User research plan, 4 scenarios.

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INTRODUCTION

In all of the scenarios, all estimated times will be based on the guidelines provided by Marsh (2018) where applicable, from my own experience and from general experience of the researchers, who have conducted similar studies, which I have found on the internet, in this order of priority. The quantitative analysis methods are based on the principles, provided by Sauro and Lewis (2012).

SCENARIO 1

For the first scenario, the research takes place at a large company that provides a media streaming service. While planning, I have looked at similar services – Netflix, YouTube, Spotify, Audible. The data provided by the company includes: a huge data sample of service usage; a possibility to make a prototype of a new feature/ improvement. The project spans two month, full time which roughly translates to 8-9 work weeks. As for the particular function – I chose "search related suggestions". Basically, whenever a user would search for something on the platform and they would either find what they were looking for, or would not – they would get some recommendations from the platform that were algorithmically selected, based on similarities in content. I would like to see if incorporating user engagement into this recommendation process would result in a better user experience, which would potentially lead to increased engagement with the platform. The research would use quantitative methods exclusively. The data for analysis comes from the company and consists of a diverse sample of the audience, spanning several years.

The main research questions, followed by reasoning. **Method in bold where relevant**:

- How often do users click on search related results? **Completion Rates, Wald Interval.**
    - Inquiry gives an estimate of how relevant the suggested content is.
- How often do users find exactly what they are looking for? **Completion Rates, Wald Interval.**
    - Inquiry would indicate how often the user finds the content they were looking for.
    - Showing related results is much more important when the specific content is missing.
- How long do the users consume the suggested content?
    - Inquiry provides retention rate for the suggested content.
    - Cross-examination gives a better picture and possibly a user journey:
        - A user has searched for something;
        - They did not find that content, instead they have received suggested content;
        - They brows the content and something catches their attention;
        - They click on the suggested content;
        - They consume the content for some time, eventually losing interest;
    - Which possibly leads us to a pain point – the content was not relevant.

Based on the results of the initial research and the severity of irrelevancy of the suggested content:

- Propose a suggestion of user promoted content.
- Make an impromptu survey for users that have consumed suggested content.
    - A pop up survey after the consumption of the content.
    - Some variation on: “How likely would you recommend THIS content to someone who was looking for THAT?”. The user should be familiar with both THIS and THAT.
    - Suggest an incentive to fill in the survey based on Marsh (2018).
    - An incentive could be cumulative points towards a subscription/discount.
- Survey metrics analysis. **Two tailed, paired T-Test: contentRelevancy ~ suggestionMethod.**
    - Comparing relevancy scores across all affected content between the suggestion methods – prompt surveys and algorithmic weights.

Timeline:

Week 1 – Familiarize with the platform. Request data on user clicks in a readable format (CSV, etc.).

Week 2 – Data analysis, comparing the actual data provided and projecting a statistical probability with Wald intervals.

Week 3 – Creation of user journeys based on data, general presentation preparations. Results presentation.

Week 4 – Proposition of the survey if applicable. Establishing contact with the engineers, workshops and development of the survey. Questions to answer: what metrics to get from the survey, survey form design, incentives.

Week 5-6 – Continuous gathering of data from the survey with analysis. Eventual tweaking of the survey form based on the metrics such as – how often do users answer the survey.

Week 7-8 – Final analysis of the survey completion rates. Cross-examinations of proposed content together with weights from the suggestion algorithm. I.e. how often would the algorithm suggest the same content that the users would recommend?

Week 9 – Presentation preparations and presentation to the stakeholders.

SCENARIO 2

In the second scenario, the research is government funded. The resulting knowledge should provide insights into how the parent-child relation is being affected by the children's mobile phone usage. Both the parents' and the children's perspectives should be accounted for. The project is funded for six months in a span of a year, resulting in 28 work weeks, allocated freely within the 56 weeks' period of time. The main concern for this project is ethics and privacy when gathering data, as the research is done with families and children in a particularly sensitive age category. The main research focus group are children, aged 7 to 16, and their parents. The research will use both quantitative and qualitative methods.

The main research questions, followed by reasoning. **Method in bold where relevant**:

- Do parents monitor the children? **Online surveys for parents. Quantitative analysis.**
    - Inquiry draws a general picture for the rest of the research.
- In what forms do parents monitor their children? **Interviews.**
    - A series of interviews providing a closer look at the relationships.
- Are the children bothered? **Cultural probes. Diaries.**
    - While focusing on providing a safe and private environment, an insight as to how much of an influence any type of monitoring has on the children.

To do after data gathering:

- Analyze data:
    - Categorize age groups, look for similarities. **Affinity diagrams.**
        - Within groups – reflect on emerging trends. **Personas. Storyboards.**
- Write the paper.

Timeline:

Week 1-6 – Initial inquiry.

- Literature review.
- Survey development.
- Interview questions.
- Consent forms.
- Search for the participants. Advertisement.

Week 6-8 – Interviews, surveys distribution.

Week 8-10 – Transcription and thematic analysis of the interviews.

Week 11 – Survey data analysis.

Week 12-13 – Cultural probe design, informed by the data.

Default – aluminum foil ball. The children would be asked to wrap a piece of aluminum foil around itself creating a ball. Every time they are bothered by a monitoring activity of their parents – they would wrap another piece. The probe acts as a visual cue to the parents, as they would see how it grows with each instance of dissatisfaction. After the research the children would send the ball back for research analysis.

Week 14 – Diary design exploration.

Week 15-16 – Search for the participants.

Week 17 – Distribution of cultural probes/ diaries.

Pause of half a year for data gathering.

Week 18-19 – Data collection, probes, diaries.

Week 20-23 – Data analysis/intermittent notes for the paper.

Week 24-28 – Writing the paper.

SCENARIO 3

Scenario three is based around a traditional publishing company that wants to broaden its horizons by establishing a complementary digital platform to their existing book production. The research is funded for three months, resulting in 13 work weeks. As the company focuses on a variety of users: students; professionals; private consumers; for which it provides non-fiction and specialist literature, the user groups for this study should encompass all of the aforementioned categories. The research will use both quantitative and qualitative methods.

The main research questions, followed by reasoning. **Method in bold where relevant**:

- What type of content do customers enjoy?
    - The inquiry would provide a narrower perspective as to possible features.
    - **Survey, Likert response converted to numbers** with questions like: how often do you listen to podcasts etc.
    - The survey should Include age and occupation. **One-way ANOVA or between subjects T-Test averaging scores to analyze service popularity and Linear mixed model to check for patterns when combined by occupation.**
- How do customers organize their activities when reading books? **Interviews and on-site observations in a form of a context inquiry**, ex. on the university grounds, across all user groups.
    - Provides a better insight as to how different users use the product in different settings.
        - Bookmarks?
        - Snippets?
        - Markers?

To do after data gathering:

- Analyze surveys quantitatively.
- Analyze observations thematically and using affinity diagrams.
- Create personas.
- Create user journeys.
- Presentation for stakeholders.

Timeline:

Week 1 – Market research. Look how similar platforms handle things and what services they offer.

Week 2 – Presentation of findings, discussion on which possible features the company would like to add.

Week 3 – Making a survey with respect to previously discussed features.

Week 4 – Looking for publishing channels for the survey and starting the data gathering.

Week 5 – Preparing for the interviews and observations, searching for the possible interested parties.

Week 6-7 – Conducting the interviews and observations. Note limited time.

Week 8-9 – Transcribing data and analysis.

Week 10 – Creating personas, formulating user journeys.

Week 11 – Analysis of survey data.

Week 12-13 – Cross-examination of data, preparing for a presentation, presenting the findings.

SCENARIO 4

For the fourth scenario, the research is conducted around an innovative app. The startup tries to build an interactive, augmented reality application that would provide augmented city-walks, where specific stories are tailor made for the users as they move around in the city. The project is funded for six months, resulting in 28 work weeks. As the group works with SCRUM, it is paramount that the research results are presented before every new sprint begins. This way, the team can focus on the areas that needs improvement the most and to iterate their product successfully. The sprint length is set to one month, which results in a variation of 4-5 work weeks between the sprints. The main user group at the start of the research are gamers and advanced mobile phone users, though this can change as more data is gathered from the market probing. The project uses mixed methods.

The main areas of interest, followed by **a proposed method in bold**:

- Player feedback.
    - **Researchers observations/diary**.
    - Text based feedback within the app itself.
- Beta testing.
    - **A/B subject comparison using a score system**.
- Market research.
    - **Guerilla research** where the researcher shows the app at different play conventions, probing the market and gathering potential feedback.
- Usability testing.
    - Metric analysis of provided data from the alpha users. **Completion rates. Wald intervals.**

After data gathering:

- Continuous thematic analysis of player feedback.
- Analysis of market research/guerilla research data and informing the development team about the findings.
- Quantitative analysis of metrics.

Timeline:

First sprint:

Week 1 – Market probing, alpha participation advertisement.

Week 2 – Player feedback, the researcher is the player.

Week 3 – Quantitative analysis of the metrics provided by the alpha participants.

Week 4 – Complex data analysis, insights presentation, user stories/backlog creation.

Second - sixth sprint (weeks in parenthesis for consecutive sprints):

Week 5 (10, 15, 20, 25) – Continued advertisement, distribution of different builds for A/B testing.

Week 6 (11, 16, 21, 26) – Thematic analysis of player feedback.

Week 7(12, 17, 22) – Insight presentation

Week 7-8(13, 18, 23, 27) – Guerilla research at conventions/internet cafes etc.

Week 9(14, 19, 24, 28) – Quantitative analysis of scores, A/B metrics, presentation for the development team.

DISCUSSION

The methods described in the scenarios were chosen to best fit the research questions. There is a noticeable difference between the stakeholders involved in the scenarios, for example the stakeholders in scenario 1 and 3 are trying to inform their decisions making process when either improving or expanding their existing service. In my opinion, when working with an already established service, it is important to not only suggest an improvement that would be considered such on an absolute basis, i.e. “add more content to the platform!”, but also would be considered a relative improvement that results in the most positive effect added with the least amount of trade-offs possible. This is especially true for a service with a brand identity, as the suggestion would ideally bring new customers without alienating an already existing user base. Following that reasoning, the research project proposed in Scenario 1 and 3 should first and foremost focus on quality. Given the relatively large scope of the companies in both scenarios, cost is not a priority, as the main goal of the knowledge provided by both projects would ideally result in a larger customer base, providing a positive return on investment. Contrary to those, Scenario 4 is based around a new startup. The company is yet to build a brand around their product so any direction they take could potentially lead to gains. In this case, in my opinion, it is better to look broadly and to focus more on quantity than quality of the produced knowledge. The situation is further exacerbated by the monetary constraints, as is the case with most new startups. Hence, I propose to involve the research to the full extent, working closely with the team by gaining an intimate understanding of the app, acting as both the researcher and the subject of research at the first stages. Once more information of the potential market is gained, the researcher should focus on the empirical data as not to design the product for themselves. On the different side of research is a more academic Scenario 2. While ethical concerns are important in all forms of the design research, and the researcher should always provide a consent form coupled with a voluntary participation format, it is paramount when working with sensitive sample group, such as children and families. The quality of research is responsible for whether the produced knowledge could be used to be built up on in future studies and, based on my experience, the research ethics play a major role in how respectable the paper will be considered by the community.

As for the usage of quantitative or qualitative methods, Marsh argues that a combination of methods could be appropriate at different stages and in different situations. The main driving force behind the decision of choosing the approach would more often be the evidence that can be provided at the end of the research. For the first scenario, I have proposed an exclusive usage of quantitative methods. That decision was made mostly due to the large data sample available to the company, but also as the user group is so varied, the qualitative methods would not represent every user. The quantitative analysis often provides a readily actionable (Roto, 2017) metrics for the stakeholders which would pair well with the nature of their service. In all other scenarios I have proposed to use mixed methods. The reason behind the choice is a bit different for every scenario, but the overarching theme of them is a presence of a wicked problem (Conklin, 2006), where the users have different goals and experiences, contradicting each other. Hence, a deeper empathic understanding (Koskinen, 2012) of the situation is required which could not be gained by the analysis of a quantifiable data only.

While I have already touched upon ethics briefly, it is of most importance when working with the research in general. Laerd Dissertation (2021) defines five main principles of ethical concerns when conducting user research:

- Obtain an informed consent.
- Minimize the risk of harm.
- Protect anonymity and confidentiality.
- Avoid using deceptive practices.
- Provide the right to withdraw from the study.

Furthermore, when working with children there should be even more safeguards in place so that not to create conflict between them and their parents and simultaneously allow them to express their feelings without fear of repercussions.

Most if not all of the projects focus on the *What*, the functional dimension of the user experience as defined by Hassenzahl (2014), with Scenario 4 being closest to the aesthetic interaction (Lenz, Diefenbach and Hassenzahl, 2014) of an experiential dimension. However, as the startup is in its' earlier days, the focus of their app could shift drastically from creating an individually tailored experience, towards a general service or a product. A large weight in making such decision would be the results of the research project and the market analysis.

In general, in my opinion, when conducting an academic research the focus should be on producing the knowledge that could be expanded upon (Koskinen, 2012; Bardzell, Bolter and Löwgren, 2010), while when doing the research for the industry, the evidence would play the major role (Marsh, 2018) hence the focus should be on producing insights that could be acted upon.

The design researchers come from all sorts of backgrounds and given their breadth of knowledge, they could fit in to any stage of the design process. While most of the presented scenarios are more geared towards a more mundane roles of the designer as a researcher and provider of knowledge, the Scenario 4 lends itself very well to be influenced by the personal insights of the designer. If anything, in any creative project – another perspective is always welcome, especially when it comes from a likeminded, creative individual which the design researchers usually are.

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