



Effective Information Gathering Techniques for Business Analysts

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Introduction

A client with a freshly-minted new batch of Business Analysts asked me how the BAs could be more effective when interviewing members of the business community.

The purpose of the request was aimed at improving analysts' information gathering skills, and thereby improving the breadth and depth of discovery on projects, as well as making best use of the limited time that BAs actually get to spend with bona fide users.

To answer this request properly, I divided the response into two distinct sections:

- **Section 1:** Very high-level information gathering practices, so general they may seem obvious or vague, but are nonetheless useful.
- **Section 2:** Very specific modeling techniques that analysts use to do their job that often require rigorous training and years of practice to master.

Let's start with the high-level, and then move on to the specific.

SECTION 1: General information gathering practices

At the highest level, the analytical process goes something like this:

- (1) Write down your questions (a list of what you know you don't know)
- (2) Interview subject-matter experts
- (3) Write down their answers
- (4) Write down the questions raised in your mind by their answers
- (5) Go to step (2)

If this looks like an exercise in "lather, rinse, repeat," it is. The common thread here is that you WRITE IT DOWN.

Business analysts dwell in a society that communicates via the written word. Analysts learn stuff and write it down. If you only do the first half, you're just a student. Students learn stuff. The difference between "student" and "analyst" is that the analyst records and organizes what they have learned. Anyone who fails to write it down should have his or her license to practice analysis revoked. Am I serious about this point? Yes. Very.



Let's revisit Step #1; "Write down your questions." How do you come up with your question set?

The answer depends on where you are in the project, so I'll defer the very specific answer for the second half of this missive. Keeping this discussion at a high level, your question set is a list of all of the things you know you don't know about your subject. The question set moves the analyst from a state of "Profound Ignorance" to "Simple Ignorance." (In a state of profound ignorance, you have no idea what you have yet to discover about a subject – in fact you have no way to measure the depth of your ignorance. In state of simple ignorance, you are armed with a list of items about which you have no clue, and you can manage and measure your progress as you become either more enlightened or more confused. In a state of simple ignorance you know at minimum in which direction you are moving, and can track the relative rate of your progress.)

Once you have a list of questions, it is imperative to locate subject matter experts who can divulge meaningful answers. Once again, the right person will depend highly on the nature of your question – be it someone from marketing, sales, accounting, retail, operations or perhaps a real bona fide customer. Once you have located the requisite warm body to interview, you can apply standard "good interviewing" practices.

Lots of courses on effective interviewing contain pages of good advice that is much like what your grandmother would tell you if she were your boss. Rather than trod through a litany of do's and don'ts, I will take it on faith that everyone knows that they should be courteous, positive and professional. That includes avoiding the use of inscrutable jargon, acronyms, making offensive or derogatory remarks, slouching, rolling your eyes, talking like a valley girl, surfer dude, or wearing any clothing that has been recently slept in.

Moving on to the content, most textbooks on requirements gathering agree that one should ask open ended questions. This includes avoiding yes/no questions that make your subject feel as if they're being cross-examined in court. An analyst must take a kinder and gentler stance with their customers to coax out meaningful information. Always treat your subject matter expert as the expert, and ask questions that allow them to expand upon and demonstrate their expertise. You will learn a great deal of good information. Here are some examples of closed versus open-ended questions:

Closed: Is it true that disappointing levels of foot traffic is your biggest problem right now?

Open: What are the biggest issues you are facing at this time?

Closed: Do you think a touch-screen kiosk will save a lot of money?



Open: What are the key initiatives that you believe will contribute to profitability?

Closed: Are you responsible for all retail operations?

Open: What are your responsibilities?

True, these are somewhat vague and high-level questions, but hopefully, you get the gist; ask open-ended, solution-free, context-free questions that allow your subject to tell you what they know, rather than verify what you already know.

Follow up is important. Since analysts write things down, you should write up your interview notes. Unless you take incredibly complete notes at lightning speed, you **MUST** rewrite your interview notes. Otherwise, what should be a cogent articulation of business intelligence will read like bad haiku:

*The system crashes
Customers flee in disgust
Churn is at my door*

Convert your scribble and cryptic doodles and sentence fragments into clear, readable, complete sentences. Then publish your notes back to the subject matter experts and ask for corrections, clarification and any additions to their commentary.

SECTION 2: Specific information gathering practices

This paper is now going to move from the very general to the very specific. This pattern of behavior mirrors the manner in which real projects careen from very general concepts into incredibly specific details shortly after kick off.

The short answer to how business analysts gather information is “they model it.” Why does modeling lead the analyst to ask the right questions? It is not the resulting diagram, boxes, lines, bubbles, arrows, ovals or stick figures that impart understanding or meaning to the analyst. Rather it is the act of creating the model that guides the analyst through the questions they should be asking.

The first problem facing analysts is one of overwhelming complexity. Businesses are a tangled labyrinth of processes, information flow and policies. Models are simply a method that allows the business analyst to unravel specific aspects of the business they are seeking to understand.



The Talking Model

A colleague coined the phrase “the talking model” to describe the way that the model becomes like an extra analyst – taking on almost human characteristics as it asks questions back to the analyst. Sounds weird? Let’s try it out on a very simple example.

Bruno recently graduated from analysis training where he was taught the mystic art of information modeling. He remembered from his advanced courses that it is prudent to conceal his actual diagrams from the non-modeling public, largely to avert a general panic amongst the user community. Instead, he recalled that one should use the concepts of modeling to guide one’s investigation into the business problem. Bruno’s first assignment was to interview a client who required a new dog kennel system.

“The system needs to track dogs and their owners,” barked out Germane Shepherd, proprietor of the kennel.

Like an analytical bloodhound, Bruno’s highly trained mind leapt into action.

- He instantly recognized two important data entities that the system must remember: Dog, and Owner
- His heart soared at the discovery of a relationship between Dog and Owner: “is owned by”
- Remembering the discussion of the importance of verb tense, he made a note to ask Germane whether they only cared if a person “currently owns” the dog, or “has ever owned” the dog. He recalled a grizzly story in class of an analyst who failed to make this distinction who was chewed to bits by a team of rapid developers late one night.
- Like an anxious puppy, Bruno couldn’t wait to ask if “Owner” and “Dog” should be generalized into “Customer” and “Animal” on the outside chance that this system must remember people or organizations that are not just owners, or creatures who are not canine.
- The high voice of Bruno’s schoolmaster rang out in his ears at a pitch only he could hear. “You have discovered a relationship, Bruno; therefore you have four more questions to ask!” (This was based on his understanding of “relationship cardinality” – a term he knows instinctively never to utter in front of a customer). Bruno recited:
 - Must a person own a dog, or do you care about persons who are non-owners?
 - May a person own more than one dog?
 - Do you ever take in strays? (Can a dog be in the system with no owner?)



- What do you do in the case of a dog having more than one owner (e.g., joint custody)?
- This last question caused Bruno to sniff around for more answers. Does the kennel really care about ownership, or are they seeking the financially responsible party? What happens if the dog is taken ill during their visit? Can the financially responsible party be different than the dog's legal guardian?

If Bruno had not been schooled in the art of information modeling, it is unlikely he would have been so expedient in his discovery of what questions to ask.

The fact is that business analysts need to be skilled in a variety of modeling techniques. The technique exists to encourage the intended activity, which during analysis, is *discovery*.

What do analysts need to discover? During a project, they must be able to:

During Initiation & Scope

- Identify problems and their root causes, effects, and severity
- Uncover opportunities and value their market potential
- Establish and confirm objectives and their potential to increase revenue, lower costs, or improve service to customers
- Entertain various solutions to reach their objectives, and ways to determine their cost and feasibility
- What the customer considers to be a quality solution
- Define a boundary of scope
- Determine all users and systems impacted by the scope

During Requirements Gathering

- Decompose large, conceptual functions into smaller processes
- Describe a process in sequential steps
- Describe a system's behavior without dictating a specific dialog or design
- Discover and document the information a business must remember

During Design

- Participate in design discussions as an advocate for achieving the customer's objectives and measures of quality

During Testing

- Ensure that what the customer expects and needs is about to be delivered.

The specific techniques, and the questions they force the analyst to address, are beyond the scope of this paper. The notion of the talking model is important. It reminds us that the true purpose of the analytical technique is to guide us in our discovery as we ask real people about their business.



The final concept in this paper returns us to the first concept. The analyst must discover all of these things and they must write it down. They can write it down in flowery prose, or they can use a structured technique to create places where they can “pigeon hole” specific facts. Either way, the inescapable responsibility of the analyst is to ask questions that lead to complete discovery, and to organize and record in a written medium what they have learned so it can be shared with others in their society.



About the author

David Ruble, a principal owner at Olympic Consulting Group (www.ocgworld.com), is a senior analyst, designer, author and educator. He is widely regarded as an expert in the field of business analysis, information modeling, GUI design and functional specification. He has been a principal analyst and designer of many mission-critical global corporate information systems – linking suppliers and customers worldwide. David also has significant experience designing applications in the transportation, health care and public safety sectors. His background in business, technology and art create a unique skill set that allows David to communicate with ease among business people, technologists and graphic designers.

As an educator, he has taught software engineering techniques to hundreds of students throughout the United States. He is the author of Practical Analysis & Design for Client/Server & GUI Systems, published by Prentice-Hall, 1997. His book has been used widely in colleges and universities throughout the United States and Thailand, Mexico and Argentina and is considered a timeless classic in the field of business analysis.

About Olympic Consulting Group

Olympic Consulting Group (OCG) is a full-service system architecture and development firm serving the Puget Sound region since 1997. The firm specializes in delivering high-performance consulting in the analysis, design, development and project management for complex business systems and government agencies. www.ocgworld.com