Better business diagrams

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Diagrams are effective at showing relationships. Indeed, the philosopher CS Peirce refers to diagrams as "an icon of relation". Diagrams are also commonly used in business, as part of technical documentation, in communications, and in collaborating. They can be found in Systems Documentation, Corporate Memos, in mind-maps, on sketchpads and on whiteboards. They can be created digitally (e.g. in Visio), in ink, or perhaps even in physical gestures! Diagrams are everywhere, and they are useful. This white-paper brings together recent research to help you make better diagrams in your work!

Making better diagrams

Make diagrams fairly self-contained

Some people will skip to the diagram. Often, diagrams are used as part of a document, like a Solution Architecture Diagram often found in architectural documentation. Some people prefer the diagrams, and will skip to them before reading the text. There are two main functions involved in this initial diagram-viewing, the first is about relevance screening (whether the document itself is worth reading) and the second is as a summary of the text. As such, diagrams should be understandable on their own, even when they need to refer to other resources or text outside the diagram.

Consider including an example

Some people will use the diagram to instantiate an exampleIt depends on the context, but for e.g. a system diagram, it may be that readers will use the diagram to instantiate an example. If you are working in FMCG supply chain, a diagram might contain a wheat farm, a processing facility, a packaging factory, a distribution warehouse, etc. Whilst the entire system might not be about wheat, some people prefer to think of how a particular product is moving through the system, and use that example (found in the diagram) to understand the more abstract general process.

Consider navigation through your diagram

Consider a complicated security architecture diagram. The diagram provides a summary, but some technical parts (like how a DMZ is configured, or how a zero-trust policy is administered) will need fleshing out in text or tables. The diagram can provide an anchor, summarising the *relation* of the different components, which are elaborated elsewhere, sometimes even in their own diagrams. You can help make navigation even easier for people by including links to sections or other resources in the "overview" diagram.

Skip the junk

The idea of "chartjunk" has been around for years, coined by data visualisation guru Tufte. Whilst diagrams might not be "data" in the most common sense, they are representing data, and certainly the advice to avoid including things you don't need from a diagram is a good idea! (Even from a lean perspective, this is just sensible!)

Be clear about assumed knowledge

Being clear about assumed knowledge doesn't mean dumbing down. In business, we often need to communicate technical things and have a wide base of assumed knowledge. For a technical audience, be specific and assume knowledge of technical terms or symbols. Of course, if you are doing new joiner documentation, then you would have different assumptions! Be sure to check assumed knowledge with a few target "diagram users".

Be aware of cultural bias and accessibility

Diagram reading direction *seems to be* related to text reading direction, so if your diagram is designed for

Arabic or Chinese readers, a left-right flow may not be most intuitive for them. Consider also use of colours - this is very important for accessibility but also be aware different colours have different connotations in different cultures (e.g. red in Chinese is lucky, whilst in the west this might be understood as dangerous).

Be aware of emphasis

Using eye-catching techniques, such as being physically larger, using more ink, bigger text, alignment towards it (e.g. using gestalt principles) can all make a part of the diagram seem more important. If you have an important aspect to communicate, ensure this has visual primacy by use of colour, position, uniqueness or size (or a combination of these!).

Be aware of signalling

This is perhaps easiest explained through an example. Imagine an organisation chart with boxes and lines, and roles in it, with the manager at the top. An "equivalent" diagram could use circles or images of faces or names or a different arrangement of boxes (e.g. manager at the bottom, the middle or even without differentiation). All these present similar information but with a different value-set signalled.

Get a potential reader to check it

Show the diagram to your target audience! Ideally, present it in the context you expect it to be used in (if printed, print it out; if in a document, put it in the document). I suggest approaching this like a User Experience exercise, perhaps doing "think-aloud" to see how they are navigating. It is better to see how they understand it on their own than to try to talk them through it, so you can make changes to the diagram to help readers more easily make the steps required to understand the diagram correctly.

Leverage existing conventions where possible

Familiar icons can reduce the effort it takes to understand a concept. It is also helpful to make your own diagramming assets easily reusable within your organisation (e.g. on intranet) or more widely (e.g. under CC licence) where possible.

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The advice or comments contained within this white-paper are informed by specific research and years of experience, but empirical studies have not been conducted in the more general setting required for scholarly robustness. For industrial practitioners, this may provide advice, good practices, and food for thought.

References

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