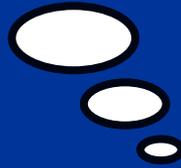# Reputation Mechanisms

Karen Fullam
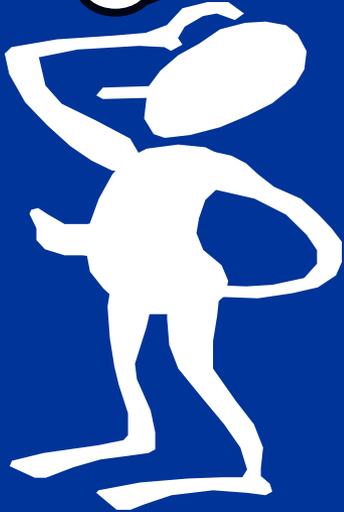
October 23, 2003

Activity #1: What car should I buy?

What car should I buy?

Experts

www.edmunds.com

Used Car Best Bets

The annual Used Car Best Bet Awards are based on the following criteria reliability, safety and availability. Eligibility is limited to Used Cars from 1997 to 2001. (About Used Car Best Bets)

Economy Car | Midsize Car | Large Car | Luxury Car | Sporty Car
Mini-SUV | SUV | Minivan | Small Pickup | Large Pickup

Economy Car: 1997-2001 Honda Civic

2001 Honda Civic

For years, it's been the Civic and Toyota's Corolla fighting for the title of best economy car. Both are wise choices from a strictly utilitarian point of view; they're frugal with fuel, require minimal maintenance and are reliable. That said, the Civic gets our vote because it offers a few things that the Corolla line lacks: a sportier driving feel, a coupe body style in addition to a sedan and, in 1999 and 2000, an Si version of the coupe that boasts a sizzling 160-horsepower inline four and a taut handling-biased suspension.

Find Honda Listings

1997 | 1998 | 1999 | 2000 | 2001

Back to top ▲

Midsize Car: 1997-2001 Toyota Camry

2001 Toyota Camry

Fine build quality, legendary reliability and a hushed ride characterize the Camry. Though the arch rival Honda Accord may offer a more sporting drive, we picked the Camry based on its more serene cabin and compliant ride, qualities that are typically more appreciated in a family midsize car than apex-strafing proficiency. Furthermore, the Camry was redesigned in 1997 and this generation lasted through the 2001 model year, meaning all of these years are equally strong picks.

www.consumerreports.com

Subaru Forester   Honda Civic   Saab 9-5

CR GOOD BETS

These are the best of both worlds: models that have performed well in Consumer Reports tests over the years and have had better-than-average overall reliability. Models are listed alphabetically.

Acura Integra	Mercury Tracer
Acura RL	Nissan Altima
Acura TL	Nissan Maxima
Ford Escort	Nissan Pathfinder
Geo/Chevrolet Prizm	Saab 9-5
Honda Accord	Subaru Forester
Honda Civic	Subaru Impreza
Honda CR-V	Subaru Legacy/Outback
Honda Odyssey	Toyota 4Runner
Infiniti G20	Toyota Avalon
Infiniti I30	Toyota Camry
Isuzu Oasis	Toyota Camry Solara
Lexus ES300	Toyota Celica
Lexus GS300/GS400, GS430	Toyota Corolla
Lexus LS400, LS430	Toyota Echo
Lexus RX300	Toyota RAV4
Mazda Millenia	Toyota Sienna
Mazda MX-5 Miata	Toyota Tacoma
Mazda Protegé	Toyota Tundra

RELIABILITY RISKS

These cars have shown several years of much-worse-than-average overall reliability. AWD stands for all-wheel drive; 4WD, for four-wheel drive. Listed alphabetically.

Cadillac Catera	GMC Safari
Cadillac Seville	Jeep Grand Cherokee
Chevrolet Astro	Lincoln LS
Chevrolet Blazer	Mercedes-Benz M-Class
Chrysler New Yorker, LHS	Oldsmobile Alero
Chrysler Town & Country (AWD)	Oldsmobile Bravada
Dodge Caravan (4-cyl.)	Oldsmobile Cutlass
Dodge Dakota (4WD)	Plymouth Grand Voyager
Dodge Durango	Plymouth Neon
Dodge Grand Caravan (AWD)	Plymouth/Chrysler Voyager (4-cyl.)
Dodge Neon	Pontiac Grand Am
Ford Focus	Volkswagen Jetta
Ford Windstar	Volkswagen New Beetle
GMC Jimmy	Volvo S80

What car should I buy?

www.epinions.com

Experts

Consumer Aggregates
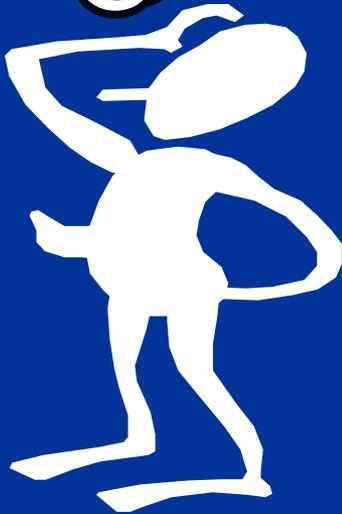
PRODUCT OVERVIEW	2001 Toyota Corolla	2001 Ford Focus	2001 Plymouth Neon
Overall User Rating	★★★★★ 88% Recommended (24 reviews) ▸ Read Reviews	★★★★☆ 79% Recommended (53 reviews) ▸ Read Reviews	★★★☆☆ 0% Recommended (1 review) ▸ Read Reviews
Pricing	Est Price: $10,300 Compare Prices	Est Price: $9,824 Compare Prices	Est Price: $8,181 Compare Prices

USER RATING DETAILS	2001 Toyota Corolla	2001 Ford Focus	2001 Plymouth Neon
Reliability:	5.0	4.0	3.0
Seat Comfort:	4.0	4.0	5.0
Quality and Craftsmanship:	4.5	4.0	4.0
Roominess:	3.5	4.0	5.0

SPECIFICATIONS	2001 Toyota Corolla	2001 Ford Focus	2001 Plymouth Neon
Age	Used	Used	Used
Available Engines	1.8 L, 4 cyl.	2.0 L, 4 cyl.	2.0 L, 4 cyl.
Estimated Price	Under $10,000	Under $10,000	Under $10,000
Estimated Retail Price	$9,657 - $10,307	$8,158 - $9,780	$7,433
Estimated Wholesale Price	$6,485 - $6,963	$5,321 - $6,561	$4,776
Miles per Gallon	32/41	25/31	28/35
Model Year	2001	2001	2001
Models	Corolla	Focus	Neon
More Information	Compare all 2001 Toyota Corolla models	Compare all 2001 Ford Focus models	View full specs
Original List Price	$12,568 - $13,383	$12,125 - $16,235	$12,715
Seating Capacity	5	5	5
Type	Passenger Cars	Passenger Cars	Passenger Cars
Fuel Type			Gasoline

What car should I buy?

What car should I buy?

Experts

Friends

Consumer Aggregates
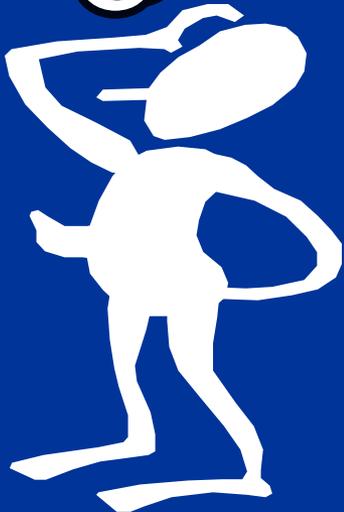
Experiences

Last time, I bought a Ford, and it broke down.

How much can I trust the recommenders?

Assessing trustworthiness of recommenders

- Define trust:
  - "The estimated likelihood that an entity will fulfill expectations"
  - Is this a good definition?
  - Problems can arise when there are differences in expectations between the truster and the trustee
- Define reputation:
  - "An estimate of the amount of trust a group has in an entity."
  - Is this a good definition?
- Anytime a reputation is based on what others recommend, trustworthiness of recommenders must also be evaluated
  - Can we ever assume that a recommender is telling the truth?
- Modeling the trustworthiness of all players quickly gets complicated

Humans and Agents Modeling Trust

- Are humans good at modeling trustworthiness?
  - Humans can capture a lot of information easily ("I have a bad feeling about…")
  - Sometimes assessments are not rational ("Once I had a bad experience…")
- Should agents be designed to model trustworthiness exactly the same way humans do?
- What are the benefits/problems with the following human tendencies?
  - Gossiping
  - Stereotypes/Prejudices
  - Forgiveness
  - Risk Sensitivity based on Emotion

Activity #2: The Market for Candy Bars

- Rules of the game:
  - Seller past behavior is indicative of future behavior (assume WF1)
  - Seller never under-advertises
  - First-price, sealed bid auction
  - Buyers will bid for a candy bar based on seller advertised price and seller reputation (if it exists)
  - Winning bid gets the candy bar
  - Winner publicly (and truthfully) rates the seller in terms of actual value minus advertised value ($q_r - q_a$)

The Market for Candy Bars

$10

- Round 1:
  - Seller A's profile
    - Reputation: $q_r - q_a = 0$
    - Number of ratings: 1,000
    - Candy bar advertised value: $10
  - Place your bids!
    - Seller's new reputation ($q_r - q_a$): _____
    - Seller's profit/loss ($q_e - q_r$): _____

The Market for Candy Bars

- Round 2:
  - Seller B's profile

    Reputation: ???

    Number of ratings: 0

    Candy bar advertised value: $10

  - Place your bids!

    Seller's new reputation ($q_r - q_a$): _____

    Seller's profit/loss ($q_e - q_r$): _____

$10

The Market for Candy Bars

- Round 3:
  - Seller C's profile

    Reputation: ???

    Number of ratings: 0

    Candy bar advertised value: $10

  - Place your bids!

    Seller's new reputation ($q_r - q_a$): _____

    Seller's profit/loss ($q_e - q_r$): _____

The Market for Candy Bars

- Round 4:
  - Seller D's profile

    Reputation: ???

    Number of ratings: 0

    Candy bar advertised value: $10
  - Place your bids!

    Seller's new reputation $(q_r - q_a)$: _____

    Seller's profit/loss $(q_e - q_r)$: _____

$10

Market Entry

- What happens to reliable sellers when they enter a market?

  - Unfair losses

- What happens to unreliable sellers when they enter a market?

  - Unfair gains

- Under the assumptions of this game, how can we calculate the first-transaction unfair loss of a reliable market entrant?

  Loss = (P(Reliable)*$q_{r,reliable}$ + P(Unreliable)*$q_{r,unreliable}$)

Unfair Losses and Gains

- How will reliable and unreliable sellers behave if they are subject to unfair losses and gains?
  - Unreliable sellers exit and reenter the market
  - Reliable sellers are disadvantaged to enter the market
- What are some solutions?
  - Require "permanent" identities
  - Require all entrants to start out with very low reputation
  - Attempt to assess initial reputation based on reputations of similar sellers

Questions

- What is the advantage of a long-standing reputation in a market?
    - Can charge a premium price for same quality goods
    - The extra premium due to the high reputation is the economic value of the reputation
- What would have happened if we had played the game with no public reputations?
- What unrealistic assumptions did our game make?
- Was our reputation measure a good one?
- Is the reputation mechanism we used well-functioning?

Questions

- What are the pros and cons of the e-Bay style reputation model?

- Why do "theoretically-flawed" reputation work so well in practice?

- What are strategies that sellers can use to beat the reputation mechanism?

- What are advantages/disadvantages of centralized vs. localized maintenance of trust models?