Hypothesis-Driven Development

Instructions & Template for Peer-Reviewed Assignment

NOTE: Go to the 'File' menu and then use either 'Make a copy' or 'Download As' to make yourself an editable copy of this template.

What am I doing?

Overview

For this assignment, you'll be developing:

1. A general description of your subject company
2. A demand/value hypothesis
3. An experiment to test your hypothesis

General Instructions

To complete your work, you can use this Microsoft Word template or you may prefer to use the Google Docs version which is here:

[Hypothesis-Driven Development Assignment](#).

Also, as you go through these, you may want to delete the **Intro Note and Instructions** sections in your copy. (In Google Docs, right-click (or two-finger click on Mac) and select 'Delete Table'.)

Part 1: Formulate a Positioning Statement

Intro Note

If you're in the specialization, I recommend picking a concept you can build up through the courses. For example, you might have an idea to solve a problem (job, desire) you've had or seen, or you might want to focus on something at your current job. *Regardless, it's most important that the idea is relatively specific (vs. perfect) and that it's okay for you to share it with your peer reviewers.*

Instructions & Example

For your product concept, just state what it does in the format you see below in 'Assignment'. As obvious as it may seem, I find this helps with focus and collaboration- it will also help your peer reviewers better understand the balance of your assignment.

For an example, please see Appendix 1/Positioning Statement.

Assignment

Introduce your the company whose product you're working on with the positioning statement structured as follows [fill in the brackets]:

For [target customer] who [statement of the need or opportunity], the [product name] is a [product category] that [statement of key benefit – that is, compelling reason to buy]. Unlike [primary competitive alternative], our product [statement of primary differentiation].

For the Enterprise as a Whole (optional)

- For <u>overnight travelers to Mackinac Island</u> who <u>need their vehicles valeted and serviced from the Mackinac Island Ferry mainland docks located in Mackinaw City</u>,
- <u>Mackinac Island Ferry Mainland Car Service (MIF-MCS) in Mackinaw City</u> is a <u>full service valet, vehicle fuel station, car wash, and overnight/seasonal vehicle storage</u> that <u>takes care of any vehicle needs while the traveler stays overnight or resides seasonally on Mackinac Island</u>.
- Unlike <u>other ferry boat companies that provide valet service and overnight parking at their mainland Mackinaw City locations</u>, our <u>commitment to retaining licensed mechanics, qualified valets, and providing secured and guarded storage facilities allows our customers</u>

to drop off their vehicles and luggage, board the ferries with minimal delay, and return from their stay on Mackinac Island knowing that their vehicles have been safely guarded and are parked at the Mackinaw City mainland dock ready for loading, washed, fueled and serviced, and prepared for their next destination.

For their Digital Platform

- For dock personnel, ferry boat crewmembers, and front office administration staff who work at Mackinac Island Ferry Mainland Car Service (MIF-MCS),
- MI Car Care Center (CCC) is a proposed proprietary software solution that improves the car valet and service experience for both internal staff and customers.
- Unlike manual and paper check valet solutions used by other ferry boat company competitors, our product will be carefully designed and developed to leverage bar code and point of sale technologies that will simplify, accelerate, and error-proof the customer check-in retrieval service leading to a delightful drop-off and pick-up experience for Mackinac Island travelers, whether they are staying overnight or for an extended period, at America's historic Mackinac Island vacation spot and convention destination.

Part 2: Sketch a Demand/Value Hypothesis

Intro Note & Examples

In this assignment, we're going to focus on the demand/value hypothesis. You'll start by explicitly declaring one in this section, making sure that it links back to a clear problem scenario/job-to-be-done and alternative. You saw a few of these in action in Weeks 1 & 3, and I've included examples from the startup Enable Quiz in the appendix. Here's an example for this section: Demand/Value Hypothesis at Enable Quiz.

Instructions

There are three rows in the template, but for the assignment you only need to complete *one*.

Note: If you're in the specialization and you have drafted problem scenarios, etc. in one of the other courses, feel free to use those here.

Assignment

Problem Scenarios/Jobs-to-be-Done	Current Alternatives	Your Demand/Value Hypothesis
[ADD- What fundamental job/problem/habit does the persona have in your area?]	[ADD- Instead of using your product or feature, what do they do right now to solve this delivery on the underlying job/problem?]	[ADD- What might you do that's better enough than the leading Alternative at delivering on the PS/JTBD? Make sure to render this in this testable form-- If we [do x] for [y customer] then they will [respond in z way].]
[add as needed]	[add as needed]	[add as needed]
[add as needed]	[add as needed]	[add as needed]
Problem Scenarios/Jobs-to-be-Done	Current Alternatives	Your Demand/Value Hypothesis

[ADD- What fundamental job/problem/habit does the persona have in your area?] While attending to numerous other passenger departure and arrival duties, the Mackinac Island dockmaster must alert the Mackinac Island Ferry Mainland Car Service (MIF-MCS) storage garage that a passenger(s) with a specific car valet number is boarding the next returning ferry boat to Mackinaw City and require delivery of their vehicle(s) to the Mackinaw City dock. - Number of valet checks that were transmitted correctly between Mackinac Island and Mainland Car Service. - Number of valet checks that were transmitted prior to customer's departure from Mackinac Island. Number of vehicles that were valeted to mainland dock on time.	[ADD- Instead of using your product or feature, what do they do right now to solve this delivery on the underlying job/problem?] When they arrive at the Mackinac Island Ferry dock, some customers individually hand their valet tickets to the dockmaster who radios the valet check number to the Mainland Car Service (MIF-MCS) storage garage. As passengers line up to wait to board a Mackinac Island Ferry boat to return to Mackinaw City, the dockmaster announces over the public announcement system that she will "sweep" the line and collect car valet checks from overnight guests who used the car valet service. After collecting car valet checks, the dockmaster radios a batch of tickets to the Mainland Car Service (MIF-MCS) storage garage.	[ADD- What might you do that's better enough than the leading Alternative at delivering on the PS/JTBD? Make sure to render this in this testable form-- If we [do x] for [y customer] then they will [respond in z way].] If we can make the car valet check collection process on Mackinac Island more efficient and less prone to transmission errors, we will increase the number of vehicles that are valeted on time to the mainland dock (resulting in satisfied customers) and allow the Mackinac Island dockmaster to focus on passenger boarding and arrival duties. _Remove before handing in assignment: We will create a system that utilizes paper and electronic bar code valet checks that can be quickly scanned by the dockmaster on Mackinac Island and transmitted to the Mainland Car Service storage garage in Mackinaw City so cars can be valeted in time for the customer's return to the Mackinaw City ferry docks while allowing the dockmaster more time to prepare travelers for boarding the next ferry boat._
The overnight guest must coordinate with their	Upon their arrival to Mackinac Island,	If we can give a customer the ability to reference

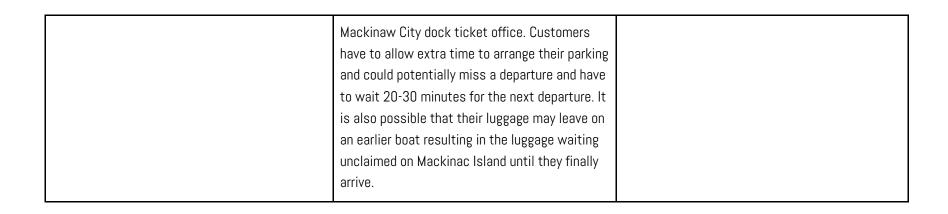|		
hotel or other lodging location, island taxi service, Mackinac Island dockmaster, and the Mainland Car Service to retrieve items from valeted vehicles and send them to the overnight guest's lodging on Mackinac Island. - Number of incidents where the dockmaster had to request retrieval of item from valeted vehicle. Time from customer request to arrival of retrieved item to Mackinac Island.	sometimes customers/passengers of the Mackinac Island Ferry Company will determine that they left a wallet, luggage, or other personal possession in their vehicle that was valeted in Mackinaw City and need it sent to their lodging on Mackinac Island. Customers will engage the dockmaster who must collect information (description of item, location in vehicle, car valet number), make arrangements over the radio with Mainland Car service to ship the item on the next ferry boat, and contact the customer's lodging to deliver or arrange pickup of the item.	their car valet ticket number, then they can directly request retrieval and delivery of a personal item from their vehicle, allowing quicker delivery with less errors and less involvement of the Mackinac Island dockmaster.
Many overnight guests arrive at Mackinaw Island Ferry dock in Mackinaw City and usually hurry and scramble to check in their luggage, buy boat round-trip tickets, and make arrangements to valet and park their car overnight. Many guests are unfamiliar with the car services available and their pricing. This lack of familiarity with the car services causes many customers confusion and stress as they prepare to begin their overnight stay on Mackinac Island. The arrangements of car parking services can also cause customers to miss a boat departure or for their luggage to be transported to the island on a separate and earlier vessel.	The overnight guest arrives in their car at the Mackinaw Island Ferry Dock in Mackinaw City. At the dock, they must work with a dock porter to unload their vehicle and check-in their luggage, and then proceed to the ticket office to purchase a valet service, indoor or outdoor overnight vehicle parking, and any additional vehicle add-on services (car wash, fuel fill-up, maintenance check, etc.) At the ticket office, they receive a valet check to attach to their car keys and a claim check that they retain and show to the Mackinac island dockmaster at the end of their stay on the island. Boat tickets can be purchased online in advance, or at the	If we add the functionality on our Mackinac Island Ferry Service customer portal for overnight travelers to Mackinac Island to reserve and pay for their valet and overnight parking in advance, then customers are more likely choose to ride one of our ferry boats than one of our competitors while experiencing a less stressful and confusing check-in process in Mackinaw City.

	Mackinaw City dock ticket office. Customers have to allow extra time to arrange their parking and could potentially miss a departure and have to wait 20-30 minutes for the next departure. It is also possible that their luggage may leave on an earlier boat resulting in the luggage waiting unclaimed on Mackinac Island until they finally arrive.	

Part 3: Sketch Three Experiments via MVP

Intro Note

Here, you'll sketch three ideas on how you might test your Value Proposition. Pick one of the VP's from above and draft three alternative MVP-based experiments. For each, consider generally how it would work and what observations (qualitative or quantitative) you'd get out of the experiment. These should in some way help you either improve or validate/invalidate your Demand/Value Hypothesis.

You're free to pick whatever MVP types you like for these (Concierge, Wizard of Oz, or Smoke Test), but my advice is to push yourself to diverge and consider a few ideas that are as different as possible. In practice, this is helpful both for getting to the best possible experiment as well as cultivating that habit with your team.

Example

For an example, see: Appendix 1/Part 3: Sketch an Experiment.

Instructions

Please fill out the template wherever you see [ADD-...] in brackets.

Assignment

Demand/Value Hypothesis

If we add the functionality on our Mackinac Island Ferry Service customer portal for overnight travelers to Mackinac Island to reserve and pay for their valet and overnight parking in advance, then customers are more likely choose to ride one of our ferry boats than one of our competitors while experiencing a less stressful and confusing check-in process in Mackinaw City.

Experiment Ideas

#	What type?	How would it work?	What observations?
1	[ADD- Concierge, Wizard of Oz, or Smoke Test?]	[ADD- Generally, how would it work? How would you get subjects? What experience would they have? How will you gather the observations for the experiment]	[ADD- What evidence, qualitative or quantitative will the experiment give you? How does that help you progress and/or test your Demand/Value Hypothesis?]
2	[ADD]	[ADD]	[ADD]
3	[ADD]	[ADD]	[ADD]
#	What type?	How would it work?	What observations?
1	Concierge	We will select two small to medium sized overnight convention events (total attendance 100-250 attendees – not all will choose to ride	[ADD- What evidence, qualitative or quantitative will the experiment give you? How does that help you progress and/or test your Demand/Value

| | | with Mackinac Island Ferry Company), and post dock porters who will engage arriving overnight customers at their cars while their luggage is being unloaded to explain car parking and valet services, rather than sending customers to the ticket booth and The dock porters will have access to a point of a sale card reader so that the customer does not have to wait in line to conduct a transaction for their overnight parking. | Hypothesis?]
[Depth (amount of observation and learning gained) is high. Definition (how clearly you will get a conclusive negative or positive result) is low.
We will record the time the customer arrived, as well as the intended time of departure that the guest was targeting. This will give us an idea of the typical "time crunch" that overnight visitors are under.]

We will record whether the guest was able to board at their targeted departure time. Mackinac Island Ferry Service (MIFS) does not track visitor's successful target departures, therefore we will not be able to compare our experiment rate to an existing and meaningful metric. However, this will establish a quasi-baseline to measure the success of future iterational developments.

We will take a subjective note of the guest's preparedness to unload and board when they arrived – luggage was packed and ready to be unloaded with no reorganizing of baggage/luggage required? Boarding passes pre-ordered and available? Did not assume that overnight parking was at the unloading area and expected that overnight parking and valet had to be arranged? Was familiar with the departure schedule? |

			We will take anecdotal notes on the questions visitors ask about their parking and valet options and how the car claim ticket process works. We will also take note of any feedback that the guests make in general about overnight parking in general, and specifically about the concierge service in general. Based on these anecdotal notes we will assemble a Frequently Asked Questions table for future reference and to further develop our personas and Jobs to be Done.
2	Wizard of Oz	Select and negotiate with one small convention (approximately 25-100 attendees) that is willing to work with us and provide their attendee mailing list. Inform Mackinac Island Ferry Mainland Car Service (MIF-MCS) of test and tell them to plan to reserve overnight parking spaces for 50% of attendees for the date range from one day prior to two days after their convention. Send an email two months prior to the convention that directs convention attendees to a limited URL under the Mackinac Island Ferry Company customer portal where they can reserve and pay for their overnight parking in advance. We will conduct the customer e-transaction as we do for boat tickets and generate a confirmation email. Behind the scenes, we will generate and provide	[The Wizard of Oz looks like a real experience to the persona, but on the backend, were faking it. It is medium on depth, because generally you're just observing a small slice of the overall process. It is medium on definition because you are testing motivation and usability at the same time, which is okay, but it's not as conclusive about giving you positive or negative on your value hypothesis.] Will guests reserve their overnight parking and valet service in advance? What are the biggest logistical challenges for the Mackinac Island Ferry Mainland Car Service (MIF-MCS) in reserving parking spaces in advance for guests?

		the appropriate barcode claim image, have the office clerk send a follow-up email with the barcode and simple instructions, manually cordon off a section of indoor and outdoor parking lot for the convention, and release unused parking spaces the morning of Day 1 of the convention. On the expected day of return, we will all convention valet cars in advance with a manual security practice to place keys in vehicles when the customer provides their car claim check to the Mackinac Island dockmaster.	What is the best process and supporting instruments for confirming and redeeming reservations? What features of a car claim ticket is most easily recognizable and useful to guests and workers (valets, porters, dockmasters, garage attendants)?
3	Smoke Test	We will add a link to the Mackinac Island Ferry Company customer portal site on the boarding pass and e-reservation sub-page inviting visitors to click through for "Overnight parking". This will take the visitor to a site that explains valet/parking/vehicle service options and rates and a link to "Parking Reservations". This link will indicate that advance reservation is not available, but coming soon, and give the visitor an option to provide their email so that they can be contacted with a coupon that they can apply when the service becomes available later.	[Smoke tests are really good at getting a definitive result about whether you can bring customers into your conversion funnel to sell them or get them using your product. The depth of observation is low, but the definition of the result that you're going to get is very high.] This smoke test will determine how many customers who purchase their boarding pass in advance are also interested in purchasing overnight parking (i.e., likely overnight travelers) by looking at the click-through rate to "Overnight Parking". Approximately 1.5% of our customers stay overnight on Mackinac Island – 98.5% of customers our day visitors. We hypothesize that 20% of our online customers are overnight travelers who have been instructed by Mackinac

| | | Island lodging companies and owners whether their lodging prices not include ferry boat passes. Island hotel and lodging owners do not cover parking expenses. If more than 10% of portal visitors click through to "Overnight Parking", then the test passes.

This test will also determine how many of those potential customers interested in overnight parking would have actually conducted an online transaction if it had been available by looking at the click through rate for "Parking Reservations". The test will pass, indicating a compelling customer need for advance online parking reservations, if the click through rate is greater than 50%. |
|---|---|---|

Submitting Your Assignment

Remember to upload your work in ONE document (PDF format).

Appendix 1: Reference Example

Part 1: Positioning Statement

Intro Note

Note: In this case, the product and the company are the same/the company has just one product. This may or may not be the case for your subject company. If it's a large, multi-product company, you may want to include a positioning statement for both the subject company as well as your specific product. That said, please be sure to at least include a positioning statement for your product concept.

Positioning Statement

For [hiring managers] who [need to evaluate technical talent], [Enable Quiz] is a [talent assessment application] that [allows for quick and easy assessment of topical understanding in key engineering topics]. Unlike [formal certifications or ad hoc questions], our product [allows for lightweight but consistent assessments of technical talent].

Part 2: Sketch a Demand/Value Hypothesis

Problem Scenarios/Jobs-to-be-Done	Current Alternatives	Demand/Value Hypothesis
Screening Technical Talent Engagement Metric [Candidates interviewed by the HR Manager]	Helen the HR Manager: Checking resumes, calling references, and just taking their word for it. Frank the Functional Manager: A few probing questions to get a general feel.	If we offer HR managers at companies that hire a lot of engineers a lightweight quizzing app, they will convert to paid subscriptions.

Part 3: Sketch Three Experiments via MVP

Demand/Value Hypothesis

[Of the Demand/Value Hypothesis from Part 2, which one are you testing?]

Experiment Ideas

#	What type?	How would it work?	What observations?
1	Concierge	We'll find one or two HR managers who have open tech positions or will have soon. Working from the job description and consulting the HR and maybe functional managers, we'll draft a quiz and make it available to them on Google Forms (no code required). We'll watch for form inputs and return the HR managers grades.	First off, we'll look at whether they actually use the quiz or not. We'll want to make sure they're willing to tell us (and track) how many candidates they interview. Since we're mostly looking at how this thing might work for them, we would check in weekly and make ourselves available for questions and help. Next, we'd look at if/whether it helped- both the HR and the functional/hiring manager. We'd do this at the end of the process, after they fill an open position.
2	Wizard of Oz	We'd make the product available to a limited set of users and have them supply the inputs we anticipate using for them to create quizzes. After they submit those inputs, we'd post back to them a message saying 'Thanks! Your quiz will be available in [24] hours.'	Does anyone do this? Where do they drop off? Can we make what we think is a good quiz from the inputs they supply? If not, that's a sign we need to rethink the process.

| 3 | Smoke Test | Here, we'd go with a classic Smoke Test pattern: Google Adwords. Starting from where we know there are a lot of hires, we'd try various key phrase formulations across various topics. For example--
hire [Ruby, etc.] developer
interview questions [Ruby, etc.] developer

The ads would take the user to a landing page where they can sign up to get a free two month subscription when the product launches. | We'd look at click-through-rate and sign-up's. If we can't find a CTR >5% and sign-up's >20% we'll consider that an invalidation of our demand/value hypothesis. |