Mini-Case Study 5.
Tips on estimating

Introduction
This case study explores some aspects to consider when estimating construction projects. It focuses on accurate pricing strategies and effective communication with clients. It highlights the challenges faced by estimators in the construction industry and the critical role of relationships in achieving successful project outcomes

Learning Objectives
1. Understand the key components of construction project estimation and pricing strategies.
2. Analyze the importance of effective communication and relationship-building in the construction industry.
3. Develop problem-solving skills to address common challenges faced during project estimation.

Background
To effectively engage with the case study, students should understand the following concepts:

1. **Construction Estimation:** This is the process of predicting the costs associated with a construction project. It involves analyzing project plans, specifications, and other relevant documents to determine the quantities of materials, labor, and equipment needed (Check this article).
2. **Unit Pricing:** This pricing method involves calculating costs based on individual units of work (e.g., per cubic yard of concrete). Understanding unit pricing is crucial for estimators as it allows for adjustments based on actual quantities during project execution.
3. **Client Relationships:** Building and maintaining strong relationships with clients is essential in the construction industry. Effective communication can lead to

better project outcomes, smoother negotiations, and increased trust between parties.

Case

Jane, an experienced estimator, is tasked with preparing a bid for a large construction project involving clear and grubbing, excavation, embankment, aggregate placement, and culvert replacement. (check Appendix 1). The client has provided estimated quantities, but Jane knows from experience that these estimates can often be inaccurate.

As she prepares her estimate, Jane faces several challenges:

- The client expects a lump-sum price, but Jane believes a unit price approach would be more beneficial given the uncertainties in the project.
- There are discrepancies between the client's estimated quantities and her own calculations based on site visits and historical data.
- Jane must navigate the complexities of client expectations while ensuring her company remains profitable.

Questions for students

1. What strategies can Jane employ to ensure her estimate is both competitive and accurate?
2. How can Jane effectively communicate with the client about the discrepancies in estimated quantities?
3. What role do relationships play in the negotiation process for construction contracts?

Students should work on these questions before continuing to the next page.

Approach

Solutions to the questions

1. **Strategies for accurate estimation**:
    a. Conduct thorough site visits to gather firsthand information about the project conditions.
    b. Utilize historical data from similar projects to inform pricing and quantity estimates.
    c. Consider using a combination of lump-sum and unit pricing to provide flexibility in negotiations (if possible).
2. **Effective communication with clients**:
    a. Schedule a meeting with the client to discuss the discrepancies in estimated quantities. Present data from site visits and historical projects to support her findings.
    b. Use clear and concise language to explain the rationale behind her estimates, emphasizing the importance of accuracy for project success.
    c. Be open to feedback and willing to adjust estimates based on the client's input, fostering a collaborative approach.
3. **Role of relationships in negotiations**:
    a. Build rapport with the client by demonstrating expertise and a willingness to understand their needs.
    b. Leverage existing relationships with subcontractors and suppliers to obtain competitive pricing and reliable information.
    c. Maintain transparency throughout the negotiation process to build trust and facilitate smoother discussions.

Key Takeaways

- Accurate construction estimation requires a combination of site visits, historical data analysis, and effective communication with clients.
- Understanding the nuances of pricing strategies, such as unit pricing and lump-sum pricing, can lead to more competitive bids.
- Building strong relationships with clients and stakeholders is essential for successful project execution and negotiation.
- Open communication and collaboration can help address discrepancies and foster trust between parties.
- Continuous learning and adaptation are crucial for estimators to navigate the complexities of the construction industry effectively.

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Appendix 1. Question to ask yourself before starting your estimate

Think about a project where you need to execute clear and grubbing, excavation, embankment, aggregate placement and culvert replacement.

Clear & Grub

- What equipment will be used?
- How will you access the work with equipment and people?
- Where do the spoils go?
  - Need to offhaul or can they stay on-site?
  - If on-site do you need to haul them to a location or can they just be side-cast?
- What are limits of C&G, depth and in plan?
  - This turned into a sizeable change order on the job as the engineer wanted to go significantly deeper than standard C&G. Know what the specs and drawings say so that you don't end up on the hook for this add'l depth!!

Clear and Grubbing questions. Source: Kiewit

Dam Excavation, Embankment, & Aggregate Placement

- Soil:
  - Where will the soil be stockpiled? How much room do you need?
  - How and where will you moisture condition the soil?
  - Class problem: 3 dams each with 20k CY of exc and embank. Stockpile location only has 30k CY of capacity. How do you execute the job?
- Rock:
  - How will you place the rock? How will you have it delivered?
- What equipment will be used?
- What do the specs say, any limitations?
- Any MOT needed?

Dam excavation, Embankment & Aggregate Placement. Source: Kiewit

Culvert Replacement

- When is the right time to do this work? What will be in the way? Will you need to cut through existing asphalt, or will you have it ground down for repaving already?
- How will you buy the material? Pre-welded to length or will you need to cut and weld on-site?
- HDPE is encased in concrete, make sure you have money to secure the pipe to prevent floating!

Culvert Replacement. Source: Kiewit