

Pinnacle Consulting Report Spring 2017



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Executive Summary

Objective

The objective of this project with Pinnacle Construction and Development Group was for our team to document Pinnacle's core processes of Business Development, Human Resources, and Operations while developing recommendations to help Pinnacle improve accountability, efficiency, and communication between departments.

Scope

The scope of the project was to determine all of the major processes that take place within Business Development, Human Resources, and Operations and to document these processes. The ultimate goal for Pinnacle will be to have process documentation for all of their core processes within their seven departments.

Methodology

In order to complete this project, our Action Learning team was split into two groups. Julia, Kylene, and Renren interviewed the Human Resources and Operations, while David and Weiling interviewed Business Development. After initial interviews, we put together our findings and looked for gaps in our knowledge of the processes. At this point, we went back for second interviews or further interviewed within that department. This allowed us to build flow diagrams of each department, which were then supported by detailed information on each process flow. This detailed information ultimately allowed us to develop process flow documentation for each of the core processes.

Major Findings

Our major findings were mainly within the three departments that we focused on, Business Development, Human Resources, and Operations. However, some of our findings were interdepartmental as well. Our general findings were that Pinnacle Construction has a lot of well established employees with a lot of "tribal knowledge" of how systems and processes work at Pinnacle. Due to this, there is currently a lack of standardization and process documentation that reflects all of this knowledge. This can make it hard for new employees to join the Pinnacle team. Additionally, we found that there isn't a set way that communications flow between departments.

Conclusion & Recommendations

After interviewing and looking into Pinnacle's core processes, it was made clear that one of the main things that Pinnacle could benefit from would be standardization materials as well as process flow documents. By using the "tribal knowledge" that many employees have in order to make detailed, step-by-step materials for different job

processes, it has the potential to drastically improve the ease at which new employees can learn how to do things and become integrated at Pinnacle. Additionally, by standardizing processes, it will allow departments to have a more clear idea of how they can communicate and gain information from other departments.

Introduction

Pinnacle Construction is a construction company based in Independence, Ohio. They mainly contract with the federal government and perform specialized jobs, such as recreating the surface of Mars. During this project, our main contact was Cheryl Stasiak, who is the Director of Human Resources, Marketing, IT at Pinnacle. Our project targeted three departments for Pinnacle Construction. Our objective is to develop process documentation for Pinnacle to improve accountability, efficiency, and communication between departments. Also, to develop recommendations on an as needed basis to improve the processes under our review.

For our process methodology, Weiling and David worked with Rusty Lytle, head of Business Development. Renren, Kylene, and Julia worked with Cheryl for Human Resources, and Dan Raglow for Operations. We used both phone and in-person interviews to get a better understanding of the roles and responsibilities of the job functions within each of the processes. Below are findings relating to the three departments and their core processes, along with any conclusions and recommendations drawn from this information.

Business Development

Department Overview

Business Development department is in charge of Pinnacle's bidding process, which includes collecting bidding information, conducting site visits, evaluating subcontractors' quotes, making bidding decisions and confirming the acceptance of bids. The Business Development department handles 20-25 projects concurrently at any given time and brings 4-5 unique/large-scale projects each year to Pinnacle Construction. There are currently three employees involved in Pinnacle Construction's Business Development department: Rusty, Denise, and Cheryl.

Department Head - Overview

After the bidding information collected by the Proposal/Marketing Coordinator has been sent, Rusty is in charge of reviewing and assessing subcontractors' information, conducting necessary site visits, evaluating subcontractors' quotes and making the final decision on whether or not to pursue a bid. Rusty analyzes all potential bids and handles all calculations necessary. He decides what bids to pursue based on criteria such as location, current operation capacity of Pinnacle, the types of projects, and the sizes of the projects. Rusty is the sole sales and price estimation force in the Business Development department.

Proposal/Marketing Coordinator - Overview

Denise is in charge of collecting bidding information, scheduling meetings for departmental meetings, and maintaining bidding related materials, including pre-qualification requirements, standard firm information, and project profiles. The Proposal/Marketing Coordinator needs to be familiar with the overall industry, including subcontractors' quality and skillsets, client database and government entities.

Bidding Process

Business Development: Bidding Process Overview

<u>A. Collect Potential Bids</u> <ul style="list-style-type: none">• Lead search• Collect and organize bidding information• Print out bidding information	<u>B. Select Bids</u> <ul style="list-style-type: none">• Departmental meeting• Refine potential bids• Update calendar	<u>C. Evaluate Subcontractors</u> <ul style="list-style-type: none">• Site visits• Review and compile quotes	<u>D. Submit Bids</u> <ul style="list-style-type: none">• Finalize project proposals• File project proposals	<u>E. Bid Awarded - Transition</u> <ul style="list-style-type: none">• Confirm acceptance of bids• Hand to Operations• Move onto next project• Update calendar
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A. Collect Potential Bids

The Proposal/Marketing Coordinator performs lead research for projects by reviewing emails from subcontractors and searching on government websites. After receiving bid information, the Proposal/Marketing Coordinator organizes bids, then builds a client information folder. Next, the Proposal/Marketing Coordinator prints out all relevant documents and brings these to the department meeting for review by the department head and the head from marketing.

B. Select Bids

The Proposal/Marketing Coordinator schedules meetings for departments, so that the relevant parties can meet on a regular basis to discuss whether or not to pursue potential bids that meet Pinnacle's requirements. The Department Head makes the decision on whether to pursue a bid based on the following criteria: location, current operational capacity of Pinnacle, the type of a project, and the size of a project. If the Department Head decides not to pursue a bid, the Proposal/Marketing Coordinator sends a no bid confirmation to subcontractors. If the Department Head decides to pursue a project, the Proposal/Marketing Coordinator adds deadlines or updates events on the calendar as needed. The Proposal/Marketing Coordinator will follow through with any relevant added requirements.

C. Evaluate Subcontractors

After the Department Head performs site visits to confirm subcontractors' eligibilities, he performs the final review and analysis of potential bids by reviewing and compiling subcontractors' quotes.

D. Submit Bids

The Proposal/Marketing Coordinator will then write-up and deliver project approach documents such as bidding documents, tax forms, firm experience, etc.

E. Bids Awarded - Transition

After a client accepts their bid, the Business Development department confirms the acceptance of Pinnacle's bids and sends confirmed bids to the Operations department. Then the Business Development department will move onto the next project. The Proposal/Marketing Coordinator will update calendar and client database as needed.

Criteria for Bid Pursuit

- Location
 - Projects that are too far away would incur higher transportation and labor costs, thus reducing the profit margin.
- Current operational capacity of Pinnacle
 - Pinnacle must consider the following factors in regards to capacity: Are enough people available to work on the project? Do they have the necessary expertise to handle a particular project?
- Type of Projects
 - Prefer bids that fit Pinnacle's desire for unique and specialized projects.
 - Most are mundane paint-and-powder projects, will only be pursued if Pinnacle wants to get a relationship started with a certain client or the project is large enough.
- Size
 - Prefers to target bigger projects.
 - Avoids projects with less than \$100,000 in value because they are too small and often not aligned with Pinnacles' desired project (unique/different).
 - Ideal minimum project value is between \$500,000 – \$750,000.
 - In general, Pinnacle handles projects ranging from \$300,000 to \$5,000,000, with an overall average project size of \$1,500,000.

- Length:
 - Prefers longer projects, within reason.
 - Avoid shorter 10 weeks projects, prioritize those with 20 or more weeks.
- Relationship:
 - Some projects that would normally be rejected may be accepted to develop or continue fruitful client relations.

Types of Contracts

Pinnacle signs government contracts that allow for multiple approved contractors to bid for projects within allotted time spans and overall dollar values. These contracts expire when either the time span or total value of projects is exceeded.

Four Major Types of Contracts:

- IDIQ (Indefinite Delivery/Indefinite Quantity)
- MACC (Multiple Award Construction Contracts)
- GCMACC (General Construction Multiple Award Construction Contract)
- MATOC (Multiple Award Task Order Contracts)

The benefit for Pinnacle in using these contracts is that they simplify the list of who may bid for projects offered through these contracts. This gives Pinnacle a competitive edge, as it allows them to know who their competitors are and develop a knowledge of their thought process, ability, and tendencies.

Pinnacle may bid off-the-street, but rarely do so as there is often too little a return due to higher levels of competition from smaller entities.

Benchmarks for Final Bid Submission

After the Department Head performs site visits and evaluates bidding information based on location, types of projects, operation capacity, and size of projects, the Department Head uses EXCEL to build his model from subcontractors' quotes and estimate the cost of the operations. The primary driver of operational cost is labor, and most of the Department Head's time is spent on calculating and estimating this cost.

If the Department Head cannot receive a subcontractor quote in time, will plug in an estimated value for some subcontractor expenses. This is based on his own familiarity in those aspects of construction and his years of experience at bid development. However, he will never make an estimate for an electrical or HVAC subcontractor because he does not feel he can accurately predict their expense. He aims for a minimum of 90% of expense information to be based on quotes, with at most 10% of costs be estimations.

One advantage Pinnacle has is an extensive subcontractor database that provides accurate information on the cheapest, most effective subcontractors Pinnacle has worked with. This helps with both Business Development and Operations in their respective goals.

The Department Head aims for a final margin for Pinnacle that averages 14% after project completion. This is accomplished by the actions of both Business Development and Operations. When the Department Head builds a bid, he sets his target percentage over cost (margin) at around 5%. As Operations execute the bid, they are expected to find means and methods to increase that percentage over cost. The expected increase in margin is at or around 5% to 10%.

Departmental Conclusions and Recommendations

Business Development is a streamlined and effective process of bringing bids into Pinnacle. It outperforms many of its competitors with a 40% success rate, and is only limited by the capabilities of Operations.

Our recommendation for business development would be to continue accumulating data of both Pinnacle and Subcontractor performance. Recent efforts by Pinnacle to acquire data and analyze itself has managed to help the Department Head understand his effectiveness and provide clear goals and guidelines that he needs to meet. Essentially, adding data allows the Department Head to perform better.

We would also recommend Pinnacle consider expanding their current ProCore subscription and acquiring the financial management package to connect the Department Head's software to Pinnacle's operations department so that they may better communicate needs and expectations.

Operations

Department Overview

Currently, there are four project managers and four superintendents. Project managers are responsible for managing projects, including establishing the initial schedule, handling the buyout process, and dealing with modification negotiations, pricing, and clients. On the other hand, superintendents, who directly report to project manager, are in charge of managing day to day construction, working with subcontractors, and driving schedules.

In addition, the average number of projects Pinnacle completes per year is around 20; there were 17 projects completed in 2016, which means that on average, Pinnacle closes out 1-2 projects per month. In order to close a project successfully, six essential processes are needed, which include project setup, scheduling, subcontractor buy-out, cost reporting, safety, and project close out.

Department Head - Overview

Once a project is assigned to Pinnacle, the department head of the operations will work with project managers and superintendents to prepare for the project. The Department Head coordinates all the project managers and facilitates job efficiency.

Project Manager - Overview

Before the project kicks off, the project manager (PM) needs to do three things:

1. Project Setup;
2. Scheduling;
3. Subcontractor buyout.

During the construction, PM is responsible for:

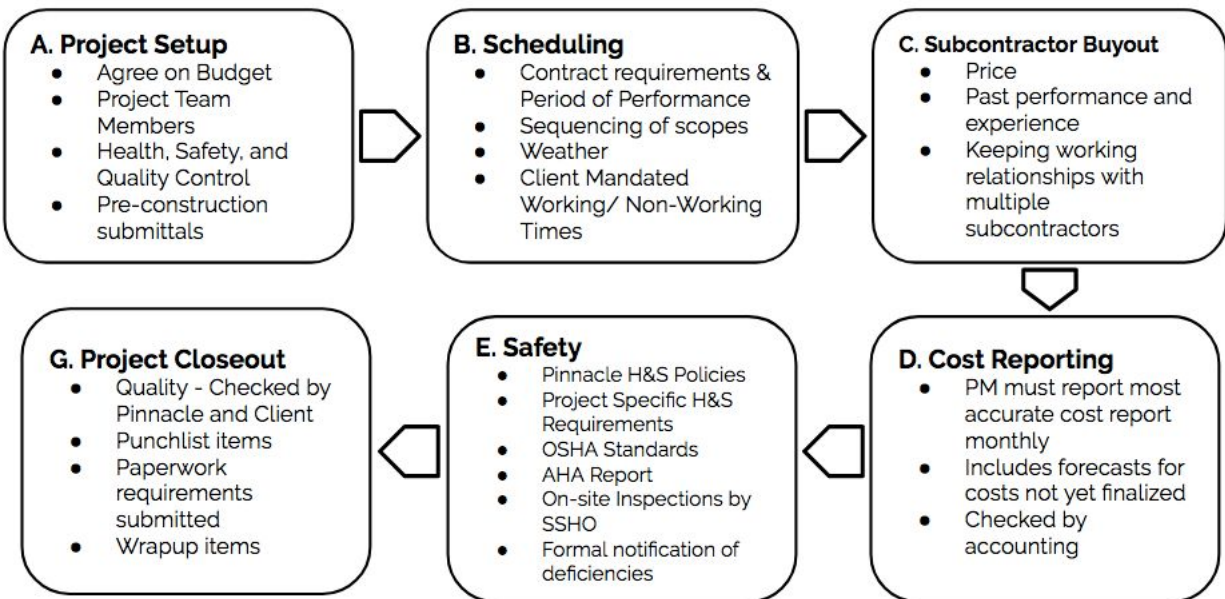
1. Cost Reporting
2. Safety
3. Other construction operation activities

At the end of the project, Project Managers and Subcontractors are responsible for:

1. Project Closeout including submitting all requirements and paperwork

Operations Process Overview

Operations Processes Overview



A. Project Setup

Project setup involves having Operations and Sales/Marketing agree on a budget for the project and selecting the Pinnacle project team members, which includes a PM and SI. Generally, project managers are selected based on mostly the geographic location of the project or their vicinity to project site. However, other factors may also play a role, such as their current availability and workload, if it is a program or client specific site such as NASA, and their previous experience with similar projects.

Pinnacle must also come up with a total project budget. This budget must be agreed upon between Operations and Sales/Marketing. Pinnacle must also complete any Pre-Construction Submittals, which include project submittals, material submittals, and equipment submittals. Project submittals include health, safety, and quality control plans, as well as reviewing the resumes of project members and obtaining the necessary security clearances for base access as needed. Any material submittals must be approved by the client before work can begin. Pinnacle must also fill out the necessary health and safety plans and activity analysis forms. Finally, Pinnacle must coordinate access and security clearance for the workers as needed.

B. Scheduling

Pinnacle must construct a project schedule which should include details about the day-to-day activities needed to complete the project. The project schedule should be slated to take less time than the contractual period specified. In addition, when scheduling, Pinnacle must also take other factors into account, such as contract requirements, period of performance, sequencing of project scopes (the order of activities in the project), weather-dependent activities, and client-mandated working and non-working times. Pinnacle generally uses Microsoft Project to schedule most projects, although they may occasionally use Primavera P6.

C. Subcontractor Buyout

First, Pinnacle must select a subcontractors to complete the work for them. Currently, there is no formal process for this procedure. The subcontractor chosen depends on a number of factors including the project's budget for subcontractors, the ease of working with a subcontractor in the past or Pinnacle's familiarity with the subcontractor, the subcontractor's experience with type of work necessary for a specific project, and the need to keep a working relationship with multiple contractors. In general, price generally has more weight than reliability when making this decision. However, if there is a certain subcontractor that they are most interested in for a certain project but the bid is more expensive than other ones, they will oftentimes try to negotiate with the subcontractors to work the price down. After a subcontractor is chosen, Pinnacle finishes negotiating the details of the contract.

D. Cost Reporting

Pinnacle must also report costs and revenue associated with the project. Any costs that have not been finalized are forecasted. There is a cost report meeting each month which the Project Manager and accounting must prepare for. The meeting always takes place on a Friday. The Monday of the week of the cost report meeting, the Project manager must have the most accurate version of all of their current cost reporting and forecasts and send them to Accounting. By Wednesday, Accounting will have finished going through all of this information and will give it back to the project manager for review. The PM will then make sure that all costs were entered correctly.

E. Safety

Pinnacle must go through many safety procedures to make sure that all members of the project are working in safe conditions during the duration of the project. For one thing, all members must follow Pinnacle's health and safety policies and procedures, as well as project specific health and safety requirements (such as the EM385-1-1 when doing projects for the Army Core of Engineers), Occupational Safety and Health Administration (OSHA) standards, fill out Activity Hazard Analysis (AHA) reports, conduct continual on-site inspections by Site Safety and Health Officers (SSHOs), and go through any necessary inspections deemed necessary by the SSHO. Moreover, Pinnacle must present all required documentation to the client and give formal notification to subcontractors of any deficiencies found during this process.

F. Other Construction Operation Activities

During construction, PMs must deal with a variety of tasks. PMs must deal with and resolve issues with owners and subcontractors as they arise. They hold meetings on a weekly basis with the client and subcontractor and daily meetings with their superintendent (SI). During the meeting, the PM creates and distributes meeting minutes. In terms of scheduling, while most schedule related tasks are delegated to the SI, sometimes the PM will step in to update the schedule as needed and improve the schedule if time allows. This is to save on the costs associated with dragging out a project. Furthermore, sometimes the PM will coordinate subcontractors if necessary, but this is only when a subcontractor issue has to do with the contract. If further information is needed from the client, the PM will issue an RFI. The PM will send this to the client when there are concerns about cost or schedule impact. If the client requests a project modifications (mod), the PM will negotiate with the client and issue the corresponding change order as needed. If there are damages or delays by subcontractor, the PM will record these issues.

Charging the client for work done and paying the subcontractors can be done on a biweekly or monthly basis, though billing on a monthly basis is much more common. The PM must coordinate billing from client and payments to subcontractor in the same time period so that there is sufficient cash flow during this period. If the PM wants to bill the client, they will create a pencil copy billing and send it to the client. The pencil copy billing contains the PM's estimated project percentages of completion. If the client agrees on these percentages, the pencil copy billing then becomes a formal billing. Afterwards, the PM will approve and review the subcontractor bill and send the formal bill to client. The PM will check the subcontractor bill for accuracy, and if it is accurate, he/she will submit the subcontractor bill to accounting. Once Pinnacle has been paid by the client, the PM must mark this off on the AP Aging report in order to issue the check.

G. Project Closeout

When closing out the project, Pinnacle must go through the necessary quality inspections. Pinnacle and the client will check if all project requirements are met. Pinnacle will also fix any problems found on the walk-throughs that need to be changed, modified, or redone (punch-list items). The scale of punch-list item projects can vary depending on what the client finds, but the goal is to have 0 punch list items by the end of project closeout. Afterwards, all necessary closeout paperwork must be submitted. The PM must turn in submittals such as warranty documentation. Warranty documentation includes items such as an owner's manual, a list of equipment installed, contract required closeout submittals, a waste management plan, a warranty management plan, final photographs of the job site, testing reports for items such as concrete, electric, and sound, and final billings. The PM also holds a payment meeting with Accounting to finalize all costs and revenue associated with the project. After the PM receives the final payment from client, the PM can then release payment to subcontractor and close the project out in the accounting system. The PM must also coordinate the necessary warranty repairs for a period of one year. Finally, Pinnacle must wrap everything up by getting all resources, equipment, and people off the project site, transitioning members to their next assignment, and addressing and resolving warranty items in a timely manner.

Human Resources

A. Hiring

The hiring activities include defining roles, in which HR works with the Hiring Manager to define the position description, setting salary parameters, and setting the working time frame. HR must also choose resources, which involves working with hiring manager to determine the budget for the candidate search, and compiling lists for the places to recruit from (ex. Facebook, LinkedIn, company website, etc.). Next, they post the job online and compile spreadsheets of sources in order to find candidates. Finally, HR conducts the initial basic screening of the candidate's resumes before passing them along to the hiring manager. In general, Pinnacle usually looks for candidates that already have a fair amount of experience working in the field. However, depending on the need they will occasionally hire people with more entry-level experience. All job offers are contingent on passing a mandatory drug screen. HR will work with the candidate throughout the rest of the process, which includes interviewing, reference check, salary negotiation, and performance testing.

B. Onboarding

Once a hiring manager has offered a candidate a position and they accept, they will start the onboarding process. This begins with making sure that all necessary employment forms are filled out, including setting up payroll and benefits. Additionally, HR will help new employees with setting up accounts for computer, email, and making sure that they have access to the necessary software, networks, and anything else that they may need. Another portion of the onboarding process includes the 30-60-90 day orientation, which is a checklist of expectations of what should be completed within a new hire's first 30, 60, and 90 days at Pinnacle. There is also some training that must be completed. Most of the training provided occurs on the job and is mandatory (such as first aid and CPR).

C. Benefits

The activities relating to the upkeep of benefits include negotiating and managing benefit contracts on a yearly basis. Types of benefits include 401(k) retirement plans and health insurance with prescriptions. Additionally, Human Resources helps manage pay increases and workers compensation if there is ever the need.

D. Maintenance

Human Resources' maintenance activities include a number of jobs that help things run smoothly. The first is making sure payroll disbursement are made accurately and on time and updating the system with any salary raises or adjustments. They also help with any dispute in terms of pay. Moreover, they are also in charge of helping to maintain benefits by updating them as needed. In addition, Human Resources is in charge of quarterly performance reviews. In order to evaluate employee performance, they utilize a tool called the people analyzer in order to gauge how well their employees are doing at Pinnacle. Additionally, they make decisions off of how well their employees align with their core values and their "Get it, want it, capacity" approach. This comes down to evaluating whether an employee understands their job and what is expected of them, whether they want to be doing their job and all of the things necessary to be successful, and if they have the capacity to handle everything that is needed of them. Between this, values evaluations, and the people analyzer, these processes give Pinnacle a fairly good idea of how well an employee is doing at that point.

E. Offboarding

Human Resources does not currently have a formal process for off-boarding or transferring job responsibilities to the next hire. However, we feel that it would make it much easier for incoming employees if there had been some sort of off-boarding process for their predecessor. Being able to transition old logs, documents, etc. would make it much easier for incoming employees to see how certain aspects of the job had been done in the past and allow them to get up to speed more quickly. Pinnacle has noted that they will be working on establishing an off-boarding process in the near future.

Conclusions and Recommendations

Conclusions

From the information gathered over the past few months, we have come to several key findings. We see that Pinnacle is having growing pains, with not enough time or manpower to dedicate towards making the company more efficient. We have also concluded that there is a problem with standardization within the company and communication between departments, to new hires, and to subcontractors.

Moreover, the company's has very little documentation and needs to develop processes to keep track of metrics that will be beneficial for the company to understand in the long run. Once these metrics are being collected, then they will be able to analyze them to figure out ways to make the company more efficient. Additionally, we have found that one current inefficiency within Pinnacle's operations is that they are underutilizing resources they currently have. For example, there is no one platform that all departments use to keep track of various aspects of their projects. ProCore is a project management software that Pinnacle is currently paying for, but is only being utilized by Operations.

Lastly, there have been problems with deadlines within project closeout, due to things such as project modifications made by the client. These modifications can lead to employees being unavailable for new projects within the time periods that Pinnacle expected. If projects run long due to non-client related circumstances, then this becomes a direct cost to Pinnacle. Paying for laborers, hotels, transportation, and food for multiple employees and subcontractors all fall onto Pinnacle in this case.

Recommendations

We recommend that Pinnacle create formal descriptions for each worker's job responsibilities. This would allow a new hire to quickly adapt to their new role. This would involve having their predecessor compile their job functions, key software, daily tasks, where to find things, important documents, etc. and store them on the network, until their successor takes over. This would, in turn, making the onboarding process for each role much easier, since candidates would have a clearer idea of their job responsibilities and functions. This would require a medium level of effort on all employees, but would require only time cost and would be a short-term project. Additionally, it would be beneficial for hiring managers to create this type of documentation when a new position is added as well. This would help define some of the expectations of the new role and allow them to figure out who may have knowledge of these tasks already that they can refer to.

It has also been mentioned that operations is currently underutilizing the current software resources that they have. This is in part due to employees lack of confidence

when working in this system. One recommendation that we had was that as part of onboarding, general training, or employee reviews, there should be trainings involved that relate to the ProCore system. ProCore is set up with a lot of resources on how to utilize the software. Encouraging employees to take the time to learn the basic functionality of the system could open a new opportunity to better utilize this resource while keeping information in a standardized system.

Ideally, Pinnacle would want all operatives using ProCore to its full extent. However, current employees are unfamiliar with it, and environmental circumstances in the field sometimes prevent its use. Satellite locations have trouble connecting with ProCore so have to use something else entirely. Even with these considerations, ProCore is underutilized. There are a number of ways ProCore can become more ubiquitous within Pinnacle:

- ProCore provides training and certification in ProCore use. A target date should be set and all employees may, at their own pace, be certified by this certain date.
- Human Resources may want to prioritize hiring individuals with experience or certification in ProCore.

The cost to Pinnacle should be zero. Training and certification is provided free to clients of ProCore. The difficulty should not be high, and all relevant employees should be encouraged to complete it during slower working seasons so that it not interfere with their work-related activities.

Moreover, we recommend that Pinnacle create an in-depth tribal knowledge document for common practices that could be shared across departments or even different office locations. This could be accomplished by establishing a formal interdepartmental folder within the network drive, or placed on an online provider such as Google Drive. We believe that this would aid in the dissemination of knowledge across the company and increase company efficiency. Such as task would likely need a large amount of collective effort, though each individual would likely only have to contribute a low level of manpower needed to contribute to the document. Creating this document would require a certain amount of time to put together, therefore would likely take several months to complete.

In addition, we suggest that Pinnacle create documentation drafting more formalized expectations of client requests or modifications during project closeout, and once these expectations are formalized, communicate them to the client. We recognize that there is not much that can be done to improve the speed of the project closeout process, but we believe that creating such expectations would allow Pinnacle more prior notice and time to plan when fulfilling project modifications. This would take a decent amount of effort to complete and may need several people working in tandem to establish such procedures and modify them as needed. However, with several people working together, it would not take long to establish such expectations and would be a short term project.

We also suggest that Pinnacle draft documentation materials relating to key processes within the department. For example, within the HR department, develop formal off-boarding process documentations and procedures and begin to implement these when employees off-board, create formal documentation that must be filled out during each performance review for each employee, and so on; Within the operations department, develop a formal method that details when to select a certain subcontractor over another. While this would be a time-consuming and lengthy process that would require a lot of effort, it would allow much greater efficiency and time savings in the long run. It would also allow for the company to plan for the long term, since they would maintain documentation related to past performance and activities.

Furthermore, as Pinnacle drafts documentation relating to its processes, we suggest that Pinnacle take the time to determine different performance metrics they would like to keep track of in different areas of Pinnacle's operations. This would allow for the company to plan for their future growth more strategically and better measure their current operations. However, this would likely require a high amount of effort and a take a while to develop since it would require multiple people to collaborate together to develop.

Recommendations	Level of Effort	Cost	Time Required
Create job descriptions for each position at Pinnacle	Medium	Low opportunity and manpower cost	Low-Medium Medium Term task
Develop in-depth documents that outline Pinnacle's common practices that can be shared across departments	High	Medium opportunity and manpower cost	Medium Long Term task
Take full advantage of ProCore's trainings and services to improve employee performance and familiarity with the software	Medium	High opportunity & initial manpower cost	Medium-High Long-term task
Create more formalized expectations of client requests during project closeout (ex. Project mods)	Medium	High opportunity & manpower cost	Low Short-term task
Develop quantitative performance metrics to improve employee evaluation	High	Medium opportunity & manpower cost	High Long-term task
Draft documentation materials for Pinnacle's core business practices and activities (for all departments, expanding upon current documentation)	High	High opportunity & manpower cost	High Long-term task

Appendices

Appendix A: Interview Questions

Human Resources:

1. Can you give us a general overview of your department?
2. Where do you post jobs? Are there Secondary job posting sites?
3. What hiring is HR responsible for? What is the hiring process?
4. How many full time positions do you have at Pinnacle?
5. Do you have any specific strategies in terms of recruiting?
6. Do you normally hire experienced workers or are you willing to hire new workers as well?
7. What, in your opinion, is HR's responsibility in terms of onboarding?
8. Does Pinnacle offer benefits and is HR responsible for those?
9. Is there any Employee Training and development?

Operations:

1. Give us a general overview of the operations department at Pinnacle.
2. What are the major systems that you use for operations within Pinnacle?
3. How many Project Managers do you have?
4. How many Superintendents?
5. How many projects are generally being worked on at a time?
6. How many total team members do you have within Operations?
7. What would you say are the core processes within Operations?
8. Talk about an average day of yours?
9. How much time do you spend in office versus out of office? (on project sites, etc.)
10. What are some things that you see as frustrations or weaknesses of your team?
11. What are some issues you see within the operations division? (Does this include documentation controls?)
12. How do you think having/implementing documentation controls can help your team improve performance?
13. How do you think having/implementing documentation controls can help your team better communicate with other areas of Pinnacle?
14. Have you ever missed a deadline? How did that happen? Was it caused by the documentation problems?
15. Do you have any general idea in mind that you would like this project ("improvement") to look like?
16. Do you think having us shadow you for a day would be beneficial to our understanding of the core processes?

17. Do your project's require security clearances?
18. What metric do you use to measure performance in the field, if any? Amount of projects completed per year? By month? Amount of days a project goes over budgeted time on average?
19. What would you say are the core processes within Operations?
20. How do you make key decisions for these processes?
21. Talk about an average day of yours?
22. What are some issues you see within the operations division?
23. Do you have any sort of documentation process in place for operations?
24. Do you have any charts or graphs that would help us better understand your processes?
25. Ask Dan for a copy of a subcontractor agreement
26. How do you assign PMs to projects? Skillset? Availability?
27. How many subcontractors do you work with on a monthly basis? Yearly?
28. Project Managers method for choosing sub-contractors?

Business Development:

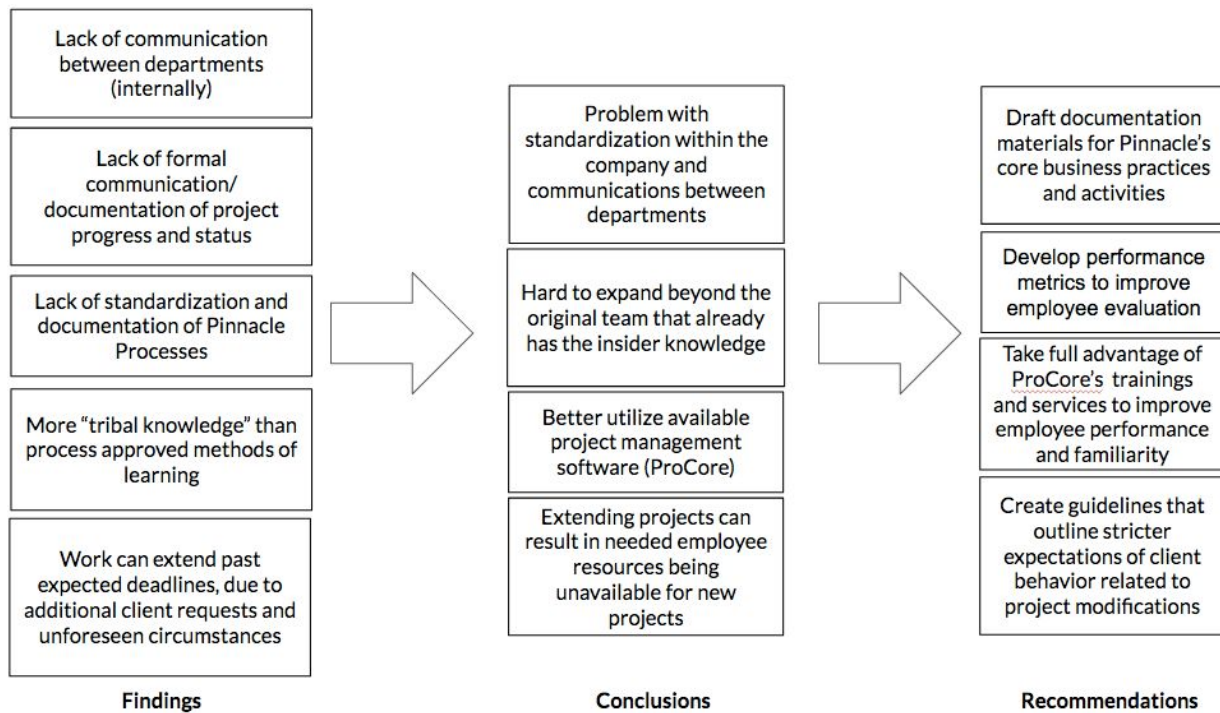
1. Give us a general overview of your(Business Development) department at Pinnacle.
2. How many total team members do you have within Business Development?
3. Do you work closely with other departments?
4. What are your primary responsibilities in this department?
5. What would you say are the core processes within Business Development department?
6. What are the benchmarks and other factors that inform your decision making process at each stage?
7. How do you fit in the flow of a typical bidding process?
8. Where do you search for bid information?
9. How do you manage the databases of your different subcontractors?
10. What are the major documentation systems that you use for the bidding process within Pinnacle?
11. What software do you use on a daily basis?
12. Are there any issues that happen throughout the bidding process?
13. Have you ever missed a deadline? How did that happen? Was it caused by the documentation problem?
14. How do you think having/implementing documentation controls can help your team improve performance?
15. How many projects are generally being worked on at one time?
16. What benchmarks do you use when making a decision about whether to pursue a project?

17. What software/system do you use to build financial models?
18. What skillsets are required in your job?
19. How do you increase your chance of getting bids?
20. What are the challenges of your job?
21. Is there any post-bidding activity?
22. What are the criteria for selecting subcontractors? Do they vary from project to project?
23. Have you ever heard of Procore? How did you discover it?
24. Do you think some functions of ProCore, such as the financial software package it provides, would be helpful to your job?

Appendix B: List of people interviewed

- Cheryl Stasiak, Director of Human Resources, Marketing, and IT
- Dan Raglow, Director of Operations
- Rusty Lytte, Director of Business Development
- Denise Setteur-Spurio, Proposal/Marketing Coordinator

Appendix C: Logic Diagram



Appendix D: Process Flow Documentation

1. Business Development:

a. Collect Potential Bids

- i. Pinnacle signs government contracts that have them listed as one of a set of contractors that possess exclusive rights to bid on certain contracts of a set total value over a span of time. There are a number of different types of contracts, but the differences between them are largely unimportant:
 1. IDIQ (Indefinite Delivery/Indefinite Quantity)
 2. MACC (Multiple Award Construction Contracts)
 3. GCMACC (General Construction Multiple Award Construction Contract)
 4. MATOC (Multiple Award Task Order Contracts)
- ii. Proposal/Marketing Coordinator performs lead research for projects by reviewing emails from subcontractors and searching on government websites.
 1. Proposal/Marketing Coordinator needs to be familiar with the overall industry, subcontractors' quality and skillsets, client database, and the expectations of various government entities.
- iii. After receiving bid information, the Proposal/Marketing Coordinator organizes eligible bids that meet Pinnacle's standards, then sends subcontractors' bidding information to the marketing department.
- iv. Print bidding information for meetings in the next step.

b. Select Bids

- i. The Proposal/Marketing Coordinator schedules regular meeting.
 - 1. Directors of Marketing and Business Development meet to make selections on which bids to pursue.
- ii. Director of Business Development reviews all bids and makes final go/no go decisions for proposals based on the following criteria:
 - 1. Location: Prioritizes locations which are closer to Pinnacle Corporations. The farther the distance, the less likely Pinnacle will pursue the bid.
 - 2. Capacity: Pinnacle may not be able to handle certain projects due to work levels in Operations department.
 - 3. Type: Generally, avoid paint-and-powder projects. Prioritize unique and specialized projects that are closer to what Pinnacle aspires to perform.
 - 4. Size: Director of Business Development should avoid projects valued at less than \$100,000. Ideal minimum is around \$500,000. Projects generally range between \$300,000 and \$5,000,000.
 - 5. Length: Projects should be longer term. Projects of 10 weeks or less should be avoided. Projects of greater than 20 weeks should be highlighted.
 - 6. Relationship: Some normally rejected proposals may be accepted for purposes of building or continuing relationships with clients.
- iii. After eligible bids are selected, the Proposal/Marketing Coordinator adds bidding information and events to the calendar.
- iv. Director of Business Development may perform site visits as needed.
- v. Relevant parties are to through with any added requirements as needed (credentials, bonds, etc).

c. Evaluate Subcontractors

- i. Director of Business Development reviews and compiles subcontractor quotes via Excel. If Director does not receive quotes in time, Director may estimate costs.
 - 1. Current Director cancels pursuit if he does not receive an electrical and HVAC quote as he does not feel comfortable making these estimations.
- ii. Director of Business Development performs final review/analysis of potential bids.
 - 1. Targets an estimated return of 5% over cost. Overall return should be around 10% to 15%. This is up to Operations to succeed in reaching that overall return.

d. Submit Bids - Transition to Operation

- i. Business Development sends relevant information to Marketing that finalizes the project proposal.
- ii. Final project proposal may be filed electronically or by hand depending on the client's expectations.
- iii. After the bidding results come out, the Proposal/Marketing Coordinator department confirms the acceptance of Pinnacle's bids.
 1. In the past year, Pinnacle won approximately 40% of potential bids. May need a larger sample size to confirm this as a standard going forward.
- iv. Send confirmed bids to the Operations department.
- v. Move onto next project.
- vi. Proposal/Marketing Coordinator may update calendar and client database as needed.

Human Resources

e. Hiring

- i. Departments are in charge of letting the head of Human Resources (Cheryl) know when they are in need of a new hire
 1. This is specifically for Pinnacle associates -- part time or full time hires, not subcontractors
- ii. The department in need should provide an idea of what type of candidate they are looking for and a description of the role
- iii. Human Resources (Cheryl) will then put together a job description and send it back to the hiring manager for approval
- iv. At this time, Cheryl then determines where will be the best places for this posting and shares it on numerous websites
- v. Human Resources is in charge of doing initial resume reviews. They are mainly looking to filter out people that are blatantly not qualified or fit for the job
- vi. Once narrowed down, the resumes are sent to the hiring manager for review
- vii. Hiring manager is in charge of setting up interviews (phone and in-person) with any candidates that they feel are qualified
 1. HR does not generally sit in on interviews.
 2. HR will help with the interviewing process as needed
- viii. Human Resources will conduct a background check for each new hire
- ix. Human Resources negotiates salary with the new hire
- x. Human Resources conducts various performance tests to see if the new hire is a good fit with Pinnacle's values

f. Onboarding

- i. Human Resources
 - 1. Set up employee accounts and access:
 - a. Computer and network access, email, phone number, etc.
 - b. Complete New Hire Forms
 - c. Benefit Selection
 - 2. 30-60-90 Training Checklist
 - a. Checklist that determines what trainings, activities, etc. that new employees should have completed after 30, 60, and 90 days on the job
 - b. Required training includes CPR training, Drug Free workplace
- ii. Hiring Manager -- Department Specific Items
 - 1. Department Expectations
 - 2. Specific department job functions

g. Benefits

- i. Negotiate and manage contracts for benefit plans on a yearly basis
 - 1. Medical insurance with prescription coverage
 - 2. 401(k) Plan Selection
 - 3. Vacation negotiations

h. Maintenance

- i. Payroll
 - 1. Make sure disbursements are made accurately and are timely
 - 2. Manage any salary changes
- ii. Performance Reviews
 - 1. Done on a quarterly basis
 - 2. Utilize the People analyzer to hire, fire and decide if they are a good fit
 - 3. Utilize the Get it, Want it, Capacity method to evaluate employees
 - 4. Maintain and update benefits
 - a. 401(K) changes
 - b. Changes to healthcare insurance

i. Off-boarding

- i. No formal process currently in place for Off-Boarding
- ii. Pinnacle to highlight a process in the future
- iii. Recommendations for offboarding
 - 1. Have outline of employees' daily, weekly, and monthly responsibilities drafted by off-boarding employees
 - 2. Save all relevant work to the network so that records, documents, etc. are accessible in the future

Operations

j. Project Setup

- i. Budget
 - 1. Come up with total project budget
 - a. Budget must be agreed upon between Operations and Sales/Marketing
- ii. Once the project has been awarded to Pinnacle a project manager and a superintendent must be chosen to work with the project
 - 1. Generally, project managers are selected based on the following (in an order of priority):
 - a. Geographic location/vicinity to project site
 - b. If it is a program specific site - ex. NASA
 - c. Previous experience with similar projects
 - d. Current availability/workload
 - e. Skillsets
- iii. Pre-Construction Submittals
 - 1. Project Submittals
 - a. Health Plans
 - b. Safety Plans
 - c. Quality Control Plans
 - d. Resumes
 - e. Security Clearances/Base Access (when needed)
 - 2. Material Submittals
 - a. Must be approved by client before work can begin
 - 3. Equipment Submittals
 - 4. Coordinate access, security clearance

k. Scheduling

- i. Construct a project schedule which should include details about the day to day of the activities needed to complete the project
- ii. The project schedule should be slated to need less time than the contractual period given
- iii. Pinnacle generally uses Microsoft Project for most projects, although may use Primavera P6
- iv. Must schedule with the following potential deterrents in mind:
 - 1. Contract requirements and Period of Performance
 - a. Must schedule to have project complete by or before the contracted date
 - 2. Sequencing of Project Scopes
 - a. Figuring out what needs to be done first, what is dependent on another processes completion
 - b. Ex. Foundation, concrete slab, block walls,
 - 3. Weather
 - a. Dependent on the geographic area
 - b. Allot appropriate slack time for activities that have certain weather restrictions (laying concrete, etc.)
 - 4. Client Related Scheduling Constraints/Work Limitations
 - a. Can only work overnight
 - b. Can only work weekends
 - c. Can only work when no people are present in the building

I. Subcontractor Buyout

- i. Currently Pinnacle has no formal process for subcontractor buyout, though there are three main steps:
 - 1. Buyout of subcontractors
 - 2. Contract negotiation
 - 3. Award of Work
- ii. Subcontractor chosen depends on a number of factors:
 - 1. Amount allotted for Subcontractors in Project Budget
 - 2. Past experience with subcontractor
 - 3. Ease of working with subcontractor
 - 4. Subcontractor's experience with type of project needed
 - 5. The need to keep a working relationship with multiple contractors
 - a. Price generally has more weight than reliability
 - b. Pinnacle negotiates details and price of contract with subcontractor

m. Cost Reporting

- i. Forecast any costs that have not been finalized
 - 1. Includes finding quotes and the costs of project modifications
- ii. Record any costs and revenue associated with pending client/contractor modifications
 - 1. Costs can be related to equipment, materials, labor
 - 2. If Pinnacle incurs a direct cost for a certain portion of the project or specific item, then the cost is generally reported right away
 - 3. If Pinnacle does not incur a direct cost (such as a cumulative cost), it may be reported on a more cumulative basis
- iii. Hold a monthly cost report meeting
 - 1. Need to have cost reports for the month into accounting by the Monday of the week of the meeting
- iv. On Wednesday the Accounting department returns these to the PM for review
 - 1. The cost reporting meeting is always on a Friday morning
 - 2. The PM needs to understand their costs, forecast any future costs that are not incurred, and make sure the costs associated with any client modifications are properly forecast as accurately as possible

n. Safety

- i. Pinnacle's Health and Safety Procedures
- ii. Project specific health and safety requirements
 - 1. ex. EM385-1-1: Army Core of Engineers Safety Procedures
- iii. Occupational Safety and Health Administration (OSHA) standards
- iv. Activity Hazard Analysis Report
- v. Continual on-site inspections by Site Safety and Health Officer (SSHO)
- vi. Any necessary inspections by SSHO
- vii. Present all required documentation to client
- viii. Formal notification to subcontractors of any deficiencies

o. Other Construction Operation Activities

- i. Deal with issues relating to owners and subcontractors
- ii. Issue resolution within projects
- iii. Meetings
 - 1. Hold weekly client and subcontractor meetings
 - 2. Daily meetings with Superintendent
 - 3. Create and distribute meeting minutes
- iv. Scheduling Updates:
 - 1. Update the schedule if needed
 - 2. Improve the schedule if time allows
- v. Coordinate Subcontractors (if necessary, usually when related to the contract)
- vi. RFIs (Request for Information)
 - 1. Send to client when there are concerns about cost or schedule impact
- vii. Documentation of damages or delays by Subcontractor
- viii. Project Modifications
 - 1. Preparation and negotiation with client
 - 2. Issue corresponding change orders
- ix. Billing
 - 1. Biweekly or monthly basis
 - 2. Coordinate billing from client and payments to subcontractor in the same time period
 - 3. Pencil copy billing sent to client - submit percentages of completion and if the client agrees with these percentages, then becomes a formal billing
 - 4. Approve and review subcontractor bill and bill to client
 - 5. Check for subcontractor bill for accuracy
 - 6. Submit subcontractor bill to accounting
 - 7. Once paid by client, PM must mark off on AP Aging report to issue checks

p. Project Closeout

- i. Quality
 - 1. Go through necessary quality inspections
 - 2. Pinnacle and Client check if all project requirements are met
- ii. Punch List Items
 - 1. Fix any items found on the client walk-through that need to be changed, modified, or redone
 - 2. Scale of punch-list item projects can vary
 - a. Goal is to have 0 punch list items
- iii. Paperwork
 - 1. Project closeout paperwork must be submitted
 - a. Warranty documentation:
 - i. Owners manuals,
 - ii. Equipment installed,
 - iii. Contract required closeout submittals,
 - iv. Waste management plan,
 - v. Warranty management plan,
 - vi. Final photographs Testing reports (concrete, electric, sound),
 - vii. Final billings
 - 2. Struggle with getting to this point before getting more wrapped up in more projects
- iv. Hold payment meeting with Accounting
 - 1. After receive final payment from client, release payment to subcontractor and close the project out in the accounting system
- v. Wrap-up
 - 1. Get all resources, equipment, and people off the project site
 - 2. Transition members to their next assignment
 - 3. Address and resolve warranty items in a timely manner

Appendix E: Contact information for the team members

- Kylene Ye: kly15@case.edu, 216-534-8904
- David Hughes: dah138@case.edu, 832-520-3772
- Weiling Kang: wxk129@case.edu, 216-673-4913
- Renren Deng: rxk256@case.edu, 216-767-6981
- Julia Welch: jcw115@case.edu, 248-720-9577

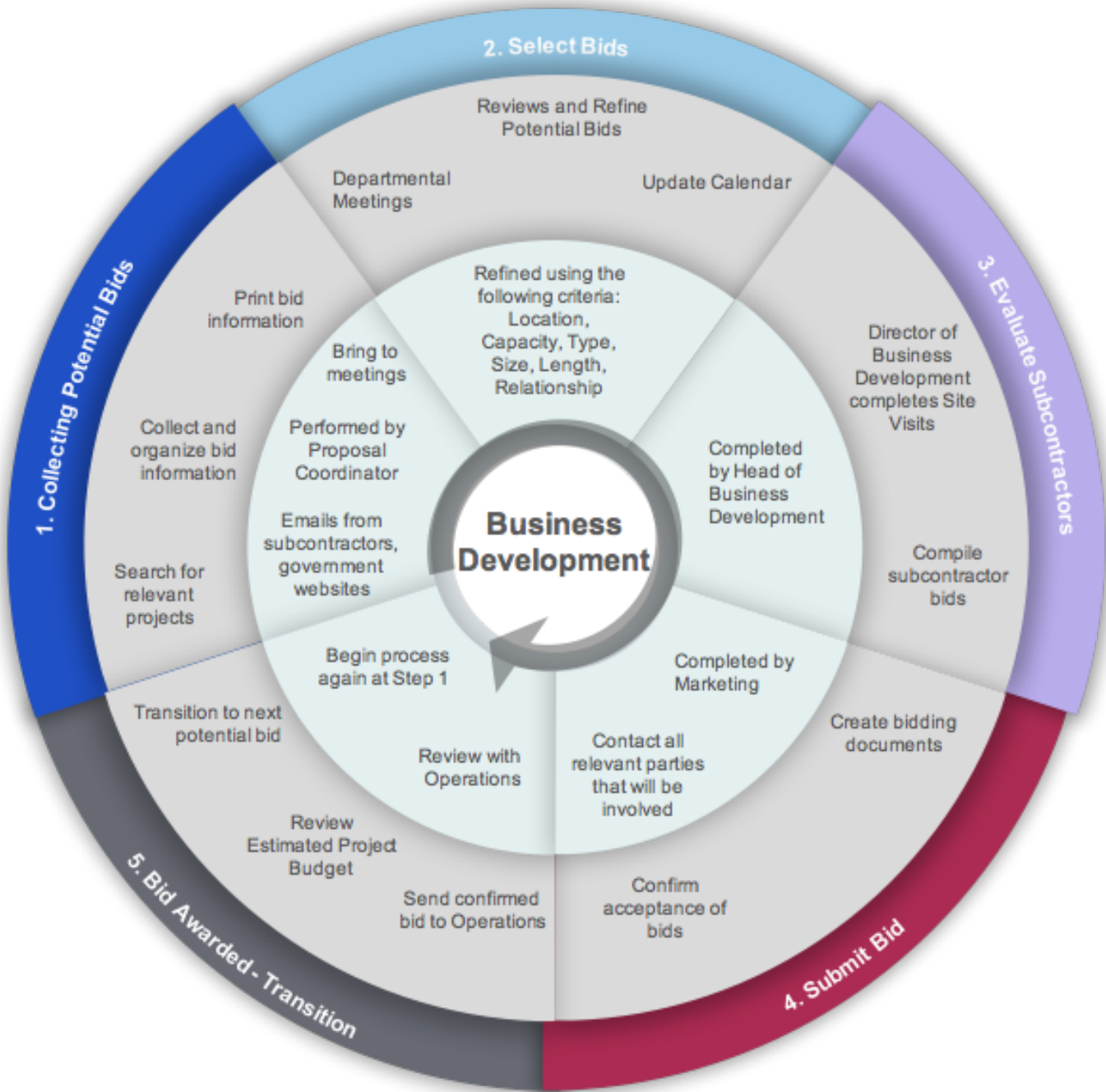
Appendix F: Other resources

"Home | We're Experts In The Unusual Pinnacle Construction | We're Experts In The Unusual". *Pinnacleconstruction.bz*. N.p., 2017. Web. 2 May 2017.

"Procore Construction Project Management Software". *Procore.com*. N.p., 2017. Web. 2 May 2017.

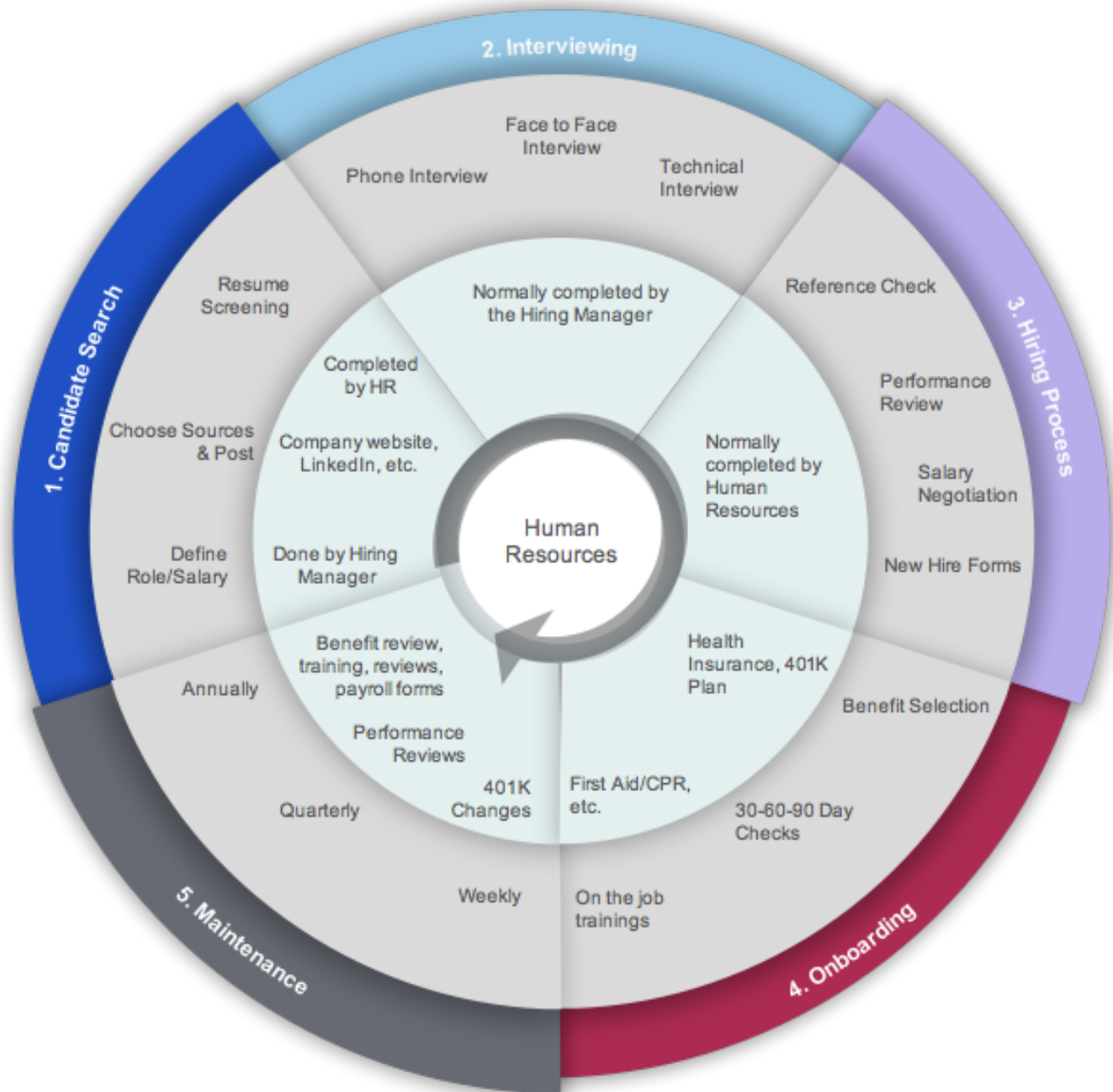
BUSINESS DEVELOPMENT

CORE PROCESSES



HUMAN RESOURCES

CORE PROCESSES



OPERATIONS

CORE PROCESSES

