilePM, ensuring the team focuses effort on delivering **maximum business value** within the time constraint.

| **Priority** | **Definition** | **Guideline** | **Flexibility** |
| --- | --- | --- | --- |
| **Must Have** | Essential for the solution to be viable. | Cannot deliver without this. | No flexibility in scope. |
| **Should Have** | Important but not vital; can be delivered later. | Important, but a workaround exists. | Flexible, usually delivered. |
| **Could Have** | Desirable, but low impact if omitted. | Low priority, delivered if time permits. | Highly flexible (scope flex). |
| **Won't Have** | Excluded from the current delivery/release. | Formally deferred. | Out of current scope. |

## **8.5 Estimation Techniques in AgilePM v3**

The choice of technique depends on the **phase of the project** (level of certainty) and the **size of the item** being estimated.

### **8.5.1 High-Level Estimation (Feasibility/Foundations Phases)**

Used for **Features** or high-level scope items where precision is low.

* **T-Shirt Sizing (S, M, L, XL):** Used to estimate relative size of large features for overall budget/time allocation.
* **Wideband Delphi:** Group consensus technique for high-level estimates, promoting accuracy through diverse expert input.

### **8.5.2 Detailed Estimation (Evolutionary Development Phase)**

Used for **Tasks/Stories** during Timebox planning where high precision is required.

* **Fibonacci Story Points (SP):** (1, 2, 3, 5, 8, 13, 21...) Represents **relative effort, complexity, and uncertainty**.
* **Planning Poker:** A consensus-based technique using Fibonacci cards, ensuring all team members contribute their input anonymously.
* **Ideal Hours:** Focuses on the **actual development time** for a task, excluding overheads (meetings, emails).

**Table 2 — Estimation Technique Guide**

| **Technique** | **Unit** | **When to Use** | **Purpose** | **Owner** |
| --- | --- | --- | --- | --- |
| **T-Shirt Sizing** | Relative Size | Feasibility/Foundations | High-level budget/schedule | PM, BA |
| **Story Points** | Effort/Complexity | Evolutionary Development | Team capacity, Timebox planning | Team |
| **Ideal Hours** | Actual time | Timebox Planning (for detailed tasks) | Task allocation, burn-down | Team |

## **8.6 Risk-Adjusted Estimation**

AgilePM recognizes that estimates carry **inherent uncertainty**.

* **Process:** Identify risks, assess impact, and incorporate a **time/effort buffer** into the estimate.
* **Buffer Management:** The buffer should be managed by the **Project Manager** and is typically released as risks are resolved or mitigated.

**Formula Example:**

$$\text{Final Estimate} = \text{Initial Estimate} \times (1 + \text{Risk Factor})$$

$$\text{Initial Estimate} (\text{SP}) = 5 \text{ SP}$$

$$\text{Risk Factor} (\text{Uncertainty}) = 20\%$$

$$\text{Risk-Adjusted Estimate} (\text{SP}) = 5 \times 1.20 = 6 \text{ SP}$$

## **8.7 Planning and Timebox Integration**

AgilePM uses estimates to manage the **Timebox Plan**.

### **8.7.1 Timebox Capacity**

* The **Team's Capacity** (Velocity in SP or available Ideal Hours) is fixed for a timebox.
* The **Scope** (Features/Tasks) must flex to fit the capacity (**Must Haves** are prioritized first).

### **8.7.2 Velocity**

* **Velocity** is the **average amount of work (SP) the team completes per timebox**.
* It is calculated from past performance and used to **forecast future delivery**.

$$\text{Average Velocity} = \frac{\sum \text{Completed Story Points in Previous Timeboxes}}{\text{Number of Timeboxes}}$$

**Table 3 — Timebox Planning Example**

| **Feature** | **MoSCoW** | **Estimated SP** | **Timebox Allocated** |
| --- | --- | --- | --- |
| Payment Gateway | Must Have | 8 | TB1 |
| Order Confirmation | Must Have | 5 | TB1 |
| Admin Reporting | Should Have | 8 | TB2 |
| UI Customization | Could Have | 3 | TB2 |
| **Team Velocity:** 15 SP/Timebox | **TB1 Total:** 13 SP | **TB2 Total:** 11 SP |  |

## **8.8 Metrics for Estimation Accuracy**

Tracking metrics ensures continuous improvement of estimation and predictability.

| **Metric** | **Definition** | **Purpose** | **Owner** |
| --- | --- | --- | --- |
| **Velocity** | Points completed per timebox | Forecast capacity & delivery date | PM / Team |
| **Forecast Accuracy** | Actual delivery vs. planned delivery | Predictability of project | PM |
| **Rework Rate** | Effort spent fixing defects | Quality and estimation accuracy | QA / Team |
| **Estimate Variance** | Actual effort vs. initial estimate | Identify estimation biases | PM / Team |

## **8.9 Summary**

* Work hierarchy: **Feature → Task → Deliverable**.
* Prioritize with **MoSCoW**.
* Choose estimation method by **phase, complexity, and team experience**.
* Apply **risk-adjusted effort**.
* Align **estimates with timeboxes and capacity** using **Velocity**.
* Use **PBS for products**, **WBS for tasks**, and link the two for complete visibility.
* Track **metrics** to continuously improve estimation accuracy.

**Table 16 — Key Takeaways**

| **Focus** | **Recommendation** | **Outcome** |
| --- | --- | --- |
| Feature Definition | Clear, measurable | Predictable delivery |
| Estimation Method | Align with phase | Accurate forecasts |
| Risk Adjustment | Include buffer | Avoid overruns |
| Timebox Planning | Match SP/hours to capacity | Avoid overcommitment |
| PBS / WBS | PBS first, WBS from PBS | Productive planning & visibility |
| Metrics | Track accuracy & rework | Continuous improvement |

Le Chapitre 8 est maintenant formaté. Voulez-vous que je continue avec le **Chapitre 9** ?