

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

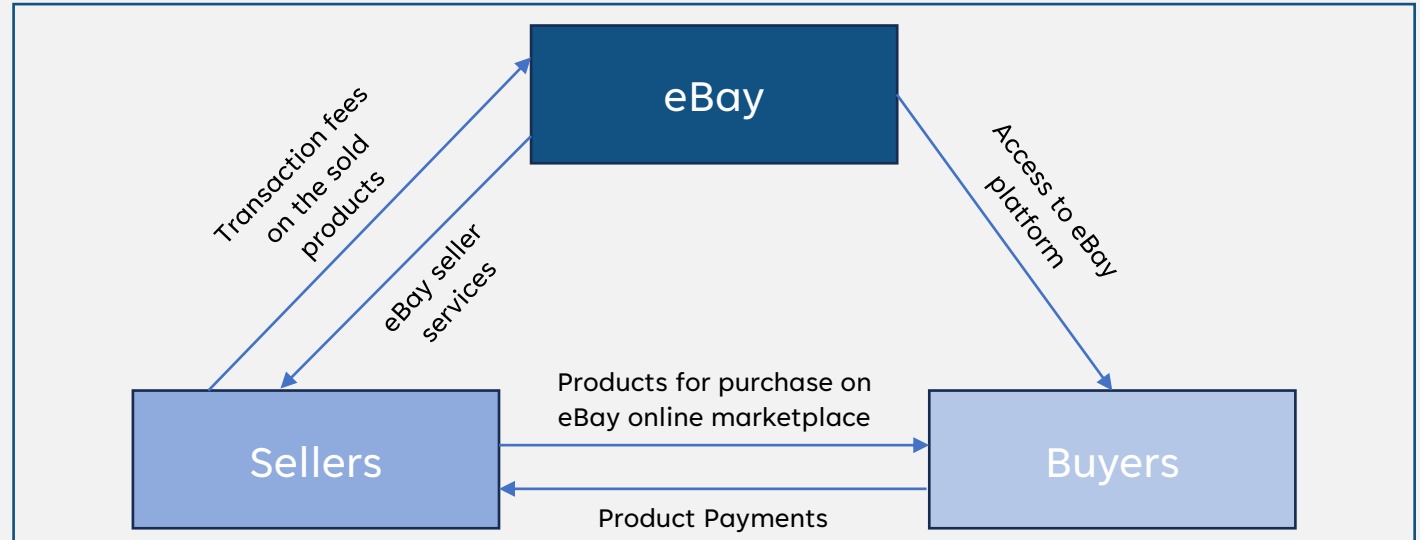


Market Places

- 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



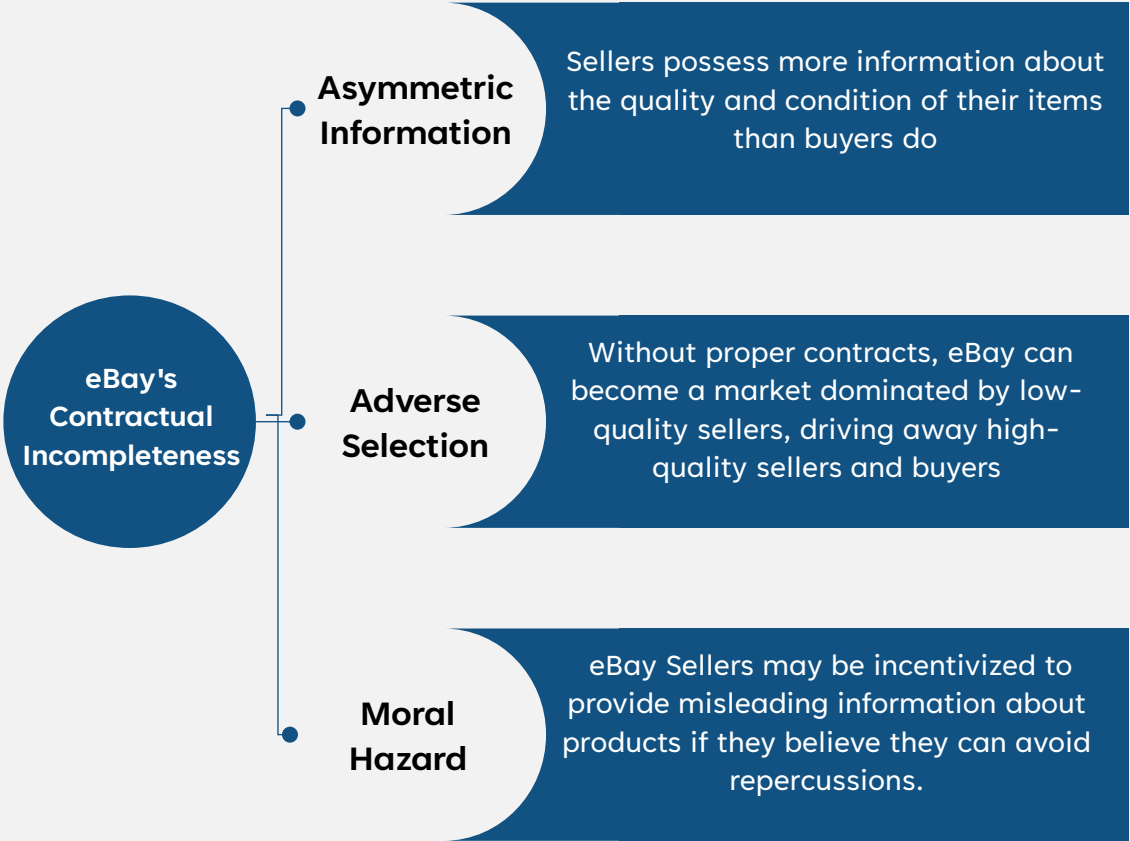
Sellers: Desire Sales Volume & Repeated Sales



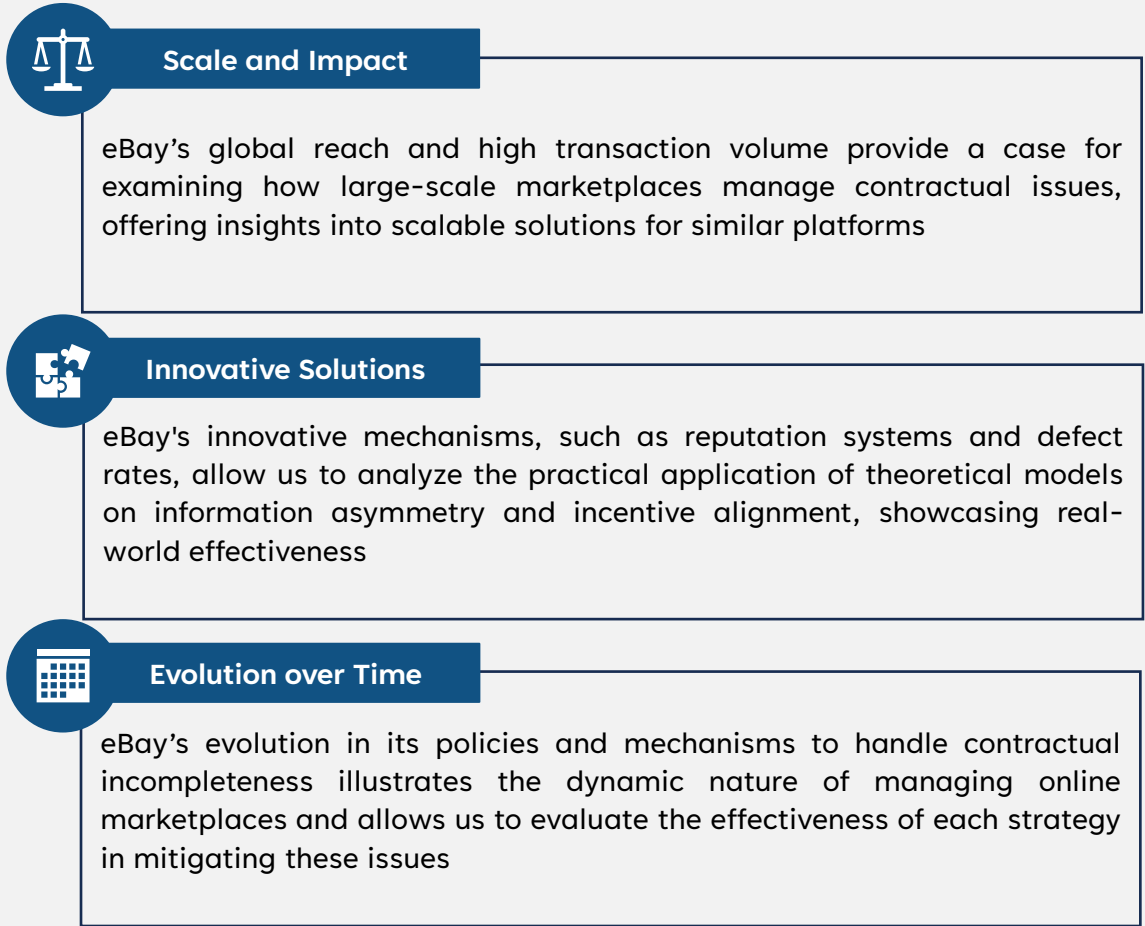
eBay: Desire Sales Volume, High Quality Sellers, Repeated Sales

Strategic Rationale for eBay

eBay's Contractual Challenges

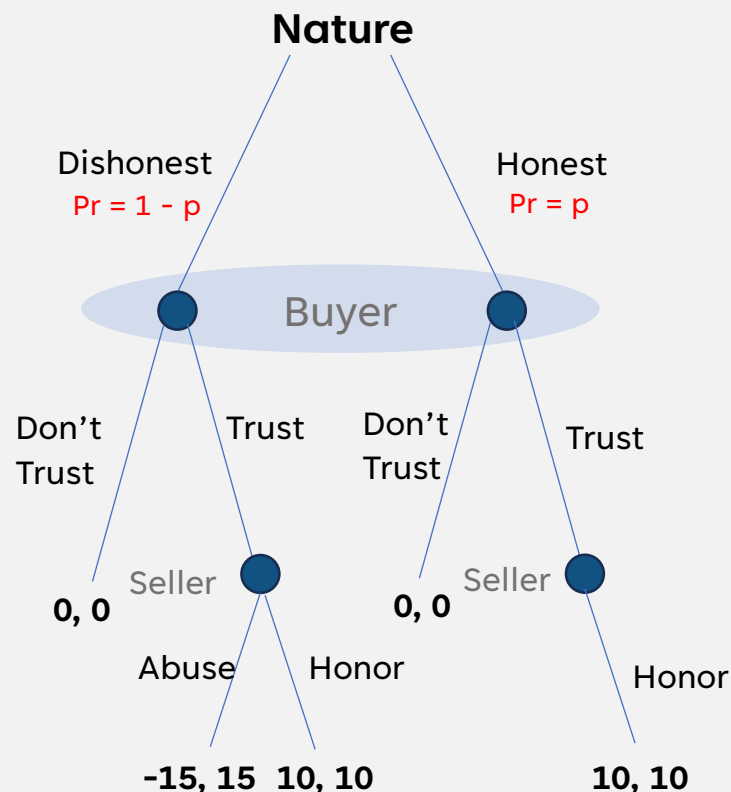


Decision Drivers



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 $\delta \geq 1/3$ (δ = discount factor)
- Buyer's Condition for trust: $p(10+10\delta) + (1-p)(10-15\delta) \geq 0$
- As δ approaches 1, $p \geq 0.2$: If no [or low] discounting, repeated sales induce honesty

∞

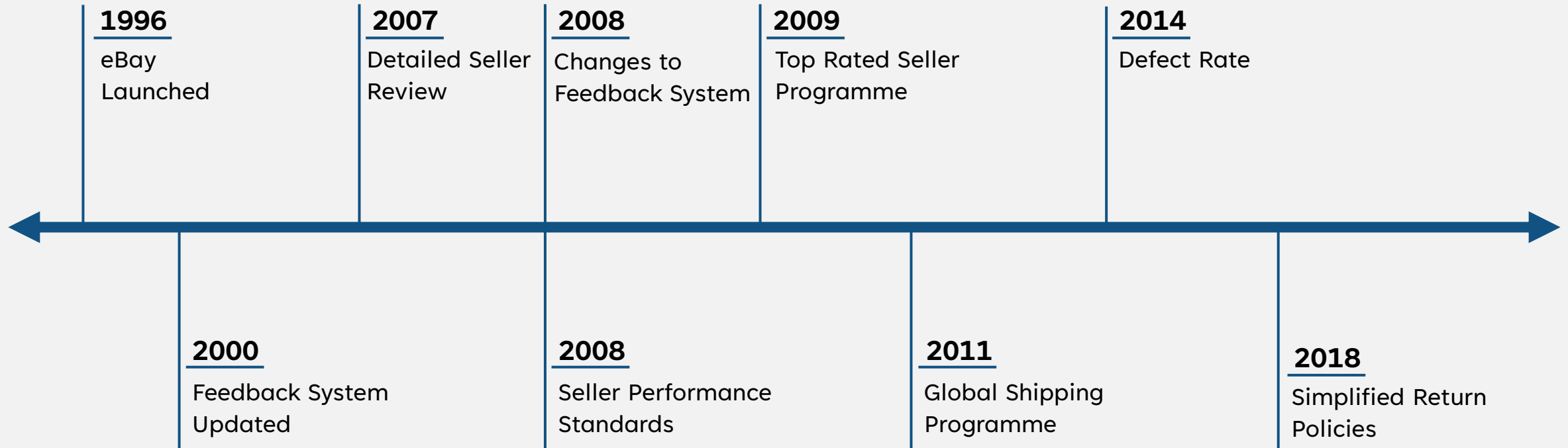
Infinitely-Repeated Game

- 'Honest' sellers will always have future sales & profits to look forward to
- If δ 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

1996

eBay Launching Feedback System

- Targeting Issue: Asymmetric Information
- Desc.: Feedback System **independent** of transactions (bilateral)

2007

Detailed Seller Review

- Contractual Issue: Moral Hazard
- Desc.: Buyers give feedback on seller **behaviour** (bilateral)

2000

Feedback System Updated

- Targeting Issue: Asymmetric Information
- Desc.: Feedback System **dependent** of transactions (bilateral)

2008

Changes to Feedback System

- Contractual Issue: Moral Hazard & Asymmetric Information
- Desc.: Sellers could only leave **positive feedback** or none at all (unilateral)

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:

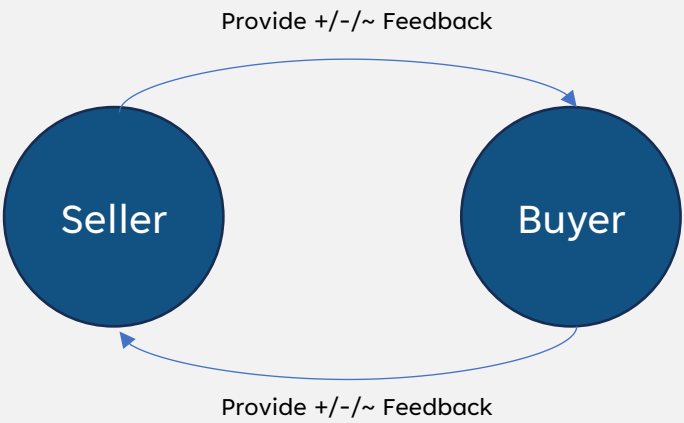
- Allowed both buyers & sellers to rate each others transaction
- Ratings can be positive, neutral, or negative with a textual comment

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

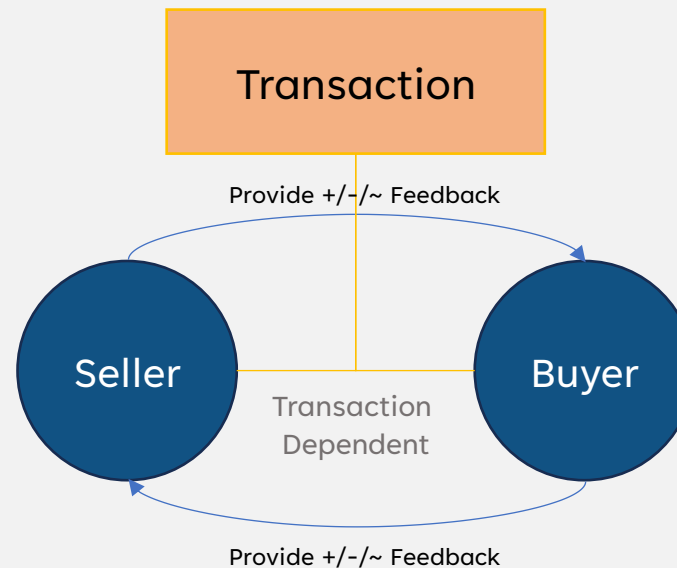
Overview

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



Reciprocity and Retaliation:

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



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Detailed Seller Rating (DSR)

1996

2000

2007

2008

Overview

Aim:

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

Mechanism:

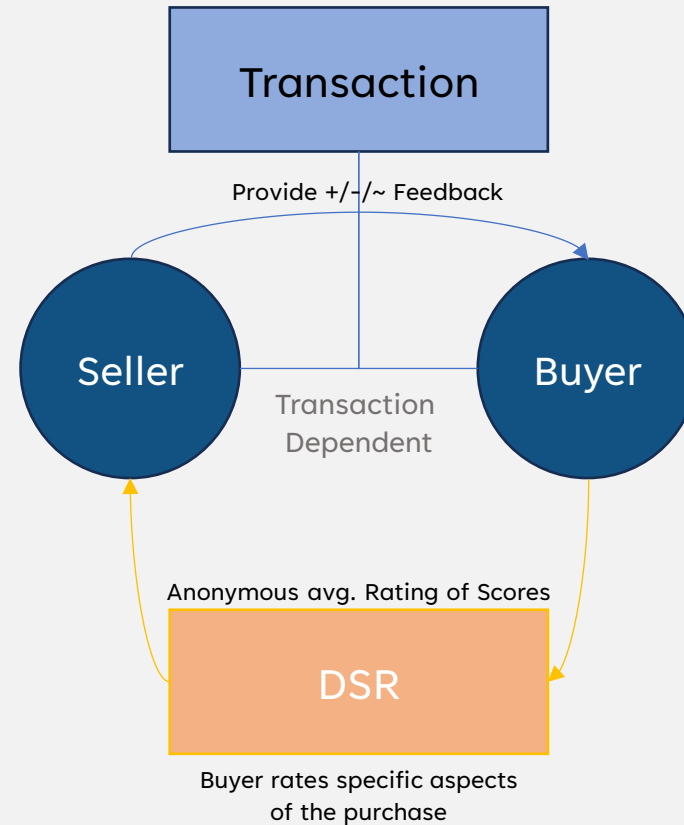
- Buyer rates seller on 4 criteria: item description accuracy, communication, shipping speed, and shipping charges
- Ratings scored on a scale from 1-5 stars

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

1996

2000

2007

2008

Overview

Aim:

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

Mechanism:

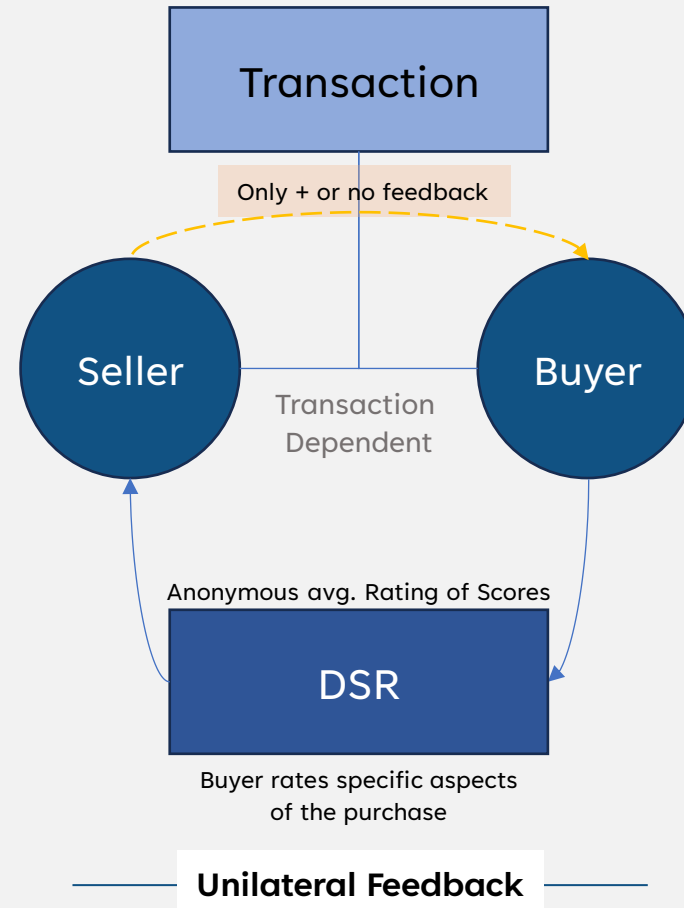
- Shift to unilateral feedback mechanism by only allowing sellers to place positive feedback or no none at all
- Prevents any retaliations

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

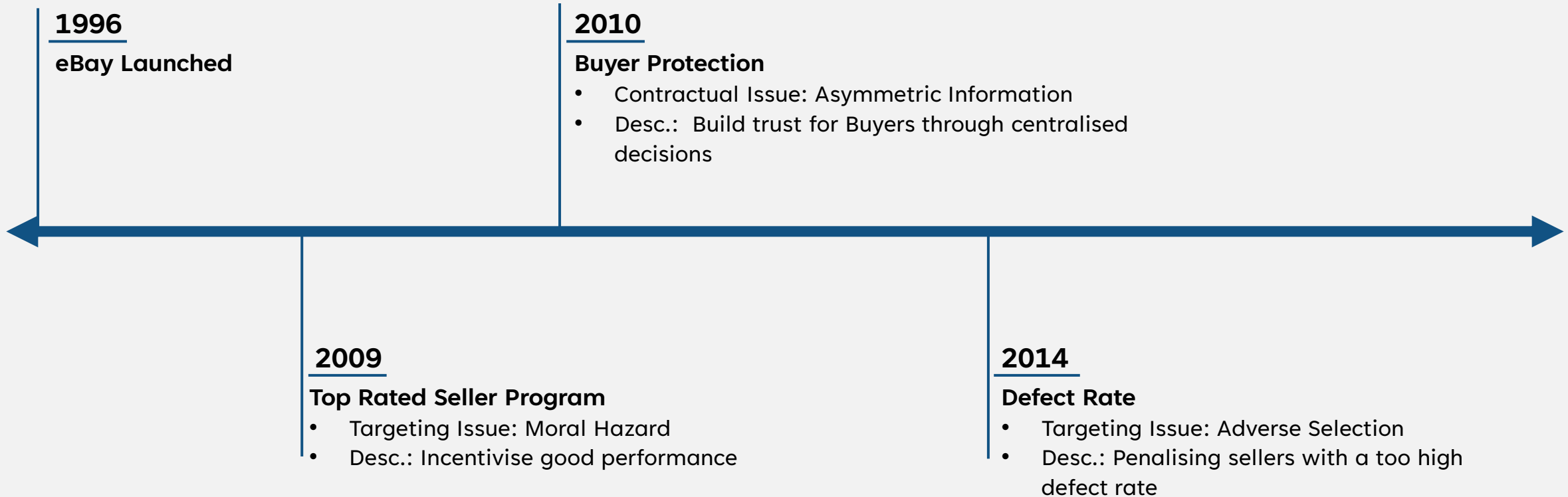
Information Asymmetry

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



Part 2: Relationship Between Sellers & eBay

Timeline of eBay Seller Developments



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.

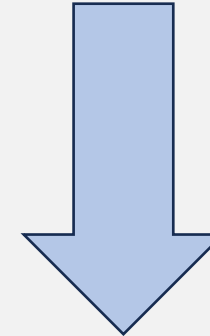
Components of Defect Rate:

- **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

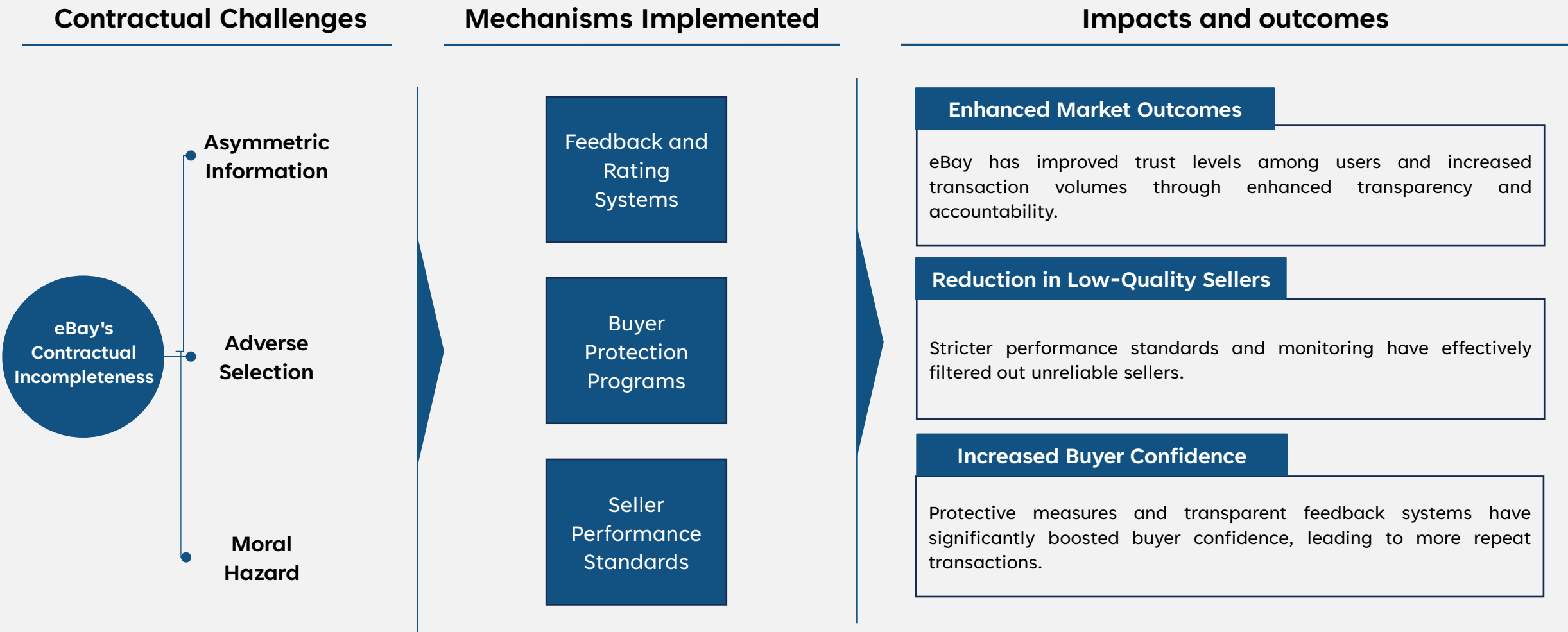
Reduction in Negative Ratings

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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