

# ***EVALUATING EBAY'S INFORMATION SYSTEMS STRATEGY***



**Imperial College Business School | Information, Incentives, and Contracts**

# Business Overview

## Business Overview



### Background

- eBay Inc., founded in 1995, is a multinational e-commerce corporation based in San Jose, California
- It operates as an online auction and shopping website in which people and businesses buy and sell a wide variety of goods and services worldwide



### Revenue Streams

- Listing fees & final value fees
- Promoted listing
- eBay Plus subscription
- Advertising revenue
- Income from subsidiaries

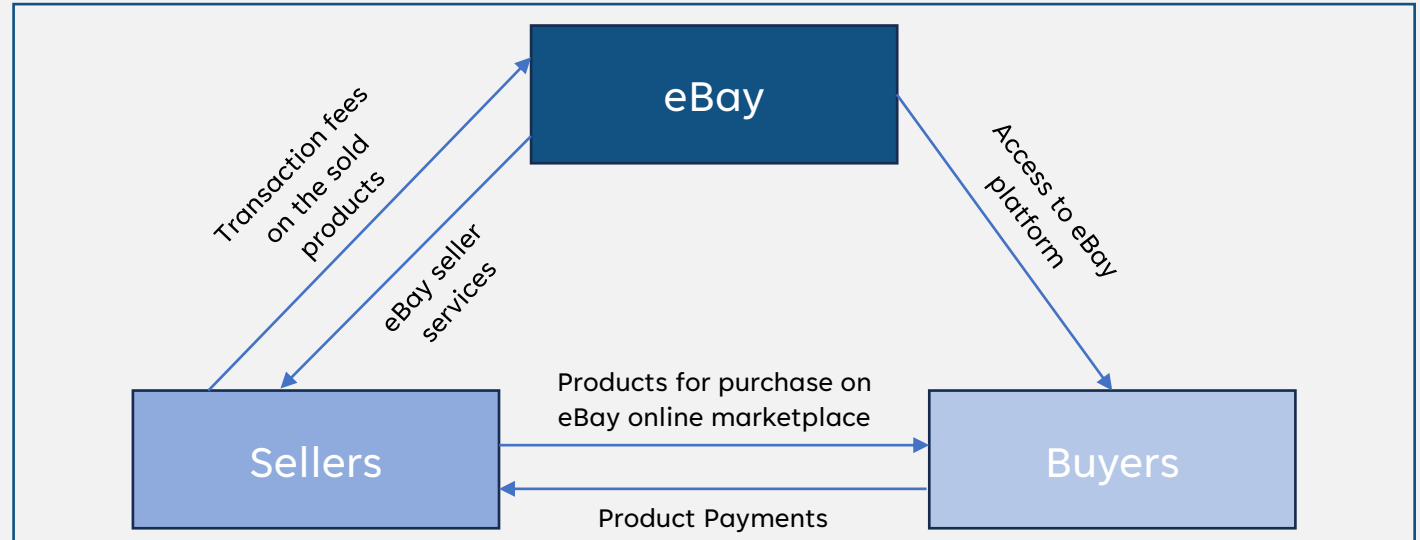


### Market Places

- C2C: individual sellers list items for sale to other individuals
- B2C: businesses sell directly to consumers
- C2B: consumers sell directly to businesses

## Business Model

**Mission:** “We connect people and build communities to create economic opportunity for all”



### Stakeholder's Desires



**Buyers:** Desire High Quality Sellers & Consumer Surplus



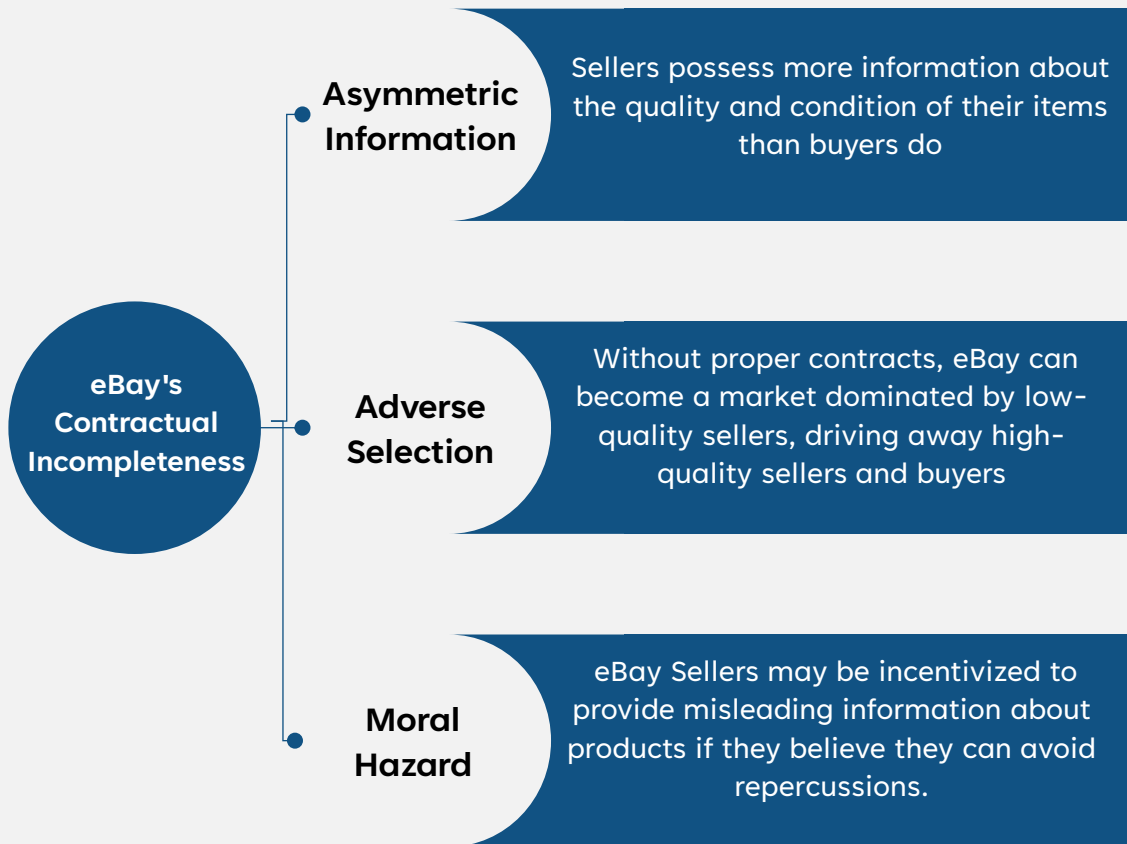
**Sellers:** Desire Sales Volume & Repeated Sales



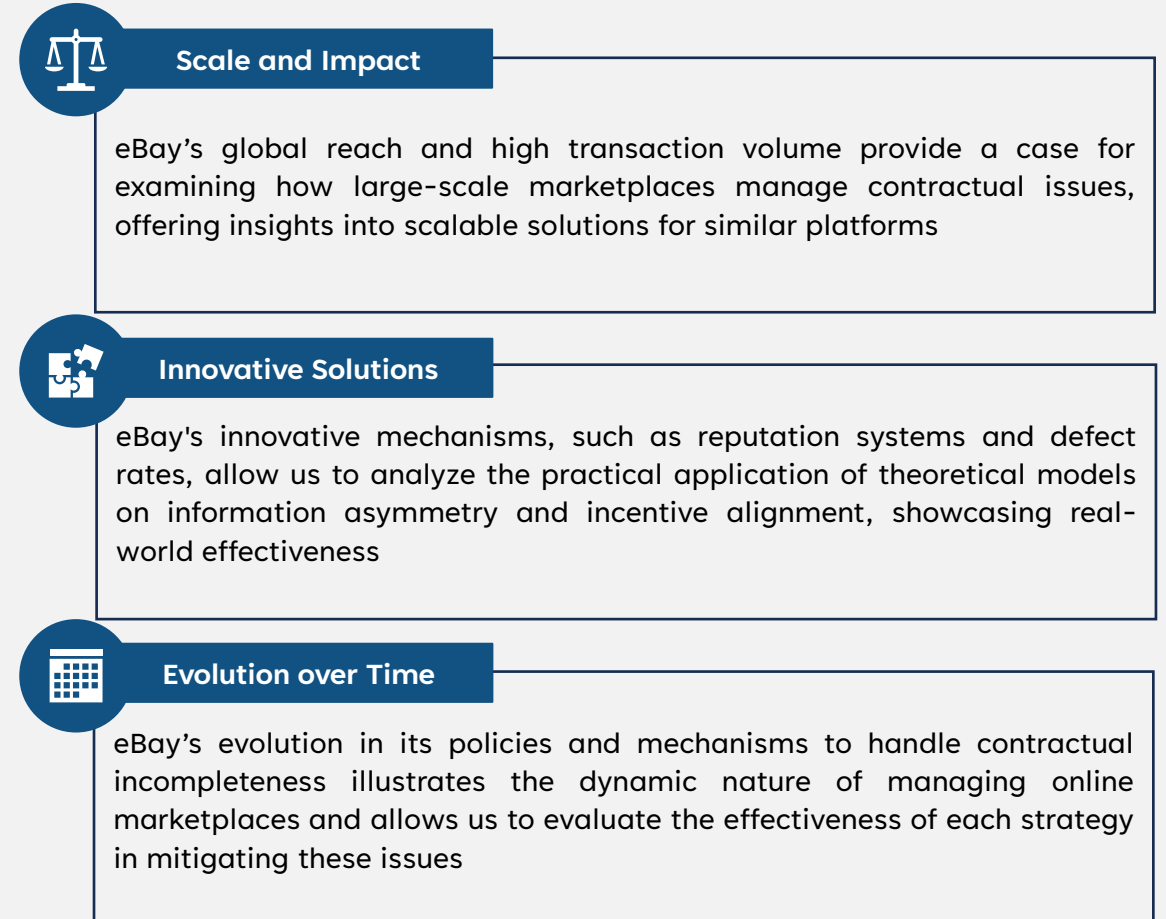
**eBay:** Desire Sales Volume, High Quality Sellers, Repeated Sales

# Strategic Rationale for eBay

## eBay's Contractual Challenges

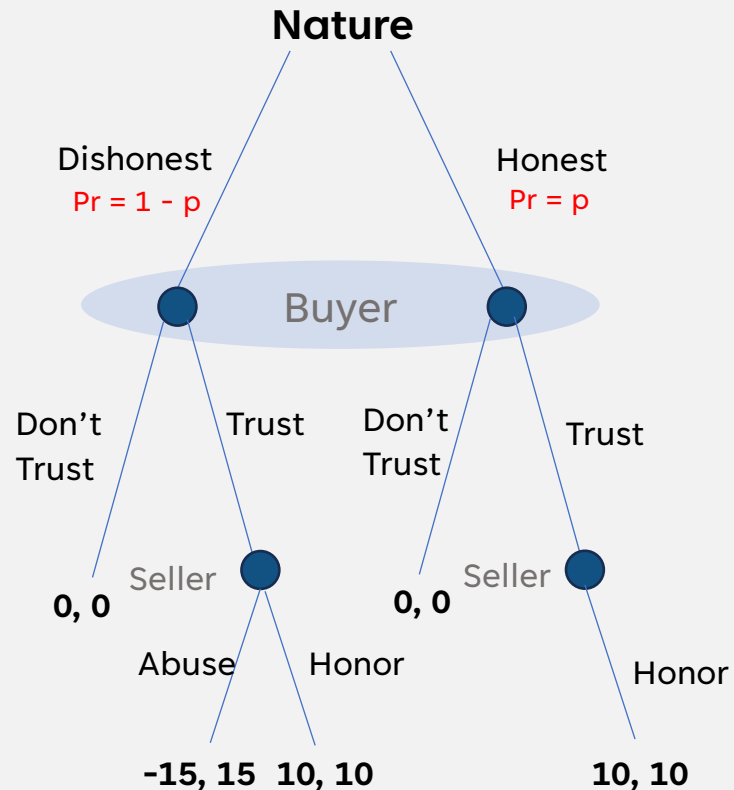


## Decision Drivers



# Understanding eBay's Necessity for Feedback and Reputation Systems using Game Theory and Principal-Agent Frameworks

## Modeling Reputation



## Explanation

**Reputation** is a vital aspect for eBay to function as a marketplace

1

**One-Period Game:** Suppose Price = 15, Buyer WTP = 25, Seller Costs = 5

- An opportunistic seller will **always** cheat, due to no negative consequences
- Buyers, aware of this tendency will anticipate cheating, and will only trust sellers if the probability of 'Honest' ( $p$ ) meets a specific threshold

$$10p + (-15)(1-p) \geq 0 \rightarrow p \geq 0.6$$

2

**Two-Period Game**

- An opportunistic seller may honour the first transaction to secure future gains. They will be honest in the first period if  $\delta \geq 1/3$  ( $\delta$  = discount factor)
- Buyer's Condition for trust:  $p(10+10\delta) + (1-p)(10-15\delta) \geq 0$
- As  $\delta$  approaches 1,  $p \geq 0.2$ : If no [or low] discounting, repeated sales induce honesty

$\infty$

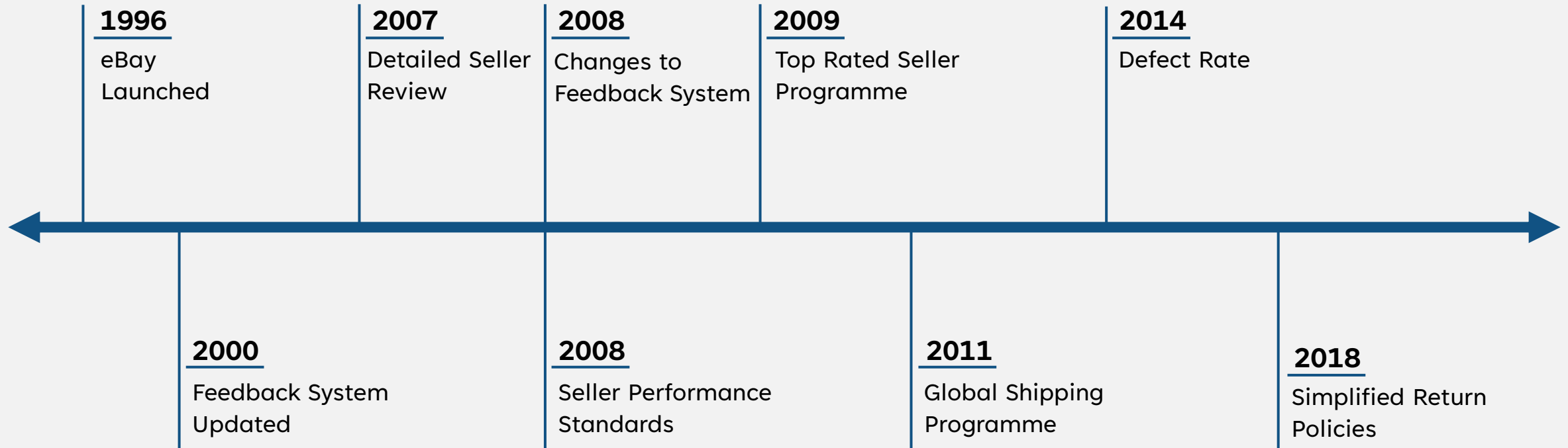
**Infinitely-Repeated Game**

- 'Honest' sellers will always have future sales & profits to look forward to
- If  $\delta$  is large:
  - Dishonest sellers always behave
  - Buyers always trust sellers
  - By cheating, sellers destroy future profit – Grim Trigger Strategy



Theory shows that eBay needs to **enhance and enforce feedback and reputation systems** to sustain an environment where **sellers are incentivized to be honest and buyers can always trust seller service is high quality**

# eBay Timeline

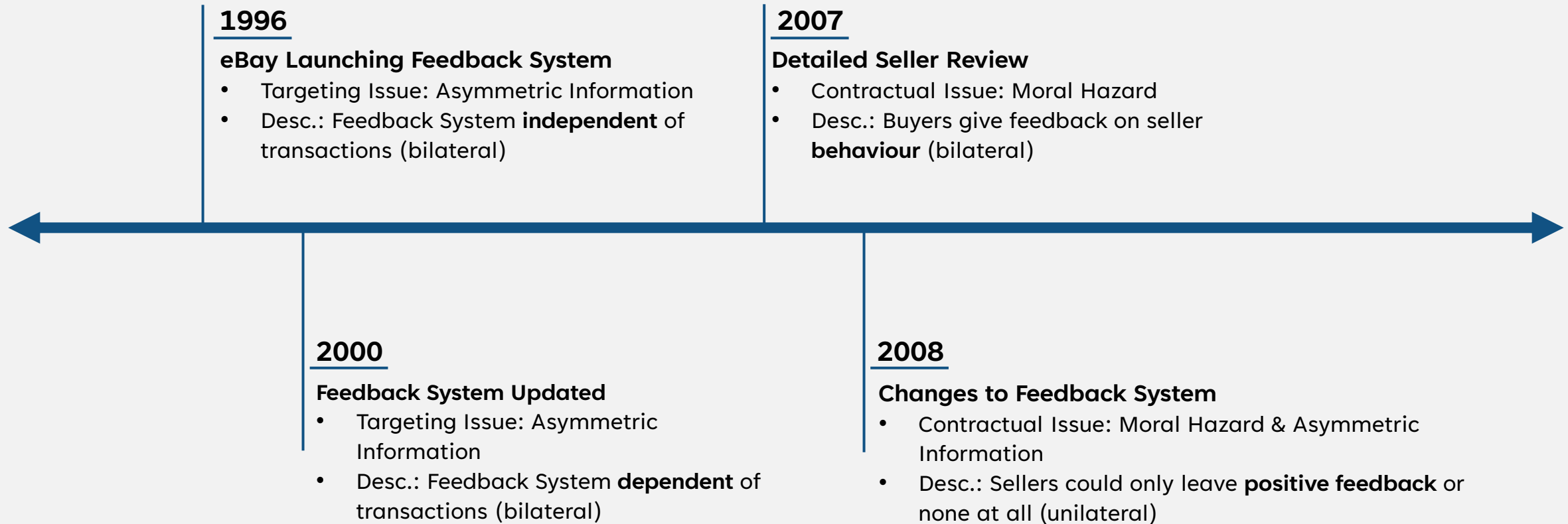






# Part 1: Relationships Between Buyers & Sellers

# Overview of eBay's Feedback System Evolution



# eBay Launching Feedback System

1996

2000

2007

2008

## Overview

### Aim:

- Build trust and transparency by reducing information asymmetry and promoting honest behaviour through reputational incentives

### Mechanism:

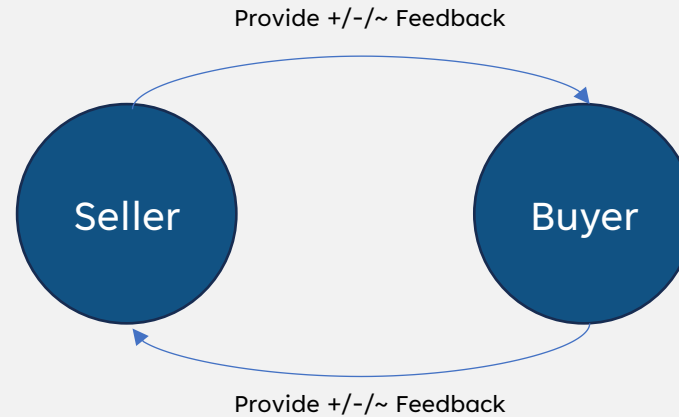
- Allowed both buyers & sellers to rate each others transaction
- Ratings can be positive, neutral, or negative with a textual comment

### Feedback Score:

- Score calculated through subtracting number of negative ratings from positive ratings

### Visibility:

- Immediately visible to trading partner and the entire eBay community



- ✓ **Moral hazard:** Motivate good behaviour through transparency
- ✓ **Information Asymmetry:** Transparency of behaviour

## Challenges



### Reciprocity and Retaliation:

- Both parties could rate each other, leading to concerns about reciprocal positive ratings and retaliatory negative feedback



### Strategic Feedback:

- Users often left positive feedback in anticipation of receiving positive feedback in return,
- Thereby, avoided leaving negative feedback and prevented retaliation



### Feedback Withdrawal:

- Feedback could be mutually withdrawn if both parties agreed,
- Can lead to strategic negative feedback to force mutual withdrawal and avoid visible negative ratings



# Ebay Feedback System Update

1996	2000	2007	2008
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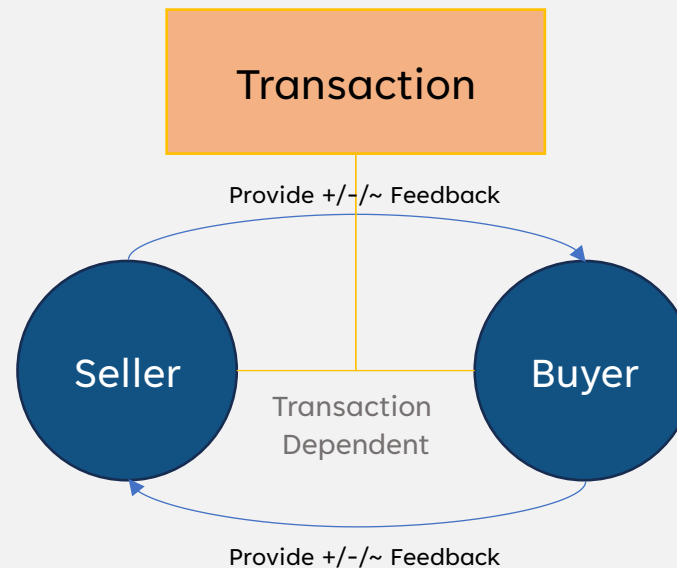
## Overview

### Aim:

- Make the feedback **dependent on completed transactions**, to ensure that ratings are actually based on actual occurrences

### Improves Asymmetric Information:

- Reduces the risk of arbitrary or non-transactional feedback
- Increases reliability of the feedback system by ensuring feedback is based on actual transactions
- Improves information gap between buyers and sellers



## Challenges



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# Detailed Seller Rating (DSR)

## Overview

### Aim:

- Provide a more comprehensive and transparent feedback mechanism that allows buyers to evaluate **multiple aspects** of a seller

### Mechanism:

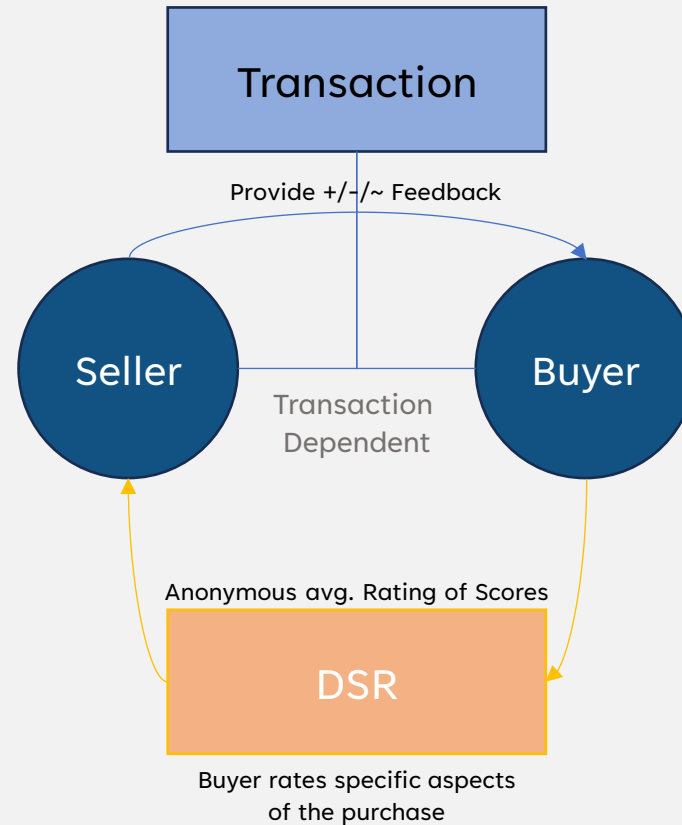
- Buyer rates seller on 4 criteria: item description accuracy, communication, shipping speed, and shipping charges
- Ratings scored on a scale from 1-5 stars

### Feedback Score:

- Given on as an aggregated average score
- Anonymity at >10 reviews left, deminishing

### Visibility:

- Visible on sellers profile
- Anonymity drives move against moral hazard



## Issues Addressed

### Moral Hazard

- Granularity: Provides specific feedback across multiple dimensions, incentivizing sellers to maintain high standards and reflecting actual performance
- Anonymity: Ensures accurate feedback by eliminating fear of seller retaliation, encouraging honest and truthful feedback

### Adverse Selection

- Allows buyers to make informed decisions by showing seller performance across different criteria, reducing adverse selection

### Information Asymmetry

- Allows buyers to make more informed decisions

# Revamping the Feedback Systems

## Overview

### Aim:

- Reduce the moral hazard, enhancing feedback reliability and assure a lack of retaliation from the seller

### Mechanism:

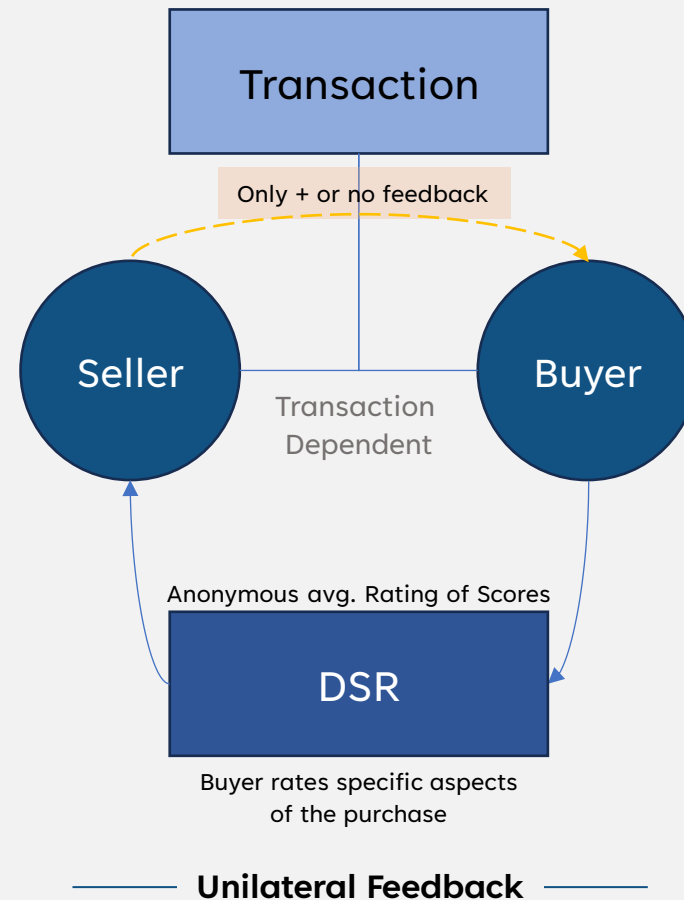
- Shift to unilateral feedback mechanism by only allowing sellers to place positive feedback or no none at all
- Prevents any retaliations

### Feedback Score:

- Will increase the positivity

### Drivers:

- Industry experts saw the change as necessary to address the existing issues with the feedback system and improve the overall buyer experience



## Issues Addressed

### Moral Hazard

- Encourages honest feedback without fear of retaliation
- Sellers maintain high standards to avoid negative feedback

### Adverse Selection

- Easier to identify and avoid bad sellers
- Honest feedback helps buyers make informed decisions

### Information Asymmetry

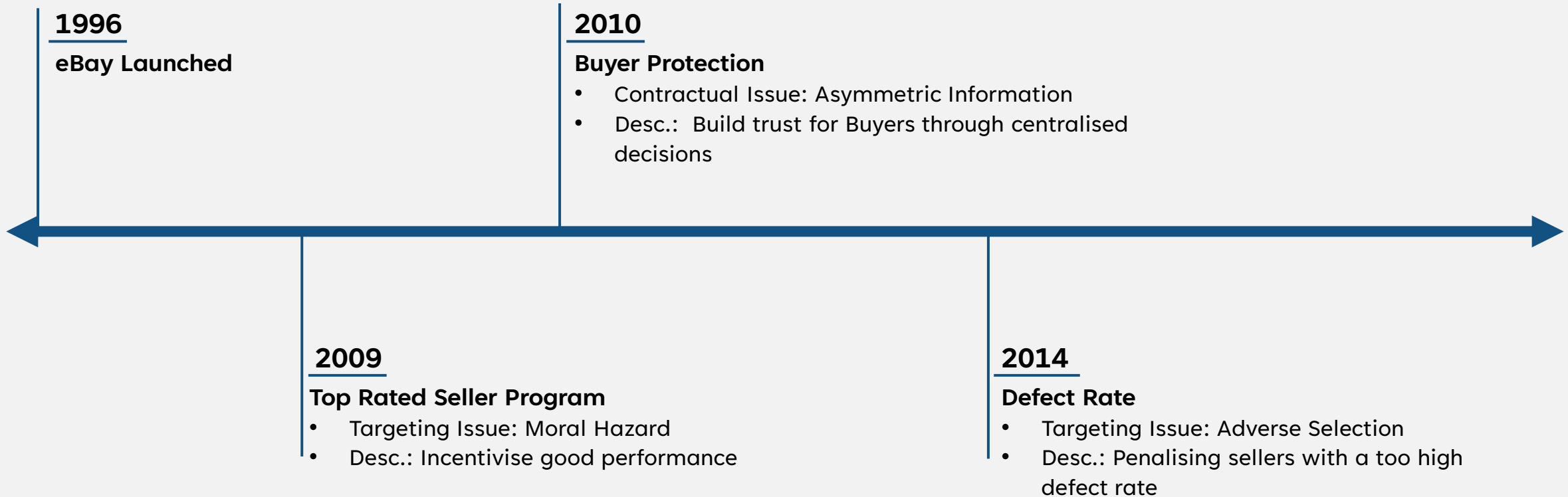
- Reliable feedback reduces information gaps
- Buyers access trustworthy feedback, enhancing market transparency



## Part 2: Relationship Between Sellers & eBay

# Timeline of eBay Seller Developments

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# Top Rated Seller (TRS) Program

2009

2010

2010

## Overview

### Aim:

- Designed to align incentives of sellers and eBay, as sellers strive for advantage through the badge, and eBay maintains standards

### Mechanism:

- Sellers receive a badge if they meet specific performance standards and criteria:
  - Sales Volume: >100 transactions & £1,000 in sales yearly
  - Account Standing: >90 days active
  - Late Shipment Rate: <3% of late transactions are shipped late
  - Case Resolution Rate: <0.3%
  - Tracking Information: >95%

### TRS Advanatages:

- Signaling of high quality seller/product
- 20% discount on final value fee
- Visibility on best match

## Issues Addressed

### Solving Contractual Issues

#### Information Asymmetry

Acts as a reliable signal, reducing information asymmetry by indicating high-performance sellers

#### Adverse Selection

Helps buyers identify trustworthy sellers, reducing the presence of low-quality sellers

#### Moral Hazard

Performance monitoring and the potential loss of TRS status incentivize sellers to maintain high standards and avoid risky behaviour

### Top Rated Seller

TRS sellers achieve higher sales prices and volumes, reflecting the badge's positive signaling effect

# Buyer Protection (eBP)

2009

2010

2014

## Overview

### Aim:

- Designed to enhance the overall trust and reliability of eBay's marketplace, thereby benefiting sellers by fostering a secure and reputable trading environment

### Mechanism:

#### Seller Requirements:

- Sellers must comply with eBay's performance standards, which include timely shipping, accurate item descriptions, and effective resolution of conflict to minimise disputes and claims

#### Protection Process:

- Buyers can file claims - item not received / item not as described
- Sellers are encouraged to resolve issues directly with customers to avoid escalation to eBay Resolution Center
- eBay may step in if sellers are unable to do so

## Issues Addressed

1

### Solving Contractual Issues

#### Information Asymmetry

- eBay's buyer protection addresses information asymmetry by providing reassurance to buyers
- Ensures that buyers are protected against receiving items not as described or not receiving items at all

2

### Advantages for Sellers

#### Increased Buyer Confidence:

- Reassures buyers, making them more likely to purchase from sellers, increasing sales

#### Structured Dispute Resolution:

- Clear process for resolving disputes, helpin maintain positive feedback

3

### Impact on Sellers

#### Reduced Transaction Risks:

- Helps sellers minimize disputes and the risk of negative feedback, leading to stability

#### Improved Customer Relationships:

- Effective dispute resolution and high service standards foster better relationships with customers, encouraging repeat business and long-term success.

### eBay Buyer Protection

eBP enhances buyers' confidence in the platform and provides a mechanism for dispute resolution therefore leading to higher frequency of transactions

# Defect Rate

2009

2010

2014

## Overview

### Aim:

- Measures the percentage of a seller's transactions with defects, thereby ensuring higher quality and reliability in the marketplace.

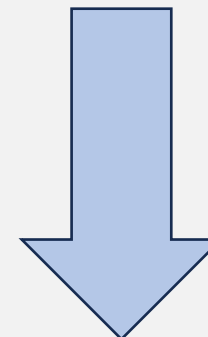
### Components of Defect Rate:

- Cases Closed Without Seller Resolution:**
  - Buyer opens a case, and it is closed without a resolution from the seller
- Returns for Items Not as Described:**
  - Buyers return items because they do not match the listing description
- Late Shipment Rate:**
  - Items shipped after the expected handling time

→ To maintain good standing, sellers must keep their defect rate below 2%

## Contractual Issue Addressed

### Adverse Selection



- Defect rate penalizes sellers with high defect rates, addressing adverse selection by discouraging low-quality sellers.

→ Incentivises sellers to maintain high standards, promoting trust and reliability in the marketplace.



# Part 3: Evaluation of eBay's Strategies

# Evaluation of eBay's Reputation Systems



## Price Premiums

### Higher Reputation Sellers

**8.1%**

**Price Premium:** High-reputation sellers receive an average price premium of 8.1% over new sellers

### Badged Sellers

**3%**

**Price Premium:** Badged sellers receive a price premium of about 3% on average

Buyers are willing to pay a premium for the assurance of dealing with a reputable seller



## Increased Sales Likelihood

### High Feedback Scores

**3.4%**

**Increased Likelihood:** Sellers with higher feedback scores have a 3.4% increased likelihood of their items being purchased compared to those with lower feedback scores

### Buyer Protection Program

- eBay Buyer Protection program **increased market share** of high-quality sellers and results in a higher probability of sales for badged sellers

High-reputation sellers contribute to a more trustworthy and efficient marketplace, encouraging repeat business



## Market Efficiency and Welfare Effects

### Increase in Market Efficiency

**2.9%**

**Increase in Welfare:** By mitigating adverse selection, eBP increased overall welfare

### Reduction in Negative Ratings

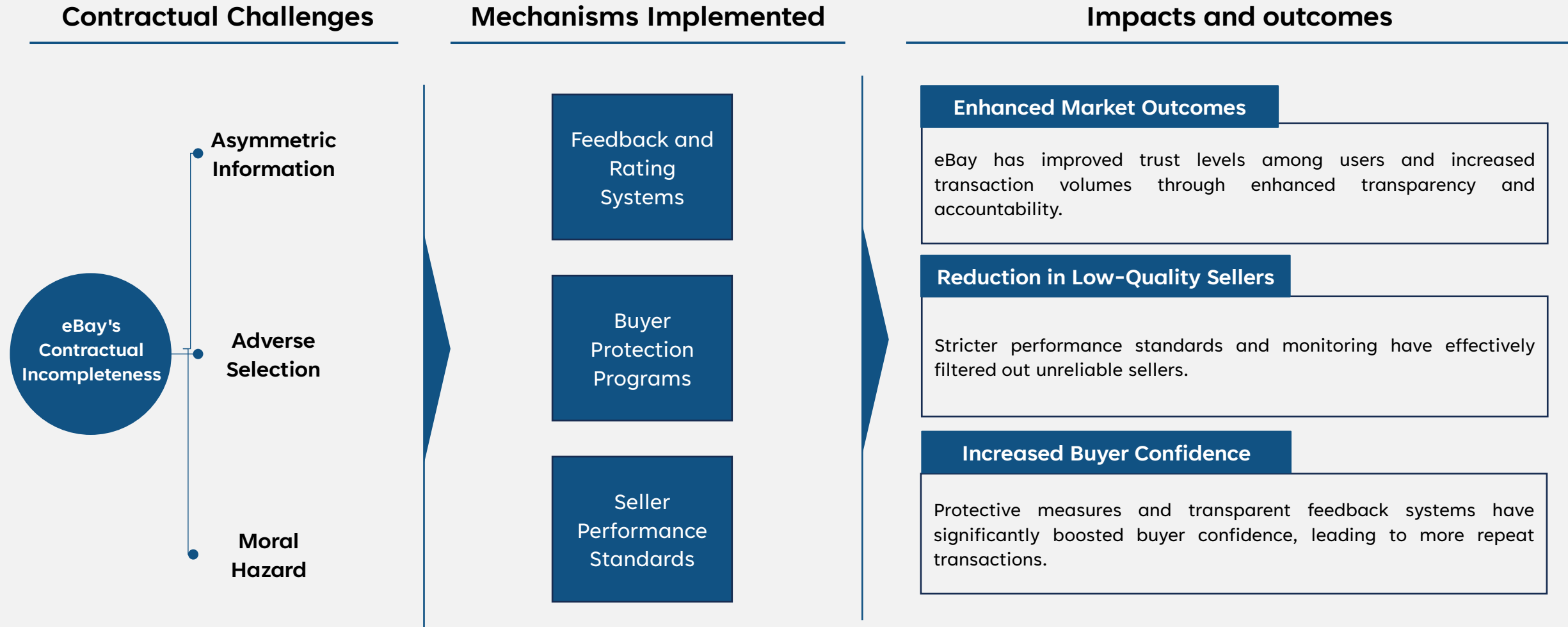
**23%**

**Decrease in negative feedback:** The eBP policy led to a significant reduction in negative feedback ratings by about 23%

The reduction in negative feedback enhances the trust signal provided by positive feedback and reduces perceived risk for buyers



# Conclusion



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