**PRD Assignment**

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|  | **Section 1: Define Motivation for the Product (Persona, Hypothesis, Unmet/Underserved Needs)** |

Describe your Persona in 3-5 sentences

**I manage an online news product as product analyst, so I am talking for that product as a user. I spoke to 3 people with similar persona as mine. I changed the product in comparison to my first assignment because I worked on multiple products in my career.**

Problem encountered: Too many advertisements are shown in my online news application

Critical needs: I want the ability to be updated about the most recent updates on the topics that I follow and new topics that can interest me.

Time vs money -trade-offs: I think for a product that deals with online news, which is like an online newspaper, I would prefer less ads with no charge to pay. As there are many competitors who offer that and hence, I have got used to it. So, with respect to money Vs item trade-off I expect it to be good at both.

Novelty vs Predictability: I want the product to be like other such products with less surprises

Decision maker or taker: I find these roles having a strong overlap in most businesses and not related to my product

Independence vs reliance on other opinions: My work generally needs reliance on others opinion

Tech savvy: I believe that the tech savvy score for personas like me will be in 70 to 80 percentiles

Organization chart: I report to the Director in Product technology. I work as a product analyst for a bunch of products. The role is about generating reports for broader teams and communicating weekly updates. Also, must keep a stab on the product health and suggest improvements.

Formulate a Hypothesis and Identify Metrics

Hypothesized customer problem: We believe like people like Shraddha sees to see too many advertisements in the article she opens in our online news app

Proposed solution: We believe there is an opportunity to create an more engaging online news channel for Shraddha that will solve reducing the number of advertisement and putting the right articles and advertisements that she finds more engaging.

Hypothesis: To discover if we can build a solution that Shraddha like customers will want to use, we will need to know Average time spent by this persona, Number of sessions shraddha is active in each time, Promotion score, Revenue from Advertisements from Shraddha like personas in current state

Hypothesis statement:

Hypothesis Statements and Metrics:  
My product solves engagement problem by reducing advertisement but adding relevant ads by studying the data on the online news channel  
Metric:  40% of users will spend more time on the app that will give an incremental value of $20- $30 per week. As they will have increased number of sessions with us.

Shraddha like persona will adopt my product because of relevant article targeting  
 Metric:  2%-5% conversion rate for ads seen from 30% relevant advertisement site visits

Other personas will adopt my product first because of increased engagement and higher NPS   
Metric:  10% of users were attracted to my product for less than <$3

Data collected: Average time spent by this persona,

Number of sessions shraddha is active in each time,

Promotion score,

Revenue from Advertisements

Unmet/underserved Needs

Write a hypothesis regarding the most critical unmet needs your product will address.

I believe Shraddha like customers gets annoyed to see too many advertisement in the online news app and they spend less time in the app. Also they leave bad reviews which reduces our organic growth for the app new users.

By reducing and adding only relevant advertise in the app , we will increase their session time by 100% , which will increase the engagement with the product and will have a relevant ad targeting that will improve our conversion rate , each conversion will increase the revenue over only impressions by $20 per user per week as estimated.

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|  | **Section 2: Develop a Data Problem Statement** |

Write your Data Problem Statement. It should be 3-5 sentences and include the following key components: target customer, general problem, context to problem, customer goals, known facts about the issue and customer pain points, and how your product plans to solve customer's problem.

*For working and busy customers, it’s a constant challenge to get the right news at the right time without the advertisements, impressions and clicks. Every day, these people go online to get the right content of news, updates, and trivia. This is especially true if you’re in market research space as you must monitor every change in the market conditions. Initial research and estimation show that Shraddha like persona is frustrated or wants a different solution.   My hypothesis is developing an online news channel that is personalized based on browsing history and reduced but relevant advertisement with the ability to save the article and ads to revisit later will help to better engage our customers. I am personally passionate about this idea because of personalized recommendations for the news for my interest which will increase the engagement of the customers and relevant advertisement that will bring the higher revenue from better conversion rate. I am looking for collaboration from my team. The name of my idea is News Right.*

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|  | **Section 3: Create the User Workflow** |

Create a workflow that provides the sequence of multiple steps for the task or process you identified.

1. User opens the app

2.Home page

Data collected: List of news seen by user

3.clicks the articles interested in

Data collected: user level details and articles interested to create personalized engine recommendation, time spent , ads interacted

4.opens and reads the article and views the ads in the ad placements across the page , the same placement changes the ads after 2 minutes

5.closes articles, opens next article, comes back to homepage

Data collected: communicates with the engine and gives relevant articles and displays in the homepage or as next article suggestion

6.Exits App

Metrics : Time spent in each page , Articles read in each session , clicks for ads , impression for ads , repeat visits, improvement in the same metrics

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|  | **Section 4: Explain How the Hypothesis will be Validated and Paths to Success** |

Qualitative and Quantitative Evidence

Explain the qualitative and quantitative data you will collect as evidence to substantiate or refute your hypothesis. Provide an overview of your research design (questions posed, sample size, etc.) and details on the process and results (e.g., interview guides, interview notes, survey questions, survey results, etc.).

Hypothesis: Too many Ads causing bad experience and less engagement

Qualitative:

Target people: Cohort of users who were churned out in the past.

Design interview questions and an interview guide. Generate three qualitative questions.

1. Ask the users to browse and find for an article of choice in the app.
2. Ask them to finish the reading and explain how did they felt during the process?
3. Ask them specifically about the ads they saw, and their relevance in the article.

Key Findings: People are not finishing the browse due to advertisement at the results page. Some who managed to find the relevant results and stories that they are interested to read, did not want to read it, due to many advertisements.

Vision: Enable users to see the relevant articles with minimum advertise and still not compromise on the product revenue.

Finding from the intercepts:

1. Users are super confused to see advertisement blocking their experience of finding the article.
2. Users find advertisement in certain placements acceptable.

Quantitative:

Goal: To redesign the pages to give the relevant search results, recommendation and help to ease the journey for the reader to open the relevant.

Problem: Users churning out of the app

Applying quantitative usability study: To check the changes in the workflow, results seen, and the advertisement placement changes on all the pages and continuous interviews.

The usability scores showed the following findings:

* Users wanted to find the relevant articles on the home page
* Users wanted to see limited ad placements without hindering their experience of reading news

Overall, users wanted to access the articles without getting disturbed

Based on the usability study,

* Continued testing placements for ad placements
* Added the ability to mark favorite articles and ability to get recommended based on the favorited article

Key Path Scenario

Describe the key pathways your primary personas will take through the product's user interface with the greatest frequency. Use a step-by-step narrative approach to describe how the persona will interact with the product, interspersing potential user interface wireframes and or detailed mocks throughout your text narrative. Be sure to specify your product's modality, e.g., a native mobile app, a responsive website, desktop client software, etc.

**Persona:** The persona is a working-class person who finds it difficult to keep up with the news and updates

**User journey:**

For a persona mentioned above the reason to visit the product is to check the news and updated.

The user opens the app using the icon and find the home page.

From the home page, the user can choose to view highlights like famous video, games, or the news.

He can also go to the setting to change the notification mode. Lock screen notifications

User can also mark the favorite for the apps.

Once the user finds the right article, he can choose to open the article. This opens a new page with the option to navigate left and right to open new articles of similar interest or close after finishing the article to open a new article.

The Metric that my hypothesis is trying to work on is daily active users, engagement with the article, ads seen, time spent navigating to find the news.

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|  | **Section 5: Identify Organizational Outcomes/Goals** |

Identify your primary outcome. Ask yourself, what goal or goals are you trying to achieve? What are the end metrics and definitions? Assign targets for what you are trying to achieve and select applicable behavioral and product-led growth metrics to track.

Goal:

* To retain the Users in the online news app at different time aggregate level
* Improve the time spent by the users in reading articles

Metrics & Definitions:

Organizational metric

* Retention Rate: I want to improve the daily active users with the app.

Definition: % of customers active daily that are active the next day

Session/Funnel metric

* Avg Time spent: Time spent in reading the article
* Definition: (from the time the user clicked, continued scrolling the page to the time he opens any other page)

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| Metric | Current metric | Target |
| Retention Rate | 10% | 15% |
| Avg Time Spent | 1 mins | 3 mins |

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|  | **Section 6: Establish your Data Collection Policy** |

Using the Five C Framework, describe your plan for a data collection policy.

We already have a consent page

Consent: During the installation clearly asking for the relevant level of device information that the app is going to store.

After the installation of the app, when the app is opened by the user for the first time use clearly giving the detail that we will be logging the information with the device identity level and not their specific details on demographic. Also, the information related to browsing will be saved.

Carrot: We don’t have this separately given in a page but in the same page as the consent page, to inform how the saved data will be used to improve the recommendation from both ads and articles perspective.

Choice: To agree or not to agree with the data collection a button must be added in the information page where carrot is added. We must still implement this.

Control: We already have given the user the ability to control the level of data they are sharing.

Consequences: Share the clear information if the information shared is misused then what are our liability towards it. We should add a page to share this currently we don’t have a separate page talking these factors clearly.

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|  | **Section 7: Provide Classifications** |

What classifications and groupings do you want to organize your metrics to turn them into valuable insights and actions? Think through user, session, and event classifications. You may also designate these classifications as sensitive and state who should access your organization.

1. What user, event and session classifications do you want to collect that will allow you to evolve your product and workflow?

Identify user outcome:

Increase the time spent reading the articles and thus reducing the churn rate.

Increase the retention rate of the users who engage with the online news app from 10% to 15%

Define:

1. Preload the app on the device and have a default selection of notifications on so that the user engages at least once with the apps.
2. Once the device gets active, push the notification to engage and configure the settings on the app.
3. Collect the information of the favorite topics of the user, where the user can engage more
4. Show the relevant articles on the home page as the user returns
5. Check the relevance of the ads that are displayed to the users based on the impressions, clicks made by the user
6. Check the number of users who never returned or uninstalled the app.

Collect:

Make records of:

1. Active users of the app
2. Articles read by an active user
3. Category of the news
4. Different placements where the active user clicked
5. Impressions and clicks by the active user
6. Different cohort of users who repeated in a week (daily, once, twice, thrice in a week so on)
7. Retention rate
8. Engagement with favorite news sections

Classify:

1. Active users (User)
2. Articles read break down by category (Event)
3. Impression and clicks of ads (Sessions)
4. Time spent reading the articles (Event)
5. Repeat rate (Session/ user)
6. Number of pages visited (Event)
7. Average time per page

Gain experimental analytics insights:

When we rolled our insights, we observed Active users were engaged based on the favorite category articles they are notified on. The repeat rate improves if the number of ads is made relevant to the user or if they are at specific placements.

1. What internal stakeholders do you have, and how would they want data classified for their purposes?

Engineering team: They would want to know about the placements where the engagement improved. Also, the APIS communicating with the app and performance lag.

Marketing teams: They need to know about the content relevance

Product: The need to know about the features that are getting more engagement

Strategy and Finance: On how are the metric improving the bottom line and performance compared to the competitors

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|  | **Section 8: Express your Data Visualization** |

Sketch or write out a potential visualization for an end-user product or feature based on product analytics. Start visualizing your product data and how it can be represented and shared with your board, investors, or CEO to shift their strategic thinking around an organizational outcome.

**Broad overview: (this will point to the latest value)**

1. Clicks
2. Impression
3. Unique Active users
4. New users
5. Unique Users
6. Sessions
7. Failed Actions
8. Time spent reading articles
9. Total Actions
10. Revenue
11. Revenue per impressions
12. Revenue per conversion
13. Revenue per clicks

Here we can compare

* 1. last year vs this year same period and
  2. last same period aggregate vs this time period data. Eg: WOW, YOY, MOM.
  3. STD dev can be used as benchmarks
  4. Moving average

Filter Aggregates:

1. daily
2. weekly
3. monthly
4. Quarterly
5. Yearly

Attributes to filter:

1. By page name
2. category of news
3. Generate different category of cohorts on the repeat rate suitable for the selected time aggregate

Example: Cohorted users as per visit at weekly level : (group unique user by the number of times they visited on different days , like 1 day multiple times will be still 1 day, 2 , 3, 4,5,6 ,7 and this can be kept null for other time aggregate , this data available only for weekly level)

Metrics:

Trend charts such that we can compare 2 values at the same time

1. Clicks
2. Impression
3. Unique Active users
4. New users
5. Unique Users
6. Sessions
7. Failed Actions
8. Time spent reading articles
9. Total Actions
10. Revenue
11. Revenue per impressions
12. Revenue per conversion
13. Revenue per clicks

We can have a heat map view for the latest aggregate view for the attribute break

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|  | **Section 9: Generate Your Optimization Equation** |

Create your user optimization equation and your organization’s optimization equation. What can you achieve for your users that is credible: cheapest cost, highest value, best quality, save the most time, happiness, another B2B outcome?

Time spent

using the news app= f (number of advertisements seen,

number of articles read, different cohort engagement)

Hypotheses:

Optimize time spent in the news apps:

• Number of advertisements shown to the user

• Types and number of articles read y the user

Challenges in applying the optimization equation:

• For each user category this changes and hence the variability can be defined using the cohorts

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|  | **Section 10: Define Heuristics** |

Identify a simple red and green heuristic for the output of your equation between specific ranges. Define that range, the color status, and the potential action to take.

Time spent reading by the cohort who have generally been spending 15 minutes of focus time in the app.

Monitor this cohort at the Avg Focus time per user per day, it happens to be 15 mins of focus time doing activities in the application.

Red: time spent on certain days decrease by 2std dev

Green: Acceptable range: time spent within 1 std dev

Potential action : reduce the number of ads , promote more relevant articles with notifications

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|  | **Section 11: Describe Automation** |

Determine the automation for your organization that will lead to organizational outcomes. Explain the type of automation you would implement and how it achieves your outcomes.

I think we can apply sensitivity rule automation:

That monitors the focus time spent in the app and when it reduces by 1 std dev or is 2 std dev away we can test the reduced advertisement based on a complex neural network automation rule that can keep track of what are the articles that the user wants to reads with advertises and what articles get abandoned while the advertise appears.