

A company will go to B2B + B2C, supplier , and B2C  
Both have different architecture

Points for reward 👍

- 1) Sales
- 2) Service
- 3) Rating
- 4) Set of users (base supplier)
- 5) Amount of time with main company

Direct tip given to the base seller who have sold by a customer ...

A company may sell different product ...

For each product there will incentive ... different categorization of the product and sells

Preference to the online payment — why? ... different atm / specific bank – payment platform may collaborate with the company ...

Reward based upon exponential — 50-500-5000 tino ke liya lineer nahi hoga .....

Type of incentive —

May lead to convoy effect —

Every hierarchy should be in view of the main seller ..

Every

seller have their different threshold

Reward will be automated-(autopay) — checks should done —

Threshold depends upon the market

Trustworthy will get different rewards with different threshold

Like both at same sell getting 500 reward coupon – but for new it is valid for less time and for other it is for different time ...

B2B they can exchange the points into case – value will decrease —

B2C mein they will play with points only

Play with points – according to the collaboration the main with other these points can be converted to buy other company product – or can be directly converted as cash—

Your points will be valid – uske business + collaborator ke —

**Point to cash / point to point**

Point to cash rate will depends on

Important points to think about –

1. Point to cash exchange rate will be on the basis of company shares & stocks
2. Points to Points conversion with other company
3. Cash to point conversion is not possible —
- 4.

Point value will never exceed the actual total value in form of cash –

100 points will never cross 100 rupee cash – given 100 points have same purchasing power in the given company-

Security Issue

Incentive will be taken from point itself ----

100 rupee – 80 rupee kharida –

20 rupee- 15 rupee — same company which have provided

1 rupee — for maintenance and operation

An interface of user have

Different seller coin will be there — .

Assumptions :

- 1 ) all company believes in the mediator company
- 2 ) each point has a specific cash value that has to be assigned by the respective company.
- 3) points are owned by individuals / users and not by the given company

Solution )

Marks distribution :

POINTS	CRITERIA
20	Solution validity in terms of incentives for sellers to use this system.
40	Identifying and solving the technical challenges. For example, where will the information be stored? Will there be a common database, and if so, who will maintain it? What about security issues? It is expected that your team anticipates as many technical challenges as possible and gives solutions for the same.
20	Clarity and Presentation
20	Novelty

Proposed solution :

How will the sellers get the incentives ?

When the particular point of the firm gets exchanged , that company will get some percent of profit from that exchanged amount.

So basically there will be interface for the customer —

What will it contain and How it will look like ?

This will be unique and will be given unique id , this can be made using simply any government id proof / upi id ... , it can be identified mobile number or email

This will contain all the sellers and the corresponding coins/coupons awarded to the particular customer...

— may be set of coins of different expiry periods – so for the given company of a particular will these data ...

Also these data will be concurrent to the company data for that customer so that data should be same at both the end ....

How can the conversion of the point be done ?

So we are giving convenience to the seller itself to decide what the valuation of their coin/ or any coupon they have ...

Issue:

There may be some company which can give high purchasing power when bought in same company during exchange it giving very less to the points to inr —

Solution is we are not giving incentive on the basis of points rather we are giving incentive on the basis of converted INR ...

How will the incentive be decided ?

Average order value and we will decide it .....

What will be the ordering of the sellers ?

In a customer database there will be 100s of seller and their corresponding points , but we cant show all on one page ... basically we will make an auto recommendation system that will be decide

1. Sort by decreasing order of points
2. Coins having the nearest validity date .

There will be intermediate regulatory body that will manage all the things and all the seller should belief on this ... it have access to all the data but wont be shared of one with other as this may influence the customer base ....

Outline for ppt :

1) Our understanding from the problem statement

2) Assumptions being made

3) Explanation of the solution

Breakdown of the cashflow component

How the seller will be incentivized by explaining in a diagram

Which seller to be incentivized by proper explanation

Component of the cash flow with which the seller will be incentivized

4) Technical requirements :

-> Interface position

-> Integration process

-> DB requirements

-> probable security issues that can come

-> how do we interlink the system

-> small description about the underlying algorithm that will help us in deciding which coins to convert and all the sorting criterias on the list of coins on the basis of expiry date , highest value of points , include/exclude option along with other factors

-> description about the concurrency controls , secure transactions

5) Validity of the solution

6) Future prospects and conversion to large scale in terms of db optimisation and other macro economic factors

7) Conclusion

## Slide 1: Introduction

- **Title:** Solution Overview for Seller Incentive System
  - **Agenda:**
    - Understanding the problem
    - Proposed solution and key components
    - Technical requirements
    - Future scalability and conclusion
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## Slide 2: Our Understanding of the Problem Statement

- **Key Points:**
  - Detailed analysis of the problem and its implications.
  - Identification of the need for an efficient incentive system for sellers.

- The importance of balancing incentives and system-wide financial feasibility.
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## Slide 3: Assumptions Made

- **Examples:**
    - Sellers are categorized based on performance metrics.
    - Cash flow components are sufficient to fund incentives.
    - Conversion of points into incentives does not negatively impact the system's liquidity.
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## Slide 4: Explanation of the Solution

- **Breakdown of Cash Flow Components:**
    - A clear segmentation of cash flow into actionable components.
  - **Diagrammatic Representation of Seller Incentives:**
    - Visualizing how sellers are incentivized using cash flow.
  - **Criteria for Choosing Sellers to Incentivize:**
    - Performance metrics such as sales volume, customer retention, and engagement.
    - Detailed explanation of how these metrics are used to identify the most impactful sellers.
  - **Specific Components of Cash Flow Used for Incentives:**
    - Breakdown of percentages or allocations to highlight financial planning.
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## Slide 5: Technical Requirements

- **Interface Positioning:**
  - Placement of the interface within the system architecture for seamless operation.
- **Integration Process:**
  - Step-by-step outline of how this solution integrates with the existing ecosystem.
- **Database (DB) Requirements:**
  - Key considerations for database design and storage needs.
  - Handling large-scale data efficiently.
- **Probable Security Issues:**
  - Identifying risks like data breaches, unauthorized transactions, and fraud.
  - Proposed measures to mitigate these risks.
- **System Interlinking:**

- A brief description of how different modules interact to ensure smooth functionality.
  - **Underlying Algorithm Description:**
    - Sorting coins based on factors such as expiry date, highest value of points, and include/exclude options.
    - Explanation of the algorithm that determines which coins to convert.
  - **Concurrency Controls and Secure Transactions:**
    - Measures to ensure data consistency during simultaneous operations.
    - Security protocols for safeguarding sensitive transaction data.
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## Slide 6: Validity of the Solution

- **Proof of Concept:**
    - Evidence or scenarios validating the proposed solution.
  - **Key Metrics:**
    - Highlighting performance metrics to measure success.
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## Slide 7: Future Prospects and Scalability

- **DB Optimization:**
    - Strategies for database optimization to handle increasing volumes of data.
  - **Macro-Economic Considerations:**
    - Analysis of external factors such as market trends and economic conditions.
  - **Large-Scale Implementation:**
    - Vision for expanding the solution to support a larger user base.
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## Slide 8: Conclusion

- **Summary:**
  - Recap of the problem, solution, and its benefits.
- **Key Takeaways:**
  - A well-structured system to incentivize sellers effectively and efficiently.
  - Clear roadmap for scalability and future improvements.
- **Closing Statement:**
  - Commitment to innovation and creating value for all stakeholders.
  - <https://hackathon.ecelliith.org.in/dashboard/portal>

# Introduction

## About our Understanding of the problem statement

Reward systems strengthen customer loyalty but often limit flexibility by restricting points to specific sellers, resulting in unused rewards and reduced satisfaction. A Unified Reward System (URS) enables customers to combine and redeem points across vendors, enhancing value and satisfaction. However, seller resistance may arise due to loyalty dilution and revenue impact concerns. For success, the URS must provide compelling seller incentives, drive customer engagement, ensure fair point exchange mechanisms, and seamlessly integrate with existing systems. By balancing customer convenience with seller benefits, the URS can establish a scalable, transparent ecosystem that benefits all stakeholders.

## Assumptions :

1. Once a reward is assigned to a user, it becomes their sole property, but the evaluation of the reward will still be decided by the company at any point in time.
2. Each company must define the equivalent valuation of their reward points in INR, which will be utilized by the URS authority during point exchanges.
3. All sellers trust the URS authority to maintain data integrity and ensure proper incentive allocation.

## What benefits will the seller get, when it gets involved in the URS system?

### Average Coupon Redemption Rate

On average, the redemption rate of digital coupons is 7% or higher.

177.9 million consumers redeemed a coupon in 2022. That accounted for 68.2% of the adults in the country.

Source: [Talon.One](#), Capital One Shopping Research.

In the first half of 2022, coupon redemption fell down by 19%.

The redemption rate went down from 465 million to 375 million during this time.

At the same time, coupon distribution rates decreased by 17%.

**1) Increased customer satisfaction because of the flexibility of converting the points that will motivate the users to spend more with that seller.**

→ Increased customer interaction arises from the flexibility of converting loyalty points, offering users greater value and personalization. This motivates customers to spend more with the seller, as they feel rewarded and empowered. Such flexibility enhances the customer experience, builds trust, and strengthens long-term loyalty, driving repeat purchases.

**2) Branding of the company takes place**

Branding improves when loyalty programs with flexible point conversion enhance customer perception by showcasing the company's value, innovation, and customer focus. These programs create strong brand associations, boosting trust and differentiation. Companies typically spend 5-10% of their revenue on branding, but flexible loyalty programs can reduce these costs by up to some extent. By driving customer satisfaction and organic advocacy, they lower reliance on paid branding strategies and improve ROI.

ROI stands for **Return on Investment**. It measures the profitability of an investment by comparing the return (or benefit) to its cost. The formula is:

$$\text{ROI (\%)} = [(\text{Net Profit} / \text{Investment Cost}) \times 100]$$

A higher ROI indicates that the investment is more effective at generating profits relative to its cost.

At the time of payment, the UI panel displays the user's available tokens from various sellers, subtly reminding the user of those sellers. This creates a psychological connection, influencing the user's choice when making future purchases—either from the same seller or a different one. As a result, sellers compete to appear at the top of the list to maximize visibility and stay top of mind for customers. This dynamic reshapes the ecosystem, prompting sellers to adapt the loyalty program to retain and attract customers more effectively.

**3) Gains some amount of the profit from the point conversion that will be given by the URS authority that will cut some amount of money while exchanging the reward points.**

The company can gain additional incentives from the point conversion system, which will be given by URS authority by charging a small fee or cutting a percentage when customers



exchange their reward points. This fee, set by the URS authority, allows the company to recover some costs while still offering value to the customer. This system balances profitability with customer satisfaction

**4) It will help the company to develop a competitive strategy by analysation of how much the points are exchanged and how much the reward points are redeemed within the same company.**

Tracking point exchanges and redemptions helps the company develop a competitive strategy by analyzing customer behavior. Understanding how often points are exchanged and redeemed provides insights into customer preferences, engagement levels, and popular rewards. This data enables the company to tailor offers, optimize loyalty programs, and stay ahead of competitors by responding to customer needs more effectively.

**5) Why will the sellers be willing to get into the circle of URS? Give an example with a scenario**

Sellers would be willing to join the URS circle because it offers access to the competitor's customer base, drives repeat business, and enhances brand loyalty. For example, if a retailer joins the URS platform, their customers can earn and redeem points across various participating sellers. This encourages customers to spend more, knowing they can earn and use points at multiple locations. As a result, the retailer gains more foot traffic, increases sales, and benefits from cross-promotions with other brands, all while reducing marketing costs by tapping into the shared customer pool.

**For example:**

Company A and Company B are selling the same product. Company A allows this exchange program, while company B does not. As a user, I will be willing to spend my money with company A as it will give me points on some purchases I can use across other platforms. In this way, A will have increased customer retention and expansion. Thus, it will force Company B to come under this system to retain its customers and expand.

## **Validity of the solution**

**From the User's Perspective:**

The user is happy because they can earn and redeem points across multiple sellers, enhancing the value of their purchases. The flexibility of converting points into rewards, discounts, or products adds convenience and personalization, making them feel appreciated. This seamless experience strengthens their loyalty to the brand, encouraging repeat visits and increased satisfaction.

**From the Seller's Perspective:**

The seller will generate a secondary source of income which the URS authority will give him as

per the points that will be exchanged. Along With it, The seller benefits from increased foot traffic and repeat customers due to the URS system. Additionally, the data from point exchanges helps optimize product offerings, improving marketing strategies and product listing

**From the URS Authority's Perspective:**

The URS authority gains by fostering a collaborative ecosystem where multiple sellers participate, increasing the platform's reach and usage. They benefit from transaction fees or a small percentage of points exchanges, which generates consistent revenue. The authority's role in managing the system ensures smooth operations and provides valuable insights to sellers, helping them improve their loyalty programs and customer experiences.

**Future Prospects :**

Technical things :  
Entities :

**Application outflow:**

New User Registration:



Many apps and shops offer reward points to loyal customers. These points can only be used at those respective shops / apps. From the customer point of view, it would be beneficial to merge reward points or use them across sellers.

#### Phase 1

Design schemes which give incentives for the sellers to allow this too and describe how they will be implemented and integrated. A detailed document of around 4 pages is expected. This is not a hard limit; if your plan requires more elaboration, then that is encouraged.

#### Evaluation

points	criteria
20	Solution validity in terms of incentives for sellers to use this system.
40	Identifying and solving the technical challenges. For example, where will the information be stored? Will there be a common database, and if so, who will maintain it? What about security issues? It is expected that your team anticipates as many technical challenges as possible and gives solutions for the same.
20	Clarity and Presentation
20	Novelty

#### Submission Guidelines

- Provide a GitHub repository link containing all the files and assets.
- Include a README.md with a brief project overview.
- Ensure the repository is well-organized.
- Do not make any changes to the repository after the deadline.