

Chapter 2 Before You Start Modelling

This chapter looks at the issues you need to consider before starting to model with ARIS. Of particular importance is the need to define your objectives and viewpoint.

2.1 Objectives for Modelling

Before starting any modelling project it is important to be clear about why you are modelling. It is surprising how many people start modelling without any idea of what the model is for, who will use it, what type of information is required and in what format the output will be needed. Remember, a process model is not a replica of the real world; it is merely a representation – a viewpoint. It is essential the viewpoint is tailored for its intended use and the people who will view it. Different viewpoints may be needed for different purposes. One of the key strengths of ARIS is its ability to produce different viewpoints based on common underlying data. Some views can be produced automatically (e.g. using Model Generation), while others are constructed manually.

The objectives of your modelling may change during the life of the project. This may be due to changing requirements, discovery of new opportunities or planned enhancement of the model. Do not assume that models created to meet one set of objectives will be suitable for other objectives. Sometimes models developed with one viewpoint may even conflict with models produced for other purposes. For instance, a high-level abstract model of the business may oversimplify interactions between business units and appear to conflict with what actually goes on. Ideally, we would like to create a set of hierarchical models which provide increasing levels of detail about our business, but sometimes we must be aware that a high-level abstract model will not ‘cleanly’ decompose into more detailed models because its viewpoint is very different.

It is strongly recommended you explicitly write down your objectives, agree them with your stakeholders and document them in the database (you can use the *Objectives Diagram*). Below is a list of some of the key questions you should ask yourself:

- Why are you modelling?
- What are you modelling?
- Who are you modelling?
- When are you modelling?

2.1.1 Why Are You Modelling?

What is the main purpose of the modelling work? Table 2.1 shows some possible reasons.

Table 2.1 Why Are You Modelling?

Reasons for Modelling	Aspects to Consider
Business Planning	Concentrate on business objectives, customer needs and metrics. Use <i>Value-added chain diagrams</i> , <i>Balanced Scorecard Models</i> . Look at the high-level business functional breakdown.
Business Restructuring	Concentrate on the organisations carrying out tasks and the hand-offs between them. Look at the value added by each task. Use <i>EPC (row display)</i> to provide organisational swim-lane view.
Baseline the Business	Usually impractical in all but the simplest and static businesses. It takes too much time and the world moves on in the meantime. Concentrate instead on key processes that need to change or where you already know there are problems. “Don’t model the Universe.”
Operational Process Design	Concentrate on getting the flow of the process correct. Use <i>EPCs</i> and <i>FADs</i> . Identify the key decisions being made. Look for failure paths as well as the normal process flow. Identify inputs and outputs for all tasks. Identify key documents and sources of information.
Systems Development	Requires very detailed logic flow to be modelled. Exception handling is very important. Detailed data models, data flow and systems interfaces should be modelled.

2.1.2 What Are You Modelling?

You may be modelling a process, an organisation, the data or the many other aspects of an organisation that ARIS can represent. Normally you will be modelling several of these. However you should decide the main viewpoint from which you will be modelling. Typical viewpoints are shown in Table 2.2.

In the middle of a process capture or design exercise it is very easy to become confused about the viewpoint you are using. The worst offence is to mix up viewpoints as this leads to confusing models that omit or gloss over key elements. Particular care has to be taken when a process ‘hands-off’ to another organisational unit. Do you follow the process into the other unit or ignore the detail of what happens and wait for that unit’s response?

Table 2.2 What Are You Modelling?

Modelling Viewpoint	Approach
Follow a business entity	Possibly the easiest approach to take. Select a key business item (e.g. a customer order) and follow it through the process. See what actions are performed on it, who handles it and where it ends up. This is also useful for testing other model viewpoints.
Model the business	Modelling what the whole business does is one of the hardest approaches. It can normally only be done at high levels of abstraction and it is often difficult to identify the triggers and outcomes.
Model a business function	The most common approach is to model a particular business function (e.g. order-handling, fault-reporting, etc). This will normally involve many different organisational units. Modelling organisational hand-offs will be essential. Can lead to very ‘company oriented’ models that don’t focus on the customer.
Model a business process	The most useful approach (but not often done) is to model the end-to-end processes a business performs. Particularly valuable when done from a customer perspective. Better than the business function approach as it helps ensure the whole process fits together to deliver a good customer experience. Helps identify failure modes.
Model an organisation	Another common approach is to model what an organisation does. This may not necessarily be the most useful approach. Organisations change over time and the range of tasks an organisation performs may have evolved historically.
Model an organisational unit	This model just focuses on what a single unit does. The model shows the interfaces with other units, but doesn’t worry about how they accomplish their tasks. Provides a very focused model, but can over-simplify what is going on. It may also encourage an out-of-sight, out-of-mind approach, which doesn’t spot gaps and failure points in the end-to-end process.

The choice of where you follow the process depends on the viewpoint you are taking. If you are modelling the end-to-end process, then you must follow the process wherever it goes. If you are just modelling the processes operated by a particular unit, then you do not. Keeping track of your modelling objectives and viewpoint is essential. It is worth pausing occasionally, standing back from your model and checking you are still on the right path.

2.1.3 Who Are You Modelling?

Related to the choice of viewpoint, you also need to think about what level of organisation you are considering, as shown in Table 2.3.

Table 2.3 Who Are You Modelling?

Modelling Viewpoint	Things to Consider
Business unit	Business units (e.g. Sales, Manufacture, etc.) provide a pragmatic modelling abstraction. They are well understood and have major significance to the business. They do not change frequently, but when they do they have a significant impact on business processes.
Line management team	To be avoided at all costs. Have very little business significance, change frequently and have little impact on processes when they do.
Operational centre	A very useful modelling abstraction. Normally have a very significant impact on process, change infrequently and fit within business units. Consider whether it is sufficient just to nominate the operational centre that does a task (e.g. Sales Office) or whether it is necessary to be more explicit about the roles within the centre (e.g. Sales Office Customer Service Advisor).
Management layer	Many business sectors have functional layers. For instance in Telecommunications we talk of Service Management, Network Management, etc. They can provide a useful level of abstraction, but can be problematic because often there is no clear definition of what they mean. Useful when modelling ‘to-be’ scenarios, but business units are better for ‘as-is’ models.
Roles	The lowest practical level of organisational unit. If used in process models you should make sure they are unique. The role ‘Customer Service Advisor’ or ‘Planner’ when attached to a task doesn’t convey very much as many operational centres will have such roles. You can model their parentage in an <i>Organizational chart</i> , but it is better to make the names unique and meaningful (e.g. Sales Office – Customer Service Advisor).

2.1.4 When Are You Modelling?

It is important to consider both the time-frame within which you are modelling and also the granularity of time that is important to you (Table 2.4).

Table 2.4 When Are You Modelling?

Timeframe	Things to Consider
‘as-is’	The process as it is now. But be careful to define what ‘now’ means. Does it mean what should be happening now, as documented now or as actually operated now? If you know the documented process is not being followed and a ‘work-around’ is being used, you need to decide which you are going to model. If changes are being made while you are capturing the process, will you include them or freeze the model at a certain point in time?
‘to-be’	How far in the future are you considering? Are you starting from scratch with a new business model or re-engineering what you already have? How radical can you be? What constraints have you got?
Time-scale	Complex processes can sometimes complete within seconds, while simple processes can often last for weeks. What time-frame is important to your model?
Delays	Are potential delays in the process important to you? Populating Function attributes with process times may not make delays explicit to people viewing the model. Consider explicitly modelling delays as additional steps in the process if you want to draw attention to them.
Simulation	Simulation can be used to analyse process delays and optimise performance. A very powerful tool, but requires good quality models and good quality data. Models must conform to certain rules. Consider seeking advice from specialist simulation experts.

Again it is important not to get confused about the time-frame. If you have decided to model the process as it is currently documented, don’t get tempted into altering things you know are wrong. If you want to capture errors and issues, create a separate model. If you are modelling a future ‘to-be’ process, then think about how much freedom you really have. There is not much point modelling a radical new world at the high-level and then trying to decompose it into detailed processes constrained by old ways of working. Think about the ground rules before you start.

2.2 Modelling Requirements

We will have already captured some requirements by considering our modelling objectives and thinking through the viewpoints we wish to take. However, we need to think further about how our models are to be used. For instance:

- Who are our customers for the models?
- What are they expecting the models to tell them?
- Do they want to see the models or just the results?
- How are they going to view the models?
- How much time will they spend viewing the models?
- How widely will models be promulgated?
- Will different groups of people require different views?
- Will they use ARIS themselves?
- Will they want printed reports?
- Is this a one-off exercise or will the models be maintained?
- How will models be validated?
- Will the models be used for system, workflow or software design?
- Will the models be used for analysis or BPR?
- Is simulation required?

These are important questions and you may find it more difficult than you expect to find the answers; it is quite common for people to ask for models to be built without any clear idea of what they are going to do with them. You may go through the objectives-setting exercise described above and quite clearly define what models are required, but still be no wiser about what the customers plan to do with them. This is often because people are tempted to believe that, simply by having a process (or business) model, this will solve all their problems and the business will automatically operate as described in the model.

Of course it is not fair to blame the customer; the onus is on process modellers to work with customers to ‘tease’ out exactly what the models are for and to suggest innovative ways in which the models can be used. However, don’t take at face value what the customer initially asks for. A good example is the use of ARIS Reports to generate printed documents. Business teams often start by stating a key requirement is that ARIS should automatically generate printed documents in the same format as they currently use. When asked why, typically they reply:

- Senior managers only want documents,
- Operational people wouldn’t understand the ARIS models,
- ARIS models are too big,
- People needed to read the documents when out of the office.

Of course, in reality senior managers never read the documents and operational people are much happier with the flowchart approach of *EPCs*. It seems strange people should object to printed *EPCs* that run to several pages, but seem quite happy with documents of 100 pages or more! While there is some argument for having information in document form when ‘off-line’, in practice there is rarely a need to create reports that exactly replicate existing documents.

The most successful teams are usually those that are innovative in their use of ARIS and change the way they work. Typically, they publish their models on the Intranet and use Microsoft NetMeeting (or similar approaches) to validate ARIS models in their electronic form through virtual workshops. Of course you cannot achieve this overnight. Most teams have to gradually move to these new ways of working and you need to consider the business culture in which you are operating. You will need to demonstrate what can be done with ARIS and give people time to realise how it may benefit them.

Some requirements can have significant impact on how you go about modelling. For instance, using ARIS Simulation places certain constraints on the structure and format of your models, and requires particular data (e.g. task processing times) to be captured. It is important to be clear about these requirements at the start, as having to go back to capture and model missing data can be costly and time-consuming. You also need to be clear about what sort of analysis you may wish to perform. For instance, if you wish to be able to ask questions such as “Tell me all the *Functions* executed by this *Organizational unit*?”, then you must model the *Organizational unit* that executes every *Function*. There is no value in populating part of the model with *Organizational units* and not the rest, because the analysis would be inaccurate. This is particularly important when you have several people working on process design or capture. If they don’t all follow the same rules, your model will be inconsistent.

Increasingly people want to publish the results on the corporate Intranet. It is very likely the vast majority of the people who view your models will not use or see ARIS at all. This significantly affects the way you need to model. Web users have expectations that they can navigate between models using ‘hyper-links’ so it is essential to create a fully linked model structure using model assignments. You also need to be aware that viewing models on the Intranet may be slower than using ARIS itself. Large models (and hence large web pages) are not handled well by most browsers and slow access links. Conversely, if you have many small models (e.g. lots of *FADs*), people will have to spend a considerable amount of time navigating up and down the hierarchy. Getting the correct compromise between model size and navigation complexity is no easy task, and modellers need to be constantly aware of how their models may appear on the Web.

2.3 Key Principles

All the while you are developing your models, either at the conceptual level or during detailed design, keep in mind some key principles:

- Stick to the ARIS Method (well mostly),
- Don't model the universe,
- Know when you have done enough,
- Keep it simple – clever models often confuse,
- Define standards and stick to them,
- Don't re-invent the wheel; re-use wherever you can,
- If it looks sensible it *probably* is sensible – if it looks silly it *definitely* is silly.

The 'keep it simple' rule is of particular importance. The more you learn about ARIS, the more intellectually stimulating it becomes to find really clever ways to model various aspects of the business. Sometimes this may produce 'clean and elegant' models that provide real clarity and insight. More frequently, however, it creates highly complex models that no one can understand. Always ask yourself: "If I had to hand over all my modelling work to another ARIS user, would that person be able to easily carry on using the same approach?" If you can't answer "yes" to this question, then you need to review the way you are working. The closer you stick to the ARIS Method and agreed standards, the easier it will be to achieve this.

References

Davis R, Brabänder E (2007) ARIS Design Platform: Getting Started with BPM, Springer-Verlag, London.

ARIS Design Platform

Advanced Process Modelling and Administration

Davis, R.

2008, XVIII, 408 p. 219 illus., Softcover

ISBN: 978-1-84800-110-7