Case Study: Waterfall Approach – Invoice Process Restructure

How Do I Identify What Needs to Be Done

by Ryland Leyton

Background

My employer, The Morwin Company, was reorganizing to save costs during a recession, and had identified an area where they might reduce staffing and office costs.

Invoices for a particular product were handled through a specific team working in a remote area. To save costs this process would be moved to one of the main offices, and possibly be automated. The old office was going to be shut down and all of the employees, except one expert on the process, would be let go.

Challenge

I was instructed to handle this project quietly and not discuss it with anyone at the time. It was possible this decision would be delayed, or even cancelled, and the office would remain open. Because of this, the effort must be kept confidential. This was a very rare project in that I was told not to discuss it with anyone other than those directly involved. My supervisor knew about it, as well as the need to keep it confidential.

Susan, the one employee who would be retained, was the only expert I would be able to talk with. She was a manager of the process and had been a team member in the past.

While the office closing date had not been set, I was asked to do my work as rapidly as possible. The technical team needed the information to assess what systems could be eliminated and if anything could be automated. The HQ Billing Director & Manager needed to understand the manual process to evaluate what would be necessary to do it successfully if the existing team were gone and only Susan was available.

Action

The Start of Analysis

As sometimes happens with BA's in a project where requirements are only known at a high level, I was the first team member asked to identify "What do we do next?"

Thinking in terms of the BACCM, we had some information.

Change	• The work would be moving to a new office. • The work might be automated.
Solutions	• The solution must enable new people, who have never done the process, to be successful at it. If not, we lose (or delay) revenue by failing to issue invoices for the product. • The analysis effort must enable leadership to make decisions about the proposed solution.
Contexts	• The effort must be kept confidential. • The effort may lead to a tense & complicated work situation for all the stakeholders.
Value	• Cost savings: eliminating positions, possible automation.
Stakeholders	• Project sponsor: HQ Billing Director (James) • Technical SME: Senior Manager of Billing Systems (Barbara). • Employees being laid off (must be out of the loop). • SME regarding existing process: Susan. • Project Manager I would work with: John. • Employees who will take on the new work: as yet unidentified.
Needs	• New employees must be able to maintain the existing process. • Barbara (Tech SME) needs enough information to consider automation. • James (HQ Billing Director) needs enough information to determine the costs and impacts of taking on the work.

Creating My Business Analysis Approach

Despite the difficult and painful circumstances, this was a very straightforward BA activity and it lent itself to a waterfall work pattern. Because of the level of concern about taking on this process I was asked to attend a senior staff meeting and explain how I would approach this problem.

I explained that the major work would be organized as follows.

- First, I would create a detailed, step-by-step, process diagram of the primary "Happy Path" of work when there are no problems.
  - Susan would be the expert I would interview for this purpose.
  - Working in a series of 1:1 interviews with Susan, I would
    - Identify the process steps.
    - Catalog the "people, processes and tools" used in each step from wherever the work originated, all the way to the payment being received.
    - Identify data that is used in the process - where it originates, is transformed, and where it is supplied to.
- Second, we would catalog the typical errors or problems that occur in the processing and how those situations are handled. Again, we would note the people, processes, and tools, which were involved.

Artefacts

My analysis effort would produce the following artifacts:

1. Process diagram, current state, primary "happy path", and associated notes.
2. Process diagram, current state, error situations & recoveries, and associated notes.
3. Catalog of systems and tools involved in the current state.
4. Catalog of skill sets, roles, and actors, involved in the current state.
5. Susan's suggestions for improvements which could be incorporated into the future state.
6. Catalog of data elements, possibly an entity relationship diagram, of the current state.

I thought these would be enough to enable the HQ Director and HQ IT Systems SME to assess what it would take to incorporate the work in a human and technology solution.

The team agreed with my view on the artifacts to create. I showed samples from other projects as examples of what I would be producing in this project. They agreed with me about the level of depth & detail I was targeting.

We ran into a problem.

Susan wasn't local, and I was going to need at least 3 whole days of her time, possibly more, depending on what we surfaced and where the conversations led.

Because Susan was the current team manager, she couldn't just work with me remotely that much - she was going to be pulled into things constantly. Also, the office she worked at was small. There was no private room she could take for several days without a very good chance of someone hearing our conversation. Confidentiality was of very serious concern for our group, as this was not a fully committed decision yet.

About a day later James, the director, let our project team know that he had consulted Susan and she would come to town the following week and stay the whole week. She would manage her team remotely in the mornings and her afternoons would be blocked off for me exclusively.

I was asked if I could get the work done in one week of half-days with her, instead of three whole days. I said yes, as this would actually work better for me as I had more time to consider what she told me each day and refine it for review with her the next day.

The pattern of stakeholder interview, offline refinement, then meet to review & confirm, is a very common and successful pattern for analysis work in complex and/or new domains & topics.

Susan also made time to call from home before she went to work one day. This let me get a little information with which to structure my half-days with her, to start with.

Armed with this information, I created my analysis plan to create my deliverables and checked it with my PM, Sponsor, and Susan. They agreed it looked like it would work for us.

Documented Analysis Approach

Days 1-5 each had 4 hours of contact time with Susan, and I could refine my documents the rest of the day. Days 6-10, the following week, would be with the larger team including Susan remotely, as these would be shorter conversations.

DAY	PLANNED ACTIVITY	EXPECTED ARTIFACTS & PROGRESS
1 (Monday)	Happy path	• Note people, process, tools in the primary flow. • Make notes about possible error cases & problems but do not explore them yet.
2 (Tuesday)	Common process errors & problems	• Note people, process, tools, and how each may cause or resolve an error.
3 (Wednesday)	Review happy & error flows for validity & correction.	• Review process & error flows, formal notes, created over first two days. • Note any errors in my own work and resolve them.
4 (Thursday)	• Review corrected documents. • Check catalog of systems, tools, data, harvested from process diagrams. • Check list of Susan's suggestions.	• Produces finalized process flows. • First draft of systems, tools, data. • Validation of correct capture of Susan's opinions about improvements to make.
5 (Friday)	Contingency time if anything runs long.	• If anything runs late, use this for time with Susan. If not, enable her to head home on an earlier flight.
6 (Monday)	• Present artifacts to HQ Stakeholders. • Create list of Q&A as needed. Follow up with Susan if she is not present.	• Initial review & approval of artifacts.
7 (Tuesday)	Finalize Q&A.	• Create refined artifacts in response to Q&A.
8 (Wednesday)	Finalize documents & conclude project.	• Submit final approved documents.
9 (Thursday)	(Contingency time if needed.)	
10 (Friday)	(Contingency time if needed.)	

After this two-week effort, we would consider the next phase of work based on what we discovered in this phase. The HQ leadership would decide the level of effort needed to move the process and/or automate it. However, that would be the outcome of this initial work.

Outcome

The project went mostly as planned. Susan was easy to work with and was understandably very concerned about her team and the situation. She didn't like keeping things from them. Susan went home at the end of Thursday after our sessions.

Using the artifacts from our work together, the HQ team determined that they could take on the work in terms of people. However, the tools involved - the computer systems and infrastructure - were completely new to the HQ team. There were elements of both billing records and customer data that weren't present in existing HQ IT systems. Team members would have to get access & be trained on the other systems for just this process.

James & Barbara applied their knowledge of the existing HQ team and the tools they used. They decided that retraining HQ teams to use the necessary systems would be very inefficient and almost certainly cause more problems than savings even after a transition period.

The project was shut down & leadership looked elsewhere for savings opportunities.

Partially because of the exceptional knowledge and skill she had shown during our interviews, Susan was offered, and accepted, a promotion and relocation to the HQ office to assist with broader billing concerns and efficiencies. A different team member in her old office was promoted to assistant manager to handle most of her former day-to-day responsibilities.