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Design Thinking for IT Architecture Design

Do you want to define the to-be design of an existing IT architecture on customer side based on given trends and/or IT relevant projects? At the same time, you wonder how Design Thinking can make a difference in this particular context? Then the next pages are for you.

Why Design Thinking in this context?

Of course Design Thinking normally accompanies a whole project from scoping till implementation and operations. However, in case a full Design Thinking process is not feasible on customer side it often makes sense to execute "Design Thinking inspired Workshops" that leverage principles and techniques of Design Thinking.

In the context of IT architecture design you might encounter some of the following needs (not a complete list) and Design Thinking can help you to tackle these situations:

- You need to quickly gather knowledge about the as-is situation of the IT landscape.
- You need to establish collaboration across different lines of businesses and stakeholders for the IT architecture design.
- You need to get the buy-in from different stakeholders.
- You want to build momentum with the customer to raise the acceptance of the IT landscape design.
- You need to develop the to-be design of the IT landscape.

Does Design Thinking replace ASAP?

No, not at all. All the templates and techniques shipped in ASAP are essential for good process design. Design Thinking is a technique that ASAP leverages for user-centric results in multiple contexts. Therefore Design Thinking nicely complements ASAP.



This is for you, if...

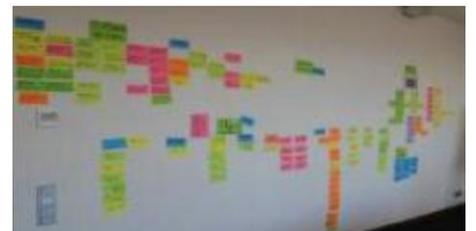
...you are in a customer situation where you are requested to design the IT architecture based on given requirements and/or trends and you want to understand how Design Thinking can be of value add for you and your client. You already have knowledge about the Design Thinking approach, principles and techniques as well as IT architecture design.

What you can expect from these pages

This article summarizes success factors and techniques for a Design Thinking inspired workshop in the context of IT architecture design.

This is not for you, if...

...you want to learn about IT architecture modeling in general, seek a modeling convention or an introduction to Design Thinking.



Success Factors

Before you start

Before you start working on the IT architecture design, be aware of the customer's design principles and expectations. It is very important to understand whether the customer wants to implement a highly standardized solution. In this case it is likely that other surrounding solutions need to adapt to it. It could be the other way around and surrounding or legacy systems should not be touched and the new solution needs to be squeezed in like modeling clay. You can also use principles and techniques of Design Thinking to actually derive these design patterns (the techniques shown later will refer to this).

The following success factors will help you to understand needed actions and preparation that are necessary before going into a workshop. These involve

- Design Challenge
- DT Facilitator
- Team Set-up
- Agenda
- Research
- Logistics
- Time-Boxing
- Expectation Management

Design Challenge:

Defining the right Design Challenge is crucial as it scopes the workshop and enables the customer to assign the right resources to it. The Design Challenge should reveal the actual demand. That means, a challenge called "Redesign the IT landscape" is not sufficient as it does not include the actual demand. A quick "why" might reveal demand such as "Redesign the IT landscape to reduce complexity by replacing legacy systems with SAP Solutions".

DT Facilitator

Design Thinking in general and also leveraging principles and techniques during a workshop might feel odd to participants that are not used to it. Make sure to have an experienced Design Thinking coach as a facilitator (if it is not you). Transporting confidence and trust in the approach to the participants will make sure the team feels secure to head into the right direction.

Team Set-up

Design Thinking always seeks for a diverse team set-up to ensure business viability, desirability of the solution for the people and technical feasibility. Involve different roles like IT-architects, integration experts, software developers, business/functional analysts etc. in one team. This ensures different perspectives on the challenge and will lead to better solutions and concepts. A good team size is five to eight participants.

Research

Understanding the context of the challenge is a central part of DT. This might require access to different areas of the customer premises. If research cannot be done onsite, ensure a participatory research set-up.

Agenda

The agenda consists of the different phases of Design Thinking. Within each phase there are different techniques that you can use to create the needed output. In a "Design Thinking inspired Workshop" it is often the case that not all phases are pursued.

Logistics

Make sure you have one room for the whole workshop, even if it is planned to run multiple days. DT techniques require a lot of wall space (look at the picture above, it is a subset of a result after four hours of work). It is very difficult to

transfer all the data on the Post-Its to another location. DT workshops require a special set of material. A projector and a big screen is not enough (often not even needed). Make sure you are picky about the material (to share a moderators learning: "always bring your own stuff").

Time-Boxing

Design Thinking is sometimes called a "messy process". And it is true, if you don't time-box each and every exercise, the discussions might get lost in space. Bring a big timer that everyone can see and time-box simply every item on the agenda.

Expectation Management

People who are not used to the roller-coaster of emotions that come along with a Design Thinking set-up might quickly lose confidence and motivation during the workshop. Prepare your participants that this might feel different as it does stretch the comfort zone and that it is an intense and energy-sucking setting. A lot of participants always search for the $a+b=c$ formula which is basically not there in a DT set-up.

Checklist

Think through this checklist to ensure your Design Thinking workshop will kick-off without hurdles:

- ✓ Is a DT coach/facilitator available for the workshop?
- ✓ Is the Design Challenge defined, demand oriented and aligned with the customer?
- ✓ Is a diverse team set-up in place to ensure multiple perspectives on the challenge?
- ✓ Are the agenda and relevant Design Thinking techniques defined?
- ✓ Does the room provide the right environment and is it available throughout the workshop?
- ✓ Is the material available?
- ✓ Are the participants aware of the emotions that come along with a Design Thinking set-up?

Guidelines & Inspiration

The following sections show input, output, team set-up and techniques and agenda requirements. Please refer to them as inspirations and proposals as IT Architecture Design is quite a complex and multifaceted topic.

Results and Outcome

The expected results and outcome of this workshop are:

- A common agreement of the group regarding the objectives and results of the IT architecture design
- Identified trends, changes and requirements that lead to a change in the IT architecture
- Guiding principles for the design
- IT-architecture design including
 - relevant entities on Application, System, Data, Technology Layer,
 - main integration points
- Action items and next steps

As post-production activity the outcome needs to be transferred to the common ASAP templates (e.g. TAM – technical architecture model). A modeling tool like PowerDesigner or ARIS is also useful to have a repository based modeling environment.

Team Set-up

A diverse team set-up in this workshop can consist of the following participants:

From customer side:

- Application-Owner
- Software Developer
- IT-Architect
- Integration Expert
- Process owner (e.g. from incident/change management)

From SAP side:

- Solution Consultant
- Enterprise Architect
- IT Architect

Input

The following things are valuable input for your workshop. Decide if you need participants to come with that knowledge or if you want to walk through the assets during the workshop.

- Customer expectation and objectives regarding the design
- As-Is description of the IT-architecture
- Reference architecture as to-be proposal.
- Success factors (maybe there is some numbers like “total number of systems/applications/servers/volumes” etc. that need to be measured).

Techniques

To ensure valid outcomes it is reasonable to apply the following pattern to your workshop:

Scope – Context – Ideas – Prototypes.

Scoping is needed to agree on the workshop results and to share perspectives before going into solution mode. Building a context for the challenge is necessary to lift the knowledge base of the participants and to build a basis for creativity. Ideation can start as soon as enough context has been created. Then low-fidelity prototyping will ensure early validation of your solution.

The following techniques can be used to support architecture design activities (the assignment regarding the above pattern is mentioned in brackets):

- In general it is good to have a decent knowledge about enterprise architecture framework. This helps to structure the workshop according to the different layers that come along with IT architecture design (e.g. Process, Application, System, Technology layers).
- Call for Change (Scope)
Collectively layout the different drivers

and trends from executive board, line of business, market, customers and current projects. This gives good context and reasons why the architecture needs to change.

- Braindump (Scope, Context).
You can use this technique to scope the design activities or also to reveal content regarding as-is architecture design (e.g. existing systems and their interfaces. Interfaces from outside the architecture domain etc.).
- Remember the future Part I (Scoping and/or Ideation).
Use this technique to create momentum and a common agreement within the group regarding the objectives of the redesign. This also reveals design principles and key areas of change for the to-be architecture.
- Research and interview techniques (if not done beforehand to capture As-Is state) (Context)
- Journey Map (Context).
This map reveals the historic changes of the IT architecture and related internal and external drivers. You can use this technique to capture the as-is but then during ideation also during ideation to lay out the opportunities for change in the future.
- Personas (Context).
Use this technique to get a common understanding regarding needs, motivation and expectation of involved stakeholders (which could be end-users but also IT landscape owners or developers etc.).
- Brainstorming, REICC (Reduce, eliminate, increase, create, combine → see Book “Blue Ocean Strategy” etc. for ideation.
Use for example the results of “Journey Map” and multiply given enhancements into it. E.g. current IT trends like Cloud, In-Memory (HANA) etc.
- Low-fidelity Prototyping

Agenda and Duration

The techniques shown above are already in a feasible order to support your agenda definition. Workshops like this can be run within one day however depending on the complexity of the architecture this might take longer. Often it is not possible to run a workshop in three consecutive days as there might pop up many open questions that need some answers

before the team can go on with the process design.

Design
Thinking
for IT
Architecture
Design

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