

Quality Requirements of the Chinese Consumer



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Comparing the Chinese automotive consumer and the American automotive Consumer



- **Market Background Differences**
- **Consumer Preference Differences**
- **Other Quality Performance Observations**

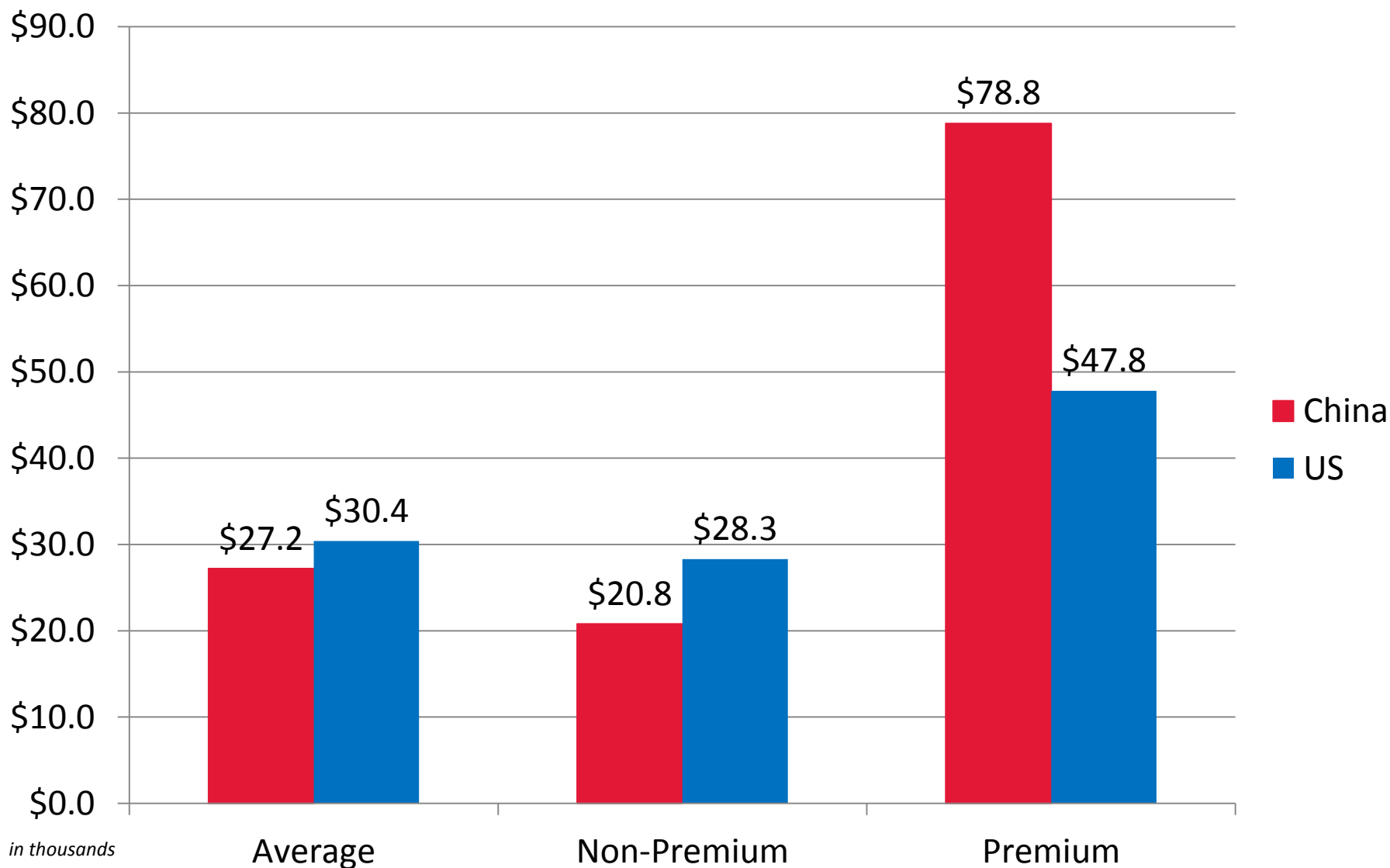


There are a few basic difference between the profile of Chinese and American consumers.

		China (2015 IQS)	US (2015 IQS)
Gender	Male	60%	61%
Average Age		33	53
Average yearly household income		\$28,795 ¥182,906	\$125,552
First, Additional or Replacement Vehicle			
	It REPLACES another vehicle	8%	85%
	It is an ADDITIONAL vehicle to my household	9%	13%
	It is the first EVER vehicle for my household	83%	2%



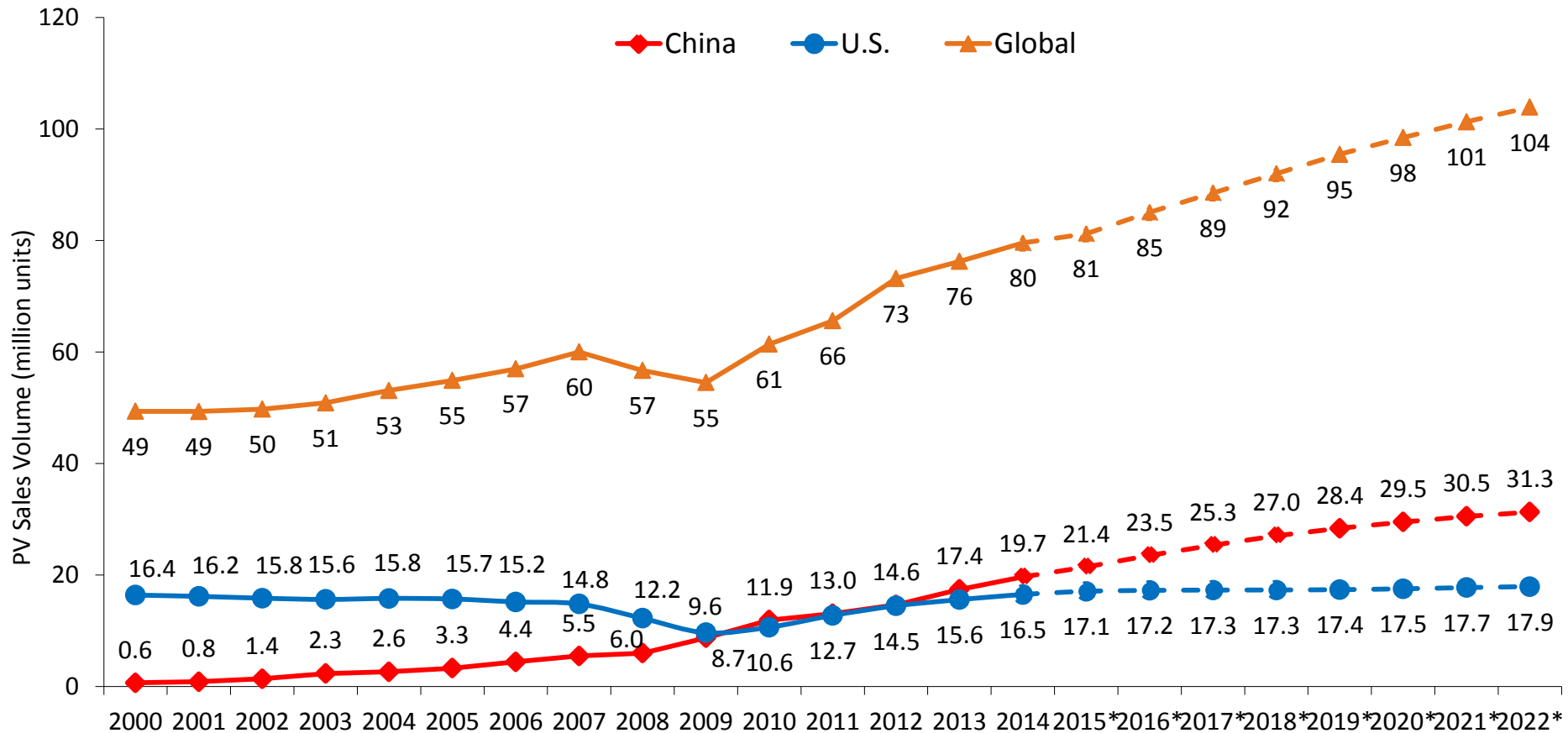
Although the average vehicle purchased is more expensive in US, the premium vehicle is more expensive in China.





The China passenger vehicle sales volume overtook the US in 2010.

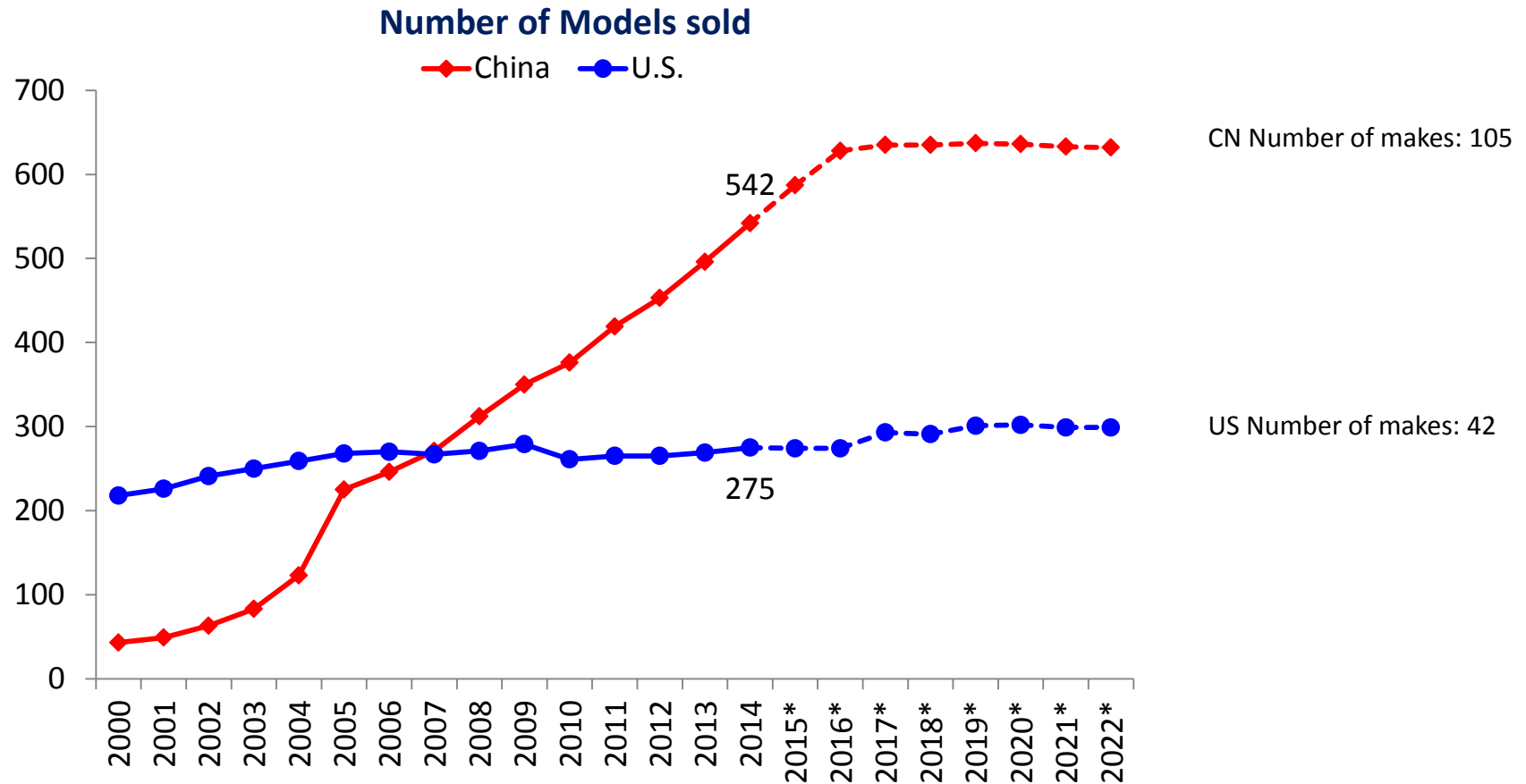
Trend of Sales Volume – 2000 to 2022



Data source: LMC Automotive; from 2015 to 2022 is based on forecasting data



In addition, there is significantly more choice in the China market.



Data source: LMC Automotive; from 2015 to 2022 is based on forecasting data

*Models with more than 100 unit sales volume per year, including domestic and imported.

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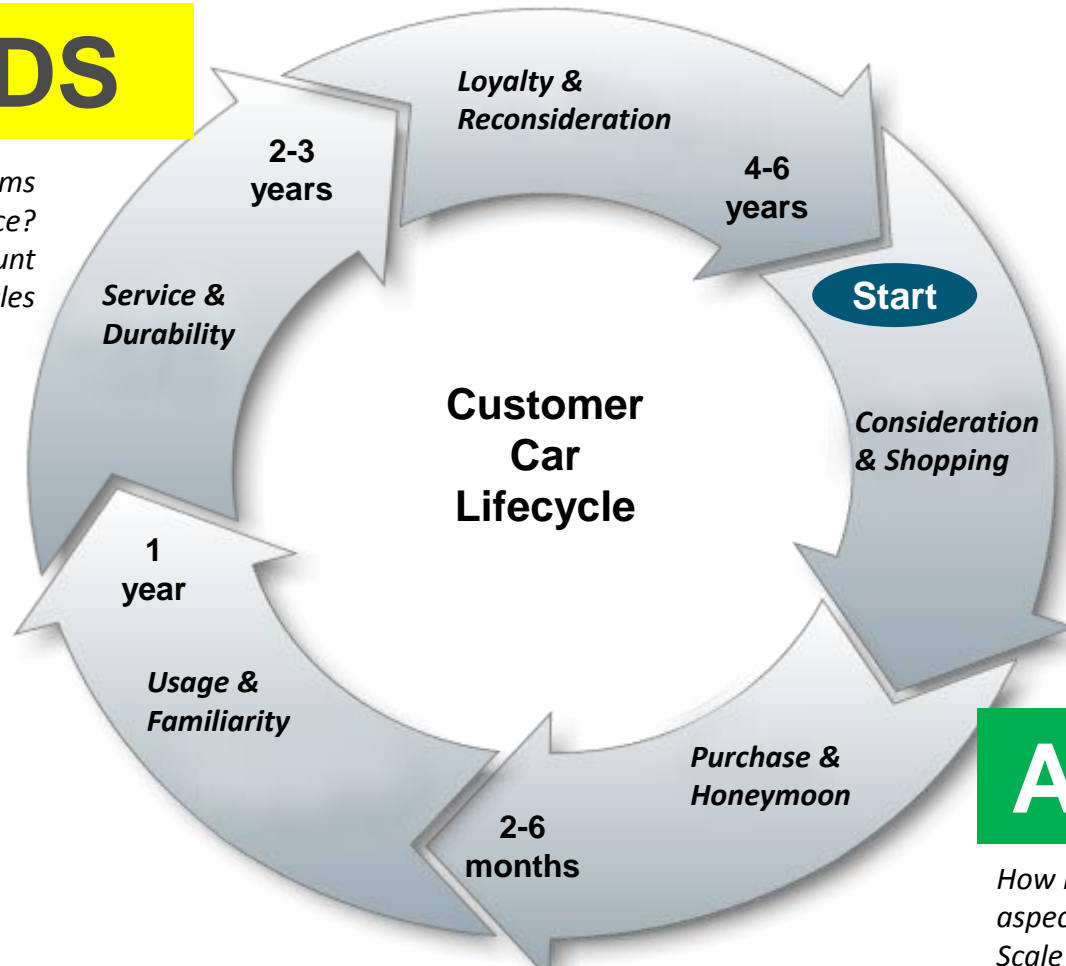
We can compare Chinese consumer and US consumer preferences on product quality at three different points of the consumer lifecycle.

VDS

What durability problems did you experience?

Problem count

Score: Problems Per Hundred vehicles



APEAL

How much did you like each aspect of the vehicle?

Scale of 1-10, weighted

Score: Total Possible 1000

IQS

What initial quality problems did you experience?

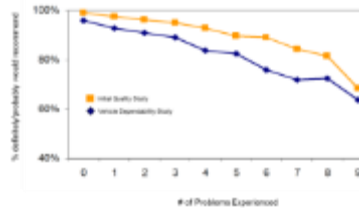
Problem count

Score: Problems Per Hundred vehicles

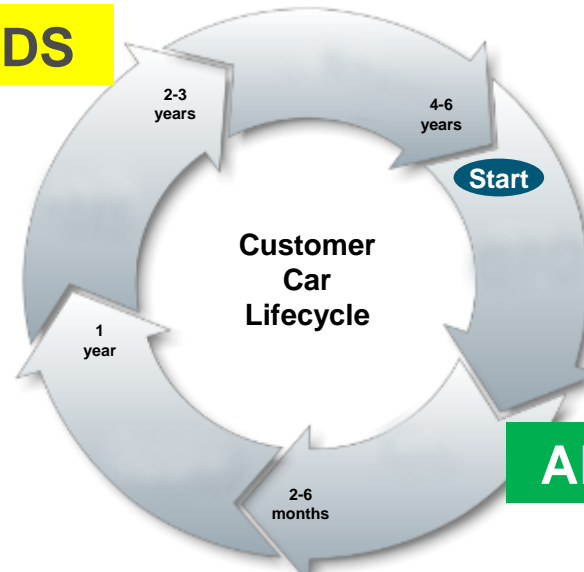


Each metric is correlated to consumer decisions at that point in the lifecycle, and has an impact on financial performance.

Repurchase

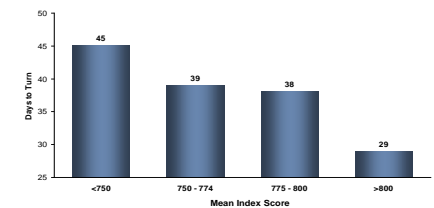


VDS



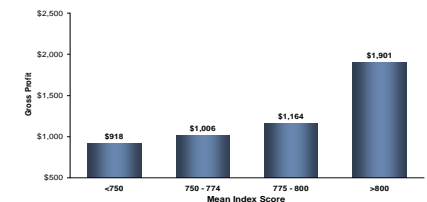
Volume and Price

Days To Turn by APEAL Score



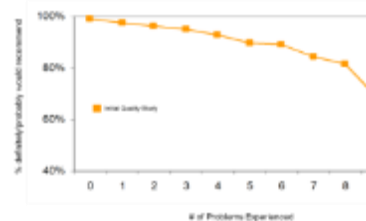
Source: Days to Turn supplied by J.D. Power and Associates Power Information Network.

Gross Profit by APEAL Score



Source: Gross Profit supplied by J.D. Power and Associates Power Information Network.

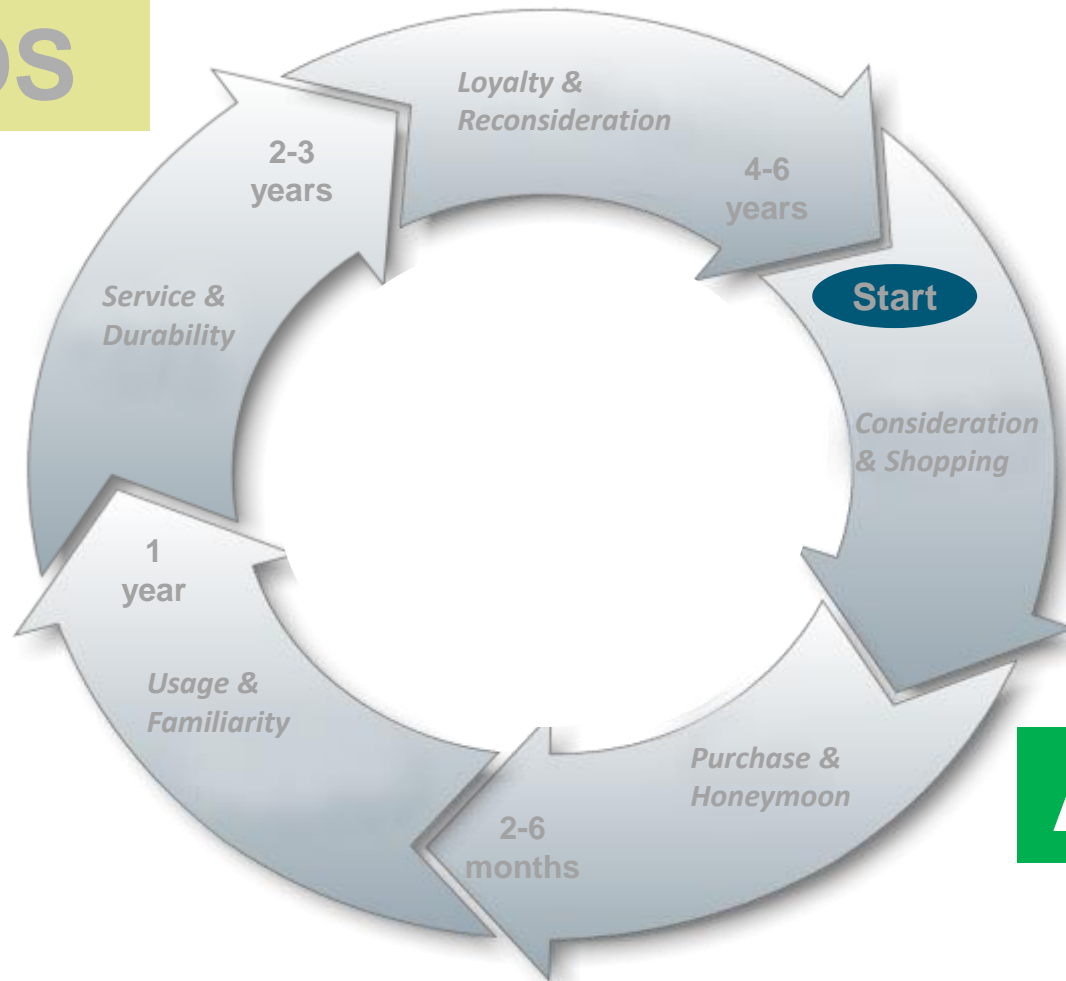
Recommendations





APEAL is what a consumer requires at the beginning of the relationship. If APEAL is high, it is an indicator of **PASSION**.

VDS



APEAL

IQS



What excites passion the most in both Chinese and US consumers are styling and exterior design.

Top Rated Attributes

2014 China APEAL	Score	2015 US APEAL	Score
Front-end styling	8.3	Appearance of exterior paint	8.6
Side-profile styling/appearance	8.3	Feeling of safety when driving vehicle	8.4
Ease of getting in/ out of vehicle	8.2	Steering responsiveness/effort at moderate/high speeds	8.4
Forward visibility from driver seat	8.2	Front-end styling	8.4
How well the exterior and interior colors are coordinated	8.2	Side-profile styling/appearance	8.4
Ride smoothness in normal driving	8.2	Braking responsiveness/effort	8.4
Appearance of exterior paint	8.1	Forward visibility from driver seat	8.4

 Same/Similar



So what do manufacturers need to concentrate on to get Chinese consumers to be passionate?

- Focus on Styling and Appearance (like most markets)



Selected Award Winners, APEAL

- **How?**
 - Developing multiple styling themes and testing for “consumer passion” (not merely acceptance) during development (clinics)
 - Emphasis on color and color coordination in advertising
 - Showrooms that display the styling to advantage using stations with mirrors and lighting
 - ...



However, items that “kill passion” in China are quite different from those in US (other than poor fuel economy).

Lowest Rated Attributes

2014 China APEAL		Score	2015 US APEAL		Score
▶ Smell of vehicle interior		7.6	Your vehicle's fuel economy		7.0
	Rating of vehicle's fuel economy	7.8	Driving range between each refueling/recharging		7.2
	Ease of operating/ adjusting rear (2nd row) seats	7.8	Ease of using your vehicle's built-in voice recognition		7.3
	Quietness over harsh bumps	7.8	Ease of using vehicle's navigation system		7.5
▶ Interior materials convey an impression of high quality		7.8	Quietness of heater/AC fan		7.6
▶ Seating material conveys an impression of high quality		7.8	Rear visibility from driver seat		7.7
▶ Sound of engine/ exhaust during rapid acceleration		7.9	Usefulness of navigation features		7.7
▶ HVAC Controls convey an impression of high quality		7.9	Visibility of other vehicles when changing lanes		7.7



Same/Similar



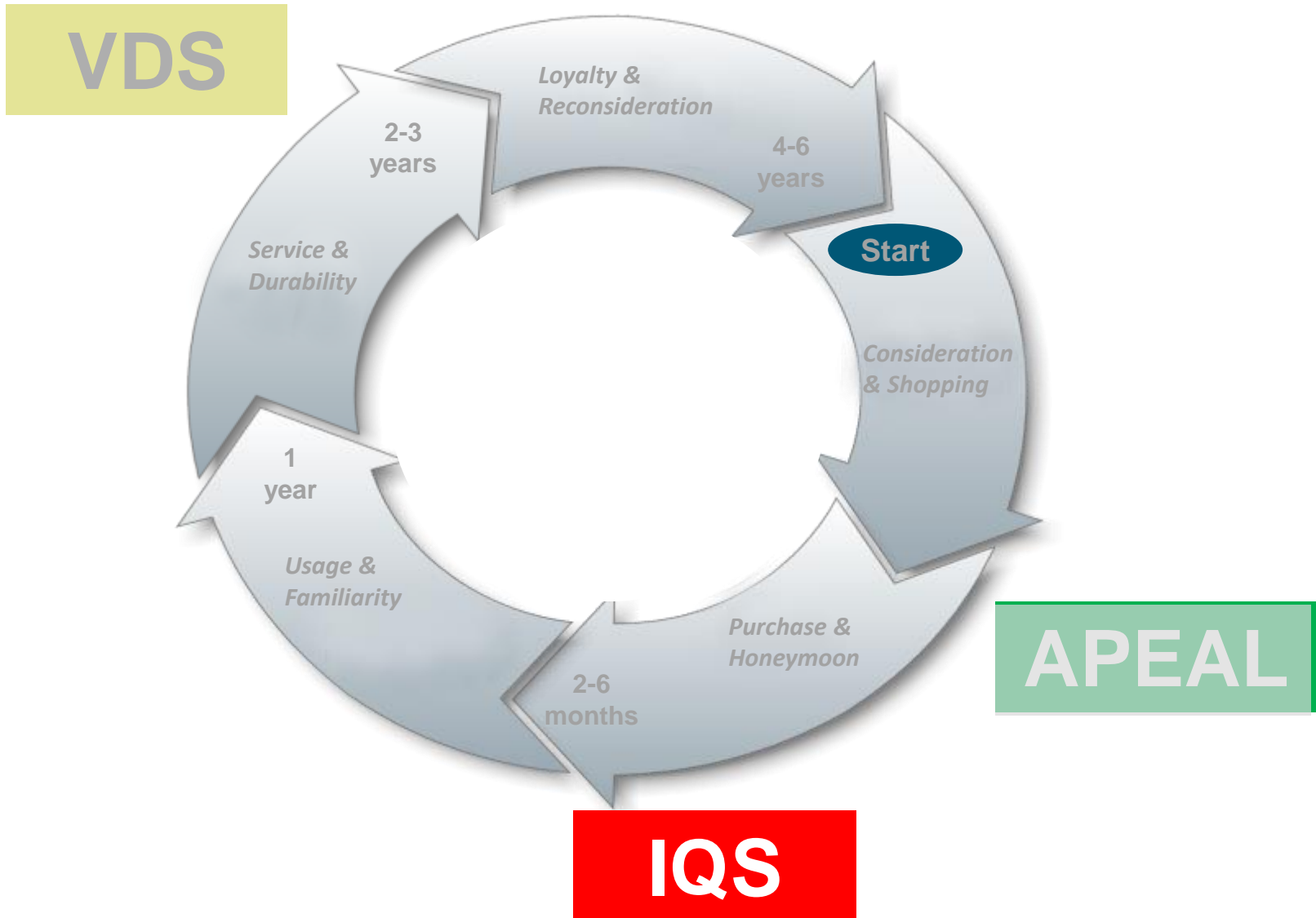
So what do manufacturers need to concentrate on to ensure Chinese consumers do not get “turned off”?

- **Fuel Economy (China like most markets)**
- **Attention to sense of smell (specific to China)**
 - Avoid smells (including leather-like)
 - Seal off from outside odors/pollutants
- **Attention to sense of touch and appearance, especially seats and other interior surfaces (specific to China)**
 - Convey impression of high quality
 - Resist soil and lint





IQS measures the emotion customers experience if they have problems in first 2-6 months. High IQS is an indication of **ANGER**.





Top complaints in China market are different from the US market (appears to be “senses” vs “usability”).

Top IQS Issues

2015 China IQS	Score	2015 US IQS	Score
Unpleasant Interior Smell/Odor	14.2	Voice Recognition Frequently Doesn't Recognize Commands	8.7
Excessive Fuel Consumption	5.0	Bluetooth/Phone Connectivity Issues	5.5
Excessive Road Noise	4.5	Materials Scuff/Soil Easily	3.2
Engine Loses Power When A/C is On	3.6	Excessive Wind Noise	2.8
Excessive Wind Noise	3.5	Navigation System - DTU/Poor Location	2.7
Materials Scuffs/Soil Easily	2.7	Paint Imperfection	2.5
Headlights Not Bright Enough	2.6	Automatic Transmission - Hesitation	2.4
Fan/Blower Excessive Noise	2.3	Media Device Ports - DTU/Poor Location	2.4
Abnormal Engine Noises	2.3	Center Console Storage – DTU	2.2
Brakes are Noisy	2.3	Cup Holders – DTU	2.0



Chinese consumers are vociferous about unpleasant smells in their vehicles.

Complaint Reasons

- New vehicles give out strong/pungent leather or plastic smells
- These smells last even after driving for 2 or 3 months or even longer
- Sometimes consumers indicate they feel physically uncomfortable with the smell or even ill
- Public comments/media could make consumers think that the smell is harmful
- Due to air pollution, consumers seldom open windows, which could make smell last longer



Verbatim of Leather Smell

- ☞ *"The smell of leather inside the car is too strong"*
- ☞ *"Interior leather smell is very strong. I have headache if I stay inside the vehicle for a long time"*
- ☞ *"It must be leather smell. The smell still exists long after delivery and I don't know how to handle it. There is strong smell of leather on seats, especially when you hand over the car, you will feel dizzy after driving for one or two hours"*
- ☞ *"There is volatile smell of leather, my eyes are not comfortable with tears and feel hurt when I drive for more than 20 min, and I will feel uncomfortable if I drive for more than 1 hour"*



Verbatim of Plastic Smell

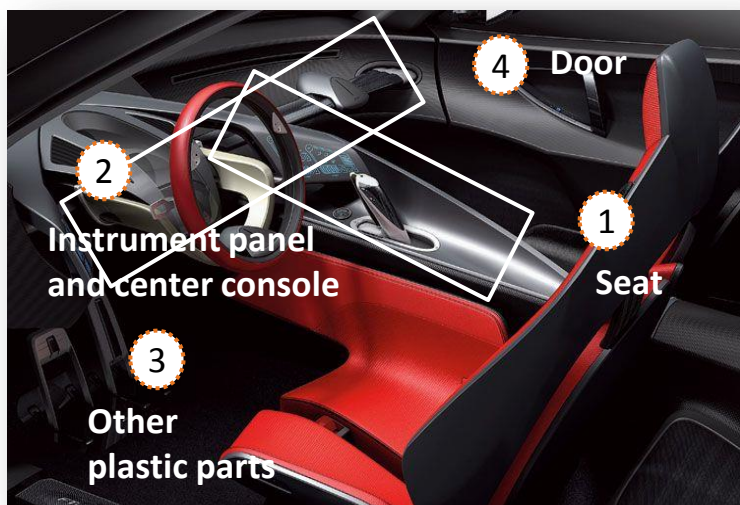
- ☞ *"There is still very strong plastic smell inside the vehicle in nearly three months after delivery. I have used charcoal package, air purifier and fruits, but the effect is not ideal"*
- ☞ *"It seems like plastic smell. It still has this smell after driving half a year"*
- ☞ *"When turning on the air conditioning, a smell of plastic burning can be felt, and I thought it to be the abnormal smell for the new car at first; but the vehicle has been used for almost half a year and the situation remains the same, especially the outer circulation"*



The “smell” issue is markedly different from Western countries.

- A “new car” smell that is valued in Western markets is viewed with suspicion and found unacceptable.

PPH of Different Complained Parts
According to Club Study and Pilot



During Consumer Day (3.15) in 2013, consumers
complained a lot about smells in premium cars





Volvo has recognized Chinese consumer preferences and responded.

- **Volvo advertises a series of new air cleaning technologies:**
 - Volvo air quality solution (I.C.E): I.C.E. is the abbreviation for the Volvo air quality system (IAQS), Cabin Clean, the harmful gas emissions (Emission).



A breath of fresh air

CleanZone is our approach to your vehicle's interior environment. Volvo offers an Interior Air Quality System that checks incoming air for pollutants and closes the vents when necessary. An active carbon filter also protects you from harmful gases and unpleasant odours—so you can breathe in and out, happily and healthily.



- **IAQS system:** the IAQS system consists of composite activated carbon filter and air sensor, through filtering outside air to get a good inside air source.



- **Clean cabin technology:** clean cabin technology is through strict control of interior materials, volatiles, avoiding contact allergens and odor detection, to provide clean driving cabin.

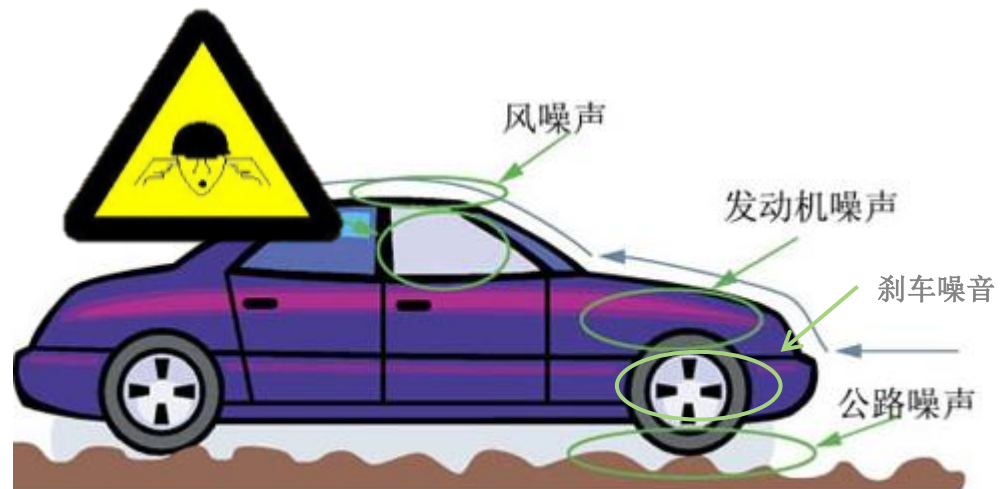


- **Emission:** Volvo uses three-way catalytic converter with oxygen sensors to control emissions.



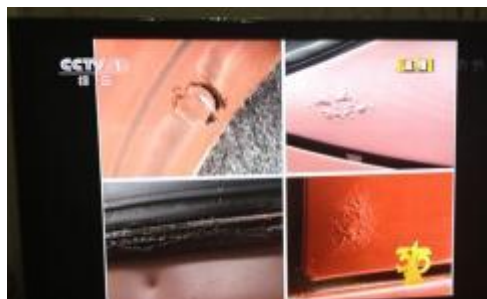
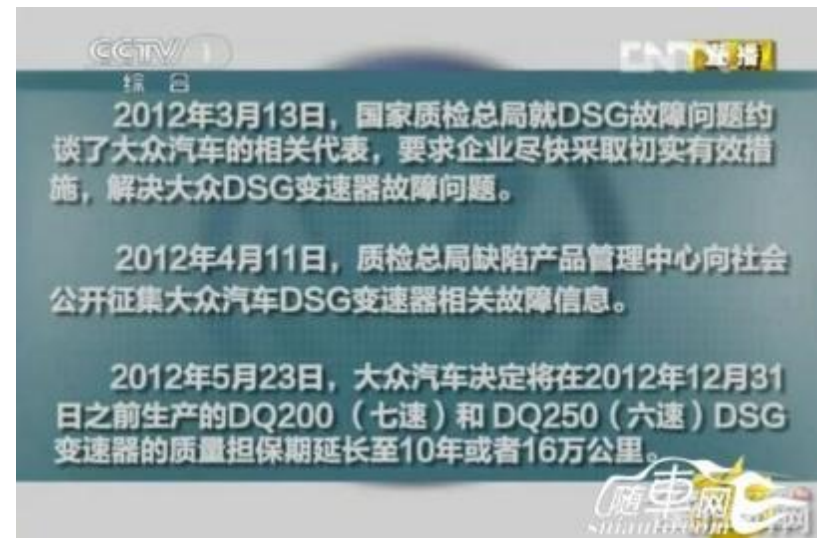
Chinese customers are unhappy when there are a lot of noise related issues.

- There are 4 noise issues within the top 10 IQS problems
 - Brakes are noisy
 - Excessive wind noise
 - Abnormal engine noise
 - Tire – excessive road noise





Consumers Day (3.15) is sometimes a channel for consumers to demonstrate their anger.





What makes consumers in China angry are “sense”-related problems; what makes consumers in US angry are “usability”-related problems.

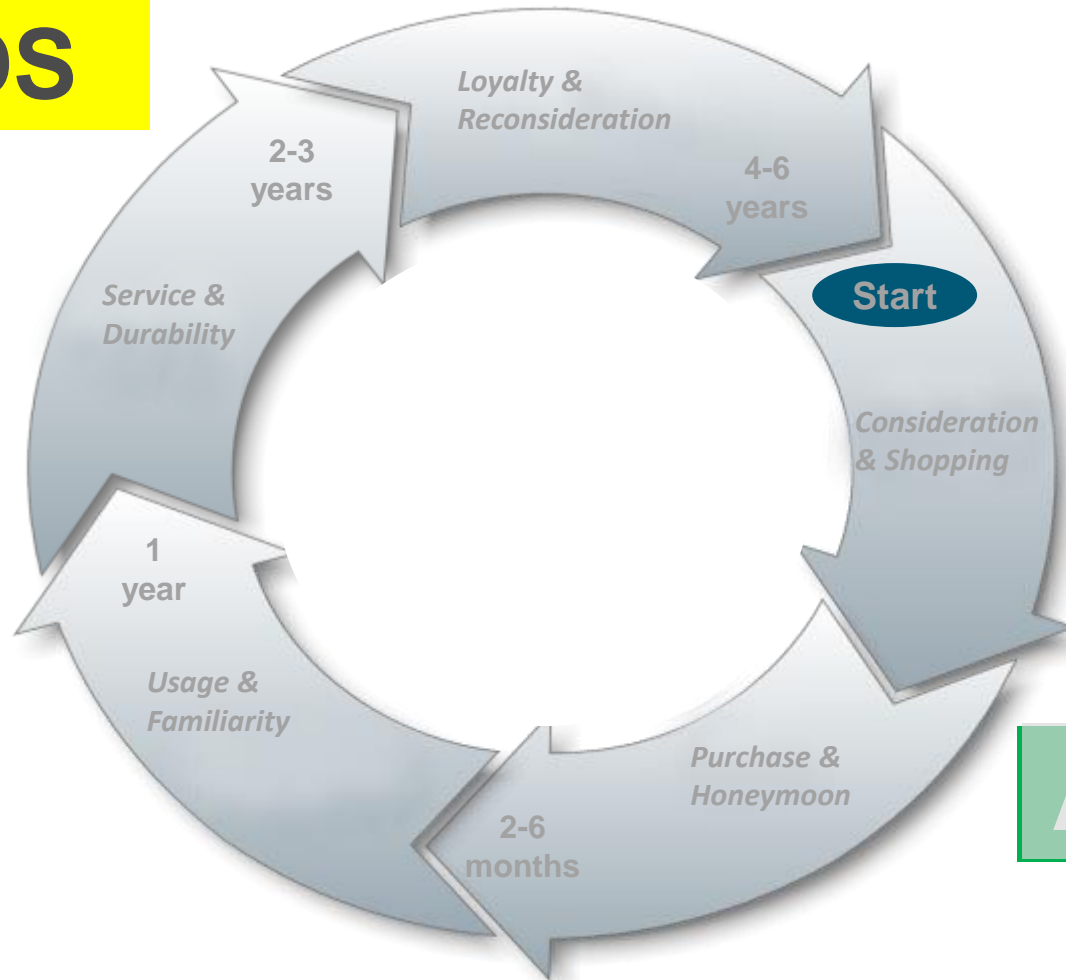
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VDS measures the emotions customers experience if they have problems in first 2-3 years: typically this causes **IRRITATION**.

VDS



APEAL

IQS



There is more overlap in irritating issues of durability between the two markets.

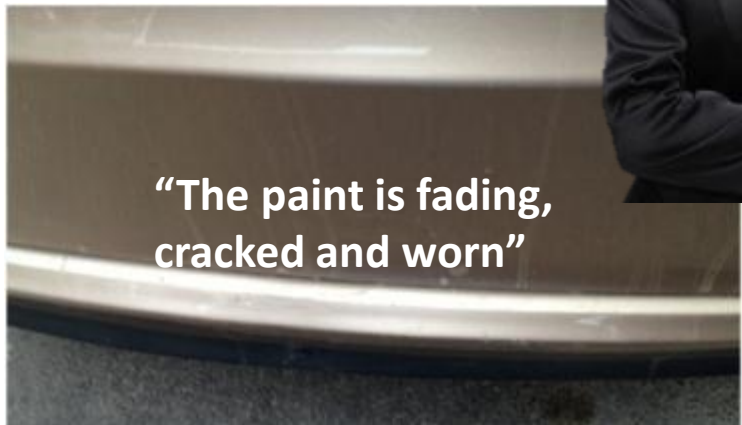
Top 10 VDS Issues

2015 China VDS	Score	2014 US VDS	Score
Windshield Wipers/ Washers - Not Working Properly	8.1	Excessive Wind Noise	5.6
AC Doesn't Get Cold Enough - Fast Enough	6.8	Paint - Peeling/Fading /Chips	4.0
Brakes Are Noisy	5.7	Brakes Are Noisy	3.6
Excessive Wind Noise	4.4	Battery Failed	3.0
Engine Loses Power - A/ C ON	4.4	Brakes Vibrate/Shudder	2.8
Abnormal Engine Noises	3.9	Hands-Free Communication - Does Not Recognize Command	2.7
Air From Vents Smells Moldy/ Stale	3.7	AC Doesn't Get Cold Enough - Fast Enough	2.6
Excessive fuel consumption	3.2	"Check Engine" Light Indicated Problem	2.6
Paint - Peeling/ Fading / Chips	3.2	Materials Scuffs/Soils Easily	2.6

Same/Similar



Customers are irritated with the durability issues globally.

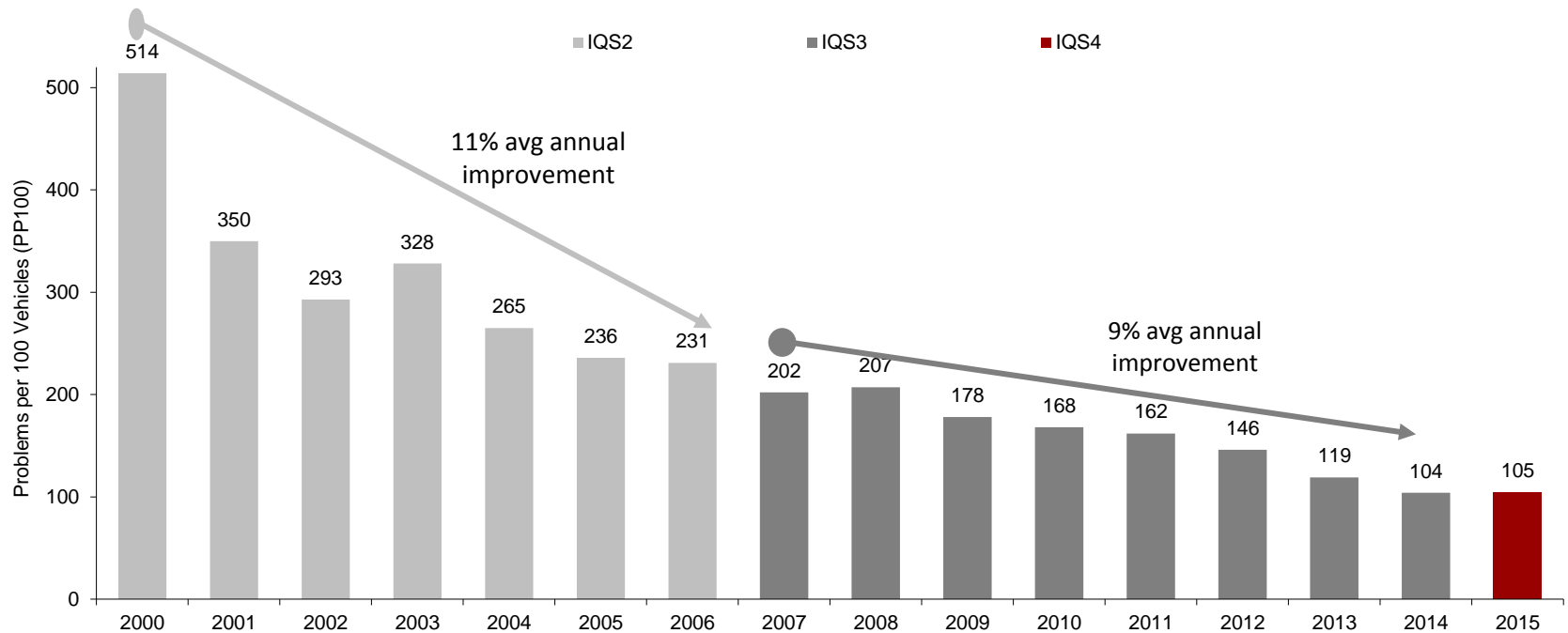


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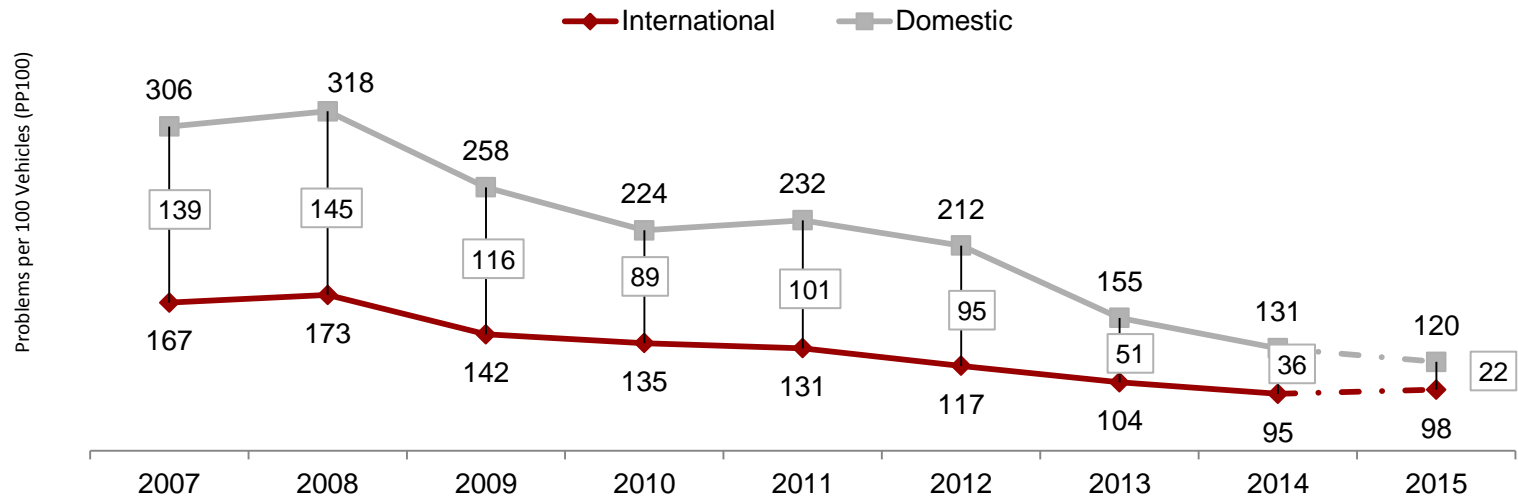


In terms of Initial Quality, the entire Chinese market has improved considerably since 2000.





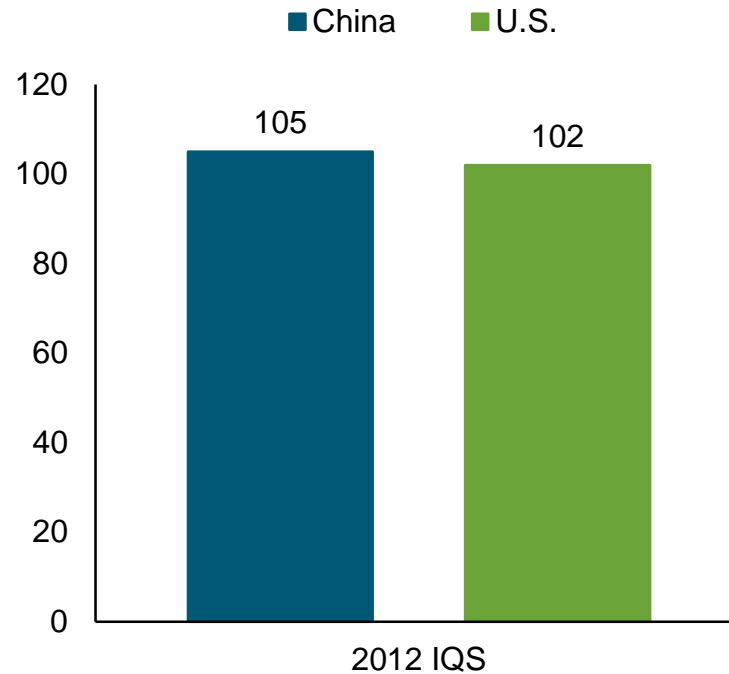
Q: How do domestic brands fare on quality vs international brands?



A simple extrapolation puts domestic brands at par with international brands by 2019 (one more vehicle generation).



Q: How does the “same” vehicle compare when built in China and other places?



	Sold in China	Sold in US
	Produced in:	Produced in:
BMW 5 Series	CN	US
Buick LaCROSSE	CN	AU
Ford Focus	CN	US
Honda Civic	CN	US
Honda CR-V	CN	CA
Honda Accord	CN	US
Honda Fit	CN	JP
Honda Odyssey	CN	US
Hyundai Tucson	CN	KR
Hyundai Yuedong Elantra	CN	US
Kia RIO	CN	KR
Mazda 3	CN,JP	JP
Nissan Tiida / Versa	CN	MX
Suzuki SX4	CN	JP
Toyota Corolla	CN	CA
Toyota Camry	CN	US
Toyota Yaris	CN	JP
VW Magotan / Passat (B7)	CN	US
VW Sagitar / Jetta (A5)	CN	MX

On average, if the “same” vehicle is produced in China, it seems to have approximately the same quality

Note: Average is difficult to compare due to vehicle variations and consumer variations, but an average overall observation is likely to be accurate.

Backup Slides Follow

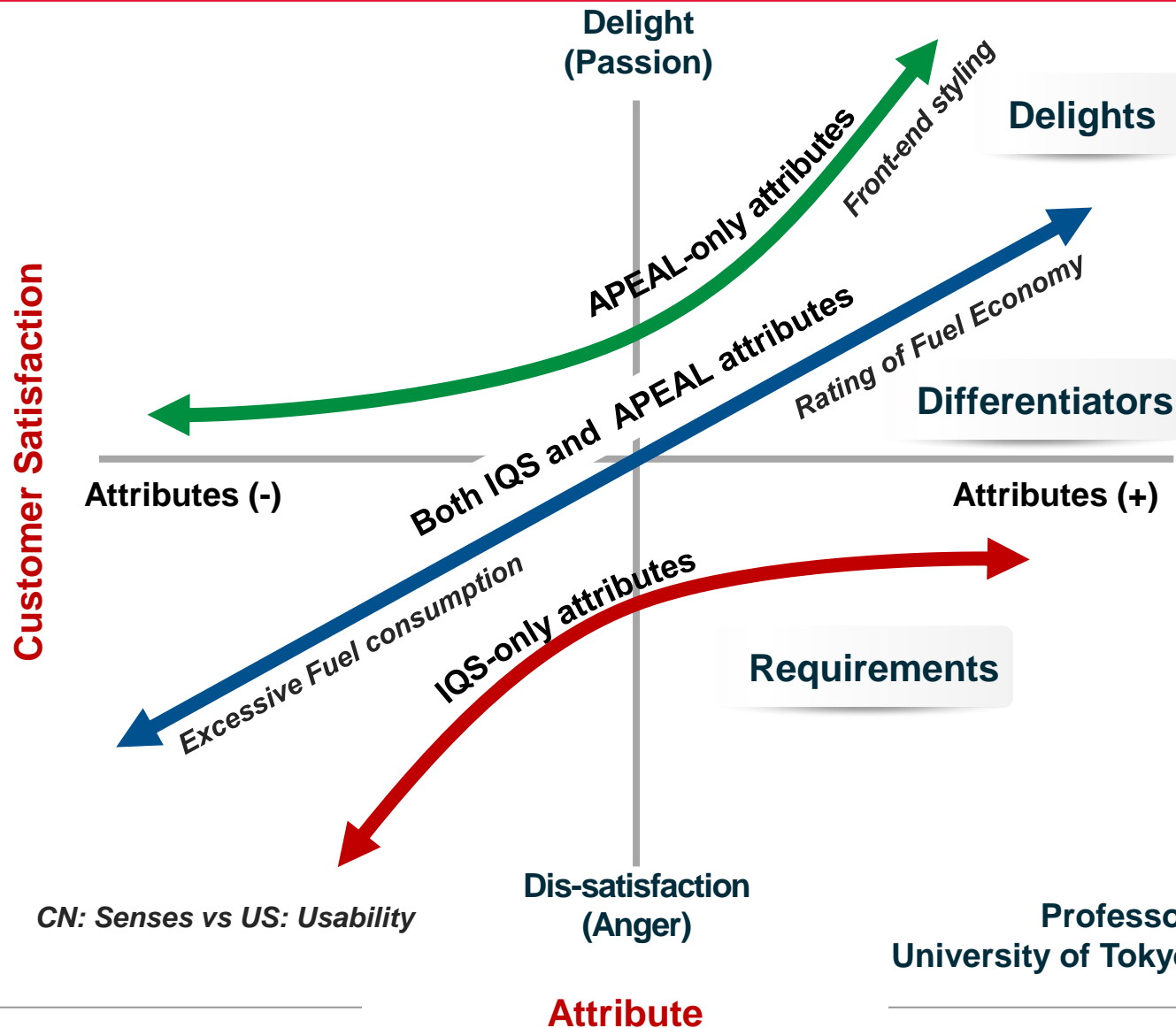


J.D. POWER
McGRAW HILL FINANCIAL

君迪



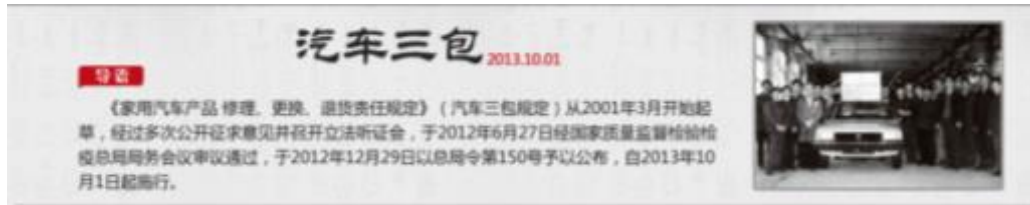
In the Kano model, Delights and Differentiators are more aligned between US and CN. Requirements are not.



Professor Noriaki Kano
University of Tokyo, 1970s-1980s



If the anger is extreme, the government has created a channel to protect the consumer with 3R SanBao rule.



汽车三包实行 退换车辆出现首例

来源: 长兴汽车网

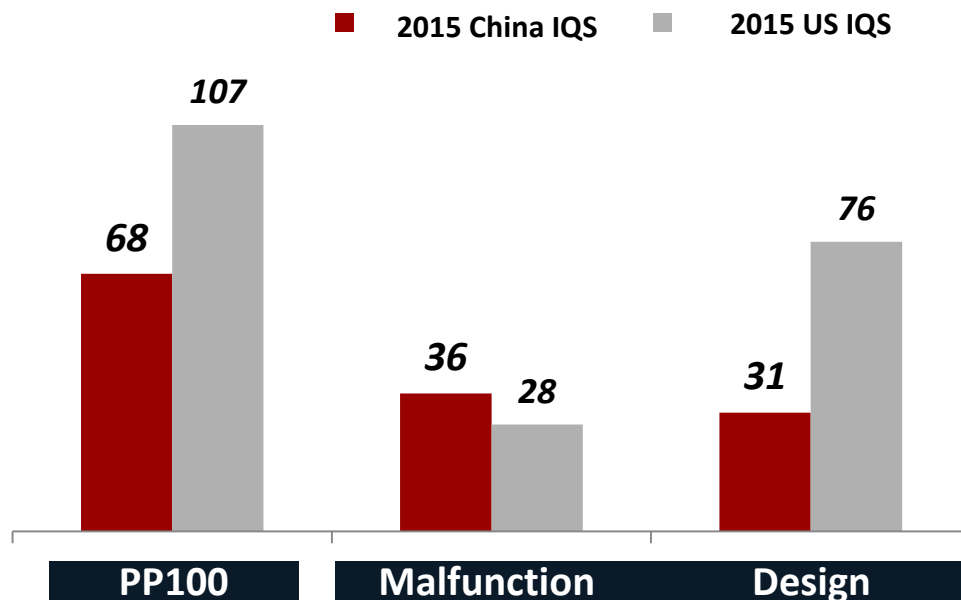
2013年10月9日





Focusing only on luxury vehicles, the clear difference is in “design” issues noted (usability) in the US market.

Quality comparison of luxury vehicles in both China and US 2015 IQS study



Same vehicle in both 2015 China and US 2015 IQS study

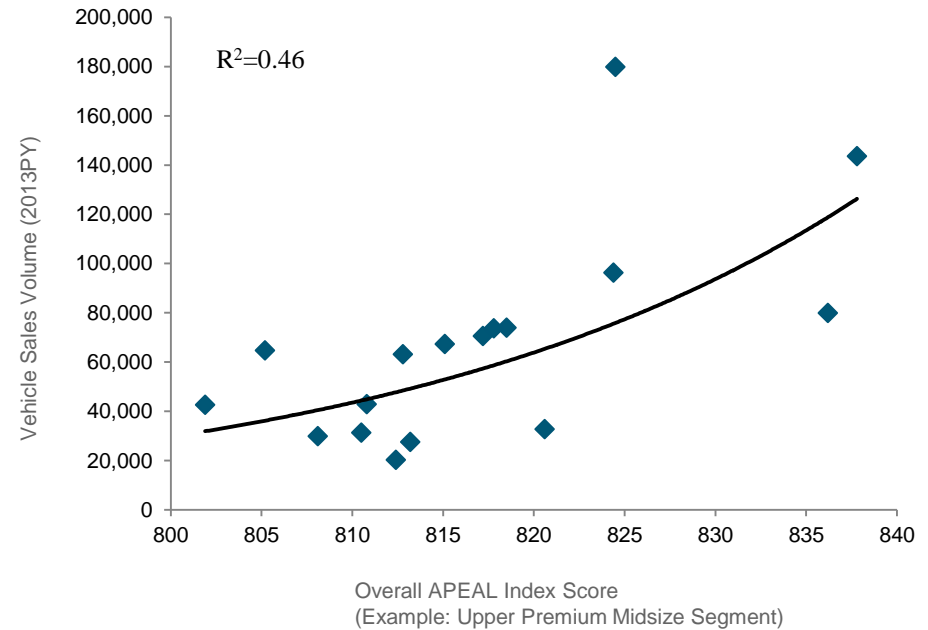
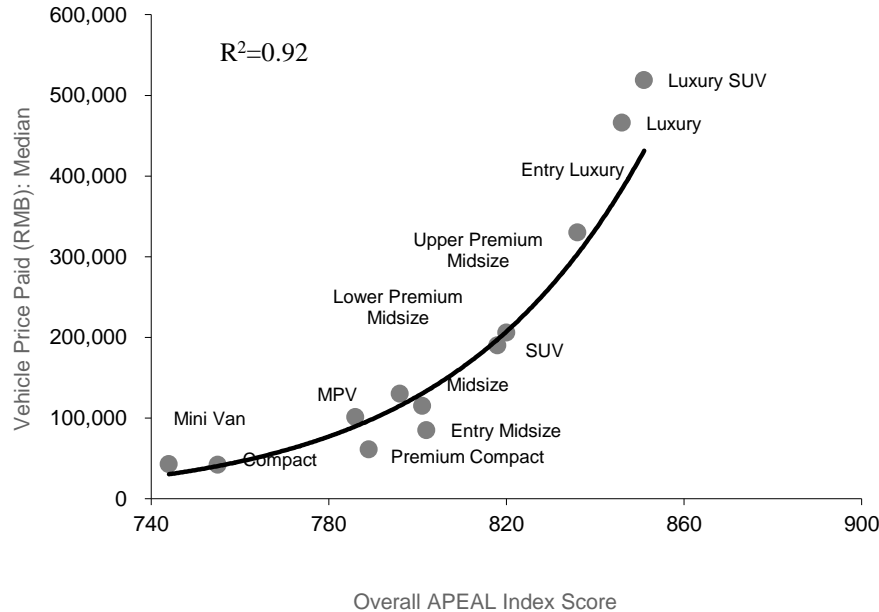
Audi A8L	Lexus ES
Audi Q7	Lexus NX
BMW 1 series	Lexus RX
BMW 7 series	Mercedes-Benz GL
BMW X3	Mercedes-Benz M C
BMW X5	Mercedes-Benz S c
Cadillac SRX	Porsche Cayenne
Land Rover Discovery4	Porsche Macan
Land Rover Freelander2	Volvo S60
Land Rover Evoque	Volvo XC60



APEAL correlates with price at a segment level, and to a lesser extent, volume within each segment.



“I really want this car!”



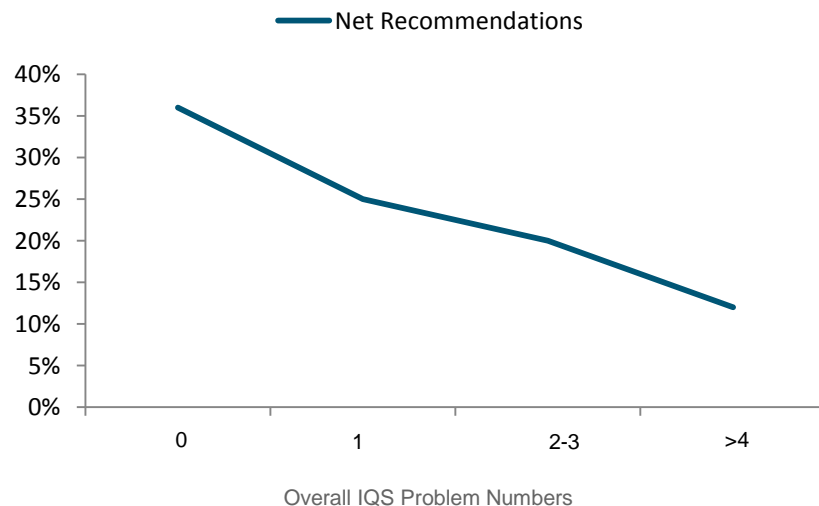


IQS issues significantly impact the net recommendation rate.



“I would recommend this car to friends and relatives”

Net Recommendations



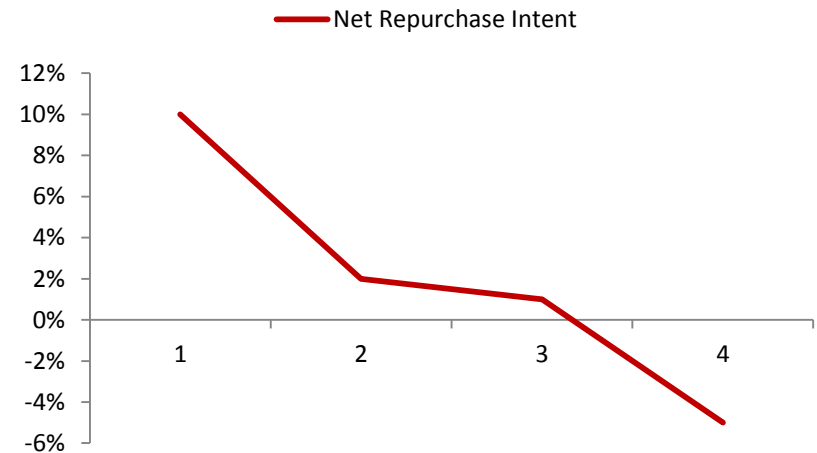


VDS issues significantly impact the net repurchase rate.



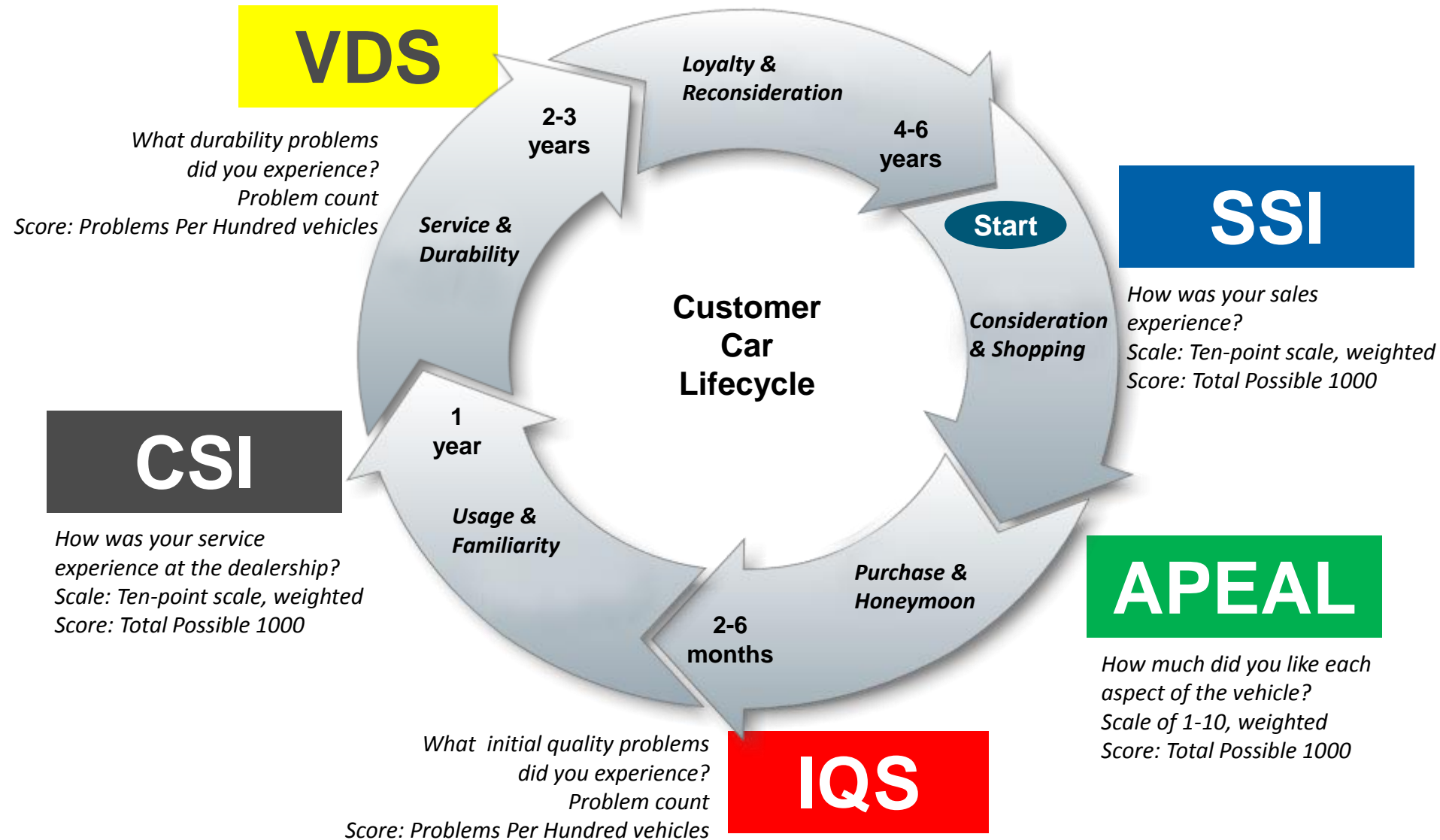
“I think I will buy this brand again”

Net Repurchase Intent





Five studies are used to understand the Consumer's Product Quality experience from a holistic standpoint.





Both in China and US, consumers appreciate their salesperson's handling (PEOPLE) and facility (PLACE).

Highest Rated Attributes

2013 China SSI	Score	2013 US SSI	Score
Condition of vehicle	6.9	Salesperson's courtesy	8.8
Salesperson's courtesy	6.8	Salesperson's responsiveness	8.6
Amount of time waited to be greeted	6.8	Condition of your vehicle	8.5
Able to deliver vehicle at promised time	6.6	Salesperson's honesty	8.5
Salesperson's honesty	6.6	Knowledge/expertise about vehicles	8.3
Salesperson's attention focused on you	6.6	Concern that you purchased the best vehicle for your needs	8.2
Appearance of facility	6.5	Appearance of facility	8.1

 Same/Similar



Both in China and US, dealers need to attach importance to the salesperson's professional skill.



- *Provide greeting immediately and warmly by the dealership reception*
- *Concern that customer purchased the best vehicle for his needs, give appropriate suggestions*
- *Provide comfortable environment to customer, make easy for negotiation*



In both markets, consumers are concerned about PRICE and the TIME of the negotiation and paperwork.

Lowest Rated Attributes

2013 China SSI	Score	2013 US SSI	Score
Ease of coming to agreement on a final price	6.2	Variety of inventory	7.4
Fairness of price paid	6.2	Comfort of the area where negotiated for vehicle	7.5
Variety of optional models	6.3	Timeliness of completing the final paperwork process	7.5
Timeliness of completing paperwork process	6.4	Ease of coming to agreement on a final price	7.6
Thoroughness of explanations during the delivery process	6.4	Fairness of price paid	7.6
Comfort of office where transaction completed	6.4	Thoroughness in explaining your vehicle's features	7.8

 Same/Similar



To avoid losing enthusiasm for the car, OEMs need to make sure the deal is felt to be good and timely.



- *Informs customer to bring the personal material for signing the related documents*



- *Prepare all the documents in advance and explain to customer clearly*



- *Rapid handling of paper-work.*



In CSI, again, the “PEOPLE” (Service Advisor) and “PLACE” are appreciated by consumers in both CN and US.

Highest Rated Attributes

2013 China CSI	Score	2013 US CSI	Score
Courtesy of Service Advisor	8.6	Courtesy of service advisor	8.2
Cleanliness of dealership	8.3	Cleanliness of dealership	8.2
Helpfulness of staff at pick-up	8.2	Ease of scheduling service visit	8.1
Condition/ cleanliness of vehicle on return	8.2	Flexibility to accommodate your schedule	8.1
Timeliness of hand over process	8.2	Helpfulness of staff at pick-up	8.0
Thoroughness of maintenance/ repair work performed	8.2	Responsiveness of service advisor	8.0
Timeliness of the pick-up process	8.2	Timeliness of drop-off process	8.0
Ease of arranging service visit	8.1	Timeliness of pick-up process	7.9

Same/Similar



OEMs need to make sure that service advisors represent the brand well, and the place meets their needs.



- *Quick maintenance lane(s) available for customers*
- *Dealership operates two shifts to support increased UIO and customer convenience needs*



- *Valet at dealership ensures sufficient parking available for customers*
- *Service Advisor greets customer immediately and provide perfect need analysis*





In CSI also, the charges and timeliness are critical areas for consumers: PRICE and TIME

Lowest Rated Attributes

2013 China CSI	Score	2013 US CSI	Score
Fairness of the charges	7.7	Total time required to complete service on your vehicle	7.5
Total time required to service your vehicle	8.0	Fairness of charges	7.8
Convenience of location	8.1	Condition of vehicle on return	7.8
Flexibility to accommodate schedule	8.1	Thoroughness of explanation	7.8
Ease of driving in/ out of facility	8.1	Convenience of parking	7.8
Comfort of waiting area	8.1	Comfort of waiting area	7.9
Thoroughness of Service Advisor explanations	8.1	Ease of driving in/out of the facility	7.9

Same/Similar



And all customers want to get high efficiency service that save time and offer value .



- *The customer wants to understand the work that's done on his car and what he has paid for—because it can be a lot*



- *He hopes someone can take the time to explain in very easy to understand terms the work that has been done on his car and what he is paying for*
- *Invoices provide the customer with value and benefit statements*

