

# Opening the Box: The Importance of a Process Hierarchy

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# Introduction



It can be extremely valuable to model an organization's processes.

By creating models, we are able to assess potential areas of improvement and create a shared understanding of how work should be undertaken and how teams should collaborate.

Having an up-to-date view enables the processes to be managed and means that we can more easily assess the impact of potential changes - enabling us to optimize performance and also respond to environmental changes more quickly.

In order to be most valuable, process models need to be meaningful and useful to a whole range of stakeholders - from end-users and operators through to senior managers and executives.

Each of these stakeholders will have different needs, and will be referring to the process models for different purposes. A senior executive may seek to understand the breadth of processes, with a view to understanding end-to-end performance.

A training manager may be looking to standardize the training of detailed procedures. End-users and operators may need a detailed - but user friendly - reference guide with granular and finite detail about each step provided.

Fulfilling these different - but complementary - perspectives can be challenging. One approach is to utilize a modeling notation (such as BPMN) that allows us to create multiple 'views' of a process.

Indeed, there is a wide range of different tools out there, some that allow us to create a single model with multiple views, ensuring that we have a single 'source of the truth'.

This is hugely beneficial when compared with maintaining multiple disparate and separate process artifacts - but it raises a related question. How much detail is too much detail? Or, put differently, at what levels of abstraction should we stop and start modeling?

# Opening the Box: Understand the Stakeholder Landscape

Modeling and managing processes can undoubtedly yield significant benefits.

It helps with the communication of process information, enables standardization, and allows bottlenecks and other problems to be visualized. It can help us to seek further process improvements or even automation, and as we do so we develop a rich repository of information about the current and future state.

Capturing and codifying how work is undertaken enables us to manage knowledge about that work. This enable us to create a central reference point for us and our stakeholders to refer to, and additionally provides a knowledge-base of the current state that we can refer to when things need to be changed or adapted.

The very existence of a plethora of existing process and procedure documentation, dashboards, task descriptions (and so forth) illustrates an important dimension. As mentioned in the introduction, different stakeholders have different needs - and most likely are used to maintaining their own style of process artefact.

If we stroll in and start working on process modeling without understanding what their requirements are, we are likely to (quite understandably) meet skepticism or even resistance. We may create artefacts and views of a process that meet only some (or in a worse case none) of the core stakeholders' needs. This is illustrated in the following diagram:

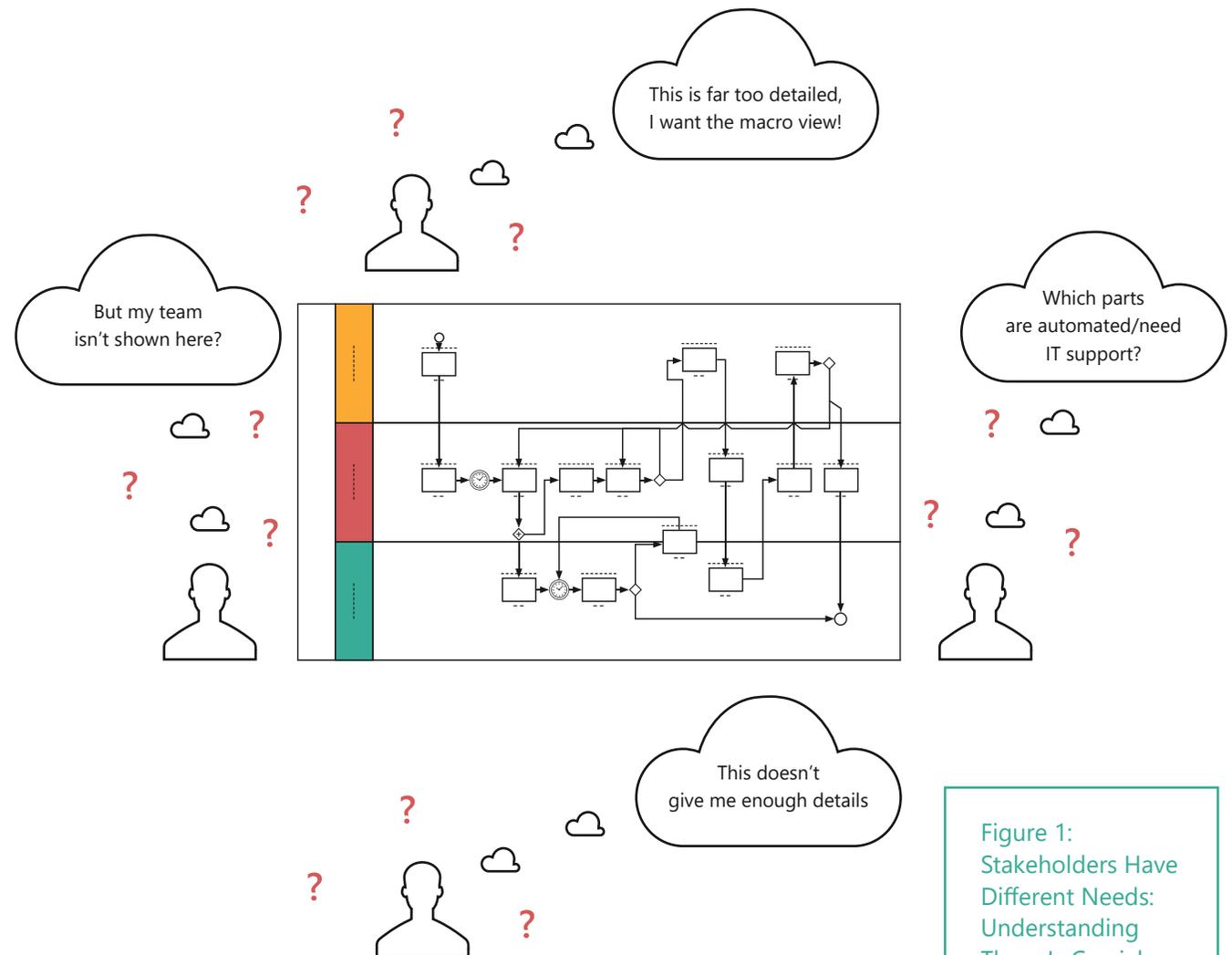


Figure 1: Stakeholders Have Different Needs: Understanding Them Is Crucial



Prior to setting out on our modeling initiative, it is therefore crucial that we start with a clear understanding of the different types of stakeholders who will be referring to the process model. It is worth spending time with them and understanding what artefacts they currently refer to, what they like about them and what could be improved.

What are their core requirements and what would they find useful? What would delight them and really build buy in? All of these factors are crucial - if we are able to create centralized 'views' of the process that they find useful, then we can avoid situations where teams generate their own localized (and sometimes siloed) process artefacts 'below the radar' of any centralized process management initiative.

There are many stakeholder identification and management techniques out there, but an initial starting point can be to simply compile a list of groups who refer to (or would benefit from referring to) process information, and the purposes for which they use it. A theoretical example, showing three types of stakeholders for a contact center project, is shown in the following table:



Stakeholder	High-Level Needs	Current Process Artefacts	In Scope of Process Modeling?
Contact Center Agent	<ul style="list-style-type: none"> <li>Detailed step-by-step task guides</li> <li>Links to 'call scripts'</li> <li>Exception-handling information and escalation points</li> </ul>	<p>Informal process and procedural documentation maintained locally by teams.</p> <p>Stored on network drive.</p>	Yes
Team Manager	<ul style="list-style-type: none"> <li>List of processes which involve or are dependent on the team</li> <li>Understand 'pinch points' and problems</li> <li>Exception-handling information and escalation points</li> <li>Performance data</li> </ul>	<p>Virtually none in existence.</p> <p>Current performance data is based largely on call stats, other dimensions (e.g. quality) rarely examined.</p>	<p>Partial</p> <p>A separate project is implementing a new 'Management Information' system. We should, however, define the KPIs.</p>
Senior Manager	<ul style="list-style-type: none"> <li>Top-level view of process architecture</li> <li>Top-level view of problem areas</li> <li>High level 'dashboards'</li> </ul>	<p>Reports created by the Management Information Team.</p>	<p>Partial</p> <p>(As above)</p>
Compliance Manager	<ul style="list-style-type: none"> <li>Ensure that compliance with regulation can be evidenced</li> </ul>	<p>Audit of varying documents.</p>	Yes

Figure 2: Partial stakeholder list for a contact center project

Whilst a matrix like this is beautifully simple, it is by no means simplistic. It encourages us to consider process modeling from varying perspectives, and reminds us to ask the question "what will this process model actually be used for?".

This helps us avoid situations where we create fancy models that provide rich detail, only to find that three months later they are festering on a shelf collecting dust! Of course, alongside the stakeholder landscape, we should also carefully consider why we are modeling in the first place.

What is it that we are looking to achieve? And how will we know when we've got there? Keeping this front-and-center can help ensure that we elaborate processes to an appropriate level of detail

# How Many Levels Is 'Enough'?

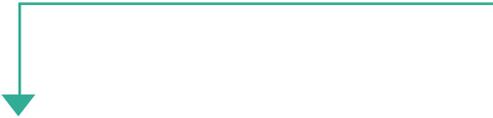


As alluded to earlier in this e-book, there are a whole range of useful process modeling and management tools and notations that will allow us to conceive many different views on a process, with varying levels of granularity.

We could, theoretically, map a process down to the individual keystrokes on a keyboard, or (in a different context) individual strikes of a hammer or turns of a wrench. In some cases this may be necessary, but in most it will be overkill.

So how do we create models that are flexible enough to be valuable for end-users and operators (who need detail) as well as senior managers (who only need to see breadth)?

It is, at this juncture, valuable to consider the concept of a process hierarchy. It is worth asking ourselves the question:



“What different levels of abstraction will be necessary for our analysis, and which levels will our stakeholders find useful to refer to on an ongoing basis?”

Amongst process professionals, it would be possible to get into some very impassioned debate about what constitutes the 'right' amount of process modeling, and the 'right' number of levels of abstraction that should be considered.

Perhaps rather controversially, I personally take the view that there is no inherently right or wrong number of hierarchical levels, nor is there a specific level of granularity that must always be captured.

Experience tells us that so much of what is useful depends on context; if we were creating procedure guides for a nuclear power plant then I suspect there would be more formality, granularity and rigor than defining the process for taking a hotel booking by phone.

The key is to model enough - but in deciding 'how much is enough' it can be useful to have a starting reference point to work from.

Just one possible starting point is explored in the BCS syllabus for "Modeling Business Processes", (BCS, 2015) which suggests/implies the following levels of abstraction:

### Organization

Including the strategic context, and the relationships between processes (perhaps expressed as a value chain).

### Process

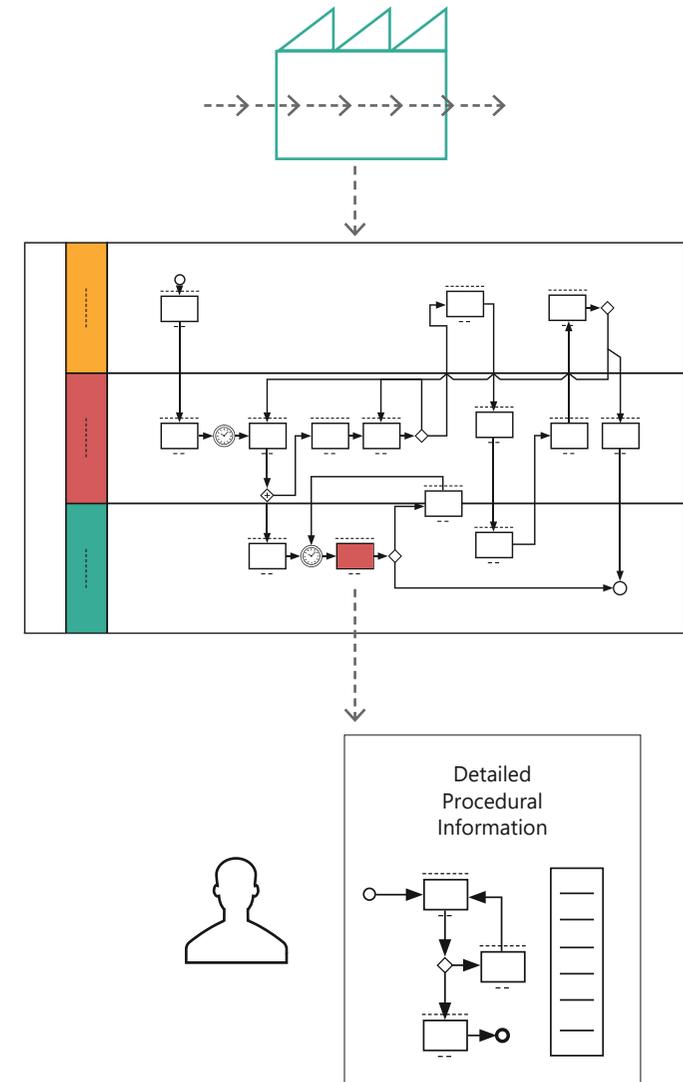
Typically articulated as 'swim-lane' diagrams, showing the 'flow' of the work and the interactions between actors.

### Task

Typically a unit of work undertaken by "One person, one place, [at] one time" (BCS, 2015). A detailed definition of a procedure.

This is illustrated hierarchically in the diagram that follows.

Figure 3: A hierarchy based on the BCS Syllabus



This is certainly not presented here as a 'one size fits all approach', but it provides a conversation starter. The specific context may necessitate more or fewer levels, but these three levels are likely to be relevant in a whole range of circumstances.

Considering these three levels encourages us to ask the question "do we need more levels?" and "which stakeholder will find which level most useful?" We can refer back to the stakeholder list we created earlier, and ensure that the needs of our core/relevant stakeholders will be met. We can strive for 'just enough' whilst avoiding 'analysis paralysis'.



However many levels are chosen, it is important to give each level a consistent name which it can be referred to internally. Whether words are used ('organization', 'process', 'task') or some other type of differentiation (level 0, 1, 2,3, 4 etc.) it is crucial that there is a shared understanding of what will be discussed, modeled and shown at each level.



It is useful to articulate what will and what won't be shown at each level. These types of discussion help us cultivate a shared language about processes. If our stakeholders know there are (say) five levels within the hierarchy, this will help avoid clashes in expectation where we are modeling high-level but we quickly find ourselves discussing very granular detail. It becomes easier to set expectations, perhaps saying something like:

"That is very useful detail, and it sounds very much like a level 3 or 4 conversation - just as a reminder, we're at level 1 right now. Can we park this and come back to it?"

Another implied but important factor to consider is that not all processes need to be immediately analyzed and elaborated to the same level of granularity. When embarking on an initiative to model and improve processes, we might start with a high level view, and center in on those that require specific attention.

There will likely be some processes that, by their nature, require detailed examination immediately. Others might be 'parked' for later analysis if time and resources allow. A sensible approach is to bite off manageable chunks, and a hierarchical approach enables us to prioritize and focus our efforts.

# The Importance of Traceability

I suspect many - if not most - people reading this article will be using some form of computer based process modeling tool.

Whilst, of course, when eliciting information about processes, we may well utilize informal methods and diagrams (starting, perhaps with sticky notes on a wall, or pen strokes on a whiteboard), formality becomes more important when we start to discuss hierarchical levels.

Whatever tool we use it is important that we consider how the varying levels of the hierarchy will be viewed and used. Or, put differently, how we will ensure that each stakeholder has access to the information that is most valuable to them, and how we will ensure that this information is kept up to date.

It is useful to draw a distinction here between a package that creates flat diagrams and one that creates a model. I suspect many of us are familiar with - and use - vector-based drawing packages.

These typically have stencils and allow a plethora of diagrams to be created. These packages are very useful, yet the diagrams they create are, in essence, 'flat' snapshots. They are not normally linked to other artefacts: for example, if you change the name of a process on one diagram, this won't automatically be updated in other places that it appears.

Traceability becomes very difficult with anything more than a handful of process artefacts, particularly when local users create local copies and things very quickly get out of synchronization. For larger scale initiatives it is well worth considering whether other tools might be used instead of or as well as a vector based tool.

A suitable modeling package by contrast will automatically maintain linkages - it will allow different 'views' of what is ultimately a single underlying coherent model. There are many tools, such as Orbus Software's iServer, that enable a model to be maintained and managed in a single repository, so that relevant stakeholders are all looking at a consistent and single version.

Using such tools often involves a steep learning-curve, and convincing stakeholders to abandon or reduce their use of local documentation in favor of a centralized model can be challenging, but it is beneficial in the longer term. With an appropriate tool, traceability is automatically managed, and version control can also be managed.

Again, the choice of tool will depend on many contextual factors, and it is worth considering these factors up front. It would be frustrating for an initiative to stall simply because thought had not been put into how the processes will be represented and stored.

# Co-creation: “Built Here” not “Imposed from Outside”



When it comes to process analysis and management, including the development of different levels of abstraction, the importance of engagement and co-creation cannot be underestimated. Initiatives may face difficulties when they appear to be ‘imposed from the outside’.

We may approach a situation with an initial view that, say, three levels will be appropriate - but we should be prepared to be flexible and adapt to the context. We should engage and work with stakeholders to ensure that the views of the relevant process model actually meet their ongoing needs. This engagement will help ensure that, whatever tool we are using, we create a useful and usable resource.

Of course, over time things will change. Identification of process owners is important, so there is a clear understanding of who needs to be consulted and who can ultimately authorize changes. It is valuable to consider this along with defining how (and when) the process model will be revisited and updated.

Undoubtedly, keen front-line workers will generate ideas for improvement, which should of course be encouraged. Ensuring there are mechanisms for these ideas to be considered, trialed and adopted is crucial.

Ensuring that these (seemingly small) incremental improvements make their way into the central representation of the process model is vital. Doing so ensures that the model stays up-to-date, is useful and usable.

# Conclusion

When it comes to process modeling, the question “how much detail is enough” is a tricky one to answer.

↳ The idea of levels can be useful in setting expectations, and can allow us to ensure that we achieve a consistent view of the process landscape.

It's crucial that we engage with stakeholders to understand what they will be using the relevant process artefacts for, and create levels that are valuable and meaningful for them. Consistent engagement and co-creation will help us create models that stand the test of time, and become a core reference point with a wide range of uses.

# References & Further Reading

Readers interested in the topics discussed in this e-book may find the following resources useful:

BCS (2015). BCS Certificate in Modeling Business Processes Extended Syllabus. [online] BCS. Available at: <https://www2.bcs.org/certifications/ba/modeling-business-processes> [Accessed 18 Apr. 2017].

Cadle, J., Paul, D. and Yeates, D. J. (eds) (2014). Business Analysis. Swindon: BCS Learning & Development Limited.

IIBA, (2015). Guide to the business analysis body of knowledge. Toronto : Ontario: International Institute of Business Analysis.

Reed, A "Adrian Reed's Blog" [Online] <http://www.adrianreed.co.uk>

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