PRODUCT MANAGEMENT PORTFOLIO

PREPARED BY

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Professional Background

I graduated from Western Oregon University with a Bachelor's degree in Computer Science. During my time there, I gained working knowledge in algorithms, data structures, programming languages, information management, etc. I actively worked on many interesting projects. I assumed the responsibility of a full-stack developer in a group named Akai Solutions. We developed Chearn(Chunk it and learn), a learning platform. Through this project, I got first-hand experience in Agile software development. I have a working knowledge of several web development frameworks like .Net core, MVC, and other tools and concepts such as Restful APIs.I also was able to perform the project management responsibilities of the project Chearn. I learned skills that helped me think like a product manager and helped me learn agile concepts like user stories, product lifecycle, OKRs, etc. I also have educational knowledge of Microservice Architecture through projects in which I was able to slice out a logging feature from a monolithic social media application. For the past couple of years, I have been working on a project called khelnus.com. This is a gamified learning platform that is built using .net core, Postgres, and several Restful APIs. Some parts of the project use an event-driven architecture style where I've been exposed to concepts like messaging, command/query separation, eventual consistency, etc. I've also been able to dip my toes on vue.js for front-end development. Creating features and writing effective user stories was something I got to practice in this project as well. I have been able to successfully complete the Product Management course by Entry-level and gain hands-on experience researching this product that is presented on this portfolio.

Abstract

Online car buying is an up-and-coming market that resonated with the current shopping trend. This portfolio features a detailed product study of a car buying service that would be a Hypothetical new feature for Amazon. This was completed by qualitative research interviews, feature mapping, feature and user story exercises, and other beneficial processes that helped layout the foundations of the product.

Portfolio Outline

The Problem

For [People who are looking to buy a car online]
Who [Has a need for easier and less time consuming platform to buy vehicles]

[Amazon cars]
Is a [Web Service]
That[allows you to Research, finance and purchase cars Completely online]
Unlike [Traditional car dealerships]
My product [Is more convenient, time resource saving, value oriented]

We'll know it's true [when people will start the buying cars online rather than visiting dealerships

Problem   Solution   Goal

Assumptions

Identifying Assumptions

For people who live in urban markets who have the need to purchase a vehicle

- How big is this market? Large enough?

[Amazon cars]
Is an online car dealership that partners with local dealerships and works with individual vendors to sell used and new cars -online

- Do people want to buy cars online? do they want options of new and used together?

Unlike other dealerships, we are a one-stop shop to buy your dream car. Including financing and service options.

- Do people want to buy cars and finance them at the same time and place ?
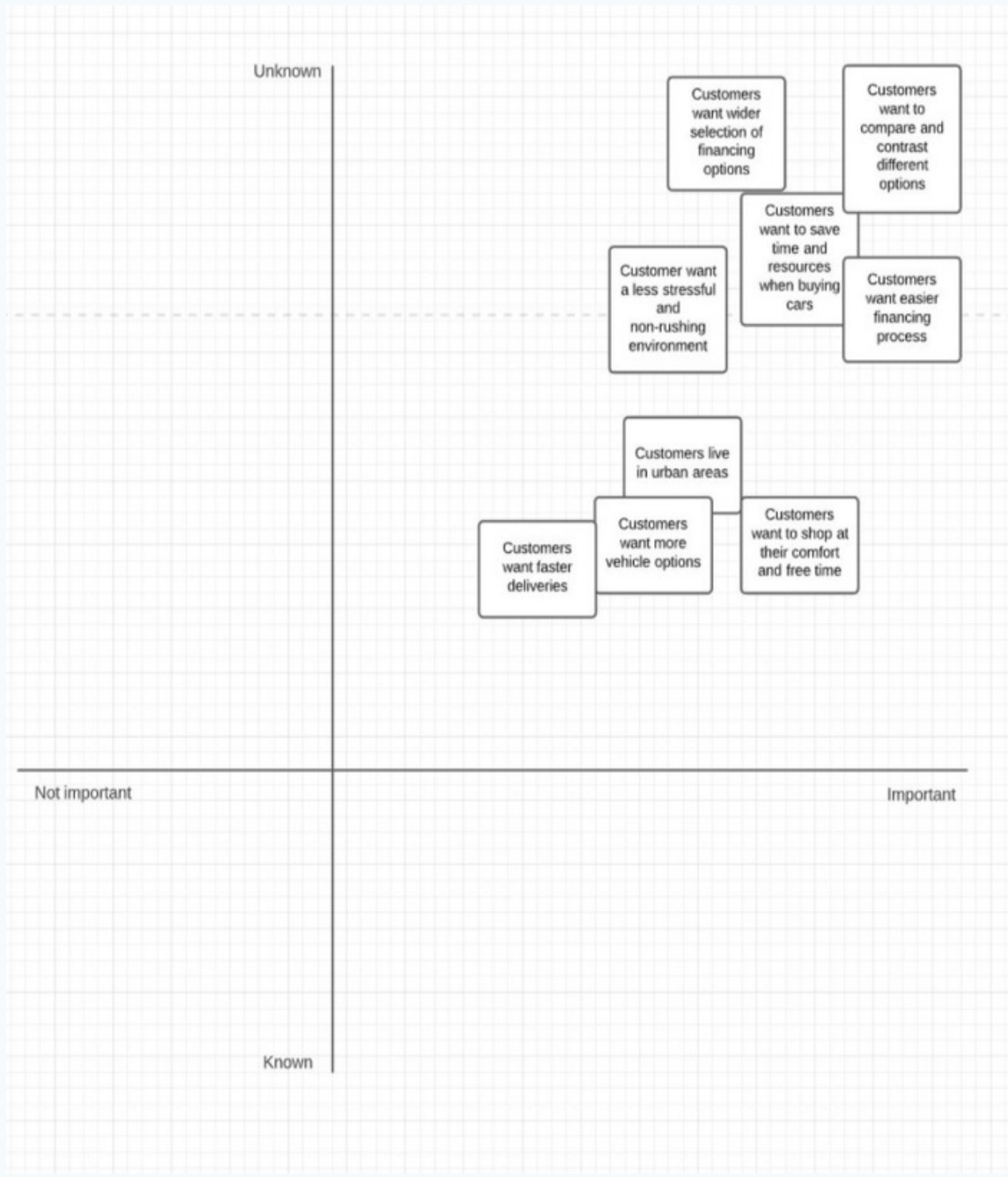
We'll know it's true when consumer prefer our service over traditional dealerships

- What are the ways the measure this?

Assumption Statements

- Customers live in urban areas where car dealerships aren't close by or suburbs where people prefer online shopping. Importance[6] Knowledge [3]
- Customers want to save time and resources when buying cars. Importance[8] Knowledge [8]
- Customers want to compare and contrast different options easily. Importance[9] Knowledge [9]
- Customers want an easier financing process. Importance[9] Knowledge [8]
- Customers want a wider selection of financing options. Importance[7] Knowledge [9]
- Customers want a less stressful and non-rushing environment. Importance[7] Knowledge [6]
- Customers want to shop at their comfort and free time rather than visiting a dealership at the dealership's time of convenience. Importance[8] Knowledge [4]
- Customers want faster deliveries. Importance[5] Knowledge [4]
- Customers want more vehicle options. Importance[4] Knowledge [3]

Product Assumptions Map

Unknown

Customers want wider selection of financing options

Customers want to compare and contrast different options

Customers want to save time and resources when buying cars

Customer want a less stressful and non-rushing environment

Customers want easier financing process

Customers live in urban areas

Customers want more vehicle options

Customers want to shop at their comfort and free time

Customers want faster deliveries

Not important

Important

Known

The Customer

Customer Survey

What was the main reason that made you want to switch from a traditional dealership to buying a car online?

3 responses

Convenient. Saves times from going to the dealer and browse through everything.

Buying a car online is easier and I don't have to travel to a dealership.

This saves a lot of time and hassle of physical paperwork. The process is intuitive and easy.

What were your initial steps to research online car buying, How did you look for available options?

3 responses

First i look for conditon with model year, mileage and price range

I looked at my budget and what cars were available.

I looked for car reviews and found a few online sales companies. I looked for dealerships that sold online.

What did you look for in an online car buying service to stand out?

3 responses

Easy usability, descriptive images to browse.

Easy and quick.

Reasonable price and customer care

Why do you think the feature or service you mentioned above is important for you personally?

3 responses

Personally i like to have all the information i need to buy a vehicle. From pictures to all other specifications that helps decide which car suits the best.

It is important because I expect it to be quick and easy compared to in person dealerships.

Because I like to make purchases that last long and give me a lot of value. I also like reliable services which are customer centric and don't ghost you when you have a problem. I would much rather lay a little extra for a better buying experience.

What were the features that helped you narrow down the car you bought from our service?

3 responses

Easy visual and informative design which was easy to access even throgh my phone.

Money and model feature/filter

The process of selecting was good. Filtration system for cars was very easy to use aswell.

What made it easier for you to complete the purchase from our service?

3 responses

Easy accessbility to everything and smooth transaction

Many pictures and videos to see how the car is.

The ease of financing online makes it easier.

What services or feature sets would have made it better in terms of the purchasing process?

3 responses

Comparison side by side function on same page

A 3D model of the car

Some details were repetitive which should have been intuitive.

Why would you recommend our product to someone you know ?

3 responses

Good selections of cars and accessories as well. Either new or used. Comparatively better prices than other dealers. And good customer service

I would recommend the product to someone I know because it is quiet easy and quick.

Highly likely to spread the word around

What are your expectations from our service post purchasing the product?

3 responses

Yearly reminder for maintenance services

Easy and quick!

I would like to auto schedule inspections and of possible pickup and delivery service aswell.

Car-Buying Process User Journey

Research	Consideration	Purchase
User Goal: Which brand is best for me? / **User Goal:** Is this car right for me?	**User Goal:** Car I afford it? / **Use Goal:** Am I getting a good deal?	**User Goal:** How can I buy it? / **User Goal:** What if something goes wrong?

Customer Needs

1. Customers want convenience when researching cars so that narrowing down the right choice is easier.
2. Customers want the best price available for the products.
3. Customers want detailed descriptions of the cars that they are interested in.
4. Customers want easier financing options and processes.
5. Customers want after-sales care like reminders and service appointments with pickup and delivery options.
6. Customers want stock notification and preorder options.

Features

User Stories and Features

1. Customers want convenience when researching cars so that narrowing down the right choice is easier.

User Story:
As a customer,
 I want to have an efficient solution for researching cars.
So I can spend less time looking over cars that are not compatible with my lifestyle and needs.

Feature:
Intuitive suggestions according to geolocation and lifestyle questions from the beginning of the car buying process(account registration).

2. Customers want the best price available for the products.
User Story:
 As a customer,
 I want to get the best prices available in the market.
So I can get the best value out of the purchase.

Feature:
 Automatic Price matching by comparing the year made model and miles.

3. Customers want detailed descriptions of the cars that they are interested in.
User Story:
 As a customer,
 I want to have all necessary details of the car that I research.
So I can get all of the information that is required to find the best fit.

4. Customers want easier financing options and processes.

User Story:
 As a customer,
 I want to have easy and reasonable financing options all available online.
So I can find the best options easily and skip repetitive and redundant paperwork.

Feature: Easy financing using amazon credit service and other banks that partner with the product. Making pre-approvals.

5. Customers want after-sales care like reminders and service appointments with pickup and delivery options.

User Story: As a customer,
I want to have post-sale services like reminders and pickup and delivery service for service and oil change.
So I can save time in general and keep the vehicles running smoothly.

Feature: Partnership with local service centers for timely service, Google calendar integration, pickup and dropoff service by amazon drivers.

6. Customers want stock notification and preorder options.

User Story:
 As a customer,
 I want to get stock notifications and preorder options for my desired vehicles.
So I can get a good time frame of when I can get the car and what stock is available.

Feature: Reliable database of current stock and preorder options with accurate logistical details. Also could be partnerships with dealerships around the location to fulfill customer needs.

MSCW Framework on Features

Must:
- Automatic Price matching by comparing the year made model and miles.
    - As a car sales service we can only be successful if the prices are not beaten by other dealers. Which is why we need to prioritize this feature above everything else.
- Easy financing using amazon credit service and other banks that partner with the product. Making pre-approvals.
    - The majority of people who buy cars are looking to get easy and reasonable financing. This is a service offered by even the traditional dealers in physical form. Making this completely online would make our product stand out. With existing amazon partnerships with banks and financing tools, this would be an easier feature to complete easily compared to other features as well.

Should:
- 3D Image and well managed and updated descriptions with less jargons
    - This should be in our product when we release it because it makes the buying process and experience much better. This is something we want to have if we want to be a different service from what is currently offered by others.
    - This brings out the aesthetics of the application we would build as well.

Could:
- Partnership with local service centers for timely service, Google calendar integration, pickup and dropoff service by amazon drivers.
    - This could be a feature we can build when we release the product because even the earliest customers would benefit from this. There are existing resources like amazon flex where we can find drivers who would want to help pickup and deliver the vehicles.
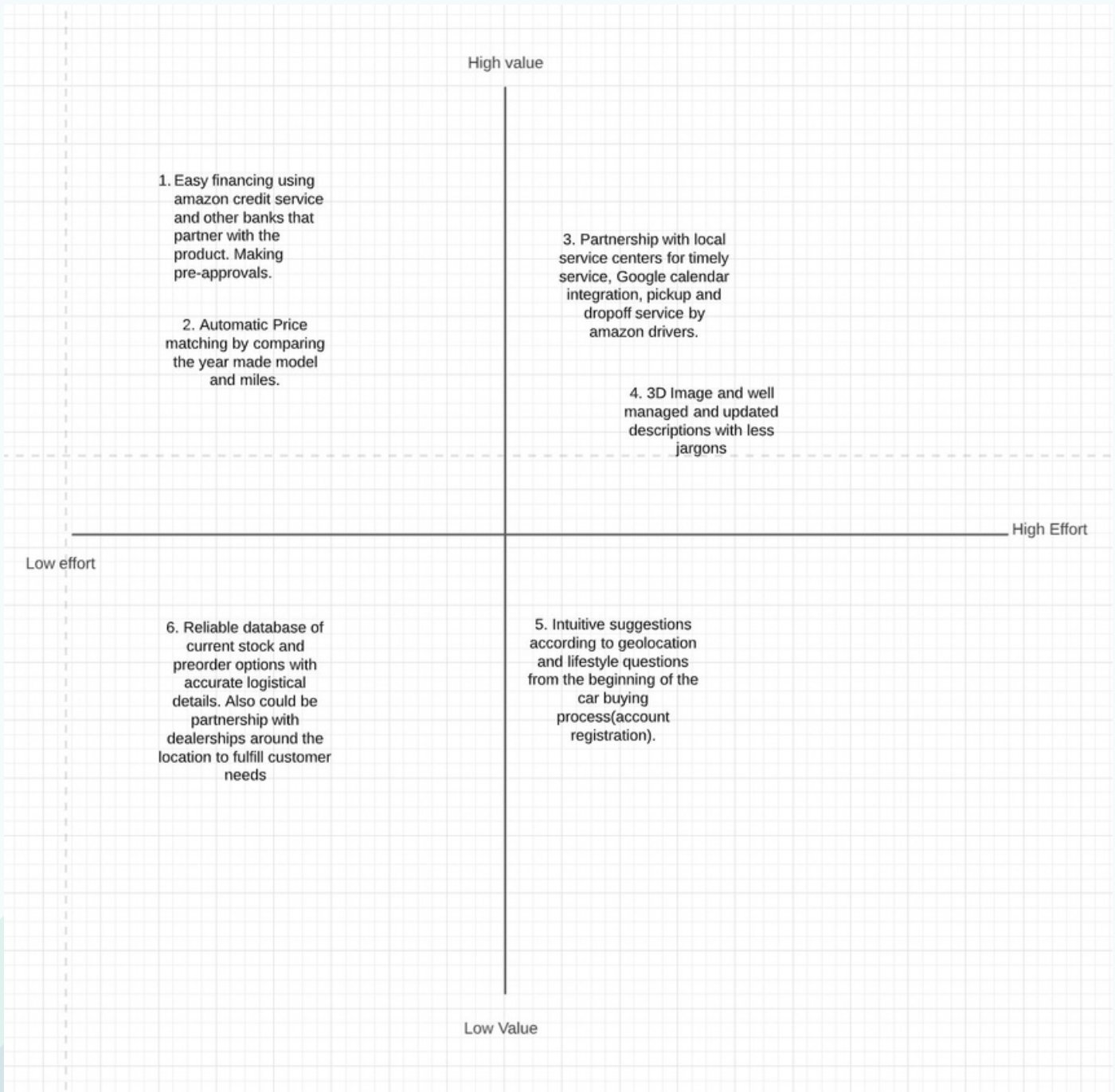
Won't:
- Intuitive suggestions according to geolocation and lifestyle questions from the beginning of the car buying process(account registration).
    - Our product won't have this as there needs to be more work completed for this feature to be cut out. This feature also relies on AI or machine learning to be effective which would be the second priority of the project.

T-Shirt Framework for Features

Feature	Size [Time Frame]
• Intuitive suggestions according to geolocation and lifestyle questions from the beginning of the car buying process(account registration).	XL [8 -16w]
• Automatic Price matching by comparing the year made model and miles.	L [4 - 8W]
• 3D Image and well managed and updated descriptions with less jargons.	L [4 - 8W]
• Easy financing using amazon credit service and other banks that partner with the product. Making pre-approvals.	M [2 - 4W]
• Partnership with local service centers for timely service, Google calendar integration, pickup and dropoff service by amazon drivers.	L [4 - 8W]
• Reliable database of current stock and preorder options with accurate logistical details. Also could be partnership with dealerships around the location to fulfill customer needs	M [2 - 4W]

Effort / Value Map

High value

1. Easy financing using amazon credit service and other banks that partner with the product. Making pre-approvals.

2. Automatic Price matching by comparing the year made model and miles.

3. Partnership with local service centers for timely service, Google calendar integration, pickup and dropoff service by amazon drivers.

4. 3D Image and well managed and updated descriptions with less jargons

High Effort

Low effort

6. Reliable database of current stock and preorder options with accurate logistical details. Also could be partnership with dealerships around the location to fulfill customer needs

5. Intuitive suggestions according to geolocation and lifestyle questions from the beginning of the car buying process(account registration).

Low Value

Rationale:

1. Number 1 is the MVP in my opinion as it is something that can be easily integrated because of the features that amazon currently has. This would mean less effort to be made to create the feature but it would yield a big return as many people prioritize their financing options for buying cars.
2. Number 2 is an important feature which is widely existent in the market which makes it high value. Price matching technology has been in the industry for a while which makes it low effort as well.
3. Number 3 is High effort because it needs more logistical things to be done but it is also high return as it opens up a new dimension of product in the market.
4. Number 4 in my opinion requires a lot of manual effort because taking pictures of the vehicles one by one and maintaining a database of those is time and labor consuming. However this is still a feature that would make the website or app more appealing to customers and has a huge amount of deliverables.
5. Number 5 requires something amazon is already doing which is researching the customer data geographically and curating the selection for customers However, car buying is diverse and it would be hard to understand the buying pattern without further study and research. This again would be a long process which makes it high effort but lower value at least in the initial phase.
6. Number 6 is a low effort because it is something that has existed in the industry and can be easily adapted. It is low value because it is nothing different that what current dealerships already have.

Strategy

OKRs

1. Automatic Price matching by comparing the year, make, model and miles.
The objective of this feature is to drive sales by gaining buyers that are looking for better prices on similar vehicles.
Almost all the customers who are in the market look for pricing on cars in multiple dealerships to get the best price possible for cars that are of the same caliber.
By making price matching a key feature and combining that with the ease of shopping on amazon platform, we can create a package that is superior to the competition.

   Key results:
   - Decrease overall customer turnover by 60%-80%
   - Increase sales over the target by minimum 25%
   - Maintain or increase consumer reviews through affordability standpoint.

2. Easy financing using amazon credit service and other banks that partner with the product. Making pre-approvals.

   Many car buyers are looking to get a financing service that is reliable and affordable. By having in house credit service that helps customers finance their cars conveniently, we can create a better experience for customers.

   - Increase the rate of in house financing customers by 40%-50%
   - Decrease overall time required for consumers to be pre-qualified by half.
   - Decrease repetitive paperwork and customer information collection in the long run.
   - Increase returning and referral customers by 50%-60% by selling financing options alone.

Metrics for features

1. Automatic Price matching by comparing the year, make, model and miles.

   Primary Metrics:
   - Customer Churn / turnover rate (Lesser the turnover the better the feature is working to make business better)

   Secondary Metrics:
   - Site speed
   - window shopping

   Guide Rail Metrics:
   - Revenue per sale after price match

2. Easy financing using amazon credit service and other banks that partner with the product. Making pre-approvals.

   Primary Metrics:
   - Rate of inhouse financing customers compared to total customers.

   Secondary Metrics:
   - Active financing shoppers
   - Pre-qualifying amount accuracy

   Guide Rail Metrics:
   - Revenue from financing service
   - Returning financing customers rate

AARRR Metrics

Feature: Price Matching

Acquisition: Customers are obtained when they choose our service over another service offering the same car.

    Metrics: Customer Churn rate

    A/B test : Automatic price match using website crawlers / customer requested (verified)

Activation: Customers will be able to use our feature when they is accuracy in price matching process

    Metrics: Rate of inhouse financing customers compared to total customers.

    A/B test: 3 months of no payment financing / Rebate service

Retention: The customer is retained when they get a better package compared to what the market currently offers.

    Metrics: Conversion rate

    A/B test: Combination offers with car accessories / Future service rebates

Revenue: Money is made when a sale is made and the matched price is still profitable.

    Metrics: Revenue from each order compared to the buying price.

    A/B test: Close to competitors prices with other offers/ exact price matching

Referral: Customers bring in other customers when they are satisfied by the purchase and the post-purchase services.

    Metrics: Referral rate

    A/B test: Referral bonus coupons / Rewards gift cards or vouchers