Intro to Construction Industry
Language, Business Practices, & Common Problems
for ProAdvisors
Hi! Thank you for downloading this primer on the construction industry and on common problems that you, as a ProAdvisor, can help construction industry clients solve.

This presentation is broken down into four major sections:

1) **Background.** If you’re new to construction, this section will give you a basic understanding of common construction jargon, how the industry is structured, and how the different players interact with one another.

2) **Major Headaches.** This section will go through the specific problems faced by each high-level segment of the industry, and conclude with common issues that they all share.

3) **Technology.** This section will give a general lay of the technology landscape, along with a general matrix for choosing among the different solutions.

4) **The Power of the ProAdvisor.** This section will give some guidance on the sorts of things you as a ProAdvisor can do to add value to your relationships with your contractors.
### Background: A Breakdown of the Players

<table>
<thead>
<tr>
<th>Service / Dispatch</th>
<th>Residential</th>
<th>Commercial</th>
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</thead>
<tbody>
<tr>
<td>Residential General Contractor</td>
<td>Commercial General Contractor</td>
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<tr>
<td>Specialty Contractors (Concrete, Masonry, Roofers, etc)</td>
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<td></td>
</tr>
<tr>
<td>Skilled Trades (Plumbing, HVAC, Electrical, etc)</td>
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**Residential GC (incl. Homebuilder):** The General Contractor is the one responsible for getting the building/addition/new kitchen, etc, built. Some residential GCs have workers on-staff capable of contributing to the construction (typically carpenters); virtually all of them will rely on subcontracted work at some point in the project. Occasionally GCs will have semi-captive subcontractors that they work with for all their projects.

**Commercial GC:** These are the guys who oversee the building of office buildings, shopping malls, and other commercial structures. It is rare for them to have employees on staff who participate in the construction; typically, all phases of work are subcontracted out, with the subcontractors chosen through a competitive bidding process.

**Specialty Contractors:** These are the guys banging nails, pouring concrete, etc. Some, like painters, roofers, etc, will go out and bid work directly. Others will work only for GCs, and so not have direct contact with building owners. **USUALLY,** a specialty contractor will decide to work on the commercial side of the business OR on the residential side (this is not a rule, however). Also, as noted above, it is not uncommon for a specialty contractor to be ‘semi-captive’ to a single large GC (ie, almost all their work comes from that GC).

**Skilled Trades:** The skilled trades vary from the Specialty Contractors above only insofar as some will ONLY do service work (the plumber who fixes leaky faucets, for example), and those that do construction work will often take on both commercial and residential jobs.
1. After receiving plans from the architect/engineer, the owner/developer/construction manager will submit them, along with other important documents (together called a “bid package”), to various GCs for bidding.

2. The GCs will carve up the plans/specs/etc into distinct sets for each trade, then send them out as separate bid packages for bidding. Note that it is not uncommon for the same sub (especially in highly specialized trades) to submit a bid to several GCs all bidding to run the same job!

3. Once the subs respond with their bids, the GCs will turn around and submit their final bids to the owner.

4. The owner reviews the bids and the specific qualifications of each GC, and makes his selection.
1. After schedules are set by the GC and work begins, any work requested by the owner or GC outside the scope of the contract becomes subject to a Change Order. Change orders can flow in either direction: (a) they can be requested by the subs and flow upward; or (b) they can begin with the owner and flow down. As long as both parties agree to the terms, the CO is approved.

2. Any required submittals are sent to the GC and/or architect for review/approval.

3. AIA applications for payment (invoices) flow upward from the subs to the GC and from the GC to the owner. In the case of the GC, however, the architect typically has to sign off to certify that the reported work completed is (a) as far along as stated, and (b) consistent with the plans.

4. The owner pays the GC, and the GC pays the subs. Watch out though - it can be a pain in the butt to collect retainage at the end of the job in a timely manner!
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>Bid</td>
<td>Usually, a “bid” is a fixed price quote for work provided by a subcontractor to a GC.</td>
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<tr>
<td>Invitation to Bid</td>
<td>Sometimes abbreviated ITB, this is the process that GCs use to select subcontractors for a project. The GC will send out a “Bid Package” that includes plans, specifications, and other important documents, and the subs will reply with their price for the defined scope of work.</td>
</tr>
<tr>
<td>Estimate</td>
<td>“Estimate” is a fraught term in construction. In most cases it refers to a fixed price quote provided to a residential customer. It can also refer to a “best guess” for time and materials work, or the estimated cost of a particular job.</td>
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<tr>
<td>Estimator</td>
<td>“Estimator” is a job title - on the GC side, it refers to the guy who gathers all the bids and puts together the overall project budget; on the subcontractor side, it refers to the guy who prepares the bid after costing out the job.</td>
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<tr>
<td>Takeoff</td>
<td>Takeoff is the process by which contractors convert plans into materials quantities. There are all sorts of specialty software packages for this, but most contractors still use manual processes + spreadsheets.</td>
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<tr>
<td>Change Order</td>
<td>Change orders are used to amend the contract between GC and sub, or the owner and the GC. They specify an increase or decrease in the scope of work, as well as an associated increase or decrease in the price. In some states (California!), the impact on the construction schedule must also be noted. Change Orders can start with either party, but the ‘final word’ tends to be the Change Order records in the GCs system. Note that this can create some reconciliation headaches between subcontractor COs and GC COs!</td>
</tr>
<tr>
<td>Change Ticket</td>
<td>Change tickets are found on the commercial side of the industry. They are used when the GC wants the sub to perform some additional work outside the scope of their contract on a time and materials basis. The sub and GC will agree on the work to be done on the Change Ticket; the sub will then perform the work and present their hours/materials at the end as if billing time and materials. The GC will typically then issue a formal change order for the amount of the bill.</td>
</tr>
<tr>
<td>Term</td>
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<tr>
<td>Prime Contractor</td>
<td>The party contracting with the owner. This can be a GC, or a specialty contractor contracting directly. Technically, being a “Prime Contractor” just means that you’re responsible for ensuring that the work is completed (whether by you or a subcontractor)</td>
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<tr>
<td>Subcontractor</td>
<td>An individual or company that has contracted to perform work for a General Contractor.</td>
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<tr>
<td>Schedule of Values</td>
<td>Sometimes abbreviated SoV, the schedule of values is the line item structure that the GC or owner has requested to see on any invoices submitted to them. This can vary from the line items bid by the contractor - for example, a bid might just contain a single line item called “Plumbing” for $10,000. The contract, however, may specify that that work be broken down into “Rough In” for $5000 and “Fixtures” for $5000.</td>
</tr>
<tr>
<td>AIA Application for Payment</td>
<td>Sometimes called a &quot;PayApp&quot; or “Req”, the AIA Application for Payment is a progress billing form that has become standard in the industry. Although the AIA (American Institutes of Architects) offers very expensive forms that one can use to fill out the AIA, it is almost never necessary for a sub to use the official AIA documents. GCs and Owners are usually happy to accept any Application for Payment submitted in the correct format.</td>
</tr>
<tr>
<td>Retainage</td>
<td>Retainage is the money held back by the GC or owner until the end of the project. The most common value is 10%. So if a contractor has a $10,000 contract with his GC and bills for 20% completion, he will show $2,000 in completed work, but will only be invoicing for $1800 ($2000 minus 10%).</td>
</tr>
<tr>
<td>Punch List</td>
<td>Periodically and at the end of a job, a contractor will perform a walk through with a representative from the owner or GC. If they encounter anything not performed correctly that requires remediation, it will be added to the punch list.</td>
</tr>
<tr>
<td>RFI</td>
<td>Request for Information - these are typically sent by subcontractors to a GC when they need clarification on something included in the plans or specifications</td>
</tr>
<tr>
<td>Submittal</td>
<td>A submittal is a formal submission of a color sample, system design, choice of major equipment, by the contractor to a GC, architect, or other group involved in a construction project for their sign-off.</td>
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Major Headaches
Major Headaches: Commercial GCs

The main focus of a Commercial GC is **Subcontractor Management**. As such, they typically need extensive document management tools to help them track:

1) Plans / plan revisions
2) Subcontractor bids/change orders
3) Submittals
4) RFIs
5) Job logs (incl. communications with subs and owners)

*Commercial GCs tend to be larger, with more complicated businesses, than residential GCs. If you’re new to the industry, you should probably not target commercial GCs!*
Major Headaches: Residential GCs

Residential GCs also need subcontractor management, but the smaller scale of their jobs and the generally-lower administrative requirements make document management less important. We find generally that bidding and cost tracking end up being the top concerns.

Residential GCs need help with:

1) Creating/tracking proposals sent to clients (homeowners)
2) Managing the subcontractor invitation to bid process
3) Tracking subcontractor change orders
4) Tracking subcontractor billing
5) Tracking their own change orders submitted to the owner
6) Managing their progress billing

If they have their own employees, they also need:

1) Timekeeping
2) Materials (purchasing) management
Even though the administrative complexity is lower for specialty contractors than it is for GCs, they often have far more jobs to manage. Also, their core problems can vary depending on whether they serve the residential or commercial markets.

Residential specialty contractors need help with:

1) Estimating jobs - budgeting costs and tracking bids
2) Tracking change orders
3) Scheduling work and workers
4) Tracking labor and material costs (with enough detail that they know how far along they are on a job, and what they should still expect to pay for in order to complete the work)
5) Managing their progress billing

Commercial specialty contractors also need:

1) Strong change order management
2) AIA billing
Major Headaches: Trades (Plumbers, HVAC, etc)

Trades contractors have the added wrench of managing dispatch jobs. Though there are contractors that will only do dispatch, the majority will perform a mix of dispatch and contract (construction) work.

Trades contractors need help with:

1) Estimating jobs - both estimating costs and tracking bids
2) Tracking change orders
3) Managing their dispatch / service ticket work
4) Scheduling workers
5) Tracking labor and material costs (with enough detail that they know how far along they are on a job, and what they should still expect to pay for in order to complete the work)

*If they perform commercial work:*

1) AIA billing
Technology
1) There are many platforms out there to help manage construction businesses, though not all of them are designed to work with QuickBooks.

2) The major factors driving your technology recommendations should include:
   - GC vs. Specialty Contractor / Trades Contractor
   - Commercial, Residential, or Both
   - Need for dispatch tools (maybe even dispatch-only)
   - Size of business

   And of course...
   - Cost
   - Quality of customer service / support

There are very few construction businesses that should not be thinking cloud-first at this point. Construction requires coordination between a field team and an office team; cloud software enables that in ways locally installed software cannot.
<table>
<thead>
<tr>
<th>Category</th>
<th>Micro</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential GC: Remodeler</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Residential GC: Homebuilder</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>×</td>
</tr>
<tr>
<td>Commercial GCs</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Specialty Contractors</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Trades Contractors</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Service-Only</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
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<tr>
<td>Landscape (Hardscape)</td>
<td>×</td>
<td>✔</td>
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</tbody>
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Business Advisor Power
What can business advisors do?

1. Help contractors Get Organized!
   a. Implement bid management and change order management tools immediately
   b. Develop processes to ensure accurate job costing - ie, no more credit card transactions at Home Depot that don’t get costed to a job!

2. Look for opportunities for Automation
   a. Mobile timekeeping + field logs
   b. Job “templates” for repeatable work
   c. Mobile receipt / purchase management
   d. Scheduling communication

3. (Harder) Implement systems/processes to help them Improve Estimating over time
   a. A lot of contractors (a) don’t know how much money they’re making job-to-job; even if they do, very few are (b) looking to reconcile against their original estimate to improve their estimating over time. If you can help them get insights from their data, you open the door to them being a more profitable contractor over time - this is a HUGE value-add item.
      >> (Knowify can help with this!)