



دانشگاه علم و صنعت ایران

# Managing Integrated Project Deliveries

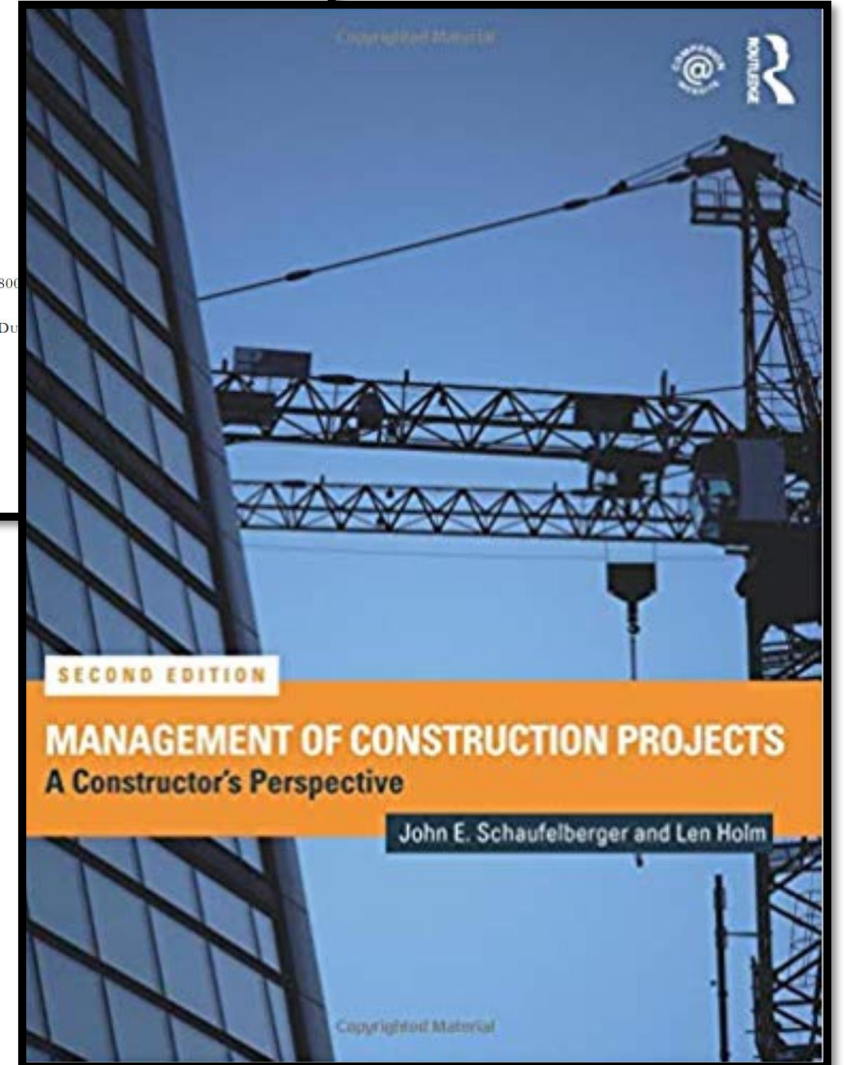
جلسه چهارم- مبانی طراحی محیطی،  
نظریه و روندها- اسفند ماه 1397

Managing Integrated Project Delivery

**CMAA**

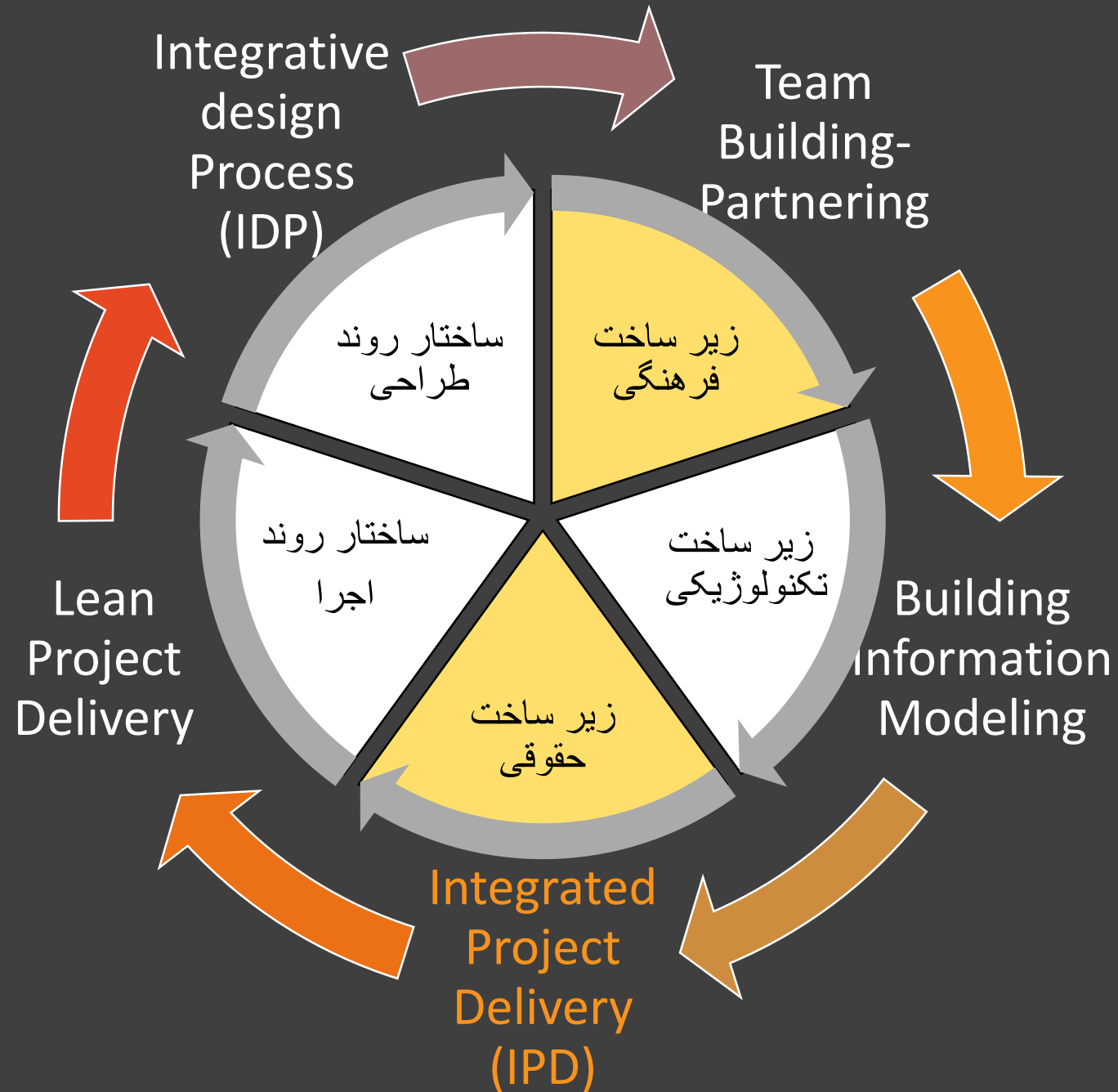
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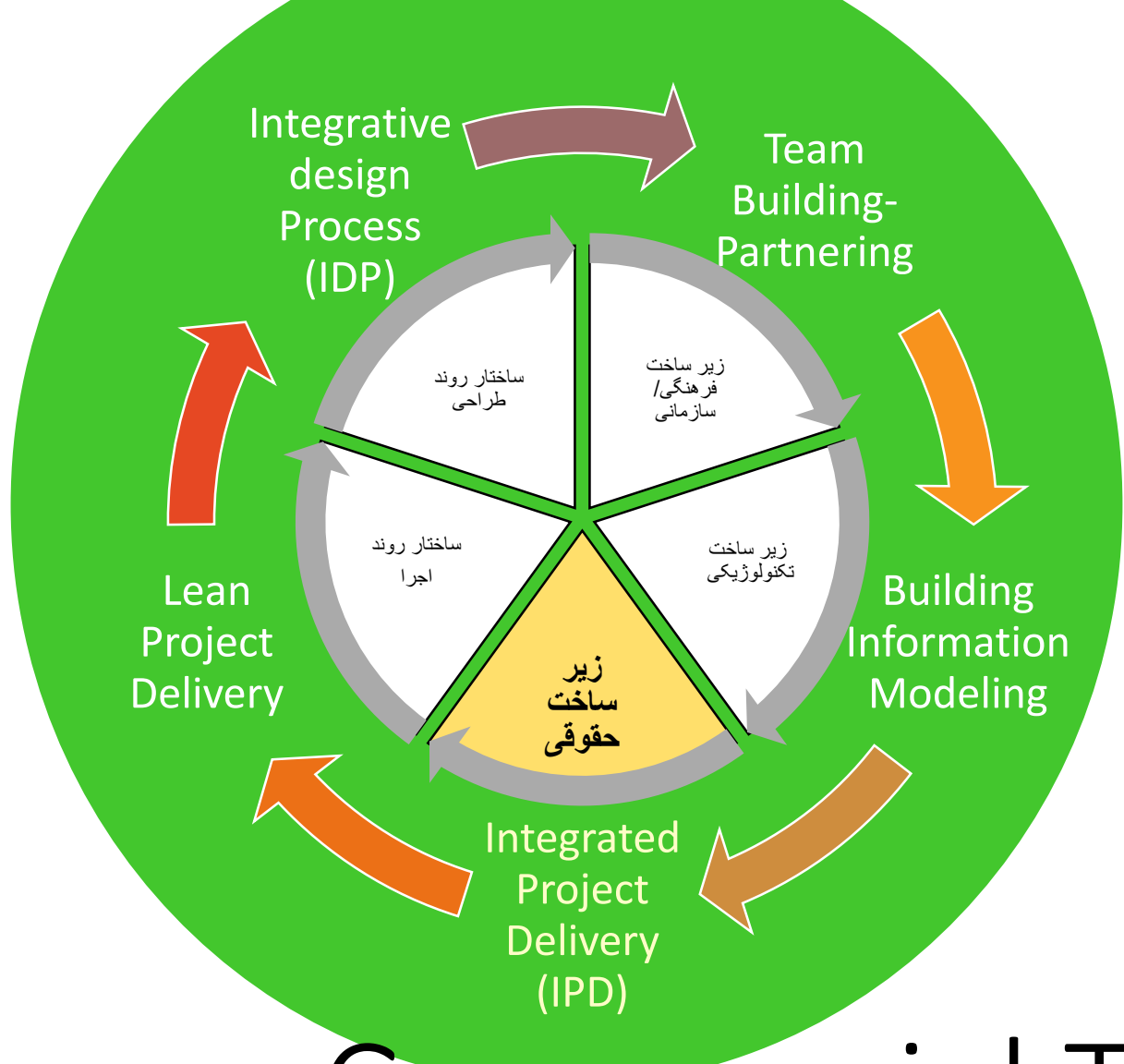
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# Introduction

- **Commercial Terms in IPD contracts**
- **Project Organization To Achieve Successful IPD**



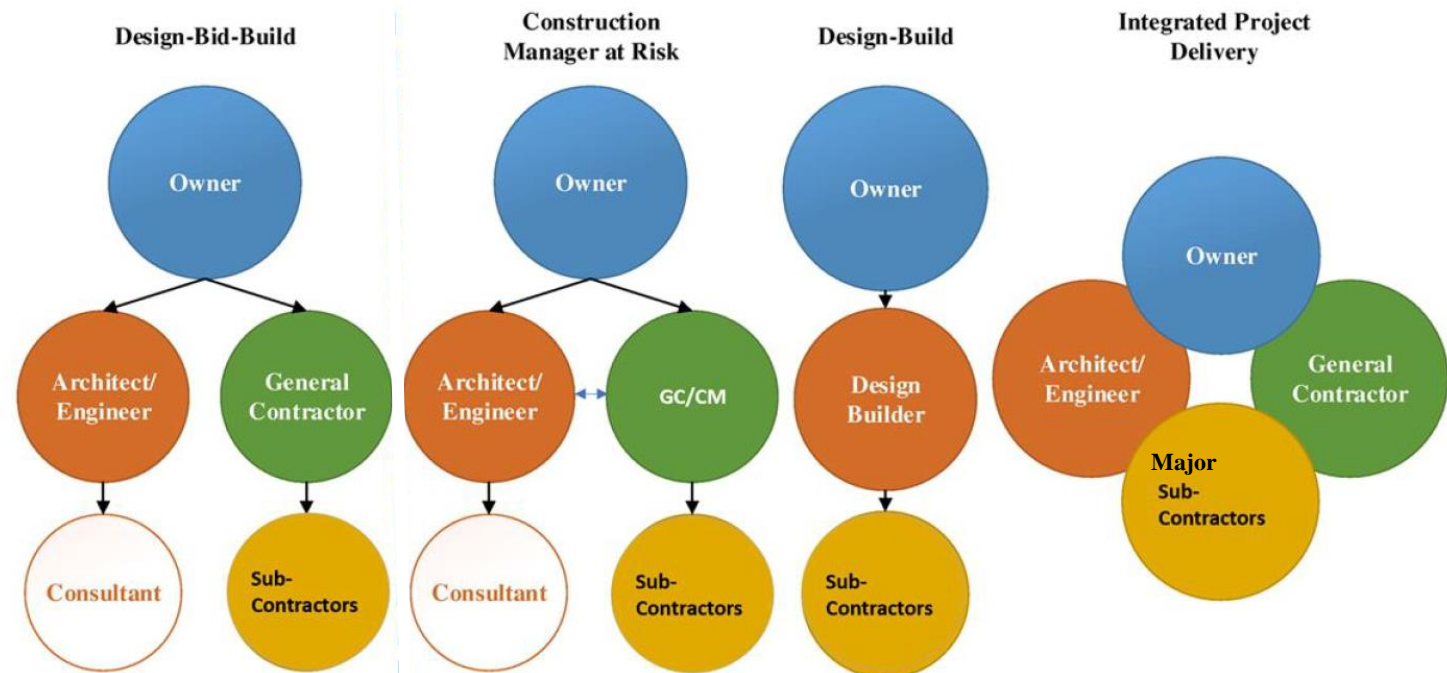


# Commercial Terms

- Collective Risk Management
- Pain sharing & gain sharing
- Contingency sharing
- Incentives
- Award fees

## Traditional vs. IPD contracts

- Traditional Project contracts comprised of many two-party contracts.
- Each Participant operates under commercial terms that provide economic incentive for it to maximize its own interest.
- A key to successful integrated projects: “contract that encourages and rewards organizations for behaving as a team”.



# Risk Management in Traditional projects

Who:

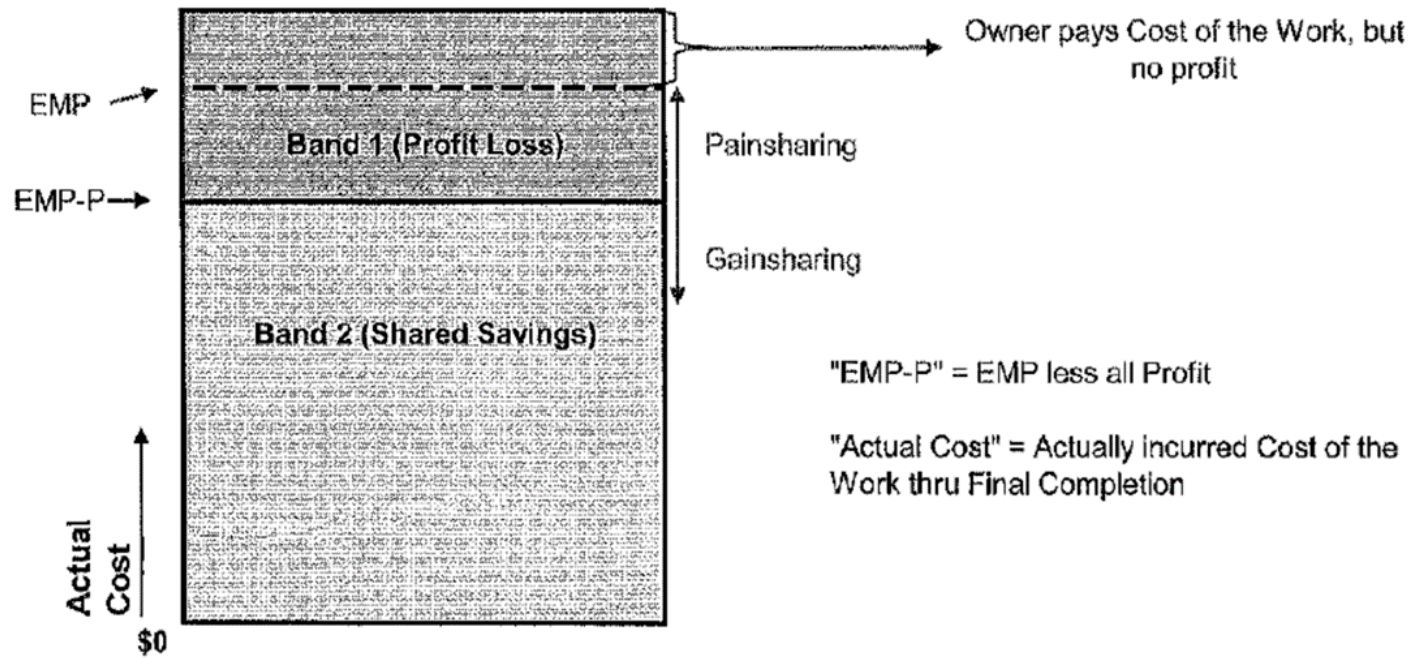
“The party that can best manage the risk, should bear the risk”.

Challenges:

- Sometimes the risks are allocated to the other parties.
- Sometimes there is not one party that is able to effectively manages the risk.
- In complex projects parties can influence the risks.
- There is no incentive for parties to offer help to the risk-bearing parties.
- Taking risks that can not be adequately controlled =financial costs:
  1. Upfront: increasing contract price
  2. Later: Engaging in adversarial behavior

=> The owner pays more for the transaction costs rather than construction costs.





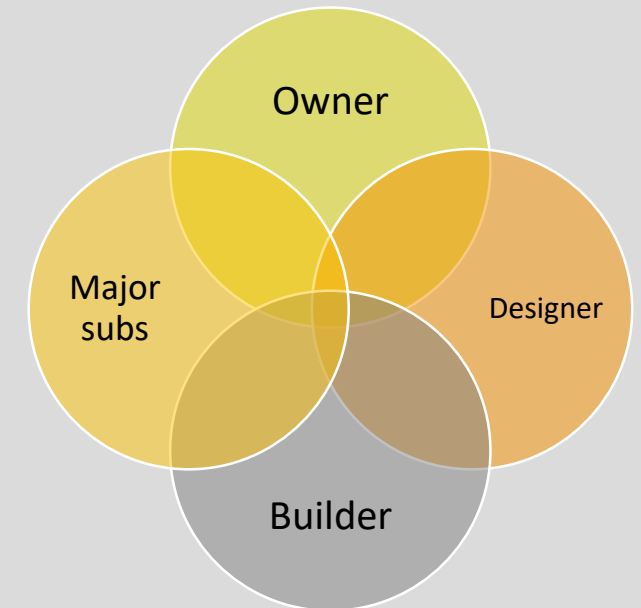
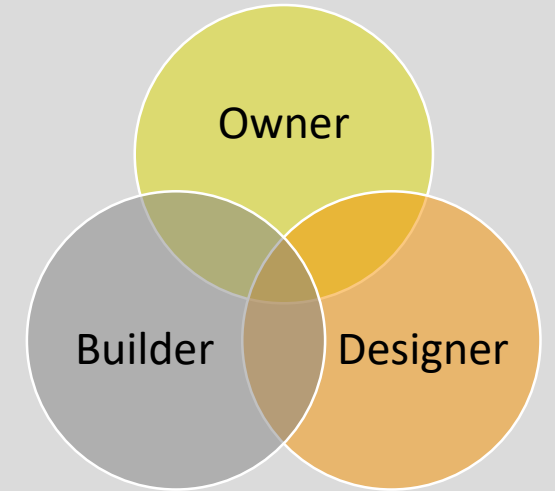
## Pain-Sharing-Gain-Sharing

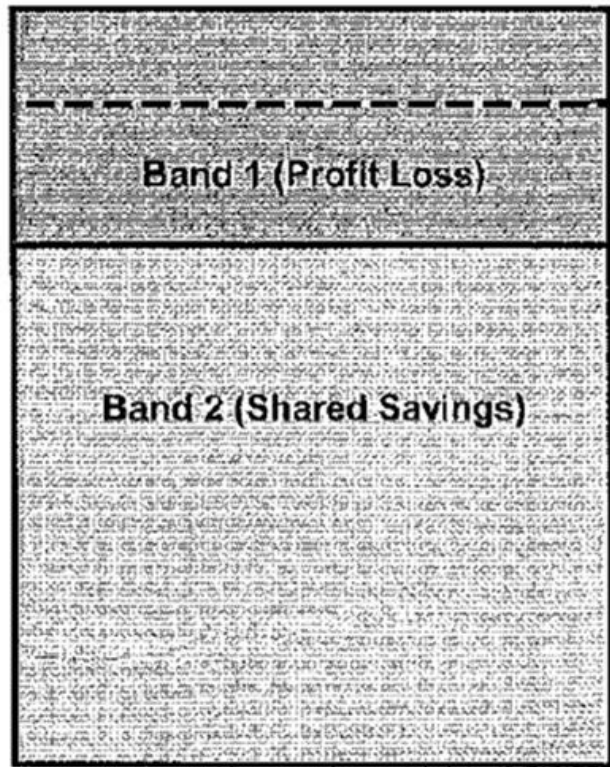
- The project team sets an amount for the expected design and construction cost & share any cost under-runs or overruns.
- Some set an aggressive cost estimate early to stimulate innovation in designing cost-effectively.
- Some set a **"target cost"** first, **"estimated maximum price"** after the design is substantially complete.
- Either way, the design & construction team is reimbursed for their project costs & paid a base fee, with the possibilities of increased fee under incentive program.
- The key team members share the risk of cost over-runs against the agreed cost estimate, with the owner taking the final risk once the actual cost exceeds some threshold.
- Target value design: Design to budget, not budgeting the design!



# Potential Problems with Pain-Sharing-Gain-Sharing method

- Without proper leadership and broad enough participation, the close commercial alignment of the major players may be significantly undercut by the more traditional behavior of the non-participating team members.
- Estimators may pad the estimate!
  - Owners need to be closely involved
  - Benchmarking data may help
- Quality measurement is subjective (without specifications it is hard to perform quality control)
  - If the agreed cost estimate is set before design, it is an incentive to compromise design and/or reduce scope.
  - Owner needs to be an active participant in design.
  - Pain-Sharing-Gain-Sharing program needs to be combined with other performance goal incentives.





CM bears the risk (& passes it through the responsible trades)

Painsharing

Gainsharing

Band 1 (Profit Loss)

Band 2 (Shared Savings)

"EMP-P" = EMP less all Profit

"Actual Cost" = Actually incurred Cost of Work thru Final Completion

- Pain-Sharing-Gain-Sharing + GMP=> CM bears the risk of cost overrun
- Some portion of cost under-runs is added to the profit pool & distributed according to the negotiated percentages.

# Profit Pooling





# Incentive Programs

The seller is reimbursed for all allowable costs for performing the contract work and receives a predetermined incentive fee based upon achieving certain performance objectives as set forth in the contract

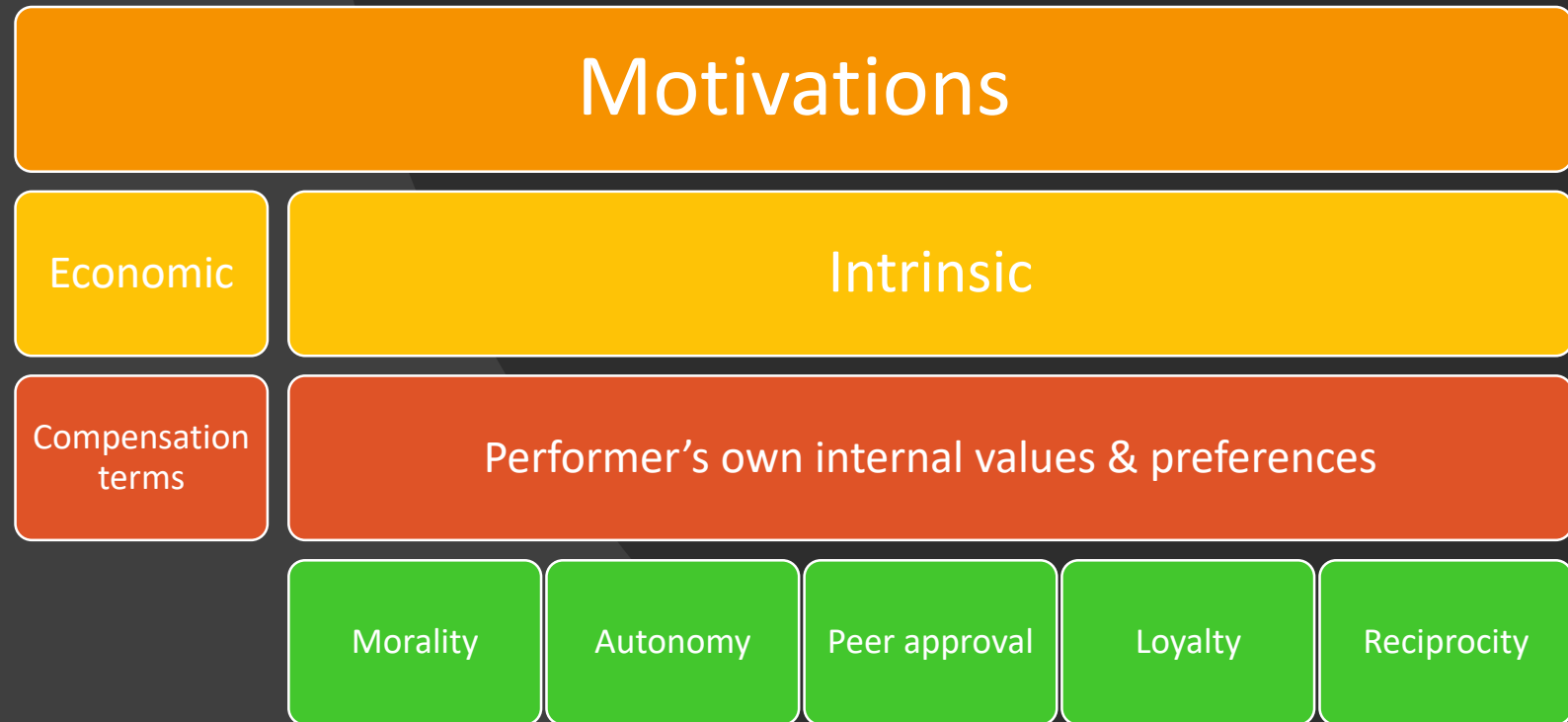
## The choices are:

- Which incentives to include
- How to frame it to communicate what is important to the owner.
- Who should be included.

# Care in using Incentive Programs

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- Incentives have the potential to create conflict as well as alignment.
- Every action has a reaction.
- Use incentives wisely for areas of project performance where participants normally need added motivation.
- Create a complementary set of incentives that keep key project goals in balance



# Care in using Incentive Programs

- The incentive signals the principal's trust and thus improves self-esteem.  
⇒not be too prescriptive.
- Discussing the results in person  
⇒shows the principals respect for the performer, reinforcing autonomy and self-esteem.
- Performers participate with the principal in mutually setting goals.  
⇒Enhances performer's sense of autonomy & sense of ownership in project.



# Award fees

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Used in addition to sharing cost savings for achieving non-cost, subjective goals.

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The determination of fee is based solely on the subjective determination of seller performance by the buyer, and is generally not subject to appeals.

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Using compensation dependent on fairness as opposed to defined quantitative output

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=> Developing greater trust, reinforcing intrinsic motivations

# Performance Evaluations and Payouts

- How: Periodic as opposed to one time evaluation at the end.

⇒ To fix embedded recurring problems.

- Who:
  - The IPD management committee
  - project managers from evaluated party
  - Owner representative
- When to pay:
  - parcel out a portion of the fee as the project progresses and indicate what portion will be earned at which project phase.

## Example:

- 10% at the completion of criteria design
- 10% at completion of detailed design
- 5% at completion of implementation documents
- 5% at completion of foundations
- 10% at topping out
- 10% at completion of building envelope
- 40% at substantial completion
- 10% at final completion

# Performance Evaluations and Payouts

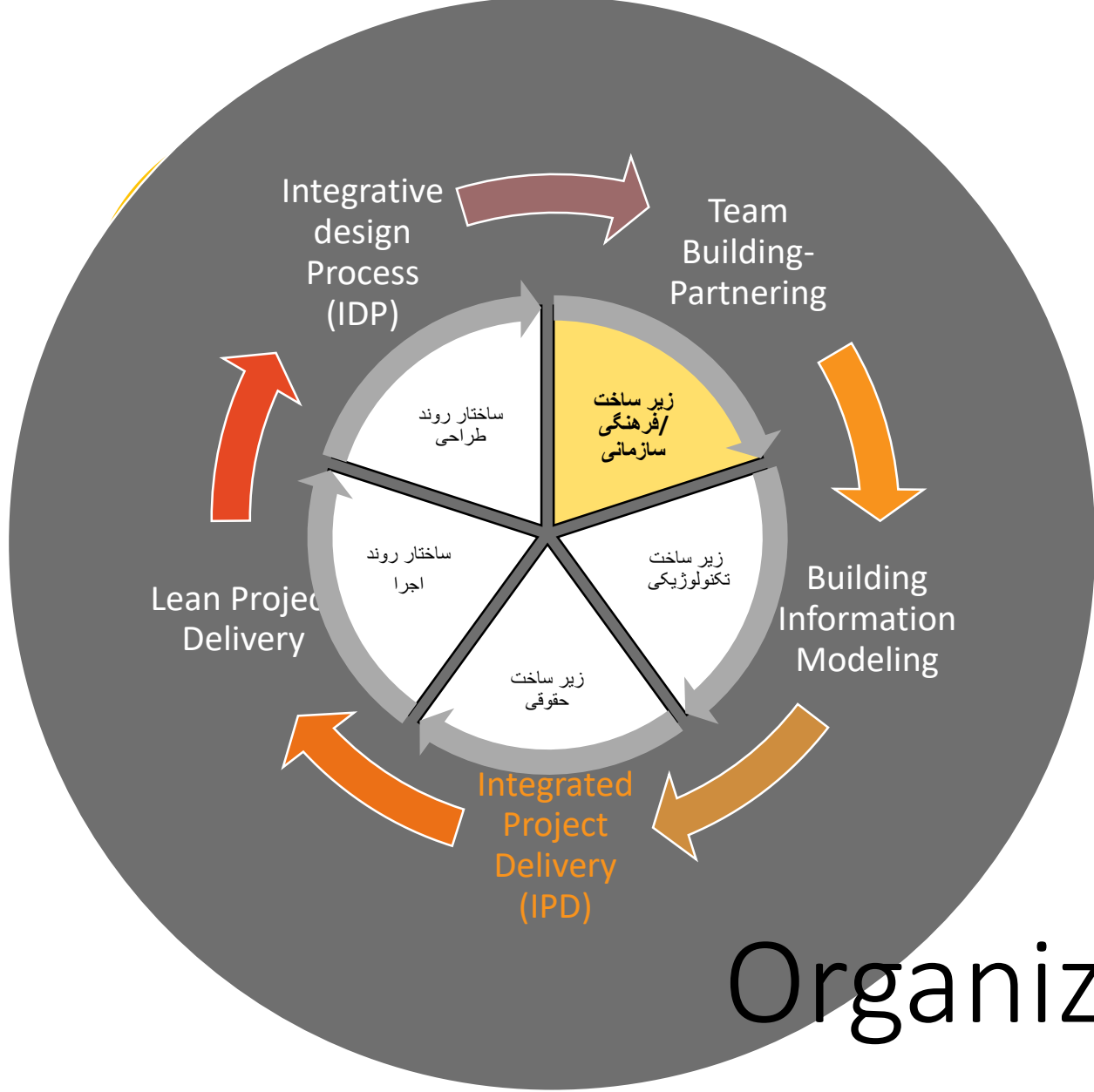
- **How much:**
  - Not much! Large amounts (in a large owner bureaucracy) will attract attention from multiple sources & draws significant attention to justify the subjective decisions.
- **Flexibility:**
  - incentives that motivated good behavior under one set of circumstances may motivate problematic behavior under a new set.
  - continuous improvement is key.



## The biggest incentive

- Repeat business
- The most important issue for any organization is survival!
- Good reputation is key
- Repeat work will follow good performance!





# Organization

- Integrated Teams
- Integrated governance
- High-Performance teams



# IPD- Organizations: Integrated Teams

- All IPD projects have a CM & at least some key trade contractors involved early with the owner & designers.
- Continuous feedback from CM about cost, constructability, and value.
- The “Big Room”.

# IPD Organization- Governance



- Integrated governance/ leadership, by executive committee (i.e. the Core Group, Project Management Team, Management group, etc.)
- The members comprised of at least the Owner, prime A, prime CM or GC, and often key subs/ key consultants.
- Shouldn't be too big!
- The Executive council is responsible for the day-to-day management and leadership on the project & operates on a consensus basis.
- In some models, the executive council must be unanimous to make a decision
- The owner may break impasses.
- The council members act more as leaders!





# THE DIFFERENCE BETWEEN

<b>BOSS</b>	<b>LEADER</b>
<p><b>Demands</b></p> <p><b>Relies on Authority</b></p> <p><b>Issues Ultimatums</b></p> <p><b>Says "I"</b></p> <p><b>Uses People</b></p> <p><b>Takes Credit</b></p> <p><b>Places the Blame</b></p> <p><b>Says "Go"</b></p> <p><b>My way is the only way</b></p>	<p><b>Coaches</b></p> <p><b>Relies on Goodwill</b></p> <p><b>Generates Enthusiasm</b></p> <p><b>Says "We"</b></p> <p><b>Develops People</b></p> <p><b>Gives Credit</b></p> <p><b>Accepts Blame</b></p> <p><b>Says "Let's Go"</b></p> <p><b>Strength in Unity</b></p>

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# High-Performance teams

- The benefits of IPD will be only realized with a change in culture.
- Partnering activities to build a more open, collaborative culture to foster trust among participants.
- People remain under the payroll & supervision of their respective organizations, but assume more roles based on their individual skills & project needs.



# Preparation Reading for Next Class:

Subject:

Partnering, team building, The discovery phase in IDP projects

(فاز مطالعات و تحقیقات اولیه در روش طراحی یکپارچه)

