Discovery Techniques

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5 Whys

What is it

- This analytical technique is intended to get to the root cause of a problem by asking ‘why’ or ‘what caused this several times.
- Each question seeks a deeper understanding until the asker discovers the root issue.

Who

- Bring together people who have knowledge about the area in question.

Running the technique

- Describe the problem as well as you can – use a whiteboard to write up a description that everyone agrees with.
- Ask why the problem occurs. Draw a line from problem to the suggested cause A.
- Ask why cause A occurs. Draw a line from cause A to new cause B.
- Continue until it feels impossible to discover a further root. In practice you may ask ‘why’ fewer than 5 times. It is also possible that a problem might have more than one root cause.
- Ensure everyone agrees that resolving the root cause would stop the problem at the top from occurring.

Value Proposition Canvas

What is it

- A value proposition framework is a structured approach to defining and communicating the unique value that a product or service offers to its target users.
- The framework is designed to offer a complete, holistic view of each of the key components that enable a valuable outcome to be achieved.

Who

- The framework is long lived, employed during both the Discovery and Validation phase across a multi disciplinary team to capture and refine each of the framework components

Running the technique

- The product lead populates the initial version of the value proposition canvas during Discovery.
- Start with the Vision Statement, Needs and Pain Points(one per primary target user group), and key Assumptions
- As Discovery progresses, the next sections to address are the Opportunity, Value Proposition Statement and Strategic Objective Fit
- As Discovery ends there should be sufficient understanding to complete the Approach, Metrics and Costs section
- Each of these components should be further refined during the Validation phase and provide the key input into a formal business case

Authoritative source

- (URL housing the Value Proposition Framework template)

Empathy Mapping

What is it

- A collaborative technique used by user research to build a broader understanding of user needs, desires, and challenges.
- Empathy maps are particularly useful during the discovery phase of product or service design and are a key component of human-centred design.

Who

- Empathy mapping is primarily employed by user research and service design capability, with support from other key stakeholders and team members

Running the technique

- Agree the user group you are mapping and the goal for the exercise - cross reference the value proposition framework
- Gather insights from direct user interviews, observations, surveys, or any other form of user feedback
- Collaborate with a broad spectrum of colleagues who have knowledge of the service and user group
- Fill in the map template, starting with the What You See section. Initially use physical or virtual sticky notes to capture insights for each quadrant. As insights are added, identify emerging patterns and summarise accordingly
- Reflect and analyse. Discuss key findings with the team and cross reference against the needs and pain points component of the value proposition framework

Authoritative source

- https://www.mindtools.com/abtn3bi/empathy-mapping

User Journey Mapping

What is it

- A customer journey map is a visual representation of the activity a user undertakes to achieve a goal with a product or service. It captures the various touchpoints, experiences, emotions, and paths and helps identify the pain points and associated opportunities to enhance the current service. The key components should include: User profile, main activities, channels and touchpoints with the organisation, emotional sentiment per activity (pain, delight), pain points.

Who

- The service designer or user researcher typically leads this activity by bringing together all people in the organisation that support any of the interaction points mapped on the journey

Running the technique

- Define and understand the purpose of the map, e.g. is it to improve a specific touchpoint, to reimagine a service, or to enhance the overall experience?
- Gather data through methods like surveys, interviews, analytics, and user feedback to gain insights into the customer's experiences and pain points. It is recommended to run at least one workshop with key team members and service actors to accelerate initial creation
- Outline the stages, touchpoints, emotions, etc., based on the data and feedback provided
- Validate and refine the map based on initial feedback and alignment with the vision and value proposition statements
- Work collaboratively with the product manager or delivery manager reassess the problem statements and value opportunity

OKR Mapping

What is it

- Identifies and aligns objectives or goals defined at a service/product level with those objectives and key results defined at a portfolio or directorate level.
- This ensures transparency across the team that the value outcomes are fully supportive in contributing to the strategic objectives of the directorate owning the service or product.

Who

- OKR mapping is typically lead by the product manager or service owner. Validation of the mapping is attained through collaborative discussions with the owners of the directorate level OKRs

Running the technique

- Obtain the current version of the directorate level OKRs, if they exist. If not, then substitute with Westminster level objectives.
- Run an OKR session with the team and business sponsor/service owner to draft 2 to 3 objectives, and 3 to 5 key results per objective.
- Key results should have a timeline of no more than one year
- Identify which service level objectives and key results directly contribute to attaining a directorate level key result or objective
- Capture this mapping in the value proposition framework
- Refine the initial mapping exercise through collaborative reviews with the owners of the directorate level OKRs

Problem Definition

What is it

- Defines a perceived unmet user need in a clear, concise description through the use of a problem statement template. The problem statement applies a number of lenses to the problem area, assisting the author to surface aspects that require further analysis and research. This technique assists in not diagnosing the more easily observed symptoms as the defined problem.

Who

- Problem definition is a joint activity lead by the product manager, user researcher and service designer
  Initial outputs are then refine through collaborative sessions with the service owner and direct user research
- Identify the problem space and draft a simple sentence that describes what the problem is and who is it a problem for

Running the technique

- Find supporting evidence that this is a material problem and not anecdotal in nature (ie. it happens to 100s of users and not just 4 or 5)
- Understand the symptoms of the problem, allowing you to get closer to identifying the root cause
- Formally capture the problem statement using a template. This should help identify if there are multiple problem statements that should be broken out into their own problem statements and addressed separately
- If there are multiple problem statements, assess which problem statements are likely to have the biggest impact, ie which problems hold the most value in being solved.
- Refine the problem statements throughout discovery and validation to be accurately reflected in the value proposition framework

Authoritative source

(Ways of working problem statement template Miro)

Opportunity Solution Tree

What is it

- A visual aid that can help you find the best place to focus your team’s energies on which problems to solve, whilst ensuring you consider enough opportunities.

Who

- Bring together the team and other key stakeholders with insight on the problem/opportunity area for an initial session - recommend around 5-8 people
- Then use a much smaller group to review and refine in a follow up session - no more than three people

Running the technique

- Have the Product Lead/Business Owner pick a desired outcome.
- Generate opportunities (or problem statements) for achieving the desired outcome. Discuss as a team. (tip: if your team jumps straight to solutions, ask them what specific problem their solution solves, and capture that).
- Brainstorm solutions to specific opportunities. Discuss as a team.
- Have the team vote on the solutions with the most potential for success
- Prioritise hypothesis to test for the top solution ideas.

Authoritative source

- https://www.producttalk.org/category/opportunity-solution-tree/

User interviews

What is it

- This is a cornerstone of qualitative research, and is recommended that some user research is always conducted during discovery.
- This technique supports and enhances other available qualitative and quantitative research, by providing depth and nuance that other research methods may miss. Its conversational nature can capture their thoughts, feelings and motivations, enabling deeper sentiment analysis around the problem space.
- For qualitative research, the right sample size is between 5 and 10 per target profile to capture all key emergent themes - the saturation point

Who

- User researcher. It can benefit having 2 people per interview, one acting as a note taker.

Running the technique

- Prepare - Set a goal and success metrics for your interviews, write a customer interview guide with open-ended interview questions, and recruit the right candidates that fit each target profile. Be mindful of leading questions. Ensure sufficient time to allow for unexpected topics that may surface. Prepare more questions than you think you'll need. Anticipate different responses and create follow-up based questions based on your research goals. Don't forget the questions are a guide, not a script.
- Interview - Employ an empathetic approach, to help build a rapport with the interviewee, with a strong focus on active listening. Be cognisant of biases throughout the interview-examples include confirmation bias, anchoring bias, Hawthorne effect. It can be helpful to have a colleague present to focus on detail note taking. An alternative is to record the interview. Be mindful of user research ethics, being open and transparent on how the interviewee's information and persian details will be stored and used.
- Insights - Use a visual centric tool like Miro or Mindmap to capture and summarise key themes, sentiments and observations associated to the research goal and problem space across multiple interviews. Identify if saturation has been reached for that user profile

Authoritative source

- https://www.nngroup.com/search/?q=user%20interviews

Observational study

What is it

- Watching and analysing users in their natural environment to understand their behaviours, needs, pain points, and the context in which they interact with products or services.
- Observing how users may interact with a service or product is a great first hand way to understand its usability in real world settings. Conducting observations can be straightforward for most services and can be a relatively fast way to identify problems, needs and opportunities that might not be apparent through other research methods or self-reported feedback.

Who

- User researcher.

Running the technique

- Prepare - Decide the learning objectives for the observational study, typically structured(checklists) or unstructured(qualitative). Recruit a relevant sample size of participants associated to a target user profile. Decide on the type of observation- controlled or naturalistic.
- Run the exercise- Be mindful of user research ethics, and be open on how data collected will be used. Explain the purpose of the exercise, and the task that you wish the participants to undertake.
- Capture insight. What are users actually doing? As opposed to what you expected they might do. What routines do users have with the service? How are they integrating it into their lives? Record details – adding granularity and specificity to an observation can make it much more meaningful. Ensure you’re examining activities in their whole; look at how the service is used in context and the flow of their broader needs and not just at the service itself.
- Summary analysis. Use visualisation to highlight key learnings both from a quantitative and qualitative viewpoint

Authoritative source

- https://outwitly.com/blog/research-methods-observations/

Surveys

What is it

- Creating and distributing a structured questionnaire to gather insights, feedback, or data from users or potential users, and best for capturing quantitative attitudinal data. (attitudinal = ‘what people say’ v. behavioural ‘what people do’)
- Surveys typically provide a quantitative counterpart to the more qualitative methods typically used during the Discovery phase such as interviews or observations. It can also be used to complement other feedback loops during the Validation phase.
- It is primarily used to (1) quickly gather feedback from a large number of participants, (2) validate qualitative insights or hypotheses derived from other research method or (3) quantify and measure user needs, behaviors, and preferences
- This may be used in a qualitative approach through the use of open questions, but typically to complement other qualitative research.

Who

- User researcher.

Running the technique

- Prepare. Agree the learning objective with the product manager and service designer. Industry research clearly indicates it is very easy to write a bad survey that gathers flawed data.
- Top tips include: Keep the survey short, and only ask questions that clearly contributes the learning objective. Don’t ask questions that you can find the answer to via other data sources. Don’t ask questions that respondents can’t answer accurately. Use language that is neutral and simple - no formal words or terms. Focus on close ended questions versus open ended ones. Avoid double barrelled questions, e.g. How easy and intuitive was the task to do? Provide an opt-out as a response option, and design most questions to be optional.
- Choose a relevant medium for the target participant group to deploy the survey, that also provides the level of customisation and analytics capture required to meet the primary objective.

- Monitor the response rates(rule of thumb is >50 target sample size), close the survey and then undertake analysis of the results. Use a visualisation tool to communicate the insights with the team.

Additional source

- https://www.userinterviews.com/blog/13-best-survey-tools-for-ux-research

Assumption impact quadrant matrix

What is it

- A visualisation of the biggest assumptions and unknowns captured at various points through Ideation and Discovery phases.
- Captures the most important assumptions and unknowns and creates a relative priority of importance to address
- The visual centric representation accelerates understanding and frames more action oriented conversations with stakeholders and team members, unlike a more traditional approach of a RAID log.
- The quadrant matrix should be a living document throughout the Discovery and Validation phase, helping the team to collaboratively decide on the steps to take to de-risk the most impactful assumptions or unknowns in the form of hypotheses and experiments
- By addressing the most riskiest and impactful assumptions at the start, confidence of a valuable outcome can be rapidly increased

Who

- Product Manager or Delivery Manager where no product manager is available

Running the technique

- If a list does not already exist, use a workshop of team members and stakeholders to brainstorm any key assumptions and unknowns associated to the problem space
- Try and make the assumption clear and explicit in the form of a statement
- As a group respectfully challenge each of the assumptions to ensure a level of efficacy
- Assess how impactful each item is to achieving a valuable outcome, e.g. realising the value proposition
- As a core team use relative weighting to order each of the documented assumptions, across each of the axes

- This creates a natural priority to then address in defining an hypothesis and designing experiments to de-risk this assumption during the validation phase