

COO\$T

A vibrant, stylized illustration featuring business professionals and financial symbols. In the center, a large red dollar sign (\$) is integrated into the word 'COO\$T'. To the left, a woman in a pink top and grey pants stands near a large green leaf. To the right, a man in a blue shirt and yellow pants holds a white document, and a woman in a green top and pink pants stands nearby. The background is filled with various elements: a large grey dollar sign, a paper airplane, a globe, and abstract geometric shapes in shades of pink, green, and blue. The overall style is modern and professional.

MANAGEMENT

Process of estimating, budgeting and controlling costs throughout the project life cycle, with the objective of keeping costs within the approved budget.



Project Cost Management?



Project Success

- Delivers on the requirements & scope
- Execution quality is of a high standard
- Completed within schedule
- Completed within budget.

What exactly meant by Cost Management?

It is the process of planning and controlling the costs associated with running a business.

It includes collecting, analyzing & reporting cost information for effectively budget forecast and monitor costs.

Cost management overall is a complicated process. However, critical knowledge area.

It can be broken down into four area
Resource planning, Cost estimation, Cost budget, Cost control



Key Element of Cost

Cost management plans keep all project costs in one place, including direct and indirect costs.

A project manager will track these costs to ensure there are no budget overruns.

5 Type of costs

- Direct cost
- Indirect cost
- Fixed cost
- Variable cost
- Sunk cost



Direct Cost

- ❑ Linked to doing the work of the project.
- ❑ Most common type of cost that a business/organization incur.
- ❑ Direct costs associated with the production of a product or service.
- ❑ Include items such as the raw materials needed to create a product, the cost of labor, and any distribution or delivery costs.
- ❑ A car manufacturer's direct costs would be the costs of the raw metals and materials and the wages of the employees who make the cars.
- ❑ This could include hiring specialized contractors, buying software licenses or commissioning and testing the new prototype car.



Indirect Cost

- ❑ These costs are not specifically linked to project but are the cost of doing business overall.
- ❑ Indirect costs are expenses that the company still has to pay that aren't directly related to production.
- ❑ Heating, lighting, office space rental, stocking the communal coffee machine and so on.
- ❑ An indirect cost of manufacturing cars would include the electricity used to power the machines and the factory.
- ❑ You can relate this cost to production, it's not directly related because the car company uses electricity for all aspects of its business.



Fixed cost

- ❑ Fixed costs are everything that is a one-off charge.
- ❑ Not linked to how project duration.
- ❑ Costs of a business that don't vary over time
- ❑ Don't change depending on output.
- ❑ They're generally one of the easiest costs to work out.

Company has to spend on rent for a building.
Even if the company produces 10 times the amount of product it usually does, its cost of rent won't change. The only time when this cost might change is if the company moves to bigger premises.



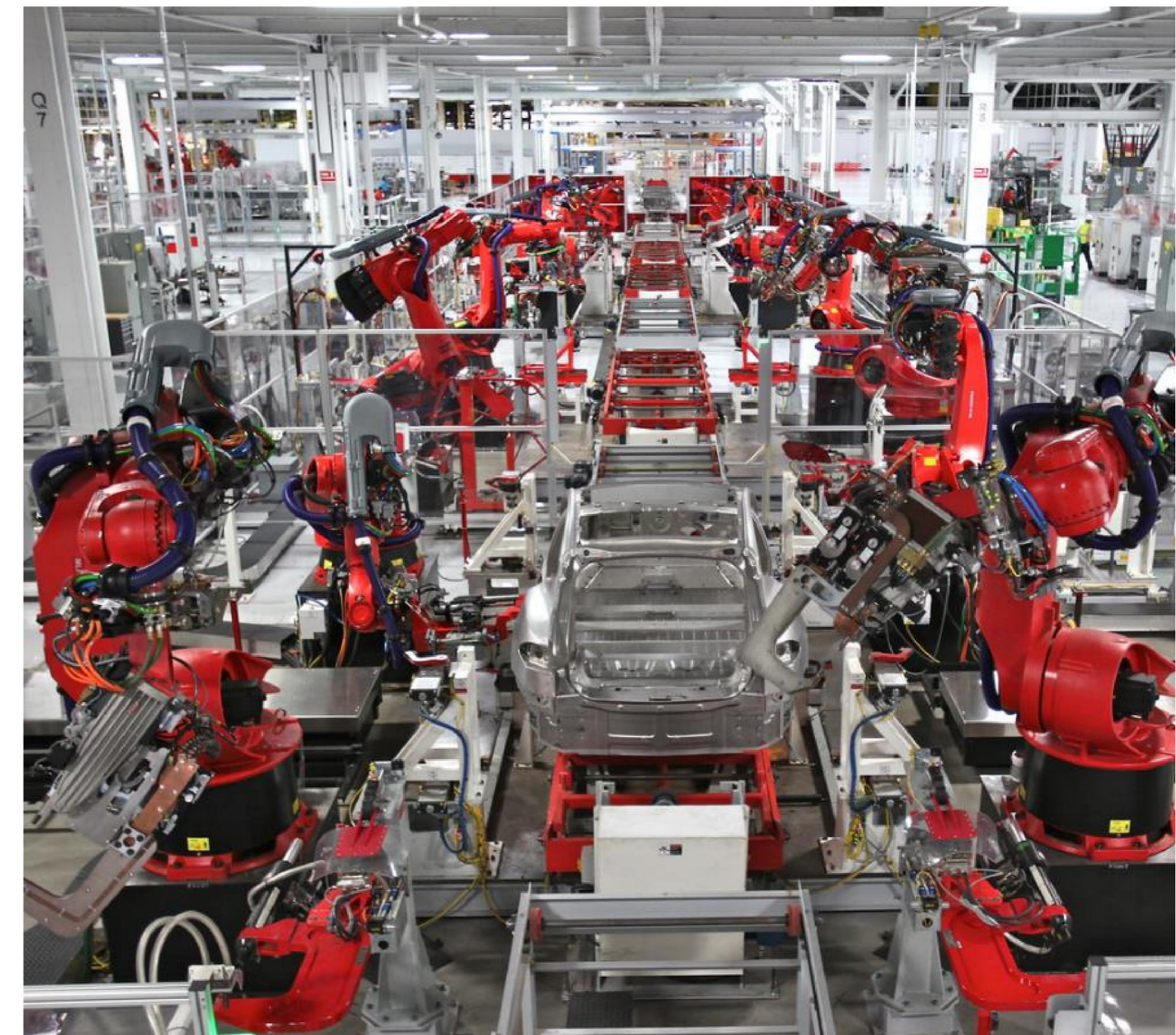
Variable cost

- ❑ Opposite of fixed costs – charges that change over project duration.
- ❑ Type of business expense that varies with production.
- ❑ If the level of **production/Scope increases**, the variable **costs increase**.
- ❑ if the level of **production /Scope decreases**, the variable **costs also decrease**.
- ❑ These costs can include direct labor costs or sales commissions.
- ❑ It's more expensive to pay staff salaries over a 12 month project than a 6 month one. Or Machine hire over 8 weeks is more costly than for 3 weeks.
- ❑ For example, a company that offers sales commissions to each salesperson would see an **increase in its variable costs if its sales increase**. But if the company **sees a drop in sales**, it would also see a **drop in the amount of commission** that it would have to pay.



Sunk cost

- ❑ Costs that have **already been incurred**.
- ❑ They could be of **any of the types of cost**, but the point is that they have happened. These costs are often **forgotten in business cases**, but they are essential to know about.
- ❑ **Historic and can't be reclaimed**, but businesses don't have to consider these costs in future business decisions.
- ❑ **While the business can't recover this money, it may be able to make a profit** as a result of spending the money.
- ❑ A car manufacturing company might spend £10,000 on new equipment. This is a sunk cost, but the new equipment can help the company make more cars over time, which can increase its profit. This is why businesses often don't consider sunk costs when making decisions.



OK !! Now
you know
what is
Cost & it's
type.

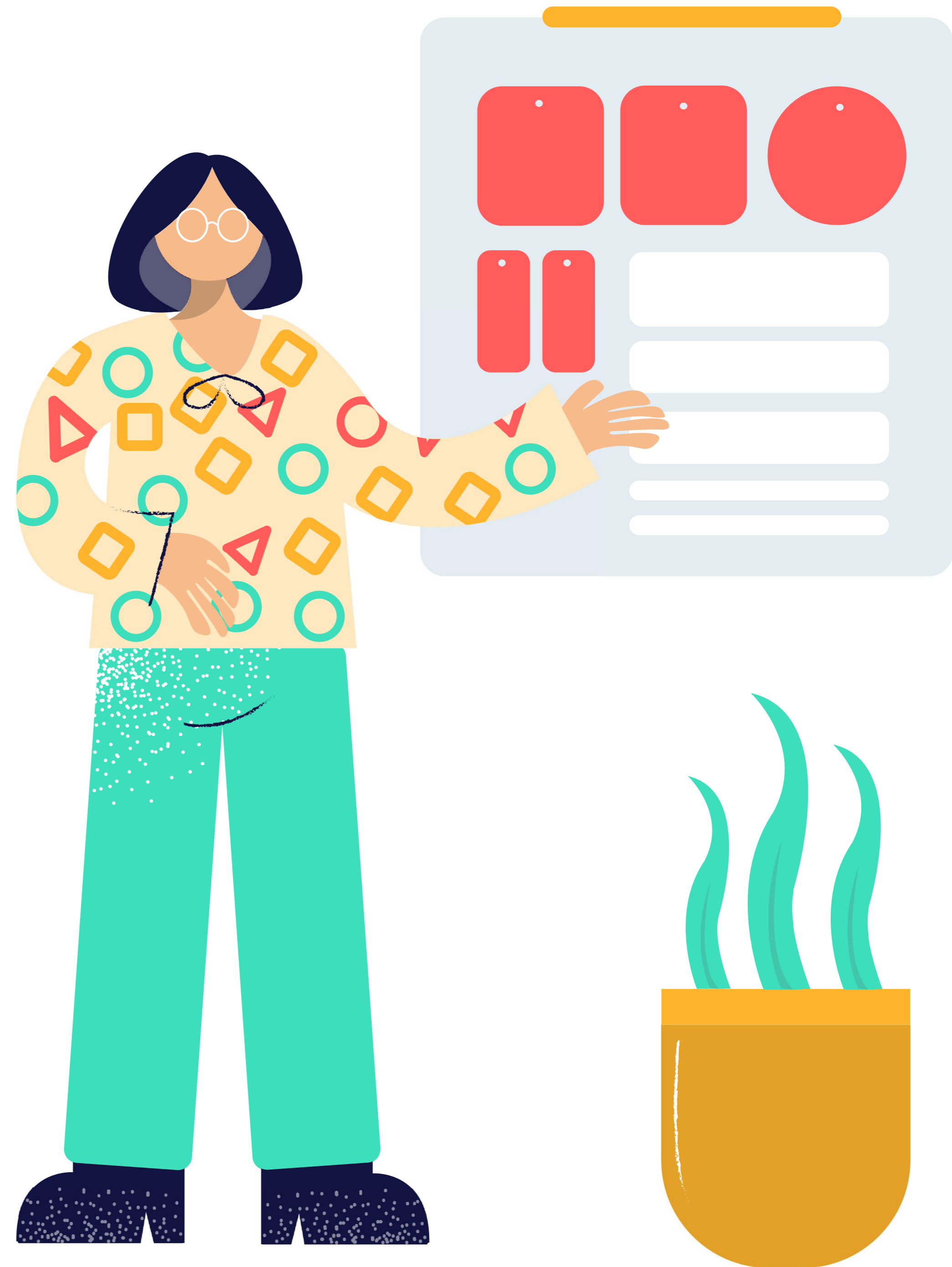
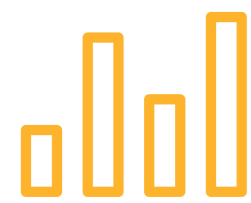


Cost Management Processes

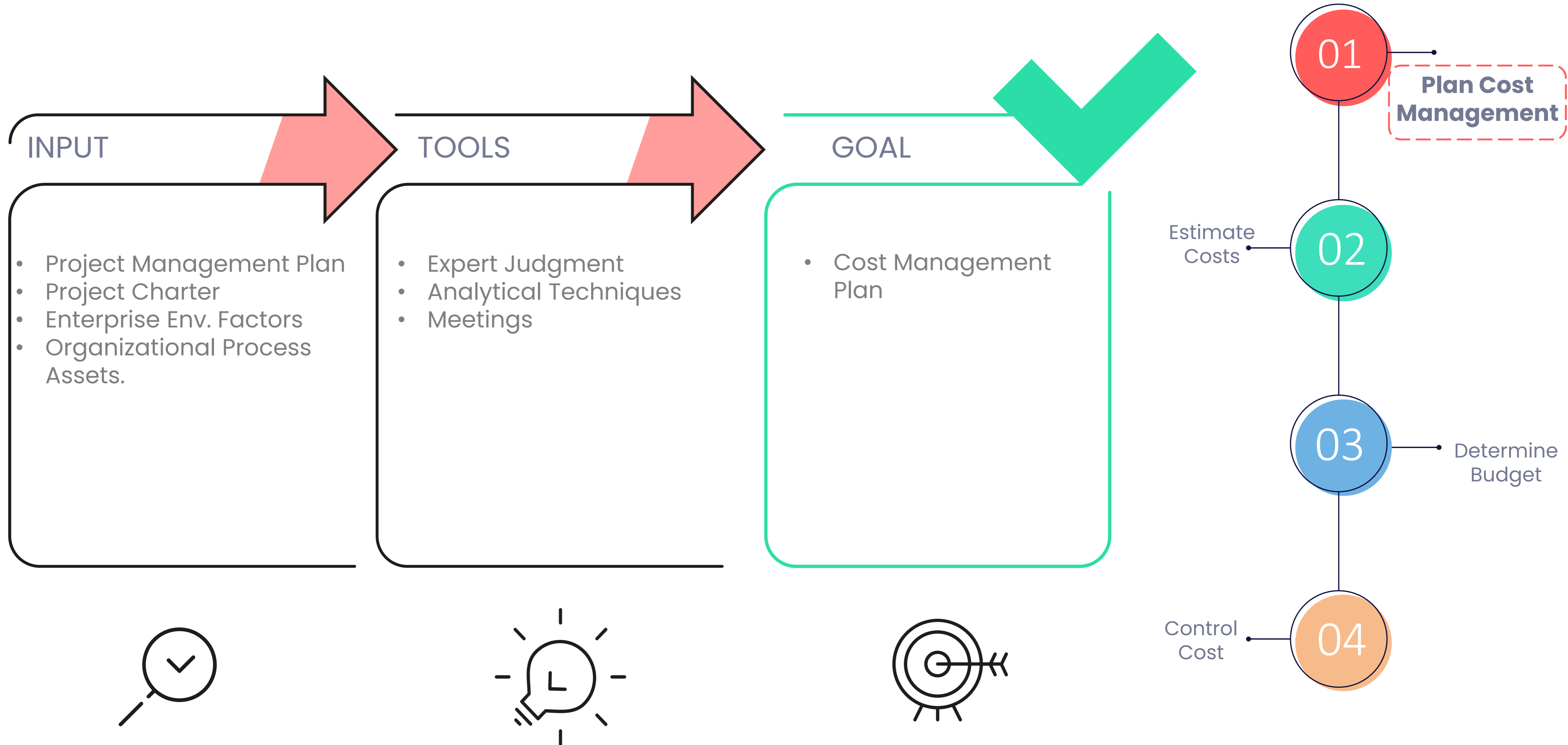


Plan Cost Management

Process that establishes the policies, procedures, and documentation for planning, managing, expending, and controlling project costs.



Plan Cost Management

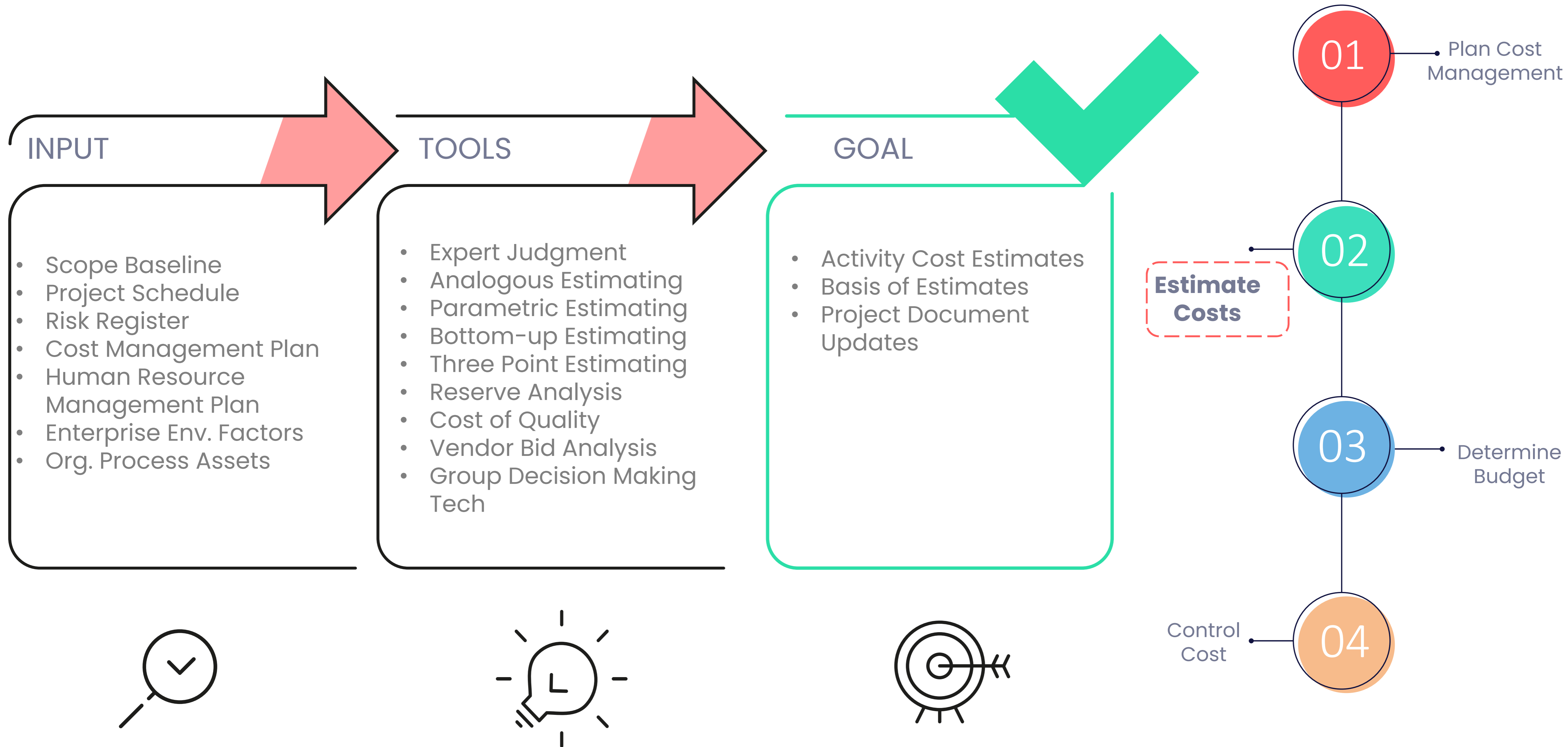


Estimate Costs

Process of developing an approximation of the cost of resources for the project activity.

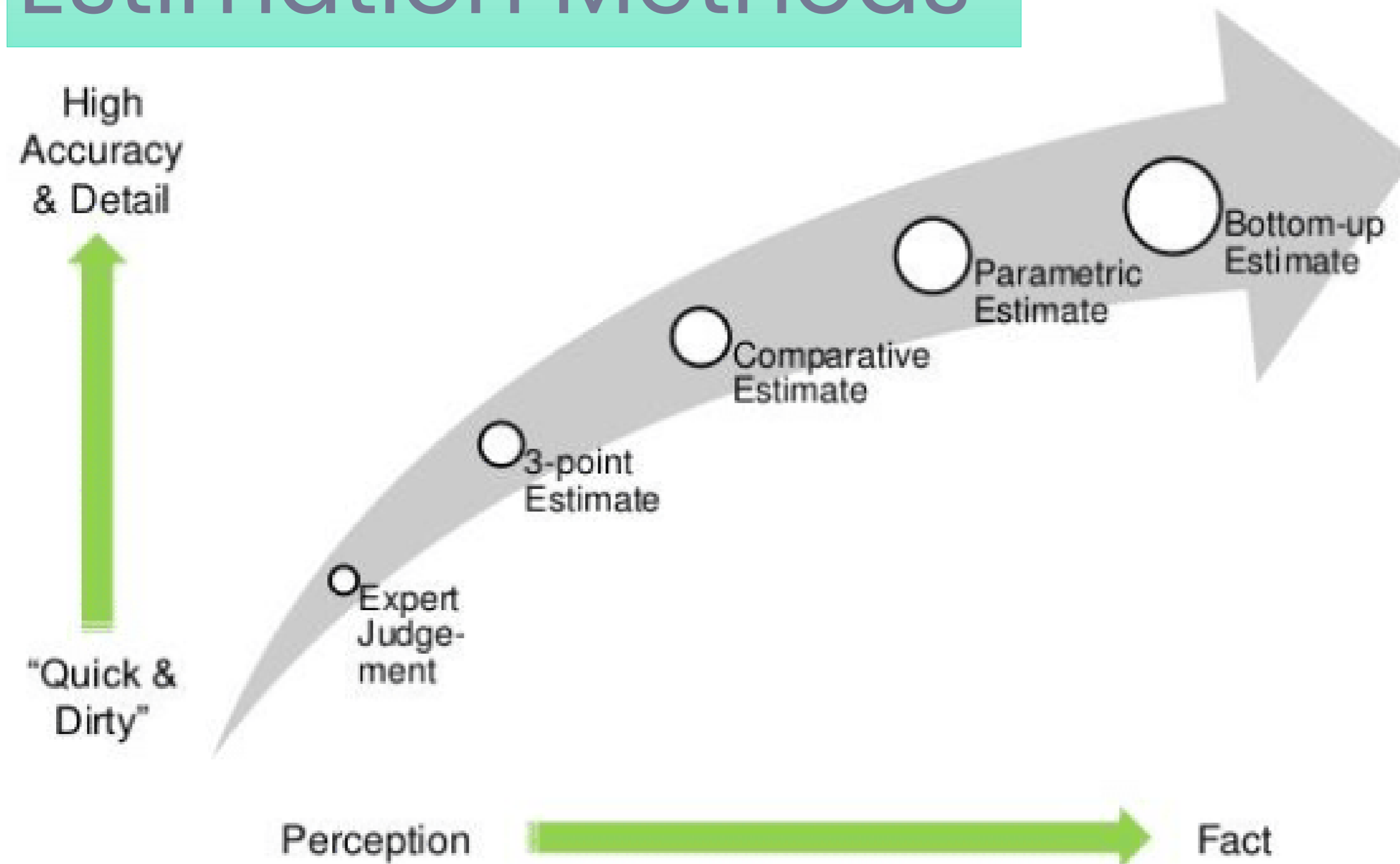


Estimate Costs



Cost Estimation

Estimation Methods



- Expert Judgement
- Analogous Estimating
- Parametric Estimating
- Bottom-up Estimating
- Three-point Estimating
- Data Analysis
- Project Management Information
- Decision making



Cost Estimation method for Project

Four major cost estimation techniques used to develop cost estimates

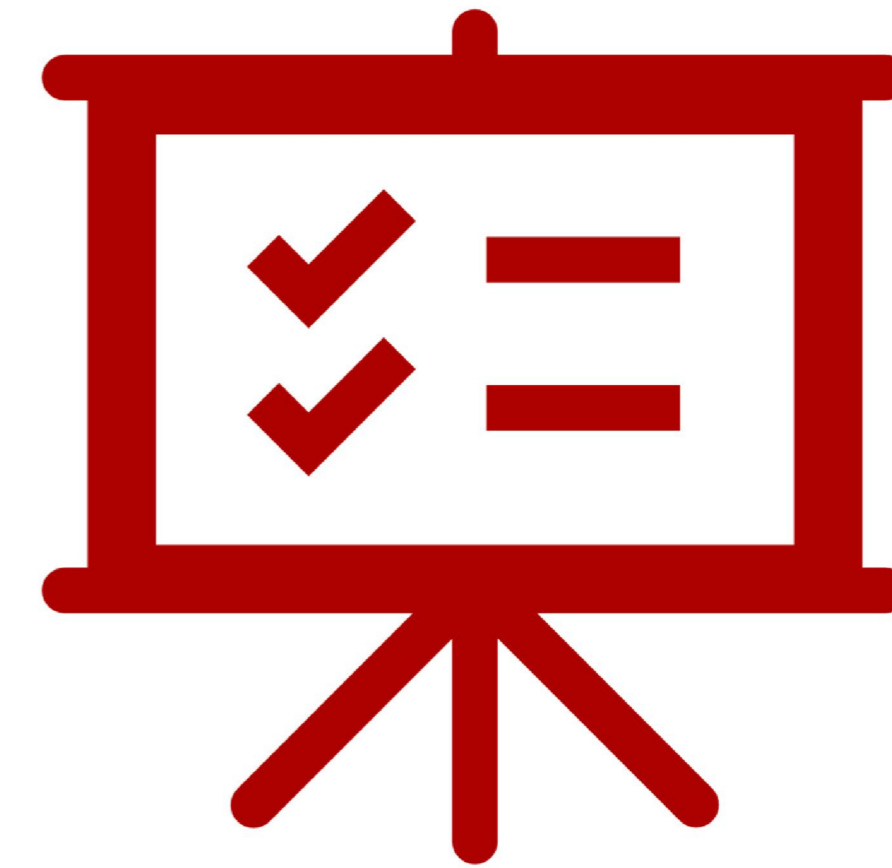
Analogous Estimating

Parametric Estimating

Bottom-up Estimating

Three-point Estimating

- ❑ Cost estimate depends upon a number of factors.
- ❑ Some organizations, require all projects to be budgeted with specific policies
- ❑ others may depend on expertise of project team.
- ❑ Many organizations might work off of rough estimates in the earliest stages
- ❑ Then at later stages work on more exact estimates.



Analogous Estimating

Calculates the expected costs of a project-based upon the known costs associated with a similar project that was completed in the past.

This method of estimation relies upon a combination of historical data and expert judgment of the project manager.

Because no two projects are exactly the same, analogous estimating does have its limitations.

As such, it is often leveraged in the earliest stages of project planning, when a rough estimate can suffice.

Analogous estimating can also be used when there is relatively little information about the current project available.



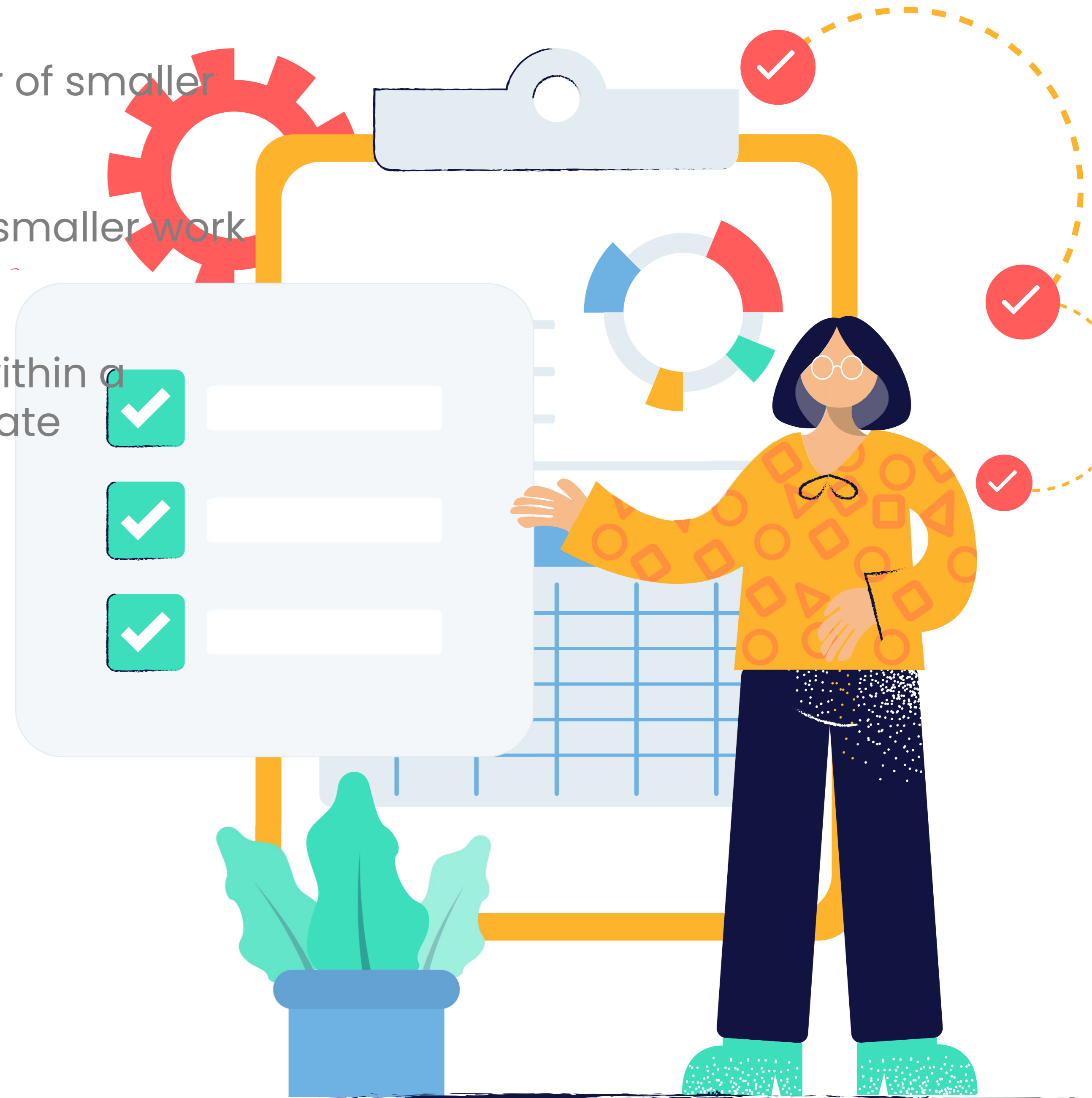
Parametric Estimating

- ❑ Historical data and statistical modeling are used to assign a dollar value to certain project costs.
- ❑ Determines the underlying unit cost for a particular component of a project and then sales that unit cost as appropriate.
- ❑ It is much more accurate than analogous estimating but requires more initial data to accurately assess costs
- ❑ Parametric estimating is often used in construction.
- ❑ A typical new home will cost a certain number of dollars per square foot. If this average cost, the margin of error, and the square footage of a new project are known, then parametric estimating will allow them to identify a budget that should accurately fall within this range.



Bottom-Up Estimating

- ❑ A larger project is broken down into a number of smaller components.
- ❑ Cost estimated specifically for each of these smaller work packages.
- ❑ Because of granular look at individual tasks within a project, this technique allows for a very accurate estimation process.
- ❑ For example, if a project includes work that will be split between multiple departments within an organization, costs might be split out by department. Once all costs have been estimated, they are tallied into a single larger cost estimate for the project as a whole.



Three-Point Estimating

- ❑ Estimator identifies three separate estimates for the costs associated with a project.
- ❑ First point : an “optimistic” estimate, where work is done and funds spent most efficiently;
- ❑ Second point :an “pessimistic” estimate, where work is done and funds spent in the least efficient manner
- ❑ Third point : “most likely” scenario, which typically falls somewhere in the middle.

$$\text{PERT} = \frac{O + 4M + P}{6}$$

Beta Distribution



Estimation are not fortune telling exercise .

Estimation are estimates with some degree of inaccuracy .



ESTIMATE CLASS	Primary Characteristic	Secondary Characteristic		
	MATURITY LEVEL OF PROJECT DEFINITION DELIVERABLES Expressed as % of complete definition	END USAGE Typical purpose of estimate	METHODOLOGY Typical estimating method	EXPECTED ACCURACY RANGE Typical variation in low and high ranges
Class 5	0% to 2%	Concept screening	Capacity factored, parametric models, judgment, or analogy	L: -20% to -50% H: +30% to +100%
Class 4	1% to 15%	Study or feasibility	Equipment factored or parametric models	L: -15% to -30% H: +20% to +50%
Class 3	10% to 40%	Budget authorization or control	Semi-detailed unit costs with assembly level line items	L: -10% to -20% H: +10% to +30%
Class 2	30% to 75%	Control or bid/tender	Detailed unit cost with forced detailed take-off	L: -5% to -15% H: +5% to +20%
Class 1	65% to 100%	Check estimate or bid/tender	Detailed unit cost with detailed take-off	L: -3% to -10% H: +3% to +15%

Table 1 – AACE Cost Estimate Classification System

4 Principles of Cost Estimation

1. Accuracy of the estimate depends heavily on the level of project scope definition.
2. Cost estimation provide decision-makers means to make investment decisions, choose between alternatives and to set up the budget.
3. Estimating is done by breaking down the total scope of a project in manageable parts, to which resources can be assigned and cost. There are standardized ways of breaking down a project, like the Work Breakdown Structure (WBS) and the Cost Breakdown Structure (CBS).
4. A cost estimate is more than a list of costs. It also includes a detailed Basis of Estimate (BOE) report that describes the assumptions, inclusions, exclusions, accuracy and other aspects that are needed to interpret the total project cost. Otherwise, it would be a meaningless number.





An accurate estimation method can be the difference between a successful plan and a failed one.

Advantages of Cost Estimation

- **Accurate planning:** Cost estimation helps predict future expenses accurately
- **Increased profit margins:** Advance information on expected expenditure helps in regulating costs.
- **Efficient and improved resource management:** Increased insights into the expenses helps in proper allocation and implementation of the fund or money reserve at hand sanctioned for manufacturing a particular product.
- **Built a reputation in business:** Better management of funds, resources, and efficient production of goods at the end leads to a stronger reputation built amongst the market contenders. Thus, it is helpful for a business to grow satisfactorily.

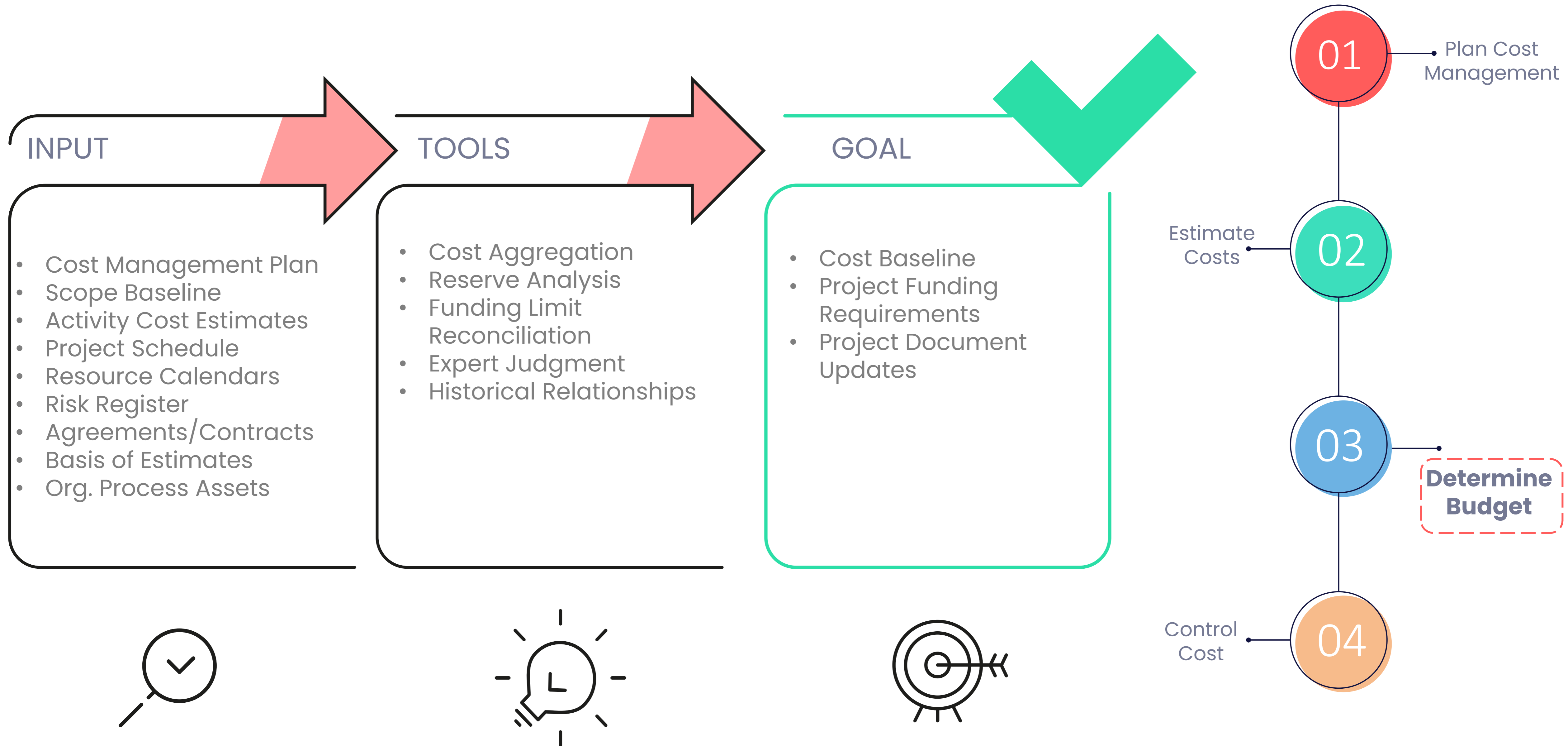




Determine Budget

Allocate the money to work packages and aggregate the total cost of the work packages.

Determine Budget

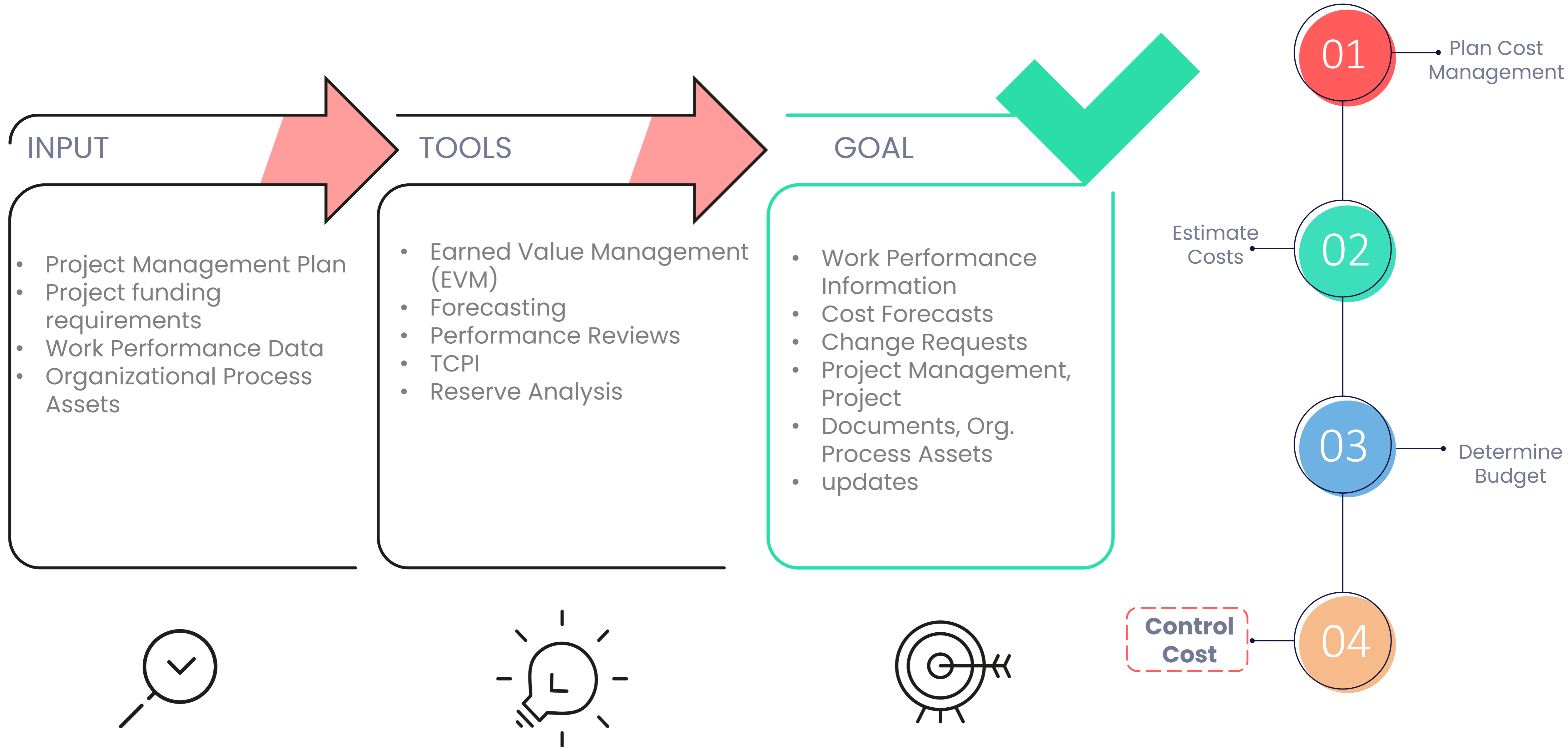


Control Costs

Influencing the factors that create cost variances and controlling changes to the project budget.



Control Costs



Role Cost Performance and Report

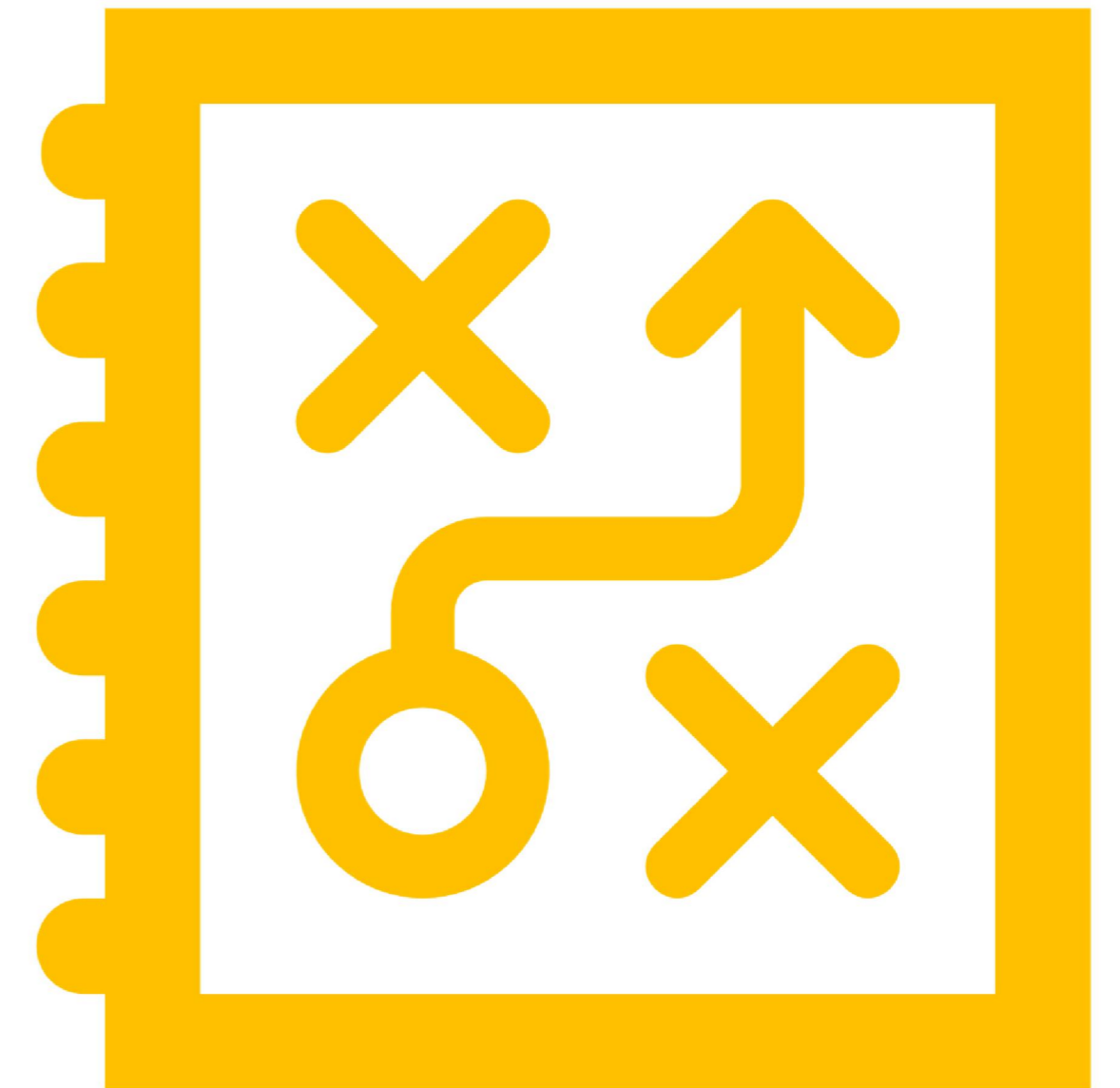
Measuring Performance

Because all projects are anticipated to have specified goals, and productivity is not necessarily equal to performance, this is a stage for monitoring job completion and its obtained value, which must be coordinated with the outcomes ahead of time.

It is vital to clarify how the progress of each work is to be regarded based on its cost from the planning phase, as human resources and salaries typically account for the majority of a project's budget.

Reporting

Implementing reporting protocols, frequency, and format throughout all stages of a project cost management plan is critical, especially when considering the document as a critical part of the project management cycle, as well as the fact that reporting can be extremely useful in detecting budget deviations.



Factors affect Cost Control

Cost of Materials

The entire cost of all supplies and equipment necessary for a project is referred to as the cost of materials.

Cost Variance

Any price disparities between the project's actual cost and the budget you've set are referred to as cost variance. For example, if you have a \$1,000 budget for a project but the actual cost is \$1,500, the cost variance is \$500 because the difference between the budget and the actual cost is the difference between the budget and the actual cost.

Return on Investment (ROI)

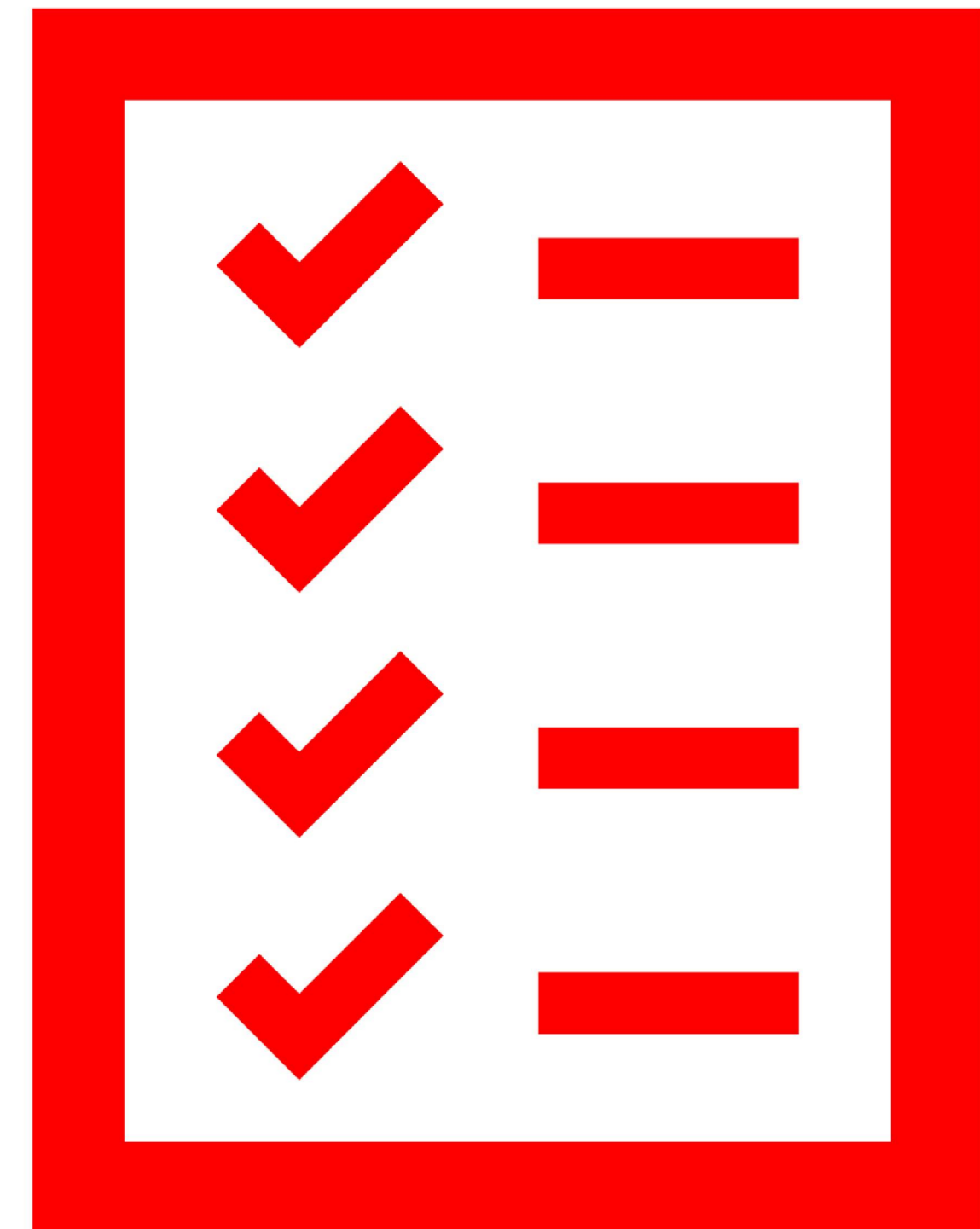
Return on investment (ROI) measures how profitable a project is in relation to the amount of money invested. A high return on investment (ROI) indicates that the initiative generated more revenue than it cost.

Labor Costs

The cost of labor is the total of all wages paid to project employees, including employee perks and taxes. Because a project may require numerous employees working at the same time, it's vital to factor in the cost of labor when budgeting for it.

Real Cost

The real cost is the sum of all expenses incurred by a project from the start to the finish. This covers labor costs, materials costs, and any other project-related costs.



Other Techniques for Cost Management

Inventory Control

One of the most important sources of revenue is inventories. To begin, make a list of inventory requirements, quantity checks, vendor costs, and so on.

Outsourcing

This is one method for putting staff in third-party responsibilities, particularly for one-time initiatives. It prevents the employer from having to account for the expense.

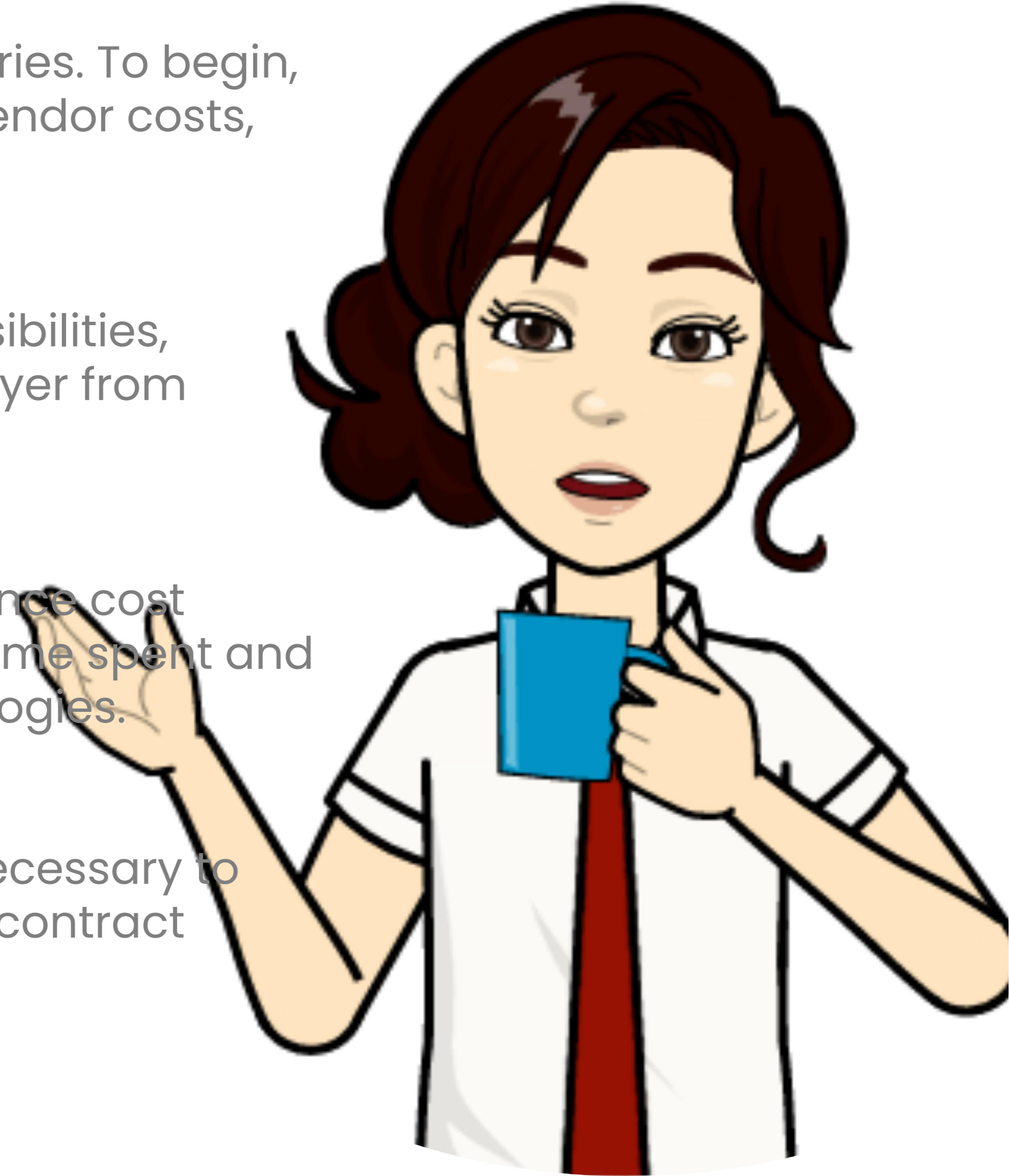
Utilize Technology to the Fullest

Technology can assist in streamlining operations and hence cost management. Deliver higher-quality products with less time spent and better productivity with the newest cutting-edge technologies.

Market Sense

It's crucial to stay on top of market developments. It is necessary to maintain ongoing contact with vendors and ensure that contract renewals coincide with price trends.

Organize Time



Cost Management Tools



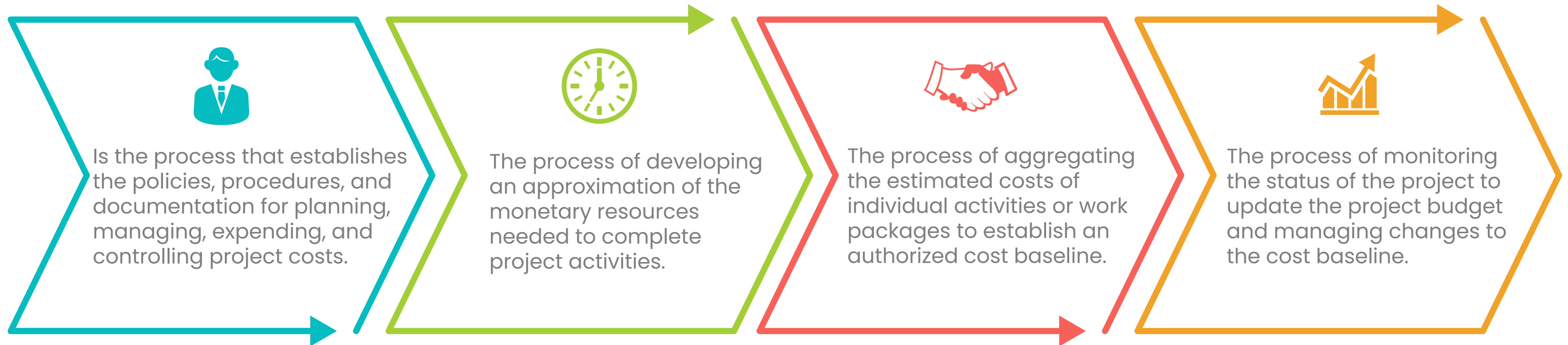
- ❑ Companies use project cost management software to monitor the profitability of the projects they deliver.
- ❑ This type of software allows businesses to estimate the cost of delivering different types of projects, identify actual costs, and compare them to calculate profit.

Benefits of Cost Management

- Control of project-specific costs, & business costs.
- Forecast future expenses and costs
- Predetermined costs as records for the company.
- Assists in necessary cations for set objectives & goals.
- Analysis of the company's long-term patterns.
- Actual costs can be compared to anticipated costs
- Helps company in making an acquisition



Cost Management Process Overall



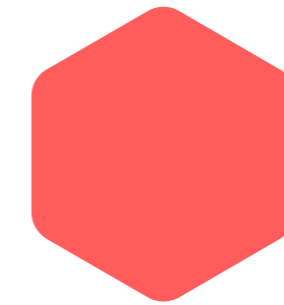


SUMMARY



Weighted Milestones

Milestone assigned a budget value earned at the completion of that milestone



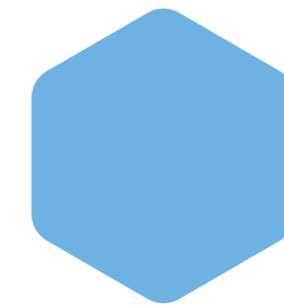
Cost of Quality

Cost that is incurred to achieve product/service



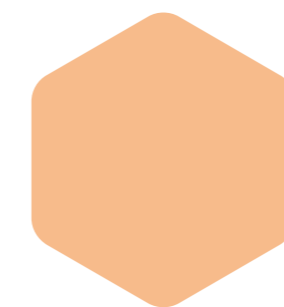
Reserve Analysis

Cost/Schedule contingency/reserve analysis used to cover any unforeseen risks or changes to the project



Cost Performance Baseline

A time phased budget that will be used as a basis against which to measure, monitor, and control overall cost performance on the project.



Project Budget

Constitute the funds authorized to execute the project.

Next:

How we manage Quality?

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