Project Management

NAHB Education

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Project Management

Student Guide

National Association of Home Builders

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Bibliography

The following resources were used as reference materials for the development of this course.

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Meiteen, Geoff. *Essential Building Administration*. Collierville, TN: Fund Craft, 2006

Meiteen, Geoff. *Essential Building Administration and Project Management*. Collierville, TN: Fund Craft, 2006

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Table of Contents

Section 4: Duties during the Project

Section 5: Management of Trade Partners

Section 6: Post-Project Management Duties

Appendices

Introduction

Project Management

This Project Management course is designed to provide the student with a basic understanding of the project management process and the basics of that process. It is important to note that there are many different practices in use depending upon the nature of the project, the level of difficulty, the company's business model, the personnel involved, and the type of work site operation. Though many situations and examples will be covered in this course, all scenarios cannot be covered. It is the intent of this course to provide enough material and understanding of the process for you to modify and expand the process to suit your own specific project management needs.

Purpose of this Course

This course promotes the disciplined and professional management of projects. The process of PM begins at the completion of design and estimating, with the development of the project schedule. The responsibility for this process lies with a project manager. The primary responsibility of a project manager is to get the project built on time, on budget, and with a happy customer. Companies may use other titles for this position: builder, superintendent, lead carpenter, production manager, etc. By applying the concepts and strategies of this course, the participants will increase their professional value and thus bring value to the company and to the customer.

Audience

The audience for this course include business owners, project managers, superintendents, sales managers, and anyone involved in the pre-construction and construction process. All businesses will benefit from this course including: small volume builders, remodelers, and custom and semi-custom home builders.

This course is required for the following designations: CGB and CGR.

This course is an elective for the CGA designation.

This course provides 6.0 hours of continuing education credits for the following designations: CAPS, CGA, CGB, CGP, CGR, CMP, CSP, GMB, GMR, Master CGP, Master CSP and MIRM.

This course is registered with The American Institute of Architects Continuing Education Systems (AIA/CES) and provides 6.0 AIA/CES learning units (LU).

This course is **Novice Level** of content defined as – attendees need little or no prior knowledge of the subject matter.

Course Objectives

By completing this course, participants will be able to:

- *Discuss the basics of successful project management.*
- *Describe the pre-construction project management functions and responsibilities.*
- *Explain the tools available for efficient project management.*
- *Discuss the effective management of trade partners.*
- *Describe the project management duties during the project.*
- *Identify the duties and responsibilities of post-project management.*

Course Agenda

The course consists of this introduction and the instructional sections listed below. The list below includes a brief list of the major topics discussed in each section. A complete list of section objectives appears at the beginning of each section.

Section 1: The Basics

- Successful project management objectives, benefits, and common practices
- Successful project manager characteristics and responsibilities

Section 2: The Pre-Construction Process

- Pre-construction phase objectives and setup process
- Project file
- Pre-construction conference with the customer and key personnel

Section 3: Project Management Tools

- Filing and bookkeeping systems
- Purchase orders
- Production and selection schedules
- Technology

Section 4: Project Management Duties during the Project

- Successful project management of communications
- Site management
- Trade partner and vendor management
- Materials management
- Problem solving,
- Change order management
- Financial management
- Management of the customer relationship

Section 5: Management of Trade Partners

- Trade partner characteristics, policies, agreements, payments, pricing and bidding
- Train and motivate trade partners
- Problem solving

Section 6: Post-Project Management Duties

- Warranty procedures
- Service meetings and walk-throughs
- Customer survey
- Trade partner, vendor, and internal evaluations
- Measuring success

Final Item - Action Plan

Section 1

The Basics

Learning Objectives

By completing this section, participants will be able to:

- *Define project management.*
- *Investigate the benefits of professional project management.*
- *Review the objectives of successful project management.*
- *Describe characteristics of a successful project manager.*
- *Distinguish the key tasks of effective project management.*
- *Explore the responsibilities of a project manager.*
- *Identify common project management roles.*

Introduction

At its core level, project management is the management process and procedures for you or your company to start and successfully complete projects. It is your capacity to operate each project at a level of competence and quality that renders a project finished as per the contractual agreement between your company and your customer.

A project is defined as having a clear beginning and a clear ending. Among other things, project management also involves scheduling, labor coordination, material and service coordination, documentation, bookkeeping, oversight of installation, customer and office communication, and warranty follow-up in some cases.

Objectives of Successful Project Management

The success of a project can be defined in many ways. Customers may define success in almost the exact opposite way that a builder/remodeler will define success. Builders/remodelers have many different ways to identify a successful project and successful project management. They may include any or all of the following:

- Work scope completed according to the contract documents
- Project completed in a timely manner, i.e., on schedule or ahead of schedule
- Project completed on budget or under budget, i.e., project should make or save money
- Customers are pleased with their experience and the end result of the production
- Project safety regulations were met or exceeded and completed injury and accident free
- Project renders additional work, e.g., referrals, repeat business
- Project demonstrates pride in workmanship and craftsmanship

How do you define successful project management?

Benefits of Professional Project Management

Many benefits can be derived from a professional approach to project management:

- **Increased profitability.** Successful project management simply translates into successful and profitable projects. When costs are controlled, schedules maintained, and warranty issues are reduced, profits rise. Increased profitability also comes from happy customers and happy customers refer other customers and cost less to service over the long term. Ideally, you should strive to have **loyal** customers and not just satisfied customers. Satisfied customers live in the home you built them, loyal customers tell ten of their friends about the home you built them.
- **Reduced liability and risk.** Liability takes many forms in project management. The first is product liability. Successful project management ensures compliance with all construction documents and codes. It also includes the product liability from the manufacturers. Good project managers guarantee that all products are installed in accordance with the product specifications. Another form of liability involves safety of workers and site visitors. , Successful project management entails managing all aspects of a job site in a safe and workmanlike manner.

- When projects are performed per specifications, there is less likelihood of non-code compliance issues. When plans, policies, procedures, and work scope are followed, it is less likely to create additional liability for the company. A professional approach to project management also means that daily use of project logs, where weather, missed meetings, communication lapses, and customer actions are recorded, can reduce careless omissions that create additional liability and risk.
- **Increased productivity.** Successful project management is possible because of systems and processes. The increase in productivity of personnel that follows the systems will show at the bottom line. When project management systems are in place, a builder/remodeler can efficiently and profitably operate more projects at one time, or over a given period of time, thus increasing bottom line profits.
- **Improved quality.** Good quality can prohibit cost overruns and add to a well-organized job site, customer satisfaction, loyalty and ultimately increased profits. A disciplined approach to project management can monitor and correct quality issues. When the standard of quality is increased, an increase in productivity will ensue because there is less rework.
- **Better reputation.** A good reputation attracts more prospects and customers and gives more credibility to a builder/remodeler. This appeal influences the marketplace to demand quality trade partners and vendors to work with the builder/remodeler. This good reputation serves the customer relationship as well as the relationship with suppliers and trade partners.

- **Better trade partner relationships.** Good project management sets expectations for the trade partner and what the trade partner can expect of you. Setting and meeting expectations is a foundation for good relationships.

What are the two things that trade partners are looking for?

Characteristics of a Successful Project Manager

A project manager is the individual or team charged with the responsibility of overseeing and managing the satisfactory completion of the project. If it is a team, members may include the:

- Project Manager
- Production Manager
- Builder
- Owner
- Project Superintendent or Supervisor
- Project Administrator
- Bookkeeper
- Lead Carpenter

Regardless of the title, the responsibilities are varied and wide-ranging. Some of the qualities and characteristics that you may look for when interviewing or hiring a project manager are:

- **Well organized.** Your project manager will be called upon to arrange many tasks on several projects at one time. The ability to organize these tasks, create and keep detailed records, and maintain a neat and orderly project site can be the key to successful project management. Project managers are detail managers.

- **Ability to work through conflict.** As a project manager there will be times when the right thing to do is say "no" or "I don't know but will look into it and get back to you." Being able to stand up to customers, trade partners, field employees, or the office staff is an unpleasant but critical aspect of project management. You can't be the "nice guy" all the time; do not make commitments that should not be made for ease of the relationship in the short-term.
- **Productivity minded.** It is essential for a project manager to keep the project moving along on time or ahead of schedule. This requires the ability to be productivity-minded. A project manager must manage details in addition to overall job responsibilities. This person must be sufficiently detail minded so that the small things do not fall through the cracks.
- **Energetic and enthusiastic.** A project manager will be working with many different situations. His/her time and level of energy will frequently be challenged. It is essential for a project manager to stay motivated and focused on leading the entire production team to accomplish the completion of each project.
- **Excellent problem-solving skills.** Finding and defining the problem before beginning to solve a problem is crucial. A project manager must possess the ability to assess the real problems and causes of the problems in order to successfully solve the challenges of the project and to be a good negotiator.
- **Implement and utilize operational systems.** Although each project may be different, the fundamental systems as to how a project is managed are the same or similar from project to project. Systems facilitate project flow and productivity. A project manager must have sufficient knowledge of the systems to be able to use them effectively.

- Time management skills. The ability to set a schedule and stick to the schedule is an essential project management skill. In addition, the capacity to re-evaluate the schedule in the event of changes and get the project back on course is also critical. Time management skills are vital to successful project management.
- **Communication skills.** Of all the characteristics required of a project manager, superior communication skills may be most important. A project manager must regularly and effectively communicate with customers, trade partners, vendors, company management, the sales department, and other project coordinators. The ability to actively listen, consolidate information and viewpoints, and communicate can make or break a project manager. Record keeping is a vital part of the communications program both for current use and for business archives.
- **Willingness and ability to learn.** Changes in products, services, project management tools, and industry regulations require that a project manager must be willing to be a student of the trade and committed to continuing education. The ability and desire to expand one's knowledge base can be critical to the success of a project manager.
- **Proficient technical construction knowledge.** A residential construction project manager should possess a broad base of fundamental knowledge about the building industry. It is also essential that a project manager know where to obtain additional information about the many aspects of the technical application of construction materials, products and services.
- **Well networked with trade partners and vendors in the industry.** It is very helpful for a project manager to be well connected within the industry. The more resources a project manager has, the easier it becomes to find qualified trade partners, vendors, and skilled labor to successfully complete the project.

- **Good math and writing skills.** Change orders, disbursement schedules, vendor contract negotiations, invoicing, and trade partner agreements are among the many documents that a project manager will have to work with.
- **Detail oriented.** Attention to detail and anticipating the nuances of each project with great precision can be very helpful to the successful project manager. Today's customers are more knowledgeable about products and a detail-oriented individual can mean the difference between a happy customer and a dissatisfied customer.
- **Technology skills.** Most aspects of construction project management are facilitated by some form of technology. From smartphone apps to cloud-based project management portals, the use of technology is a competitive necessity, and not being proficient with these tools is a disadvantage in today's construction market

What additional characteristics would you consider important for the ideal project manager to possess?

Key Duties of Effective Project Management

There are fundamental duties that are assigned to the project management job description. This course will address various aspects of the responsibilities listed below. The fundamental duties can include:

- Establish paper or digital project files
- Maintain complete construction documents, including architectural and engineering drawings, , specifications and finish schedules, budgets and estimate, and production schedules
- Apply for and acquire necessary permits
- Inspect site condition, analyze job site access and staging issues
- Coordinate trade partners scheduling and workflow
- Act as a liaison between the customer and the company
- Enforce job site safety policies
  - Safety may include enforcement of company policies and OSHA policies
- Manage and approve job costs
- Oversee material ordering, delivery and installation
- Manage storage and security of job site materials
- Manage quality control of labor and materials
- Manage change orders and/or approval
- Manage project completion (punch lists)
  - Project completion refers to delivery and acceptance of the project in accordance with the contract and specifications

- Oversee and manage post project warranty issues
- Analyze job cost including variance reporting with log and schedule

Do you help contractors learn to plan for the future – tomorrow, next week, next month, etc. – and anticipate the needs related to those plans?

Project Manager Responsibilities

The successful project manager may choose to delegate some responsibilities of these duties; however, a project manager is usually charged with the ultimate responsibility in the following key areas:

- **Pre-construction set up.**
  A project manager is always participates in the hand-off of the data and information generated during the sales, design, and estimating phases over to the production phase. At a minimum, this hand-off should involve the sales person, designer, estimator, customer and project manager.

- **Trade partner and field employee relations**. Most trade partner interactions fall under the scope of responsibilities with a project manager. Negotiations, approving invoices, supervision, and motivation are components of trade partner relationships administered by a project manager.
- **Construction activity and budget management.** Execution of the project plan and schedule is essential. Timely delivery of services and correct product installation to the satisfaction of the contract documents is the majority of this responsibility.
- **Customer relations.** A project manager's and the building team's responsibility is to perform the construction in a manner that joins the realities of construction with the perceptions and expectations of customers by converting the design and work scope from illustration to actuality.

- **Post-construction project management.** Warranty and follow-up issues relating to the project can fall under a project manager's realm of responsibilities. These are performed and managed in order to comply with contractual obligations and to further good consumer relations.
- **Project debrief and job cost variance and analysis.** Cost analysis and internal project scrutiny allow the project management team to assess areas in which improvements can be made for the future.

How many projects should a project manager handle at one time? There are many factors, but the short answer is as many as can be efficiently and profitably handled at one time without sacrificing quality and safety. Here are some things to consider when deciding how many projects a business should handle at one time:

- Job scope of team members
- Degree of difficulty on the projects
- Experience level of the project manager
- Labor force and trade partner workforce that is available
- Size of the projects
- Estimated time of completion for the projects
- Budget or cost estimate of the projects
- Level of customer expectation – the more challenging customers require more time and energy
- Location of the projects and their proximity to each other

What other factors should you consider when deciding how many projects a project manager should operate simultaneously?

Common Project Management Roles

For custom and semi-custom builders and remodelers there are several common project management practices to consider. Depending on your specific business model and your company goals and objectives, you may decide to use any or part of the following:

- **Production manager.** In general, this individual is charged with oversight of multiple project managers, each of whom may be responsible for multiple projects
- **Project superintendent/Project manager.** Normally, this individual is in charge of a specific project from start to finish. He/she typically reports directly to the production manager. This person may operate and manage several projects at one time based on the size and nature of the projects.
- **Lead carpenter.** Typically this person is charged with the responsibilities of some of the non-mechanical trades on a job site. His/her duties may include, but are not specifically limited to, the frame carpentry, trim carpentry, cornice, and decorative product installations. His/her responsibilities tend to be more limited in nature and focused on managing the labor force on the site.
- **Administrator.** This person or team is responsible for having complete project documents including such items as: trade partner contracts, insurance certificates, trim and finish schedules, permits, etc.

- **Bookkeeper.** This person is responsible for ensuring the trade partners and vendors are paid, lien waivers are obtained, and draw requests are timely filed to ensure the builder/remodeler gets paid, and keeping budget documentation and tracking up to date.

Based on the size and business model of your company, you may choose to use any of the above project management roles. You may also choose to combine any of the responsibilities. Your decision should be based on what is best for your company and your customers. In every case, it is advisable to outline a set of project management responsibilities that will become a part of your core operations manual.

Activity 1– 1: Benefits and Responsibilities

While thinking of your company, write your answers to each of the following questions.

1. What benefits can you describe by using a disciplined approach to successful project management?

2. In addition to what was discussed, what other responsibilities fall under the project management job description?

Key Takeaways

- Project management is your capacity to operate each project at a level of competence and quality that renders a project completed as per the contractual agreement between your company and your customer.
- Benefits of professional project management are: increased profitability, reduced liability and risk, increased productivity, improved quality, better reputation, and better trade partner relationships.
- Common project management roles are: production manager, project superintendent/manager, lead carpenter, administrator, and bookkeeper.
- Your decision on which project management practices to use should be based on what is best for your company and your customers. It is advisable to outline a set of project management responsibilities that will become a part of your core operations manual.

Review Questions

1. What is the definition of project management?

2. What are the objectives of successful project management?

3. What are the benefits of professional project management?

4. What are the characteristics of a successful project manager?

5. What are the key duties of effective project management?

6. What are the responsibilities of a project manager?

7. What are some common project management roles?

Section 2

The Pre-Construction Process

Learning Objectives

By completing this section, participants will be able to:

- *Explain the "hand-off" process from the sales phase to the pre-construction phase.*
- *Describe the desired outcomes of the pre-construction phase.*
- *Illustrate what is included and how to set up the pre-construction requirements.*
- *Describe the benefits of the pre-construction conference with the customer.*
- *Describe the benefits of the pre-construction conference with key personnel.*

Introduction

Once a project is sold or "closed" by the sales department, it must be transferred to the production team. This "hand-off" process typically is called the pre-construction phase of the project.

The Hand-off Process

The main objective of the pre-construction phase is to transfer responsibility to the production management team. The objective is to create a seamless transition to begin the project in a timely and professional manner. A project manager and the sales person working together can do this very effectively.

The process should be held between the appropriate company personnel (at minimum the estimator, salesperson, and project manager in the absence of the customer. This is an internal procedure and is designed to gather critical information for a project manager to best perform his/her job.

In addition to the normal and usual contracts, specifications, and product selections, the sales person and a project manager must consider the following information that may be critical to the project management process. It would be advisable to transfer information regarding:

- Customer availability and access issues that may become relevant to the project
- Customer's history or familiarity with the company
- Customer's knowledge or experience with the building process and scheduling importance
- Time involved to close the sale which may indicate the customer's level of willingness to make decisions
- Outside influencers (including family members) and information, if applicable
- Special conditions and requests (scheduling constraints)
- Cost/budget issues, how the budget was created, and job scope
- Customer's expectations of schedule

- It is critical that this stage is not rushed and that plenty of time is budgeted to ensure no information is overlooked. A project manager's goal is to obtain as much information as possible about the customer before the project is started. The information may influence project management decisions and help generate a better product and more satisfied customer. Any other customer documents providing useful information should also be given to a project manager.

- During the sales process, it is almost inevitable that certain conversations and communications occur which only the sales person and the customers may be privy. The nuances of these conversations are not always transferred to a project manager and his/her team. Great care needs to be taken when transferring critical information that can be relevant to the successful completion of the project.

What other information would be useful for a sales person and a project manager to discuss during the "transfer" process?

Outcomes of the Pre-Construction Phase

Since the ultimate responsibility of production lies with a project manager, it is imperative that a project manager gather as much information as possible about the project during the pre-construction phase.

"An ounce of prevention is worth a pound of cure" is an old adage worth repeating in this instance. The pre-construction phase should include the following:

- **Determine the urgency and/or timeline expectations.** As a project manager gathers information from the sales person, timeline expectations should be discussed. Though many projects have established schedules built into the sales agreement, it is good for a project manager to verify with the sales person the timeline expectations of the customer.
- **Create an overview of the entire project.** A project manager should get the big picture of the project, a comprehensive overview of what the project will look like once completed. From the overview, a project manager will then begin to formulate a project plan. While many projects may seem routine in nature due to your level of experience, each project has its own set of complications and/or challenges to consider. Taking a few moments to create a big picture viewpoint may allow a project manager the opportunity to foresee such challenges.

- **Generate a project management plan to proceed with the project.** A project manager should consider the next steps. Which trades, materials, or processes will he/she initiate first? Who does a project manager need to enlist for help with the project? Does permission need to be secured from certain entities? Do certain materials need to be ordered earlier to avoid back orders or discontinued orders?
- **Determine if any critical information is missing from the sales transaction.** Many conversations are held during the sales process. In the interest of making a sale, critical project management information may have been overlooked. It is the responsibility of a project manager to make certain that all significant information is obtained before the project is started and documented in writing.
- **Discern if the budget and cost structure is accurate and appropriate for the project.** While a budget and cost sheet should have been generated by the sales or estimating department, it is advisable for a project manager to verify the budget. When doing so, it is also good to understand how the budget was generated, with which vendors, and to verify the profit margins. Understanding the budget before starting a project can be critical to its success.
- **Develop and review construction schedule with the customer.** Develop a construction schedule with the customer's expectations balanced with a project manager's knowledge of the construction process and local governing factors. Provide the construction schedule to the customer for his/her review.

At this stage in the process, a good project manager should look like a smart detective. He/she needs to find the clues for what is missing, what has been left out, determine if anything doesn't make sense, and uncover different or conflicting points of view between different parties.

Pre-Construction Set-Up Process

With the hand-off information in place, it is now time for a project manager to perform his/her pre-construction set-up process.

During the pre-construction set-up process, a project manager becomes more familiar with the intricacies of the project. The intent is to become familiar with the project and to begin to formulate a specific project plan for the successful start and finish of the project. Furthermore, a project manager needs to begin the written documentation that will support all aspects of the project. During the pre-construction setup process, a project manager should conduct a check of the project documentation to determine if anything is missing. The project documents should include:

- Construction plans
- Complete specifications
- Complete scope of work
- Project site information including project location and directional maps
- Signed contract documents
- Approved drawings
- Site plans
- Environmental documents
- Anticipated work schedule
- Architect/designer contact information
- Customer contact information, including alternate contact information
- Vendor lists
- Trade partner and vendor bids
- Budget/cost information

- Site photos
- Deed restrictions, where applicable
- Permits, if obtained
- Completed "Finish Selection" forms
- Finish selection vendor contact information and quote sheets
- Construction schedule

Note: Once a project manager conducts an initial paperwork overview, it may become necessary to have additional conversations with the sales person to clarify any pertinent information needed to start the project.

Project File

Many project managers choose to keep all project-related information in a central location. By having critical information in a central mobile location, a project manager has easy access to information. This central location may be cloud-based, on a laptop or tablet, or for 'low tech' users a physical notebook. Contents of the project file or notebook can include any of the following:

- Daily/weekly work log
- Weather log
- Existing site conditions form
- Contract and specifications
- Scope of work
- Project design – specifications and interior design, architectural design, engineering, etc.
- Purchase orders
- Construction budget
- Construction schedule

- Permit information
- Project photos
- Customer contact information
- Trade partner bids and vendor bids
- Working or construction drawings
- Shop drawings, where applicable
- Approved change order forms

If a hard file (notebook) is utilized in the field, care needs to be taken that the file is synchronized on a regular basis with the cloud or server-based file, preferably on a weekly basis.

The pre-construction task of establishing the appropriate files, digital or physical are a key part of project management. This is a formatted function using templates whereby each project support structure looks and acts the same as the next. Replication of the general structure between hard and physical files, with organization that integrates the bookkeeping functions, makes staff training and day-to-day operations simple and easily replicated.

Pre-Construction Conference with the Customer

A pre-construction conference should be held with the customer prior to any work started. Do not underestimate the importance of this meeting or take for granted that your industry experience will allow you to eliminate this critical meeting. Explain to the customer how decision lag time impacts the schedule and how change orders impact the schedule.

There can be many benefits to conducting a thorough pre-construction meeting with the customer. They may include any or all of the following:

- **Build rapport.** The sales person will likely have already established a relationship with the customers and can communicate the likes and dislikes of the customer as well as their 'hot points'. A project manager must gain rapport, respect, and credibility with the customer as well. The pre-construction meeting can be used as an opportunity for a project manager to demonstrate his/her credibility and level of expertise to the customer.
- **Confirm all of the agreements have been made between the sales person and the customer.** Even in best scenarios, written and implied promises are open to interpretation. The pre-construction meeting is an opportunity to verify the work to be done. A review of the documentation with the customer is also advised.

- **Set up opportunities for additional sales or upgrades.** In many builder/remodeler business models, change orders or upgrades are an integral part of the work to be performed. More often than not, these changes result in additional revenue and profits. The pre-construction meeting allows a project manager to review the project with a fresh perspective to see if any additional sales opportunities may be present. Once those opportunities are identified, the sales department may act upon them.
- **Build good will.** At a minimum, the pre-construction meeting is a matter of customer care and a demonstration of your dedication to building a high-quality project.

What other benefits can you identify for conducting a pre-construction meeting with your customer?

How the Meeting is Conducted

The pre-construction meeting with the customer should be to answer this question: how can a project manager access as much information as possible to allow him/her to produce a project that creates both customer satisfaction and company profitability?

There are some generalities that should apply to all pre-construction meetings. Your specific business model will dictate the extent to which you employ the following strategies:

- **Preview the site.** A general "walk-through" allows a project manager to become familiar with the site, its conditions, access, and the "end-result" objectives. This applies to a raw piece of land in the case of a new home or the entire existing house in the case of a remodel project. You will also take this opportunity to verify pre-existing site conditions that were noted by the sales person and to examine the site more carefully for other conditions.
- **The meeting should include a project manager, the customer, and the sales person.** To accomplish a more thorough transition and to avoid the "he said – she said" scenario, all parties that were involved need to recognize the scope of work document. The designer may also be considered a critical participant at some pre-construction meetings.
- **Review the agreements.** The term "agreements" is used generically in this instance and it may include any or all of the following:
  - Contracts
  - Scope of work
  - Drawings
  - Selections
  - Draw/payment schedules
  - Budgets/allowances
  - Work schedules
  - Any document that impacts production
- **Establish communication vehicles.** Good communication is obviously the key to successful production. At the pre-construction meeting, communication schedules should be set, contact information exchanged, and expectations discussed.

- **Accountability.** Responsibility for the successful completion of a project rests with a project manager. Setting clear expectations for all parties is essential to the success of the project.
- **Review the change order policy.** While this should have been done during the sales process, it is very beneficial to re-establish your change order or upgrade policy. Even if your business model does not allow for changes to your production, a clear explanation and reiteration is beneficial.
- **Communicate company policies for the project to the customer.** A project manager will guide the customer in how the project will progress, how to interpret the schedule, and how to lodge a complaint or concern.
- **Define your expectations for the customer and the project.** This area is often overlooked. For there to be an exchange of effective communication, the customer must know how you define a successful project. Your definition may include your expectations regarding time, jobsite cleanliness, customer involvement, quality, etc. You may also have the conversation about profitability. Clear communication is a two-way street. Let the customer know what you expect as well. A follow-up email that reflects your conversation is a useful tool.
- **Site logistics.** Determine such things as material storage areas, site access, pet care, and neighbor care. This is an optimal time to review your company policy regarding customer access to the site. Explain the safety and business reasons for your customer site access policy.

How do you shape customers' expectations?

How do you handle customer expectations that need to be re-set?

Definition of Key Personnel

For the purposes of this course and project management in general, key personnel can be identified as anyone whose participation is required for the completion of the project. They may include any of the following:

- Trade partners
- Vendors/Material suppliers
- Engineers
- Architects
- Designers
- Lead carpenters
- Site supervisors
- Surveyors
- Third party inspectors, if required
- Bookkeeper
- AP/AR manager
- Change Order manager
- Office administrator

Pre-Construction Conference with Key Personnel

A pre-construction conference should be held with key personnel prior to the start of any work. Once again, do not under estimate the importance of this meeting or take for granted that your industry experience will allow you to eliminate this critical meeting.

There can be many benefits to conducting a thorough pre-construction meeting with key personnel. They may include any or all of the following:

- **Expedite mobilization.** A thorough pre-construction meeting with key personnel will allow you to ramp up your project more quickly and efficiently.
- **Confirm the order of work to be done and verify schedules of key personnel.** With feedback from your key personnel, you are able to confirm the work schedule. Regardless of your experience level, this communication can save you money, time, and frustration.
- **Team work.** The key members of your team have insight into the overall project conditions and can work in greater harmony with trades and services affecting their work.
- **Best practice.** For many companies, it is considered a "best practice" to conduct thorough pre-construction meetings with key personnel. It enhances overall communication, builds team unity, and avoids many future problems on the project.
- **Confirm budgets.** A walk-through with the trade contactor before work begins may allow you to renegotiate the pricing to produce a more beneficial outcome for all involved.

How the Meeting is Conducted

The pre-construction meeting with selected key personnel may be conducted in a variety of ways and cover a multitude of objectives. It is logistically impractical for all of the above to be in attendance. Select those most crucial to initiate a project or to advance it at various stages. The objective should be to answer the following question: "How can the project manager and the key personnel get on the same page as quickly as possible to ensure a successful project that is of high quality and profitable for all parties?"

There are some basic requirements that should apply to all pre-construction meetings with key personnel. Your specific business model will dictate the extent of the following strategies you employ:

- **Feedback.** Gather feedback and suggestions from key personnel. Get input from trade partners regarding scheduling, production, and expediting the project.
- **Verify material lists.** Material lists have probably already been created. Your trade partners and vendors can verify them as well as place material orders to reduce back orders or discontinued items.
- **Verify bids and price quotes.** Labor costs have probably already been agreed to. Verify these with your trade partners for a smooth transition and verify that all trade agreements have been executed and payment schedules are confirmed.
- **Contracting and procurement processes.** Discuss and resolve any issues with key personnel on these processes. If the project isn't contracted appropriately or materials aren't procured appropriately, the project is destined for problems.

- **Site logistics.** Determine such things as material storage areas, site access, pet information, and neighbor information. This is an optimal time to review your company policy regarding trade partner conduct and safety policies.

If physically meeting on site is not required, video-conferencing can be very efficient. A video-conference offers the opportunity for project documents to be viewed and reviewed in common. While reviewing documents and project details, the attendees are enabled to talk to each other. Various third-party services are available to host video-conferences at reasonable costs. Technical expertise requirements are in fact very low and anybody who has internet access and a phone can participate.

Note: The above objectives assume that you already have established relationships and work history with your key personnel. If you are hiring new personnel or have only worked on a limited basis with personnel, your pre-construction meeting should entail much more detail.

Activity 2 – 1: Project File

In your group, write answers to each of the following questions.

1. What other pertinent information could be kept in the project file?

2. What are the benefits derived from keeping a comprehensive project file?

3. How might a project file impact potential builder/remodeler liability issues?

4. Who, within the company, should have access to the project file or notebook?

Key Takeaways

- The main objective of the pre-construction phase is to transfer responsibility to the production management team. The objective is to create a seamless transition to begin the project in a timely and professional manner.
- Outcomes of the pre-construction phase are: determine the urgency and/or timeline expectations, create an overview of the entire project, generate a project management plan to proceed with the project, determine if any critical information is missing from the sales transaction, discern if the budget and cost structure is accurate and appropriate for the project, and develop and review construction schedule with the customer.
- Many project managers choose to keep all project-related information in a central location. By having critical information in a central mobile location, a project manager has easy access to information.
- Benefits of the pre-construction conference with the customer are: build rapport, confirm all of the agreements have been made between the sales person and the customer.
- Benefits of a pre-construction conference with key personnel are: expedite mobilization, confirm the order of work to be done and verify schedules of key personnel, team work, best practice, and confirm budgets.

Review Questions

1. What is the "hand-off" process from the sales phase to the pre-construction phase?

2. What are the desired outcomes of the pre-construction phase?

3. What is included in the pre-construction phase?

4. What are the benefits of the pre-construction conference with the customer?

5. What are the benefits of the pre-construction conference with key personnel?

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Section 3

Project Management Tools

Learning Objectives

By completing this section, participants will be able to:

- *Describe project management tools.*
- *Describe job records systems and filing systems.*
- *Describe bookkeeping and estimating systems.*
- *Describe scheduling procedures.*
- *Describe the project log.*
- *Describe various technology tools.*

Introduction

Project management tools are the systems, procedures, hardware, software, and communication devices used to support home building production, remodeling, and general business operations.

Tools

Project management tools can be used to:

- Keep the project flow moving forward and on schedule
- Manage the project financially
- Allow for communication between the job sites, corporate offices, trade partners, and customers
- Strengthen risk management
- Document the project

Examples of what the tools may manage are:

- Scope of work
- Schedule for project, with status updates to show variances
- Job budget, updated to show on-going variance(s)
- Communication procedures and equipment
- Forms and instructions for all reporting tools (status, draws, inspections, selections, change orders, additional work orders, accident, Job Log, etc.)
- Sources pre-selected for use - equipment rentals, miscellaneous materials, testing, engineering and architectural or design

Job Records

Any project needs to have the following segments to document activity, provide historical information, and provide status:

- Construction documents
- Cost estimate, vendor and trade partner quotes, and schedule
- Permits and surveys

- Change orders and additional work orders
- Selections schedules
- Paid and pending invoices, funded and unfunded draws
- Correspondence, meeting minutes, daily/weekly reports
- Warranty and services

The three types of job records are:

- **Pending jobs** – identify, define, and describe pending projects under contract and waiting to be performed
- **Active jobs** – identify those projects under contract and in all stages from commencement through completion and closeout
- **Completed or archived jobs:**
  - Recent – one to two years coinciding with warranty period
  - Mid and long-term – no longer under active warranty but may be under extended warranty program
  - Under warranty – including long-term warranty
  - Dead files – projects completed and out of warranty but still needed for tax record keeping or archived for other purposes

A project manager should be given a copy of job cost accounting codes for invoices, purchase order listing, and job number log for coding invoices for approval for payment depending upon established company procedures.

What other historical information do you keep from your projects?

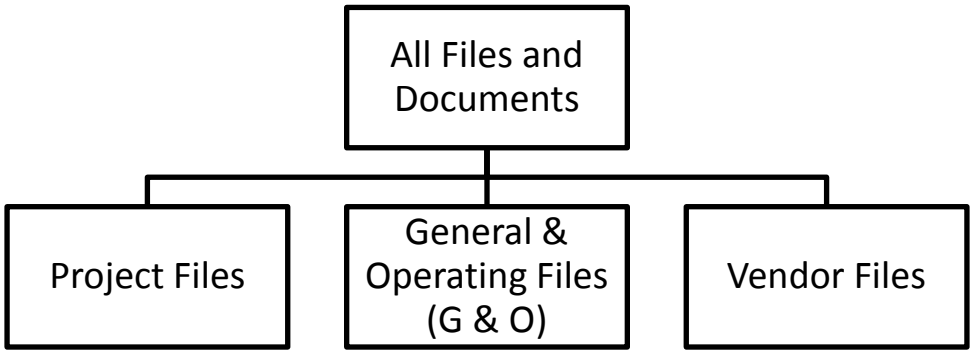
Filing Systems

A builder/remodeler's filing system is the tool used for information storage and retrieval. With the volume of information required in new home construction and design/build remodeling, a reliable system is necessary.

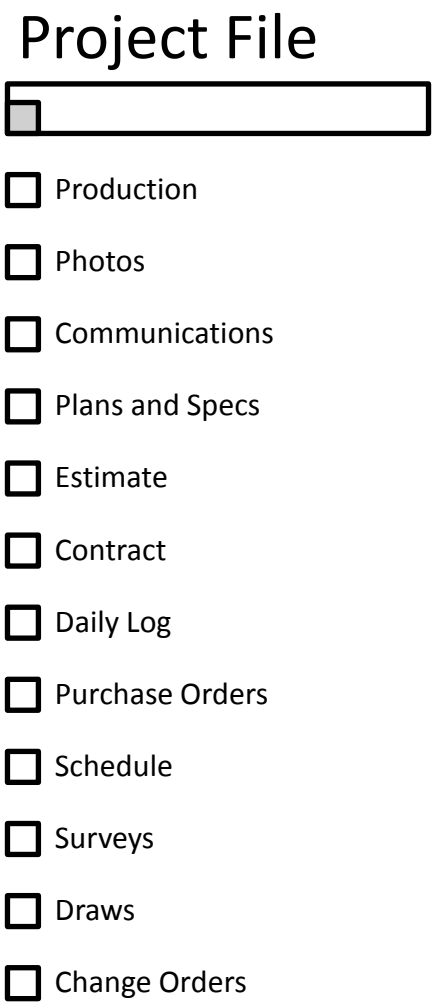
Characteristics of a good filing system include:

- Simple to understand and may be used by even a novice to the business
- Consistent and supports multiple users
- Hard and soft systems have the same basic structure
- Integrates documents with the bookkeeping system
- Clear separation of files, i.e., project, vendor, and general operating files

The structure of the soft filing system is the same as the hard filing system. The top-level hierarchy has three broad categories: Projects, General & Operating, and Vendors.



Project files are specific for the design and construction of a new home or remodeling project. For best practices each legally distinct project, often distinct by land ownership, has its own project file.



Within the production files, there is a file for each item (e.g., framing, foundation, insulation, roofing, etc.) utilized in bookkeeping for estimating, budgeting, and tracking. The files are organized alphabetically and labeled both by item name and by their bookkeeping item number.

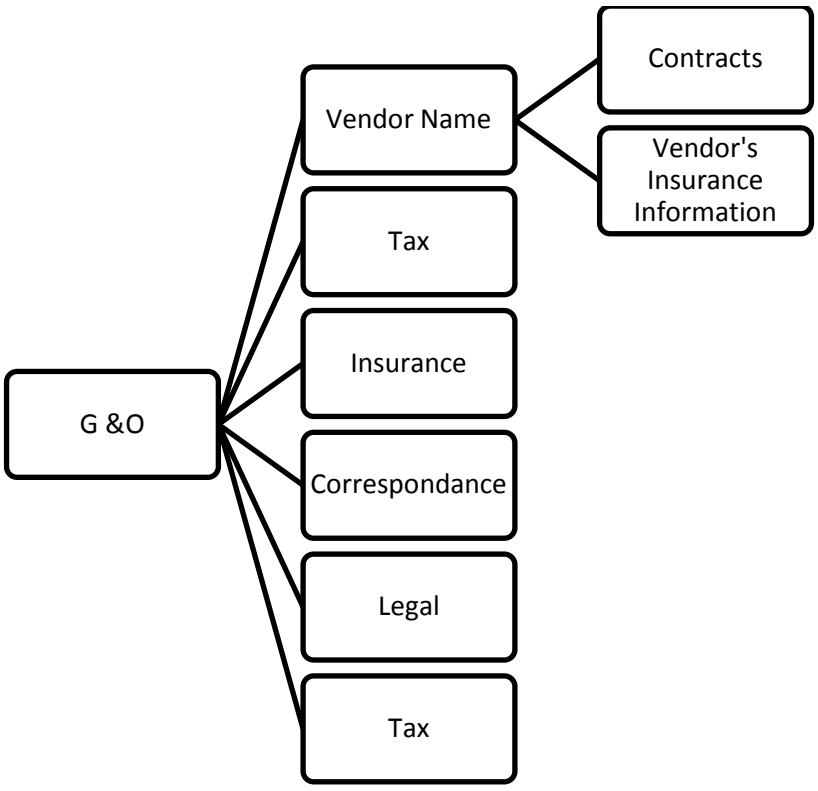
General and Operating (G&O) files – accommodate the day-to-day running of the business (e.g., rent, telephone, salaries and wages, general liability insurance, etc.). There should be a file for each expense account used from the chart of accounts. A file may be labeled with the name of the account and the chart of accounts number.

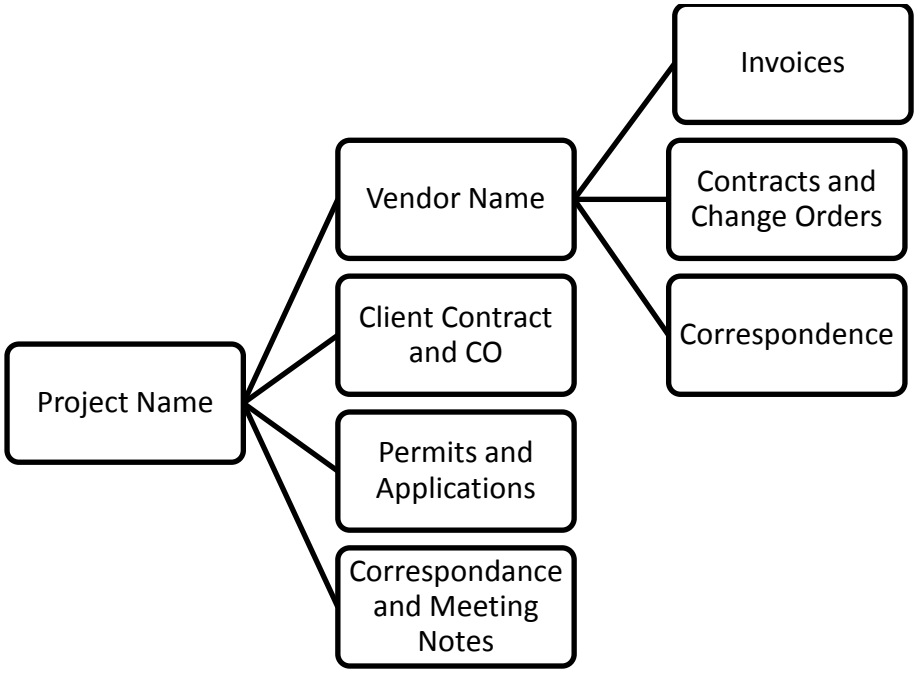
Vendor files – accommodate the information needed about each trade partner, e.g., Joe's Plumbing. The files are organized alphabetically. Typically each file would contain the vendor's:

- General information
- General liability insurance
- W-9
- Base or annual contract
- Workman's Compensation or waiver

Note: Some states do not allow annual contracts with trade partners. Instead, there must be a separate contract for each project.

An alternative method for creating a filing system is illustrated on the next page.





Bookkeeping Systems and Estimating

Quality bookkeeping is a powerful tool in a builder/remodeler's tool box. Appropriately done, bookkeeping should provide:

- Appropriate trade partner and vendor payments
- Job cost accounting reports for customers and lenders
- Job cost accounting for project management feedback
- Hard cost experiential feedback for improved estimating
- Integration with trade partner project contracts

Several software applications are available with different strengths, weaknesses, and costs. The fundamental need of the builder/remodeler is for depth and breadth of categorization for each expense. Each project expense must be attributed to a specific project and for the specific category of project item, e.g., framing.

A typical set up allows for each expense to be attributed to a project site and/or a customer by name. The top level of expense attribution within a chart of accounts would be a cost of goods sold. This is in contrast to an expense being for general operating or any other type of expense. The second tier of expense attribution is to what category of construction this expense was for, e.g., framing or roofing, etc. At this level, it is called a job cost and corresponds with the job cost numbers in the subsidiary ledger.

The job cost line items must be the same as the estimating line items. This allows an estimated job cost to be compared to the actual job cost. The pre-job detailed estimate plus the cost of any changes should equal the job's actual cost. If it does not equal the actual cost, the builder has the opportunity to analyze the reason and alter project management moving forward.

Purchase Orders and Invoices

Purchase orders (POs) are an internal tracking system used to provide consistency and accuracy of company purchases. They are a commitment to purchase a specific quantity at a specific price and are often used to provide clarity to the vendor. When using an annual or base contract with vendors, POs may be used as the project specific extension of that base contract. The PO may describe the scope of work and the draw amount for a specific project, e.g., Plumbing Rough, $8,432, 1810 National Road.

A takeoff becomes a purchase order. This is used to order the material. When the ticket comes back from the field indicating that the materials were received, it is checked, initialed to create accountability, and stapled to the PO. When the statement comes in at the end of the month, simply match up the invoice with what has been approved and review it. This saves a step of doing them separately.

The project manager should manage the purchase orders and invoices by exception. Managing by exception means only being involved when there is a variance. If there is a variance, you can get to the root of why there is a variance if the above measures are in place and you can prevent it from happening again. Set up the systems so the project manager only has to deal with what falls outside the system or the exception.

Purchase orders should be numbered and a number log should be kept similar to a checkbook to account for all POs, even those that are voided. The primary value of a PO is that it establishes the final cost of a defined scope of work before the costs are charged. Many times a subcontract is also a purchase order.

The PO is a management tool to track a committed cost from its pricing or quotation through its purchase, receipt of the order, and final payment. When used as a base contract extension, it is a tool to integrate a project's trade partner contracts and paperwork with the project's financial management and bookkeeping.

Specific steps need to be accomplished at each stage for the maximum effectiveness. They are:

- Accurate price, quantity, job cost code
- Acknowledgment of the order
- Actual count of delivered items or work
- Signed, counted ticket to the office
- Ticket matched to PO and any deviations resolved
- Invoice matched to ticket and PO with any deviations noted

POs need to be marked as "original" for orders from the original estimate and "variance" for orders outside the original order. This is very useful for future estimating and also for tracking potential change orders.

Most bookkeeping software allows for a "simple click through" function whereby the PO is clicked through to produce a bill, which is clicked through for bill payment, which may be clicked through for a check to be produced. This management power is enhanced when the requirement is made of trade partners to have a project manager sign off on the invoice when the work is complete. For example, the plumber has to find the project superintendent and have him sign off that the plumbing rough is complete. When the administrator responsible for accounts payable is presented with an approved invoice, it is known what work is completed and the amount owed for that work.

Production Schedules

Production schedules are the organization of events over time throughout the project, what should happen and when. Schedule types include: a calendar, schedule board, spreadsheet, Gantt chart, and a fully integrated computer-based schedule. The decision as to what schedule should be used may depend on schedule objective, level of detail necessary, total project time, and what events actually need to be scheduled.

For this course, the discussion will be limited to short duration projects with a computer-generated schedule showing task lists, durations, resources, dependencies, float time, lag and lead times, milestones, and critical functions such as constraints by client, company, or lenders.

For a schedule listing, it is necessary to list the tasks with their dependencies. Tasks are the construction events that lead from the beginning to the end of the project. A dependency is a relationship between tasks. The different types of dependencies include:

- Start to finish
- Finish to start
- Finish to finish
- Start to start

A clear understanding of these dependencies is a significant part of what gives the scheduler expertise in the use of the scheduling tool. For example, there needs to be time allowed for hardwood to acclimate to the house after it is delivered and prior to the time of installation. Another example of dependency is that poured walls need time for curing before backfilling or framing. These types of activities should be considered as tasks and given distinct listing on the schedule with the appropriate dependencies.

The schedule should be reviewed on a regular basis—daily to weekly—with the start/completion times of completed, or partially completed, tasks updated. This enables the schedule to reflect the impact of weather, customer decisions, delivery delays, partner delays, etc.

If "updating" means re-sequencing or modifying the schedule, then that should only be done in extreme circumstances and the modifications should be noted from the original. The better the quality of the preparation of the schedule, the more attainable the schedule is and fewer updates will be needed.

Access to the production schedule can take many forms, including hard copy, cloud-based or remote access via tablet or laptop. The method of access is a company by company decision. The critical issue is that the schedule be kept up to date and that the appropriate personnel have access.

There is a sample of a Production Schedule in Appendix A.

Selection Schedules

Selection schedules are a valuable tool for summating project information. These are simply an organized listing of products, finishes, etc. They provide a tabled summary as to what products will go into the project. Often you find door and window schedules done by an architect. These schedules are simple tables or spreadsheets. Similarly, selection schedules should include items such as: appliances, cabinets, countertops, light fixtures, finishes, flooring, hardware, plumbing fixtures, trim, and paint colors and finishes.

The schedule includes important information about the products such as manufacturer, model, model numbers, color, finishes, and cost. Reviewing a table provides a good visual as to what selections have not been made.

The tabled format provides for ease of communication within the builder's/remodeler's business, to the customer, to the project design team, and to the trade partners and vendors. These can further be used as "spec" sheets, which can be signed off or used as agreement attachments. They can be posted during construction to help with project management. These can be used in the procurement process. An e-mail attachment to prospective vendors tells those vendors quickly and easily what products you need and in what quantities.

Cloud-based scheduling allows for different accesses or different levels of schedule view for different project participants. The schedule a customer sees may be different than what the project manager sees. Each trade partner may have their own specific view of the schedule. Although the full schedule is the same, the view of the schedule is customized to the viewer. This customized view is typically brought up by the login credentials of that individual user.

Project Log

A proper job log is a daily entry system of job site activities, conditions, and events. It can be recorded manually or via laptop, smartphone or tablet. Log information should include date, AM/PM weather, job id, job or project manager name, trade partners on the job, visitors, material deliveries, inspections, accident and injury notations (does not take the place of OSHA 101 or other accident reports), and other explanatory information to help facilitate analysis of job cost and schedule variances.

What is recorded will vary with the company's use of the log. Possible uses include:

- Project tracking
- Risk management
- Project management
- Owner overview tracking
- Accountability of entire team
- Documentation of what happened on the project

At a minimum, typical log recordings include site meetings or phone conversations with trade partners and the outcome, a listing of all who attended the meeting, and notable occurrences such as unusual weather or an accident. It may include a note to the logger, or their support system if an action step is required. Each project has a log.

The completed project logs should remain accessible at least until such time as the warranty on the project has expired. After this time, company policy will determine the length of time that archives are maintained. For future liability purposes and since digital storage is so economical, it is recommended that project files be maintained for at least five to seven years.

The following is an example of a project log.

Project Log

Project: The house that Jack is building

Week Ending: 8/14

Fill in with Date Onsite

Fill in with Hrs/Date

Trade/Task	Framing	Roofing	Windows	Decks	Layout HVAC	Layout Plumbing
Seaside Framing	8/11, 8/12					
Quality Roofing		8/13, 8/14				
Decks-R-Us				8/13		
Employees:						
Dan (Supervisor)					8/14 - 2	8/14 – 2.5
Paul (Carpenter)			8/14 – 5			
Frank (Helper)			8/14 - 5			
% Complete	100	75	25	10		
# Days to Complete	0	1	3	6		

Daily Notes on Back

Projected Tasks – Next Week:

Framing inspection, roofing complete, windows complete, deck framing complete, start HVAC, start plumbing

Items Needing Action:

- Call for framing inspection (48 hr. notice)
- Finalize deck railing detail
- Issue electrical contract
- Finalize HVAC supply and return air locations
- Provide plumbing fixture specifications
- Call for insulation and dry wall measure and pricing
- Send deposit for plumbing fixtures

A project manager or a company owner should be able to look through the logs of the activities of the previous day and know the status and occurrences at each project. In case of litigation, an attorney reviewing a project log should have a good understanding of the project flow and what happened through the life of the project. A complete log can help a builder/remodeler through a challenging customer situation. Information should be sufficient so that it would be considered legible and admissible as evidence in case of a dispute. This may be your only "memory" of an event three, four, or five years down the road. If in doubt, enter it in the project log. Also, it is a good communication tool within the builder/remodeler's business.

Activity 3 – 1: Technologies

In today's industry, keeping track of technology development in hard copy print is a challenging task. However, each of you is likely working with a technology that either does or does not address the needs of your company. Discuss with your group what you use in your company that assists you and others in each of the facets (communication, estimating, contracting, financial management, customer service, advertising and marketing, logging, and procurement) of project management. How well is your technology working? What are your biggest technology needs?

Key Takeaways

- Project management tools are the systems, procedures, hardware, software, and communication devices used to support home building production, remodeling, and general business operations.
- Purchase orders (POs) are an internal tracking system used to provide consistency and accuracy of company purchases. They are a commitment to purchase a specific quantity at a specific price and are often used to provide clarity to the vendor.
- Production schedules are the organization of events over time throughout the project, what should happen and when.
- Selection schedules are a valuable tool for summating project information. These are simply an organized listing of products, finishes, etc.
- A proper job log is a daily entry system of job site activities, conditions, and events.

Review Questions

1. What are some project management tools?

2. What are the job records systems and filing systems?

3. What are the bookkeeping and estimating systems?

4. What are the scheduling procedures?

5. What is the project log?

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Section 4

Duties during the Project

Learning Objectives

By completing this section, participants will be able to:

- *Describe the actions project managers must take to successfully manage:*
  - *Communication*
  - *Site Management*
  - *Trade partners and vendors*
  - *The project materials*
  - *Problem solving*
  - *Change orders*
  - *Job costing for the project*
  - *The customer relationship*

Introduction

The construction phase is the execution phase of the project. All of the sales work, pre-project planning, and business systems lead to this phase of the project. As such, care needs to be taken to manage various aspects of the construction.

A project is typically considered under construction from the initial layout work to the day ownership is transferred to the customer. During this period, success of project quality, financial profitability, and customer satisfaction are usually determined.

A builder/remodeler must implement systems and procedures to guide project management during construction. Those may include any of the following:

- Communication
- Site management
- Materials management
- Problem solving
- Change order management
- Financial management
- Management of the customer relationship

Communication

Communication is determined by the needs of the project. Communication should be timely, efficient, and results oriented, especially in the case of managing multiple projects. Communication may take many forms including: phone, e-mail, web site postings, postal mail, or fax. For communication on a project to be successful, it should contain the following components:

- Be specific and purpose driven
- Have an objective
- Have action items to be performed
- Involve the appropriate parties
- Be documented always, never just verbal
- Anticipate future issues or decisions
- Hold appropriate parties accountable for action

To support a successful project outcome, the minimum lines of regular communication include:

- The office and the site
- The builder/remodeler and the customer
- The builder/remodeler, the trade partners, and the suppliers or vendors
- The builder/remodeler and the project design team
- The builder/remodeler and financing institutions
- The builder/remodeler and city inspectors or other regulatory agencies

Each communication link may have a unique system or process. The important task is to clearly define that process. For example, the office and the site may best communicate through the daily job log, phone communications, and a weekly construction meeting. The process of how to log the project and how all parties utilize the logging system is well defined with a written procedure.

Meetings

Face-to-face meetings, whether with owners, designers, or trade partners, should always have an agenda. Passing out a written agenda is a good form of documentation and gives participants an appropriate paper to take notes on. Typically, the meeting leader creates the agenda. Creating agendas prior to the meeting give the leader an opportunity to think through all the issues which can be effectively handled in the meeting by the participants. The participants will have an opportunity to contribute to the agenda if it is distributed before the meeting. Following the agenda ensures that all the necessary items are discussed. Therefore, the face-to-face meeting becomes quicker and more efficient, respecting everyone's time in this busy world.

Attendance at the weekly, in-house construction meeting, the agenda of the meeting, and what is required in preparation for that meeting should be clearly understood, written processes. This process is available for reference if necessary. Clear notes must be taken or recorded during each meeting, reviewed at the end of the meeting for agreement, and distributed promptly.

Teleconferences and web-based meetings are valuable when a face to face meeting is impractical. The same procedures of agenda use, and minute notes should apply.

Trade Partners and Vendors

Communicating with trade partners and vendors is a critical element to a timely and quality project. Coordinating trade partners and vendors with the schedule is one of the most important things to communicate. Success in this relies first on a good project scheduling system. This includes lead times – how much notice a trade partner or vendor needs to get the crew or

materials to the project when the builder/remodeler needs them there. Web-based systems automate this function by keeping everyone informed via e-mail or text messaging notices and a web posting of the current project schedule.

Direct meeting with the trade partners in the field allows the field manager to support the field crews in getting their job done. It is the most effective way of reviewing any current issues which require further adaptive management by the builder/remodeler. This may be issues relating to materials, quality, plan discrepancies, or any other potential issue or concern. Finally, direct field communication is important to verify the work that is being done according to plans and specifications and the schedule, as well as to build the human relationship with the trade partners.

Customer

The process for communicating with the customer is entirely different. However, the task of creating a well-defined process, e.g., what is appropriate to e-mail, when a phone call is required, benchmark meetings, etc., does not change. The customer and the business should understand the communication expectations.

Project failures happen not only by a failure to communicate but also when existing communication is misunderstood. For example, a certain item is discussed with a customer and the customer's interpretation is different from the builder's/remodeler's interpretation. Communication should be backed up with reports of meetings, phone conversations, etc., with printed or emailed copies going to all parties. All parties must further understand that if they are in disagreement about what was communicated, the information needs to be corrected immediately.

Well defined systems and processes allow for efficient and effective project management. Potential problems will be identified and resolved through those systems and processes. Communication with the customer should be documented for understanding. A best practice is to distribute records of communication to all pertinent parties to verify their understanding. The ability to be self-critical and analyze system

details allows the opportunity for accountability. When followed by reactive change, best practices are formed, and a builder/remodeler becomes better at his/her profession.

Site Management

It is the builder's/remodeler's duty to define appropriate site supervision for successful project management. Once defined, the project management needs to allocate those resources. If in doubt, over allocation will typically be less expensive than the collateral cost of under supervised work. Site supervision is typically easier to scale back than to ramp up.

Site Visits

Site visits during construction are important for quality control, schedule management, cost control, and customer service. The builder/remodeler must routinely check the project to know if work is being done as specified and according to schedule. There is no replacement for the routine visual inspection of the construction. How often a builder/remodeler needs to visually inspect the site depends on the scope of the project.

Transition inspections are required when the same design is being built by the same vendors repetitively. Other types of projects with unique details may require almost constant supervision.

Quality

Site supervision requirements are also related to the quality of site project management. Projects where vendors are supplied with a clear scope of work, good plans and construction details, and good scheduling information will likely require less site supervision. However, a project manager must continue to work with a schedule to ensure that it is implemented. Trade partners that have a solid understanding of the expectations of the project will perform better. Further, trade partners and vendors that have a good historical relationship with the builder/remodeler tend to perform better.

Hence, developing good trade partner relationships is part of project management. All of this will contribute to a lessened requirement for site supervision during construction.

Basic Requirements for the Site

Site management requires review of the site's basic requirements before construction begins. This may be handled by a single independent trade partner. If the site is not ready by local standards, failing the initial site inspection is a very poor start. The site set up may include silt fences, bull rock, portable toilets, waste disposal systems, and site signage. If this has not been figured out on the site plan by a project designer, the site manager will do this from his/her experience of building in that area.

Staging

A challenge of site management is staging – the process of having materials and equipment physically laid out on the job site for best utilization. Each job site has unique properties that present opportunities and challenges for best staging the site. Consideration must be given to new traffic, deliveries, parking, security, waste disposal, latrines, utilities, weather and drainage, street traffic, and safety. A staging plan may be considered as an accompaniment to the site plan. Once a staging plan is in place, it may be posted.

Safe and Presentable Site

Establishing and maintaining a safe job site is a minimum standard. The minimum safe job site standard is established by the Occupational Safety and Health Administration (OSHA). These standards are readily available at www.osha.gov. These standards are regularly updated, and all project managers should review them as they relate to their building practices.

Processes and procedures need to be put in place to ensure that a job site is in a condition that gives the impression that the builder/remodeler is organized, detail and quality oriented, open for business, and customer friendly. These procedures may differ substantially depending on the size of the company and the volume of homes the company works on, but each company must determine who will be responsible for what and when. How much can you depend on your trade partners to do? Does your company have a utility person (clean up, "go-for," light equipment, punch work, etc.)? Each builder may differ, but the importance of your job site as a representation of what you do should be carefully considered. When was the last time you spoke with a prospective customer that didn't ask to see an active job site?

A challenge in project management is maintaining a site that is always safe and presentable as a marketing venue. A site which is clean and orderly sends the message that the builder is quality oriented. A site that posts communications between the builder and trade partners sends the message that the builder is organized and detail oriented. A site which posts quality marketing materials sends the further message that the builder is open for business and is customer oriented.

Materials Management

The construction process requires not only appropriate installation by our trade partners, but that our projects have the appropriate materials to install. A project that receives the incorrect, insufficient quantity, or damaged materials for installation may be delayed. Various events can delay projects and material management.

Delays may also occur on a project if it did not receive the necessary materials or had materials lost or stolen. Any and all of these delays may result in an increase in project hard costs, trade partner-relationship costs, and customer-relationship costs. To prevent these delays and cost increases, systems and procedures should be applied to materials management.

The following are materials management procedures that can be implemented:

- Take offs in the estimating process
- Order lead time established in the estimating process
- Take offs on site
- Procurement and purchase order
- Receiving materials
- Storage and staging of materials
- Utilization and handling of materials
- Returning materials
- Logging material issues into the job log

A materials management system is comprised of the above procedures. Implementing, following, and monitoring the materials management system is an integral part of project management.

Problem Solving

Despite best efforts to follow procedures and systems for materials management, site management, and communications, a project may still fall off the production schedule or vary from the budget. When a variance happens, a builder's/remodeler's strength is often demonstrated in how that variance is handled.

The critical element from a project management standpoint is to have systems in place to know that a variance is occurring. Systems allow for critical analysis and discovering the source of a problem. Additionally, a builder/remodeler's ability to be flexible will help with problem solving.

When a variance is identified through the utilization of systemized management, the cause of that variance is likely readily apparent. This enables the manager to initiate an adaptation to either correct or modify expectations. An example of an adaptation for an event that caused a delay in production schedule may be increasing the number of crews or crew members working on a construction element, e.g., asking for two crews of four painters rather than the originally scheduled single, four-man crew. An example of modifying expectations for an event that caused a delay in production would be to change the schedule and allow for the extra days in production. The events, reasoning, and remedies should be logged into the job log.

Integrating the experience of a project into future projects is as important as handling a project's needs. An example of utilizing a project experience to change future project management is to not hire the trade partner for future projects who caused a delay on the current project and remove the trade partner from the company's list of approved vendors. It is the ability to use our experiences to modify our actions that helps us evolve into project management experts. Job logs can become helpful references for our memories; hence, an important element of our professional business development.

To eliminate problems ahead of time:

- Look at past projects – what problems occurred? Where were the "choke" points?
- Hold job site meetings so that trade partners can talk to each other.
- Create a checklist of former problems to check on before they become problems.

When a problem occurs, note the problem and resolution in the job log so it can be referred to later.

Activity 4-1: Schedule Activities

Using the sample schedule in Appendix A, answer these questions with your group:

1. You are in the last section of the framing stage, what tasks are coming up and what do you need to do to prepare for them?

2. You are approaching the drywall stage, what should you be discussing with the clients of a custom home?

3. You are one month behind entering the drywall stage, what can you do to regain time?

Change Order Management

Many projects change in scope during construction. Changes may originate from several different sources:

- Customer requested changes
- Builder driven changes
- Changes of necessity due to construction conditions

When managed well, changes within a project may improve the product and increase the builder's gross profit. If not managed well, both scheduling and profitability will suffer. Do not underestimate how difficult it is to properly document, price, and implement most change orders. Managing changes well is an involved process system. In general, this system requires:

- Clear initial scope of work
- Clear scope of work of the change
- A monetary cost of the change
- The builder's/remodeler's fee or profit and overhead of the change
- A change to the production schedule
- A contractual agreement (change order) with the trade partner for the change
- A contractual agreement (change order) with the customer for the change
- An update to the project's budget or cost estimate
- An update of the project schedule
- The production of a purchase order(s)
- Log the change into the job log
- Notification to the lending institution, if applicable

The net result of all these actions and professionally managing a change is a re-setting of expectations. The project has changed, and all involved should have their expectations changed appropriately with the new scope of work for the project. Good project management is expectation management.

Initiating and fulfilling a change order should be a disciplined system or process for your company. Change orders must be processed immediately before any work is started. Typically, a change order will follow these steps:

1. **Identify the change.** Owner or builder/remodeler establishes what change is to be made. The change may be in addition to the original purchase agreement or it may amend the original agreement.
2. **Estimate the cost of the change.** Determine the amount you will charge the customer for the change. Factors to consider are revisions to existing plans and specifications, and the hard costs of the change.
3. **Determine the schedule impact of the change**

   Even if there is no cost associated with the change order, there may be an impact on the schedule. Over the course of a large project, the completion date can vary widely if there are a number of significant change orders.
4. **Issue the change order.** A change order is a contractual agreement. It should be similar in nature to your original purchase agreement. It is a legal document.
5. **Receive acknowledgement and approval of the change.** All parties involved in the project who have authorization should approve the change order. Follow the laws in your state with regard to authorization of contract.
6. **Receive the payment at the time of approval.** Many builders/remodelers receive payment in full prior to the change order work starting. Your business model should dictate when you receive payment.

7. **Start the work.** Document all of the work as you would with a normal contractual agreement. The change order becomes an extension of your original project. Start the work only after you have received a signed acknowledgement of the change order.

There are two samples of change order forms in Appendix A.

Financial Management

A project's financial management during construction will take into consideration: accounts payable (AP), e.g. job costs; accounts receivable (AR), e.g. draws; reporting; and tracking. With appropriate cash flow, the business is facilitated, and the project has opportunity for success. The better financial management systems integrate and overlap with other project management systems to form dependency relationships, e.g. purchase orders integrate financial management with site, trade partner, change, and customer management.

Accounting Software

Accounting software is required for good financial management. An understanding as to how a builder/remodeler processes a project's payables, creates draws, and how these integrate into other project management functions is required.

The set up and operation of the bookkeeping system is a key function which requires the operator to understand the breadth of a builder/remodeler's project management requirements. The set-up is unique to the builder/remodeler business and bookkeepers accustomed to another industry may set up the system in a manner that does not support all the needs of these specific operations.

Job Cost Accounting

Financial management is a consideration of project management. However, the emphasis should be on job cost accounting and its importance from the project management perspective. Other financial management issues relating to equity, assets, depreciation, net profits, and taxation may not be related to project management. Points to consider when determining the financial success of a project may include:

- All items should have a job cost code based on their position on the budget sheet, e.g., materials, services, labor, contact labor, tools, gas, communications, etc., that relate specifically to a particular project.
- Job cost items should correspond to cost codes in the budget for ease of recognition and tracking.
- General overhead includes items that are not job specific but necessary to run the business.
- Track costs specifically attributed to a project for optimal project cost management.

Management of the Customer Relationship

Construction

The policies and procedures as to how and when a customer will be allowed to participate in the construction process are crucial to customer satisfaction. A poor relationship during construction has the possibility to escalate to a nightmare in punch out, warranty, and post-production events. A good relationship during construction has the possibility of developing into an enthusiastic relationship that produces referrals.

Needs and Expectations of the Customer

Effective policies and procedures improve the customer relationship. They are designed to set expectations that the builder/remodeler can meet or exceed. They provide the opportunity to stay ahead of issues and questions. The management of the customer relationship will consider the needs and expectations of the customer. These needs and expectations will be put in a schedule. Processes will be put in place to stay ahead of these needs and reset expectations as appropriate.

Owner's Manual

An owner's manual is a good tool for setting expectations for the construction process. Distribution of the owner's manual, which may include the construction process, may be presented at the onset of construction. It is important that the manual be kept up to date during construction to highlight its importance. This manual may include the systems and procedures for communication as well as problem solving during construction. This may include a list of scheduled meetings, the provision of contact information, warranty information, and the "rules" for attendance at the job site.

For example, most customers will want to visit or watch the project during construction. We also know that most customers do not understand the process. A common builder/remodeler experience is that this customer may consume a great deal of time and energy being concerned about construction simply because they don't understand the process. Customer concerns need special attention until they are completely resolved.

There is a sample Table of Contents for an Owner's Manual in Appendix A.

Meetings

One way of effectively managing this challenge that also builds a stronger relationship with the customer is to schedule regular construction meetings. These meetings are on a pre-determined schedule that is benchmarked by construction events. For example, customer service meetings may be set at layout, post foundation pour or frame layout, frame construction or mechanical-electrical-plumbing (MEP) rough layout, post drywall or trim and finish layout, and finals.

The agenda for these meetings can be predetermined and consistent. These provide an excellent opportunity to show how you have met expectations to date and set expectations for the next interval of construction. Consistency in setting expectations and then demonstrating how you have met or exceeded those expectations shows quality in your project management.

Another process for meetings is to schedule them weekly, preferably at the end of the week. This allows for the customer to understand the construction process and to set expectations for the next week.

Summary

Managing a project with attention to detail in systems of communication, site management, trade partner management, materials management, problem solving, change management, site management, expectation management, and management of the customer relationship culminate to produce quality project management. Excellent project management is necessary for quality of the product and quality of the buying experience for the customer.

Activity 4 – 2: Job Site Challenges Scenario

Your custom home project with the Jones family is at a critical juncture. You have completed all of your rough-in work and are about to begin the drywall installation. You had some glitches with the lumber package delivery, the plumbers missed a few key meetings, and the insulators left burrito wrappers all over your job. The Jones' have made several changes to the plans and you have charged them for all of the changes, but they have only paid you for about half of them.

The Jones' and their six kids are getting anxious about the schedule, especially with the recent news about Mrs. Jones expecting twins again. Even with the changes, you are only a week behind schedule. Though the Jones' are not overly upset with you, they just don't seem as friendly as they did when they signed the deal.

Define the potential challenges that you need to handle and give specific strategies for handling these challenges. Keep in mind that you want to create a memorable positive experience for the Jones' and you want your job to get back on track.

Write your group's answers to each of the following questions.

1. What specific actions can you take to make this phase of the project a pleasantly memorable experience and get everyone back on track?

2. What will you learn from this project that will impact future projects?

3. What changes, if any, will you make to your project management processes?

Key Takeaways

- A project is typically considered under construction from the initial layout work to the day ownership is transferred to the customer. During this period, success of project quality, financial profitability, and customer satisfaction are usually determined.
- Communication is determined by the needs of the project. Communication should be timely, efficient, and results oriented, especially in the case of managing multiple projects.
- Once site management is defined, the project management needs to allocate those resources. If in doubt, over allocation will typically be less expensive than the collateral cost of under supervised work. Site supervision is typically easier to scale back than to ramp up.
- Considering that a builder's/remodeler's business is built on an amassment of professional relationships, trade partner and vendor management should be carefully considered and prioritized within the business's operations and procedures. This is the essence and substance of building a professional relationship.
- The critical element from a project management standpoint is to have systems in place to know that a variance is occurring. Systems allow for critical analysis and discovering the source of a problem. Additionally, a builder/remodeler's ability to be flexible will help with problem solving.

Review Questions

What are the actions project managers must take to successfully manage?

1. Communications?

2. The project site?

3. The project materials?

4. Problem solving?

5. Changes and change orders?

6. The financial aspects of job cost for the project?

7. The relationship with the customer?

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Section 5

Management of Trade Partners

Learning Objectives

By completing this section, participants will be able to:

- *Explain the characteristics of trade partners.*
- *Discuss company policies that affect trade partners.*
- *Illustrate the importance of trade partner agreements.*
- *Explain trade partner payment procedures.*
- *Describe areas to consider when determining trade partner pricing and bidding.*
- *Management of trade partners.*
- *Explain the fundamentals of problem solving with trade Partners.*

Introduction

The management of trade partners is a critical part of successful project management for builders and remodelers. Their understanding of project management practices and procedures is critical to the growth and success of the industry. As the housing industry evolves, trade partner and builder/remodeler work relationships will become more productive and profitable for all involved.

Characteristics of Trade Partners

A trade partner performs services in one area of construction specialty. The trade partner will use their own tools, vehicles, and manage their own employees. Trade partners will also carry their own insurance, obtain their own licenses and/or permits, pay their own taxes, and operate their business as a completely separate entity. They also have the ability to work for several general partners and are not specifically working with any one general partner.

Trade partners usually comprise the bulk of the work force for most builders/remodelers. As such, it is critical for builders/remodelers to establish strong working relationships with numerous trade Partners. This may be accomplished in many ways.

Where to Find Quality Trade Partners

For any builder/remodeler, an ongoing challenge is locating and developing a highly competent trade partner work force. There are many places to find experienced trade partners and trade partners looking for opportunities to prove themselves. They may include any of the following:

- **Members of your Home Builders Association.** Do business with a member. This supports your organization, which represents you to the community and the government. Hence, it fills your trade partner needs and supports your business in the long term.
- **Referrals from other trade partners.** Ask your existing trade partners who they know and would recommend in other trade specialties. As with any industry, direct referrals and recommendations can shorten your search time dramatically.

- **Vendors, or suppliers.** If you are searching for a new electrician, ask the local electrical supply house for recommendations. If you are searching for plumbers, ask the local plumbing supply house. Ask permission from suppliers to post a help-wanted poster at their service counter.
- **Job sites.** As you work in various areas of your market, observe which trade partners are working in those areas. Notice their truck or job signage. Invest time in observing their work habits "from across the street." If you like what you see, you may want to talk with them further.
- **Customers.** If you have customers who have had work performed by other builders/remodelers, feel free to ask which trade partners performed well on their job. Capture their name and set up an interview.
- **Trade partner associations.** Each major trade has its own professional trade association. Attend their meetings and see who is actively involved in representing their trade.
- **Trade schools.** Consider hiring apprentices to work toward becoming an independent trade partner. This is a developmental project and may take some time. However, you may be able to keep your trade partner network full of this long-term strategy.
- **Builder/remodeler networking events.** Trade partners will frequently attend builder/remodeler events to prospect for business. Take advantage of these opportunities.

Where do you look for quality trade partners?

Trade Partner Policies

Though trade partners are independent business owners, it is wise for builders/remodelers to implement certain policies and procedures to build strong trade partner relations and to maintain their image in the marketplace.

It is advisable for builders/remodelers to have specific policies in the following areas. The specific policies and the implementation of the policies are ultimately up to the builder/remodeler.

- **Acceptance of job scope and schedule**
- **Time and methods of payments and lien releases**
- **Insurance coverage.** What kinds of insurance coverage will you require from your trade partners and in what amounts? Risk management policies may include liability, workers compensation, builder's risk, completed operations, etc. Investigate which type of coverage your specific state requires and the minimum amounts of coverage required. Annual renewals and certificates of coverage should be submitted to the builder/remodeler as proof of insurance.
- **Safety.** Job site safety is paramount. This includes safe working conditions, working habits, equipment, and employee training. What conditions will you require from your trade partners with regards to safety? You may want to consult OSHA guidelines for minimum standards. Consideration needs to be given to your policy for reporting unsafe conditions as well as injuries. NAHB publishes a handbook for contractors to use regarding OSHA compliance for the housing industry.

- **Material purchasing.** Determine who will purchase the materials for the project. Some builders/remodelers have the trade partner include the cost of materials in their contractor agreement, some builders refer to this as their turn-key agreement. Other builders/remodelers choose to purchase all materials for their projects.

- **Material ordering.** Many builders/remodelers give their trade partners the responsibility of ordering materials. Your specific business model and pricing structure will dictate your policy. Consider how you will hold trade partners accountable for material shortages or surplus.
- **Job processing procedures.** For example, if the projects are managed with web-based management systems, the project manager must ensure that the trade partner understands how that system works and can work with it. However, the process works, ensure that the trade partner know the system and can operate in compliance.
- **Punch list responsibility.** Determine who will handle punch lists and to what extent the trade partner will be responsible for punch list items. Also, determine how punch list completion or non-completion will impact their payments. It is also advisable to establish a timeline accountability structure for the completion of punch lists.
- **Warranty responsibility.** Many builders/remodelers have full-time warranty service teams. Other builders/remodelers lay the total responsibility for warranty items on the trade partner performing the original work. Others offer a blend of the two. Decide which arrangement fits your business model. It is also advisable to pre-determine the length of time you will hold a trade partner responsible for warranty work.

- **Back charges.** When work needs to be redone, is performed incorrectly, or causes delays in a project, many builders/remodelers will back charge the responsible trade partner. The challenge lies in determining the party that is responsible and to what extent. Complete disclosure of your back charge policy with your trade partner will reduce the chances of trade partners becoming disgruntled. No one likes a back charge. However, a back-charge policy can help alleviate careless mistakes.

- **Incentives.** Many builders/remodelers offer bonuses and incentive plans to reward exceptional performance from trade partners. Incentives can take many forms. Implementing a disciplined incentive plan for trade partners can serve as an additional motivator for high performance and may attract other qualified trade partners to your company.
- **Cleanliness.** This area is one of the most challenging to establish a disciplined policy. Many trade partners feel it is not their job to clean your project. It is your responsibility to create a policy regarding job site cleanliness. Your company image and the ultimate satisfaction of your customer can be determined by a clean or unsightly project. Establish who will clean the project, how often, to what extent, and the repercussions if the project is not kept clean.
- **Payment.** It is advisable for builders/remodelers to have specific payment procedures in place regarding bids, quotes, liens, pay days, draw requests, etc.
- **Moonlight work.** It is common in the housing industry for a customer to ask a trade partner to perform additional work not included in the contractual agreement with the builder/remodeler. This is especially true with remodelers. There are many ways to handle moonlight or side work by trade partners and you should have a written policy in place to manage it. Consider:

  - Will your company allow it? If not, why? If so, how?
  - Will the trade partner pay a referral fee?
  - When will they perform the work?
  - To what extent will you allow it to affect the project under contract?
  - What about future referrals?

- **Restroom.** Most building sites have portable toilet facilities placed for job site workers to use. This is an OSHA requirement. If one is not provided (only if OSHA allows), how will the customer's facilities be used?
- **General code of conduct.** As a builder/remodeler provides work for trade partners, it is advisable to institute policies regarding conduct on your project site and with your customers. It is wise to consider your policies on the following:
  - Dress and appearance code
  - Smoking, e.g., no smoking, smoking areas
  - Language
  - Noise, specifically radios and music players
  - Vehicle parking
  - Customer contact, e.g., questions about work in progress

What other policies would you consider for trade partners?

Trade Partner Agreements

It is advisable to enter into written contractual agreements with your trade partners. These agreements should include your company policies and procedures. The National Association of Home Builders has standard trade partner agreement forms available for your use and adaptation.

There are two basic types of trade partner agreements that builders/remodelers should have in place. They are:

- **Annual agreement.** An annual agreement will usually encompass many of the standard policies discussed earlier. They are general work condition agreements that do not change from project to project. The annual agreement typically covers topics such as insurance coverage, safety policies, payment policies, jobsite conduct, back charges, etc. They are established and kept current by the builder/remodeler. The trade partner signs this agreement each year. A copy of this agreement should be kept on file at all times by both parties.
- **Project agreement.** A project agreement is specific to a particular project. It will include details about the work to be performed, the price to be paid, the draw or payment schedule, nuances or specific responsibilities related to the project, etc. Each project performed by the trade partner should have its own specific project agreement and should be kept in the project file. It should also be kept by a project manager and the accounting office of your company. You can use a PO as a project agreement in conjunction with the use of the annual agreement.

Trade Partner Payments

As mentioned earlier, specific payment policies and procedures should be put in place by the builder/remodeler. Doing so will save time, money, and frustration between trade partners and builders/remodelers. Procedures and questions to consider are as follows:

- **Pay date.** What day of the week or dates of the month will you choose to make payments to your trade partners?
- **Pay time.** Will you mail their payment to them? Will you institute electronic drafts? Your decision is based on your business model and your desire to avoid disruption of your business.
- **Lien responsibility.** To what extent will you require lien waivers, lien releases, and lien coverage? Many builders/remodelers allow partial lien releases which correspond to the amount of work completed or to the amount of money paid to date.
- **Draw requests.** Will you accept draw requests in advance of work being done? Will you require completed inspections or owner approvals for a draw request? Eliminate confusion by determining your procedure for accepting draw requests.
- **Back charge payments.** When will back-charges be incurred? Will they be deducted from projects in progress? What constitutes a back-charge? Who will decide and what process will you use to establish a back- charge? Will the customer be involved and to what extent?
- **Checks and balances.** Who verifies checks payments against contract agreements? Will a project manager be responsible for checks and balances? Will the builder/remodeler or owner be responsible? How will you verify that work has been performed prior to payment made? How will you ensure that the

appropriate inspections have been made in order to release payment? A system of checks and balances should be in place and disclosed to all parties involved. Typically, a project manager will hold the major responsibility for checks and balances.

- **Change orders.** How will change orders be paid? When will they be paid? How will they be authorized? Will the trade partner help you bid change orders? Will you pay commissions on the change orders? If so, to what extent? How are they initiated by the trade partner?
- **Bonuses and incentives.** Who will determine the amounts of bonuses and incentive paid? When will they be disbursed?

How do you verify work performed?

Trade Partner Pricing and Bidding

As done in other areas of your business, a precise bidding and pricing structure should be put in place. There are numerous ways to establish price and bidding policies. The following areas should be considered when determining price and bidding policies:

- **Your company business model.** Many builders/remodelers have a policy which involves the trade partner pricing input on every detail in the bidding process. For example, a builder/remodeler may require that all trade/vendor bids be secured and authorized before ever submitting a price to the customer. Other builders/remodelers price their projects by square footage or unit cost pricing that has already been established by the trade partner and the builder/remodeler.

- **Your desire to build relationships with trade partners.** Getting your trade partners involved in the pricing process can foster more stable trade partner relationships. Their input becomes valuable and they feel more like a part of your team. Long-term relationships with trade partners also lead to more consistent pricing structures, less aggravation, less warranty work, and more time to focus on selling new projects. Strive to establish a relationship where your trade partners provide you with unit pricing that you can use for estimating. If you can establish that before a final contract with them is issued, they will provide final pricing and unit pricing for preliminary estimating purposes only.
- **How you plan to position your business in the marketplace.** If a builder's/remodeler's marketplace selling position is to sell at low prices, then their trade partner workforce will need to price their services accordingly. On the other hand if a builder's/remodeler's marketplace position is to offer a high end product for which consumers will invest heavily, then low pricing will not be nearly as important as quality of work.
- **Prevailing demands in your marketplace.** A market area that is experiencing more building activity obviously has more demands on the availability of trade partners. Hence, pricing may increase. On the other hand when a market is less active, trade partners can become highly competitive.
- **Trade partner warranty responsibility.** When a builder/remodeler employs a warranty service worker, the demands on the trade partner may be less, resulting in lower base pricing from trade partners. When builders/remodelers place all the warranty responsibility on the trade partner, pricing may increase to offset the liability.

- **Influences of trade unions vs. non-trade union labor force.** In some geographical areas, the influences of trade union labor may impact trade partner pricing. As a result, the builder's/remodeler's price structure to the consumer will be affected.
- **Demand of the skill performed by the trade partner.** Specialized product installation, customized work, or work with a high-risk factor will obviously impact trade partner pricing. In these cases, builders/remodelers should get specific bid pricing prior to submitting a fixed price to the consumer.
- **Miscellaneous.** Other factors may impact the pricing structures and policies a builder/remodeler will have with trade partners. They may include any of the following:
  - Taxes
  - Insurance
  - Fuel
  - Employee costs
  - Liability risks
  - Specialized training, tools or equipment

Management of Trade Partners

To maintain a trade partner labor force that reflects your commitment to excellence, it is essential to provide clear expectations, monitoring and feedback. Builders/remodelers should not doubt their ability to influence the work and quality assurance habits of trade partners. However, due to IRS rules governing the independent status of trade partners, builders and remodelers must be mindful of this independence. In all dealings with trade partners, the adage of "tell them what to do, but not how to do it" must be followed.

The following strategies may provide guidelines for training and motivating trade partners in an effort to help them increase their performance levels for your company.

- **Clarity and details of what is required of them.** Trade partners, like employees, need a clear road map of the big objectives of your company. Not only do they need details to perform their work on the project, but they need an overall direction of your company. They need to know the big vision you have for your company and how it will impact them and their profitability.
- **Clarity of what they can expect from you.** The trade partner contract should detail the expectations including communication, payment schedules, call back notifications, warranty issues, etc.
- **Encouragement and praise.** Trade partners need to know when their performance is appreciated by the builder/remodeler and the customer. You should state specifically the positive aspects of their performance, how it impacted the overall project, and the specific results accomplished from their good work.

- **Specific feedback of issues, problems or challenges.** When issues arise that are less than optimal, it is the responsibility of the builder/remodeler to discuss how the problems occurred and what can be done to avoid future problems. It requires that all parties have an attitude of willingness to improve and that solutions are presented to remedy the issues.
- **Inclusion in the project bidding process.** While many builders/remodelers "menu" price their bids, a trade partner's feedback during the bidding process can be invaluable. Frequently, a trade partner will make observations about a project in the planning phases that are overlooked by estimators and sales people. Including them in the bidding process is a demonstration of your willingness to create a team atmosphere for the good of your company, their company, and the customer.
- **Assistance with their business.** Most trade partners are small business operators. The builder/remodeler may have professional resources that can be shared and used by trade partners. For example, you may recommend your CPA, banker, insurance agent, lawyer, real estate agent, etc. When a builder/remodeler has the mentality of helping their trade partners operate a successful business, both parties benefit.
- **Additional work in their pipeline.** To the extent possible a builder/remodeler can help trade partners keep their work pipeline full. This can be accomplished with work from the builder/remodeler, recommendations, and referrals to other employers that may provide additional work for the trade partner.

- **Regular trade partner evaluations.** Candid feedback from both the builder/remodeler and the trade partner is an essential component to motivation. Feedback sessions can be conducted individually or during group trade partner meetings. The objective is to discuss areas that improve productivity, quality, project cleanliness, communication, pricing, and overall service.
- **On-time payments.** The partner should engage in best business practices by agreeing to and delivering payments on time to the trade partners.

What other ways do you train and motivate your trade partners?

Problem Solving with Trade Partners

Proper supervision of trade partners is a key to ensuring adherence to project goals and minimizing mistakes, but it is inevitable in the housing industry that challenges, issues, and problems will arise between a project manager and trade partners. The key to success is an open and frank discussion of the issues with the intent to gain mutual resolution.

To this end, problem solving with trade partners needs to be direct, timely, and kept as a "business discussion." The fundamentals of problem solving with trade partners can be the following:

- **Promptness.** Delays in handling problems only exacerbate the problem and allow for details to be lost or become disproportionate to the reality of a situation. As soon as problems surface, address them, determine their cause and the responsible parties.
- **Impartiality.** It may be challenging to maintain an impartial attitude or an attitude of resolution when you know exactly who is at fault and why they are at fault. However, when you maintain an objective atmosphere, you may be more open to find solutions rather than only place blame. It is vital that the process be uniform across all trades.
- **Focus on corrective measures.** It is essential to focus on what can be done to correct the problem or to avoid the problem in the future. Maintain your attention on how to improve rather than who is at fault.
- **Establish a plan for resolution and follow through.** Once responsibility is established and agreed to and once corrective measures are decided upon, act promptly to clear up the problem. Follow a plan, stick to the plan, and hold parties accountable for their actions. It is also helpful to review the corrective measures once they have been completed.
- **Context.** Problems and opportunities with your trade partners, like any relationship, need to be kept in perspective. Before you become a victim to knee-jerk reactions, pause, and take a long-term view of the situation. Strong, honest relationships are hard to come by and they take work by both parties.

Activity 5 – 1: Trade Partner Scenario

You are in a tough market. Licensed trade partners will gladly work for another builder for as little as 5 cents per foot extra. Skilled trades are at a premium and you have been experiencing delays on your projects because trade partners are in such demand. You already pay very well for your trade partners near the top of your market. You have contracts in your pipeline and you need help.

Write your group's answers to each of the following questions.

1. Where will you search for qualified trade partners?

_____

_____

_____

_____

2. What will you do to generate interest in your market to attract high-quality trade partners?

_____

_____

_____

_____

3. What will you do to retain high-quality trade partners?

4. How will you create a culture that supports your company philosophy?

Key Takeaways

- It is wise for builders/remodelers to implement certain policies and procedures to build strong trade partner relations and to maintain their image in the marketplace.
- It is advisable to enter into written contractual agreements with your trade partners. These agreements should include your company policies and procedures.
- Specific payment policies and procedures should be put in place by the builder/remodeler.
- A precise bidding and pricing structure should be put in place.
- To maintain a trade partner labor force that is a reflection of your commitment to excellence, it is essential to motivate and engage trade partners in training.

Review Questions

1. What are characteristics of trade partners?

2. What are company policies that affect trade partners?

3. What is the importance of trade partner agreements?

4. What are trade partner payment procedures?

5. What are areas to consider when determining trade partner pricing and bidding?

6. What are ways to manage trade partners?

7. What are the fundamentals of problem solving with trade partners?

Section 6

Post-Project Management Duties

Learning Objectives

By completing this section, participants will be able to:

- *Describe how to initiate and complete the warranty procedures.*
- *Explain how to initiate the customer survey process.*
- *Describe how to evaluate trade partners and vendors.*
- *Explain how to measure the success of the project.*

Introduction

Post-construction project management typically occurs from the time the owner takes occupancy or the change of transfer of title from the builder/remodeler to owner. It will normally last through the warranty period as stated in the purchase agreements with the owner. The transfer of the project has some clear, legal procedures, e.g., at closing, and some procedures that are more a matter of service and commitment.

Post-construction project management duties include:

- Warranty procedures
- Owner orientation meetings
- Owner walk-through and preemptive service schedule
- Trade partner and vendor evaluation
- Internal project evaluation
- Customer survey

Warranty Procedures

Each builder/remodeler has his/her own warranty standard and practice. The minimum standard of a warranty is generally determined by the state in which the home or project is located. The practical standard is set by the market. Please note, however, the recognized industry minimum for workmanship is one year and many companies offer up to five years. Each builder's/remodeler's warranty is a matter of company policy and is set up after careful review of local market standards and legal counsel. Reference to the warranty will have likely come up early in the sales process and then be provided in writing at the time of closing. Procedures for warranty management must be in place to fulfill the duties of the builder/remodeler as provided in the warranty.

The first warranty duty of the project management team is to read and understand the warranty in its entirety. The warranty is a legal commitment. If the project management team has any question as to what their legal responsibilities are, they should consult their attorney or another expert on the matter, e.g., representative from the third-party warranty company, state residential construction commission, etc.

Warranties are typically written with owner obligations and clarifications as to what is maintenance and what is a defect. This information is physically in the hands of the customer, although the builder/remodeler should ensure that the warranty conditions are clear.

In order to satisfy warranty, a builder/remodeler will have procedures in place to respond to a warranty request in a timely and customer service-oriented manner. In order to accomplish this, warranty issues must be:

- Documented when they are reported by owner or other parties
- Verified that the warranty issue falls within the contractual obligation of the builder/remodeler
- Delegated to the appropriate parties or workers to perform
- Completed within a reasonable amount of time
- Verified that the owner and the builder/remodeler are satisfied with the warranty performance results

Service Meetings: The Orientation Meeting

The first post-construction meeting may be an "orientation meeting." During this meeting the owner is given the owner's manual, walked through the home, and given information as to where things are located and how things work. The owner's maintenance obligations are reinforced. Review how and when service should be requested from your company. Review the post move-in service meeting schedule. The project manager has the current scope of work, including finish schedules, available for reference.

> The orientation meeting is not designed to establish the punch lists. It is strictly to orient the owner to the uses of their new home or remodeling project. The punch list should have already been completed.

Post-construction customer service is best handled with proactive scheduling. A service schedule can be outlined knowing that the general needs of the new owner are similar to the needs of previous customers. Construct a schedule that will take care of those needs as appropriate for your product. An example of proactive service scheduling is an orientation meeting within the first week after closing, and a 30-day, 120-day, and one-year service walk-through. Each meeting would follow a predetermined agenda and several parts can be "scripted." A remodeling project may have similar walk-throughs but at different intervals.

The project manager controls this meeting so important information is covered that the customer may not think about. It is important to have a published agenda for these meetings. All too often, without an agenda, the owner wants to only look at items that are interesting to them and critical maintenance and owner responsibilities are overlooked.

For the builder, how a home works may be second nature. For many owners, how a home works is akin to opening a computer, looking under the hood of a car, or understanding national finance policy. This presents a great opportunity to educate the owner on something we know so well and which they care about. It is a tremendous opportunity to create good will and enthusiasm for your company.

Service Meetings and Walk-Throughs

An owner may have their needs met professionally by proactively scheduling a formal meeting process. Good communication will go a long way to not only diminish or eliminate customer problems but create good will and excellence that generate referrals.

On or around the time of turn over, the owner's primary needs include having confidence that any punch work will be taken care of and to know how to operate any new features. These are very different needs to fill and the builder/remodeler may consider two different meetings to deal with these.

The project manager should create an agenda and follow it. Do not allow the client to "wander aimlessly" through a final walk-through. If it is called "owner orientation" and attention given to show the maintenance and care of the final product, it removes the negative connotation of "punch list" and makes it more of an orientation or turn over.

The "final" punch walk-through and remedy process is handled during construction and pre-transition. Well managed construction processes will hopefully result in turning over a defect-free or near defect-free home at transition. Any minor items that show up upon final presentation should be correctable on the spot unless they are backordered or special items.

It is important to have a document that signs off on the condition of a house being acceptable and noting any specific punch items as a limited list of what the builder/remodeler still commits to addressing. If a final list cannot be signed off, the house is not ready to close.

Possession should not be transferred until the corrections are complete and the project has been accepted. Doing so simply encourages additional difficulties, significantly high repair costs, and ultimately bad relations. If there are things that are wrong, everyone works until they are fixed because the project should never have been offered for acceptance with flaws.

What is unable to be handled immediately, may be tabled for a post move-in walk-through anywhere from two to four weeks past move-in. That meeting will be the second post-transition meeting. It is important for the owner to know that this meeting will take place and punch work will continue at that time. This provides some assurance that if the house is not perfect at transition; it will be taken care of. The rationale for waiting is that once the owner has moved in he/she may find other items which they did not find on the final walk-through. One of the most common complaints about builders/remodelers is that after the closing, the consumer feels abandoned.

Many builders/remodelers choose to have a completed punch list signed and approved prior to the owner moving in. This can prevent the financial and emotional burden of a "never ending" punch list with the owner. While the post move-in punch list may be a good public relation move, the builder/remodeler should exercise care and limit the amount of punch items owed to the owner after move-in. Let your business model, business philosophy, and productivity dictate the extent to which you allow post move-in touch ups.

Activity 6 – 1: 'Plumb Crazy'

Your company recently built a three-story townhome development. Each building contains five single-family units, each with an identical floor plan, with the building on a zero-lot line on either end. The first floor consists of a garage and storage, the second floor is the kitchen, breakfast room living room and formal dining room, and the third floor has the bedrooms, game room and study.

The owner of one of the end units moved in six months earlier and was very easy to deal with but called recently with disturbing news. The first and third floor are plumb, but the second-floor walls on either side of the unit are two inches out of plumb in ten feet! The exterior wall leans out at the top. The second and third floors are clad with fiber-cement siding, and because the home is in a coastal community, the windstorm codes are stringent. The exterior wall that is out of plumb also happens to be a shear-wall. The owner has retained legal counsel, but suit has not been filed yet.

Determine the specific project documentation that you will need to review, prior to meeting with the owner.

Define your approach to investigating the cause of the problem. The homeowner is a repeat customer, and has referred several new customers to your company, and you cannot afford for this situation to devolve into litigation.

Documentation:

Approach:

Customer Survey

Feedback from the customer on your project is an important tool for your overall improvement. This takes some courage as people tend to comment on negative aspects of the project more readily than the positive. This is especially true for the smaller volume custom builders where criticism may be taken very personally. This is an important task for professional growth.

Surveying your owner in a manner that gives them a "safe" environment to express their thoughts and feelings will reveal areas where the business and personnel can improve. A well devised survey will help the builder/remodeler identify weaknesses in the operational systems. If these weaknesses seem to be consistent, it gives you clear feedback as to what is not working as well as intended. It allows you the opportunity to modify your systems and provide a better product and a better service.

Surveys are typically in a written form but may also be done verbally or online. Verbal surveys that are done during a set appointment have much higher response rates. Set the expectation that this will happen within the routine customer management meeting. Any survey form will appear "safer" to the owner if it comes from a third party – not the same personnel that they have dealt with in the company during the process. Depending on volume, a third-party market research surveyor can be quite inexpensive. Is it worth $20-$50 per customer, depending on the volume being surveyed, to know what the owner really thinks and how you can improve your business?

Survey results may be shared in staff meetings and used as starting points for group problem solving. The results may also provide a notation for an individual's exceptional performance, deserving of a team accolade, and/or bonus rewards.

There is a sample Customer Survey in Appendix A.

Trade Partner and Vendor Evaluations

Post-project evaluations of how your trade partners and vendors performed provide:

- Insight to how you performed–the builder/remodeler is only as good as the sum of the business's parts
- Opportunity to recognize exceptional performance and strengthen that relationship
- Opportunity to recognize substandard performance with potential and an opportunity to work with that vendor to improve
- Opportunity to recognize substandard performance without potential to improve–opportunity to remove this vendor from your approved vendor list
- Opportunity to modify and adapt for improvement–the opportunity to evolve to a better business

The actual evaluation of a trade partner or vendor typically does not require much additional work. Those who varied from the set expectations will become obvious during the construction process. If the project log is kept current, this information is already recorded at the end of the project. The standouts will likely be fresh in memory and the project log will only be needed for cross checking.

Placing completed trade partner and vendor evaluations as a line item on the agenda of the weekly production meeting will help share the information internally and collectively develop an action plan to deal with those trade partners that are brought up for review.

Any builder's/remodeler's product is only as good as the trade partners and materials used in that product. Systemized evaluation of the trade partners, vendors, and materials used to construct the product is a proactive method of evolving the product.

Measuring Success

The best measure of success is by comparing the end project results to the original goals. Not all projects have the same goals, whether established by the builder/remodeler, the customer, or both. The adage of "on time and on budget" is generally true and easy to measure. The sum of the original costs and time estimate plus those incurred due to changes is the benchmark to which the actual numbers can be compared. If the project was tracked throughout, this calculation is already completed.

Owner satisfaction is difficult to measure. However, if you had the owner write out their goals and objectives before construction began, you should be able to review them and use them as a benchmark. The owners' goals and objectives may have changed over the course of the project, but a strong managing builder/remodeler will have documented those changes also.

As mentioned before, another measure of success is a survey to ask the customer if they feel the project was successful. When customers refer other customers, it is a signal of strong success. For many builders/remodelers, success is simply noted by the bottom line.

To know if you are successful, you must first define what success means to you in your business. When you know this, implementing your systems to measure this will be relatively easy.

Internal Project Evaluation

Internal project evaluation is the system of comparing the actual project result with the pre-construction project plan. The purpose of evaluating internally is to gain necessary, objective feedback that can be used to evolve to better operations and project management. This will help yield a better product and improve the bottom line.

Objective benchmarks which can be used to evaluate the project include:

- Production schedule
- Budget
- Change orders
- Documentation
- Customer satisfaction
- Supervision requirements
- Trade partner and vendor feedback

Analyzing the production schedule for variation from the planning of the project is valuable on the sub-schedule level as well as the overall. For example, if you find that the project was 14 days over schedule, this provides value to term events like financing and customer service. However, analyzing the sub-schedules provides value in understanding where that time overrun came from and may suggest responsive corrections. Did those 14 days come from owner changes? Did the framing take six days longer than scheduled? If so, why?

A significant point in professional project management is that schedule variances, if any, are closely monitored by a project manager. It is not a foregone conclusion that a project will go over the schedule time any more than it will be over budget. There will be some delays that are unavoidable, but some projects will finish early. If a project is running behind a day or two, the objective is to get it back on schedule. If a trade partner shows up late through no fault of the project and they agreed to the schedule, a meeting

should be scheduled to see about catching up. This is a good reinforcement for the importance of "buy in" to the original schedule.

Pre-construction project cost estimates and post-construction actual cost is a relatively simple function performed by job cost analysis. Variances are readily found and can be produced through the "reports function" of the accounting software. Variances can be categorized by those authorized by change orders and those unaccounted for by change orders.

Activity 6 – 2: Survey Questions

In your group, construct five survey questions which will provide a company with valuable feedback.

1.

2.

3.

4.

5.

Key Takeaways

- Post-construction project management typically occurs from the time the owner takes occupancy or the change of transfer of title from the builder/remodeler to owner. It will normally last through the warranty period as stated in the purchase agreements with the owner.
- Each builder/remodeler has his/her own warranty standard and practice. The minimum standard of a warranty is set by the state. The practical standard is set by the market.
- It is important to have a document that signs off on the condition of a house being acceptable and noting any specific punch items as a limited list of what the builder/remodeler still commits to addressing. If a final list cannot be signed off, the house is not ready to close.
- The best measure of success is by comparing and contrasting the end project results to the original goals. Not all projects have the same goals, whether established by the builder/remodeler, the customer, or both.
- Internal project evaluation is the system of comparing the actual project result with the pre-construction project plan. The purpose of evaluating internally is to gain necessary, objective feedback that can be used to evolve to better operations and project management.

Review Questions

1. How do you initiate and complete the warranty procedures?

2. What is an important reminder about the customer survey process?

3. How do you evaluate trade partners and vendors?

4. How do you measure the success of the project?

Action Plan

Research suggests that if you don't have a plan to incorporate your education into your work processes, then the overall impact is lessened. The best time for creating an action plan is when the information is fresh in your mind. Take 15 minutes to write down at least 3 goals you have for putting your learning into practice when you return to work. For each goal, include some steps you need to accomplish it, and other individuals you can share this goal with. Challenge yourself to include at least one goal you can complete tomorrow.

When you **get back to work**, think about the changes you would like to make in the specific areas addressed by the course:

1. What are the things you think you should recommend changing about your or your company's Pre-Construction Process?

2. What are the things you think you should recommend changing about your or your company's Project Management Tools?

3. What are the things you think you should recommend changing about your or your company's Project Management Duties during the Project?

4. What are the things you think you should recommend changing about your or your company's Management of Trade Partners?

5. What are the things you think you should recommend changing about your or your company's Post-Project Management Duties?

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Appendix A

Project Management Forms

The following pages contain:

1. Sample Purchase Order
2. Sample Change Order #1
3. Sample Change Order #2
4. Sample Table of Contents for an Owner's Manual
5. Example Customer Survey
6. Schedule for Activity 4-2

Thank you to Katz Builders, Inc. for providing table of contents for an owner's manual and a customer survey.

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Purchase Order

P.O. #: _____ Job #: _____ Cost Code: _____

Above purchase order number MUST appear on all invoices, packages and correspondence.

Date of order: _____ Date required: _____

To: _____ Ship to: _____

_____ _____

Construction superintendent: _____

DELIVERY DATE WILL BE CONFIRMED BY TELEPHONE

Call superintendent to answer any questions concerning this job or order.....(XXX) XXX-XXXX.

IMPORTANT:

This purchase order is subject to conditions printed on reverse side hereof or attached hereto, and other documents as checked below.

❑ None ❑ Attached plans ❑ Attached specifications ❑ Signed subcontract agreement between parties

Item #	Description	Quantity	Unit Price	Total Cost

1. If not accepted, return this P.O. ASAP.
2. Notify us immediately if you are unable to ship as specified.
3. Price as shown above will be price paid.
4. No back orders accepted without prior approval.

Variance information:

❑ Plan error ❑ Site condition ❑ Vandalism ❑ Estimate error
❑ Material quality ❑ Price change ❑ Theft ❑ Const. damage
❑ Vendor change ❑ Field error ❑ Other: _____

Describe: _____

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Change Order (a)

Project: _____ Change order #: _____

_____ Contract date: _____

Home owner(s): _____ Project #: _____

Builder and home owners(s) agree to make these changes in the contract:

_____

_____

_____

_____

Schedule impact _____ days

Original contract sum: $ _____

Net change by previous change orders: $ _____

Contract sum prior to this change order: $ _____

Increase or decrease by this change order: $ _____

Net contract sum: $ _____

Items not yet priced include:

_____

_____

Effective date and signatures:

We, the undersigned, have read and understand and agree to each of the provisions of this change order and hereby acknowledge receipt of a copy of this change order.

_____ _____ _____ _____

Home Owner Date Builder Date

_____ _____

Home Owner Date

Change Order (b)

To: _____

Change order #:	
Phone:	Date:
Job name/location:	
Job #:	Job phone:
Contract #:	Date of contract:

We hereby agree to make the change(s) specified below:	
Schedule Impact _____ days	
Note: This change order becomes part of and in conformance with the existing contract.	
We hereby agree to make the change(s) specified above at this price: $	
Date:	**Previous contract amount: $**
Authorized signature (contractor):	**Revised contract total: $**
ACCEPTED—The above prices and specifications of this Change Order are satisfactory and are hereby accepted. All work to be performed under same terms and conditions as specified in original contract unless otherwise stipulated.	**Date of acceptance:** _____ **Signature (owner):** _____

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Katz Builders, Inc.
Home Owner's Organizer

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katz
Builders, Inc.
Custom Builders & Remodelers

Date

Dear

Now that your new home/remodel has been completed and you have had an opportunity to live in it, we are eager to hear from you about our home building or remodeling process. It is most important to us to get your feedback. The homebuilding business is a manufacturing business unlike any other. The only way we can improve our service and product is to constantly look at our systems and procedures, reevaluate them and do our best to make changes in areas that need to be improved upon.

Please take the time to answer the questions provided. If there is anything you wish to comment upon that we have not covered, please do. Your input is a valuable tool and we appreciate the time and effort you put into completing this questionnaire.

Please use the following: Excellent "E" Very Good "VG" Good "G" Fair "F" Poor "P"

1. How would you rate your home building or remodeling experience? _____ Please explain _____

_____
_____
_____
_____
_____

2. How would you evaluate our communication systems? _____ Please explain_____

_____
_____
_____
_____
_____

3. Were we responsive to your needs? ____ Please explain

_____
_____
_____

5524 Bee Cave Road * Building K – Suite 4 * Austin, TX 78746 * 512-301-6000

4. Does the quality of your home meet your expectations? _____ Please explain

_____

_____

_____

_____

5. How would you evaluate the Katz Builders Team members?

Joel: _____ Please explain_____
Accessibility_____
Attitude_____
Technical knowledge _____
Follow up

Lucy: _____ Please explain_____
Accessibility_____
Attitude_____
Technical knowledge _____
Follow up

Debbie: ____Please explain_____
Accessibility_____
Attitude_____
Technical knowledge _____
Follow up

Greg: _____Please explain_____
Accessibility_____
Attitude_____
Technical knowledge _____
Follow up

Administrative Staff: _____ Please explain_____
Accessibility_____
Attitude_____
Technical knowledge _____
Follow up

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6. How would you evaluate our follow up to the correction work? _____Please explain

_____
_____
_____
_____
_____
_____

7. Did we set realistic expectations for you as to what the Building/Remodeling process would be and did we live up to those expectations. _____ Please explain

_____
_____
_____
_____
_____
_____

8. Please add any additional comments:

_____
_____
_____
_____
_____
_____

The two of you have been terrific to work with and your friendship and opinions are greatly appreciated. Thank you so much for taking the time to answer these questions.

Warmest regards,

Katz Builders, Inc.

Lucy T. Katz
Lucy T. Katz, Vice President of Customer Service

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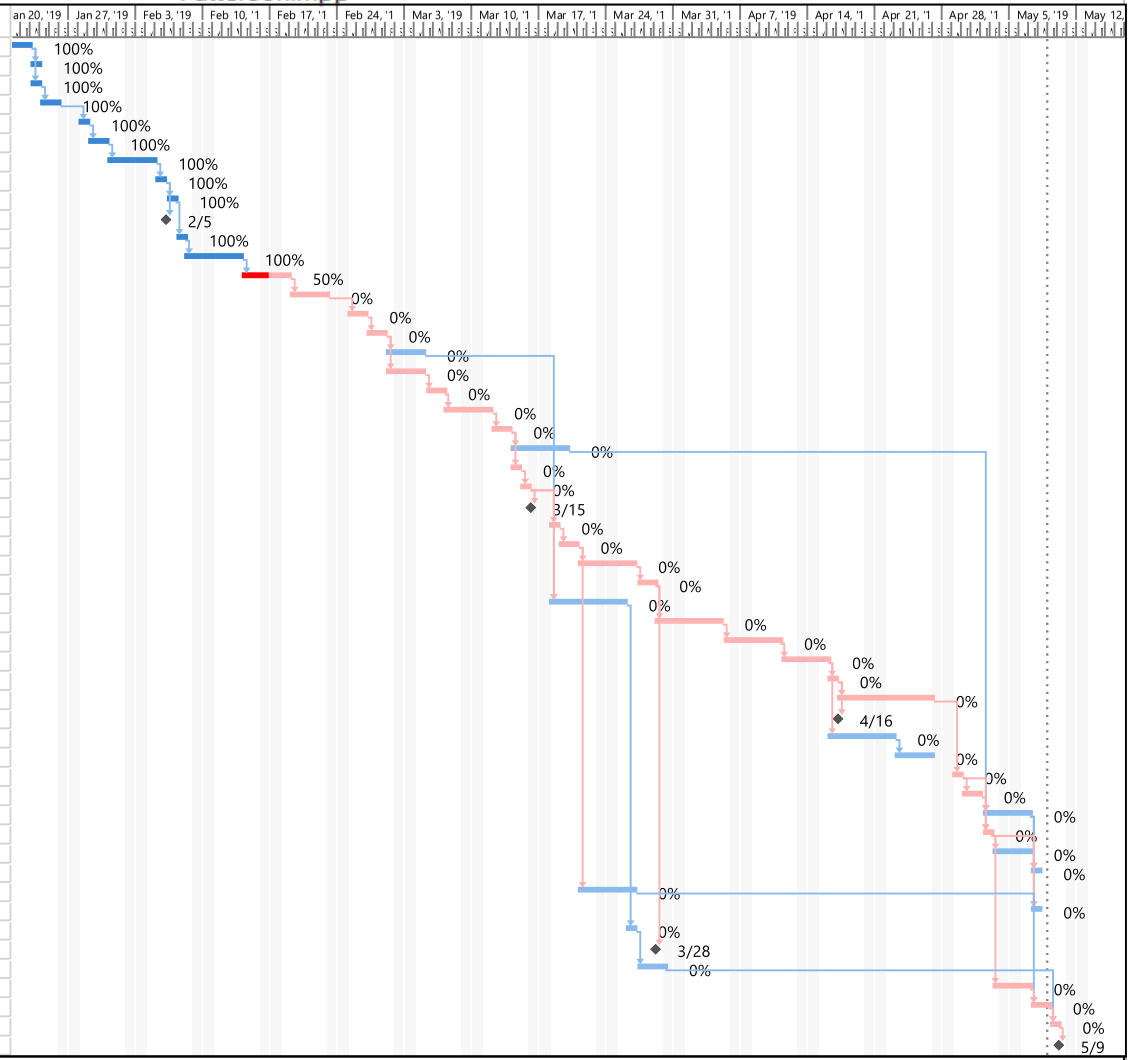
Patterson.mpp

	Task Name	Duration	Start	Finish
1	Building Permit	2 days	Mon 1/21/19 8:00 AM	Tue 1/22/19 5:00 PM
2	Lot Stake	1 day	Wed 1/23/19 8:00 AM	Wed 1/23/19 5:00 PM
3	Clear Lot	1 day	Wed 1/23/19 8:00 AM	Wed 1/23/19 5:00 PM
4	Building Pad	2 days	Thu 1/24/19 8:00 AM	Fri 1/25/19 5:00 PM
5	Set Forms	1 day	Mon 1/28/19 8:00 AM	Mon 1/28/19 5:00 PM
6	Plumbing Underground	2 days	Tue 1/29/19 8:00 AM	Wed 1/30/19 5:00 PM
7	Concrete Reinforcement	3 days	Thu 1/31/19 8:00 AM	Mon 2/4/19 5:00 PM
8	Pre-Pour Inspection	1 day	Tue 2/5/19 8:00 AM	Tue 2/5/19 5:00 PM
9	Place & Finish Concrete	1 day	Wed 2/6/19 8:00 AM	Wed 2/6/19 5:00 PM
10	FOUNDATION DRAW	0 days	Tue 2/5/19 5:00 PM	Tue 2/5/19 5:00 PM
11	Framing Layout	1 day	Thu 2/7/19 8:00 AM	Thu 2/7/19 5:00 PM
12	Frame 1st Floor Walls	4 days	Fri 2/8/19 8:00 AM	Wed 2/13/19 5:00 PM
13	Frame 1st Floor Ceiling	3 days	Thu 2/14/19 8:00 AM	Mon 2/18/19 5:00 PM
14	Frame Roof	4 days	Tue 2/19/19 8:00 AM	Fri 2/22/19 5:00 PM
15	Roof Decking	2 days	Mon 2/25/19 8:00 AM	Tue 2/26/19 5:00 PM
16	Fascia & Soffit	2 days	Wed 2/27/19 8:00 AM	Thu 2/28/19 5:00 PM
17	Exterior Paint	2 days	Fri 3/1/19 8:00 AM	Mon 3/4/19 5:00 PM
18	Windows & Exterior Doors	2 days	Fri 3/1/19 8:00 AM	Mon 3/4/19 5:00 PM
19	Roofing	2 days	Tue 3/5/19 8:00 AM	Wed 3/6/19 5:00 PM
20	HVAC Rough-in	3 days	Thu 3/7/19 8:00 AM	Mon 3/11/19 5:00 PM
21	Plumbing Top-Out	2 days	Tue 3/12/19 8:00 AM	Wed 3/13/19 5:00 PM
22	Electrical Rough-In	4 days	Thu 3/14/19 8:00 AM	Tue 3/19/19 5:00 PM
23	Fireplace Rough-In	1 day	Thu 3/14/19 8:00 AM	Thu 3/14/19 5:00 PM
24	Framing & Cover Inspection	1 day	Fri 3/15/19 8:00 AM	Fri 3/15/19 5:00 PM
25	FRAMING DRAW	0 days	Fri 3/15/19 5:00 PM	Fri 3/15/19 5:00 PM
26	Wall Insulation	1 day	Mon 3/18/19 8:00 AM	Mon 3/18/19 5:00 PM
27	Hang Drywall	2 days	Tue 3/19/19 8:00 AM	Wed 3/20/19 5:00 PM
28	Tape & Float Drywall	4 days	Thu 3/21/19 8:00 AM	Tue 3/26/19 5:00 PM
29	Texture Drywall	2 days	Wed 3/27/19 8:00 AM	Thu 3/28/19 5:00 PM
30	Masonry	6 days	Mon 3/18/19 8:00 AM	Mon 3/25/19 5:00 PM
31	Milllwork, Trim & Int. Doors	5 days	Fri 3/29/19 8:00 AM	Thu 4/4/19 5:00 PM
32	Prime Coat Paint	4 days	Fri 4/5/19 8:00 AM	Wed 4/10/19 5:00 PM
33	Finish Coat Paint	3 days	Thu 4/11/19 8:00 AM	Mon 4/15/19 5:00 PM
34	Cabinet Installation	1 day	Tue 4/16/19 8:00 AM	Tue 4/16/19 5:00 PM
35	Countertop Template	8 days	Wed 4/17/19 8:00 AM	Fri 4/26/19 5:00 PM
36	CABINET DRAW	0 days	Tue 4/16/19 5:00 PM	Tue 4/16/19 5:00 PM
37	Tile Shower Surrounds	5 days	Tue 4/16/19 8:00 AM	Mon 4/22/19 5:00 PM
38	Tile Floors	4 days	Tue 4/23/19 8:00 AM	Fri 4/26/19 5:00 PM
39	Countertop Installation	1 day	Mon 4/29/19 8:00 AM	Mon 4/29/19 5:00 PM
40	Tile Backsplash	2 days	Tue 4/30/19 8:00 AM	Wed 5/1/19 5:00 PM
41	Electrical Trim	3 days	Thu 5/2/19 8:00 AM	Mon 5/6/19 5:00 PM
42	Plumbing Trim	1 day	Thu 5/2/19 8:00 AM	Thu 5/2/19 5:00 PM
43	HVAC Trim	2 days	Fri 5/3/19 8:00 AM	Mon 5/6/19 5:00 PM
44	Fireplace Trim	1 day	Tue 5/7/19 8:00 AM	Tue 5/7/19 5:00 PM
45	Wood Flooring	4 days	Thu 3/21/19 8:00 AM	Tue 3/26/19 5:00 PM
46	Appliance Installation	1 day	Tue 5/7/19 8:00 AM	Tue 5/7/19 5:00 PM
47	Final Grading	1 day	Tue 3/26/19 8:00 AM	Tue 3/26/19 5:00 PM
48	DRYWALL DRAW	0 days	Thu 3/28/19 5:00 PM	Thu 3/28/19 5:00 PM
49	Landscaping	3 days	Wed 3/27/19 8:00 AM	Fri 3/29/19 5:00 PM
50	Harware & Mirrors	2 days	Fri 5/3/19 8:00 AM	Mon 5/6/19 5:00 PM
51	Final Cleaning	2 days	Tue 5/7/19 8:00 AM	Wed 5/8/19 5:00 PM
52	Final Inspection	1 day	Thu 5/9/19 8:00 AM	Thu 5/9/19 5:00 PM
53	FINAL DRAW	0 days	Thu 5/9/19 5:00 PM	Thu 5/9/19 5:00 PM



Critical
Critical Split
Critical Progress
Task
Split
Task Progress
Manual Task
Start-only
Finish-only
Duration-only
Baseline
Baseline Split
Baseline Milestone
Milestone
Summary Progress
Summary
Manual Summary
Project Summary
External Tasks
External Milestone
Inactive Task
Inactive Milestone
Inactive Summary
Deadline