

Motor Vehicle Safety Levels – Considerations for Consumers in Used Vehicle Purchasing Decisions

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ABSTRACT

The Australasian New Car Assessment and the Used Car Safety Rating Programs are aimed at both promoting improvements in the level of vehicle safety in the Australian vehicle fleet and at providing information to consumers to enable them to select safer vehicles. However, the role of safety features in consumers' purchase decisions is not well understood, nor is the relative importance of different sources of vehicle safety information.

This paper reports the preliminary findings of a survey involving around 175 participants that investigated a range of issues related to the purchase of a used vehicle, including the role of safety features in the purchasing decision and the relative use of sources of vehicle safety information. In particular, it discusses three assumptions:

1. The safety aspects of a vehicle are important to consumers - safety being ranked the joint fifth most important attribute in a prospective future used vehicle purchase.
2. Information from sources like ANCAP and UCSR will influence consumer perceptions of the safety aspects of particular vehicles – nearly 90% of respondents were aware of independent crash testing of vehicles with awareness levels of the ANCAP and UCSR programs of over 46% and 20% respectively.
3. Consumers will seek out information on the safety aspects of vehicles - over half the respondents considered the advice from motoring clubs and magazine road tests on vehicle safety to be very useful while nearly 80% considered the seller of their last purchased vehicle did not inform them very well about its safety features.

While these findings show there are encouraging signs of awareness of safety in vehicles, mixed results in other aspects show there are both significant challenges and opportunities ahead to communicate these benefits and encourage the purchase of safer vehicles.

INTRODUCTION

Informed commentary and messages from road and vehicle safety advocates are overwhelmingly in favour of consumers purchasing and driving safer motor vehicles. Australian motoring clubs, state transport authorities, industry professionals and academics have a generally common voice in terms of the merits of driving a safer car. Similarly, some manufacturers have adopted a visible safety philosophy in their vehicle design, manufacture and promotion.

Within Australia and New Zealand state motoring clubs and transport departments have contributed financially and operationally to programs such as the Australasian New Car Assessment Program (ANCAP) and Used Car Safety Rating (UCSR). These programs provide consumers with information about the crash performance of a range of new and used vehicles sold in the Australian marketplace both in terms of controlled crash testing and real world crash results. Globally, consumer crash testing programs exist in United States, Japan and Europe and are collectively adding to the database of vehicles being scientifically tested and assessed, with their results being recorded and communicated to both vehicle manufacturers and consumers alike.

A basic assumption underlying these programs is that consumers will be influenced by information on safety features when making a decision to buy a vehicle. It is also assumed that the programs themselves (ANCAP and UCSR) would be major sources of this safety information.

Further, it is implicitly assumed that consumers will seek out information on safety when considering a purchase. These assumptions can be summarised as follows:

- consumer decisions to purchase a vehicle will be influenced in part by its safety aspects
- consumer perceptions of safety aspects associated with particular vehicles will be influenced by information from sources like ANCAP and UCSR
- consumers will seek out information on the safety aspects of vehicles

It is arguable that such safety information is at least as important in consumer decisions when purchasing used cars as it is with new cars. The used car purchaser seeking to obtain a safer vehicle is, however, confronted by a number of barriers that are largely non-existent for a new car buyer. In particular, it is often difficult for used car purchasers to obtain accurate information about the actual safety features fitted to a particular model as specifications and fitted options are not always easy to identify. It is also possible that a vehicle that meets all the buyer's needs, including the desired safety features, is not actually available in the secondhand market. Barriers such as these are likely to increase with the age of the desired vehicle, particularly if it is a model that was sold in low numbers or is not common in the desired configuration.

By contrast, new car buyers can generally access comprehensive and accurate current information from a variety of sources. It is also possible for the new car buyer to obtain a vehicle to their desired configuration without having to compromise on any particular aspect because of a lack of availability. In essence, if the dealer cannot offer the new car purchaser the exact model they desire from available floor stock, a vehicle can be ordered.

Used vehicle purchasers are also unlikely to have access to the latest safety features simply because, for most vehicles, the introduction of safety features into a model occurs progressively over a number of years. The budget of a used car buyer may mean they cannot afford more recent and better equipped variants, instead being limited to earlier versions lacking the desired safety features.

These barriers for the used car purchaser can therefore act as a deterrent to the purchase of a safer vehicle as they must prioritise their desire for certain safety aspects against other vehicle attributes such as lifestyle features, functionality, general condition and cost. Importantly, they must also be prepared to spend the time and money seeking out and ultimately purchasing such a vehicle. The aim of this study is to determine how important safety aspects are to used car purchasers.

LITERATURE REVIEW

A literature review was conducted, focusing in particular on material that addressed the three abovementioned assumptions, i.e. that the purchase decision is influenced in part by safety aspects of the vehicle, that sources like ANCAP and UCSR are important influences on the decision, and that consumers will actively seek out such information. Aside from a limited number of scientific papers, much of the material reviewed was based on market research surveys on the importance of the safety aspects of a vehicle to consumers, levels of awareness, attitudes and buying intentions. Overall, the material was variable in quality and findings, in part because of the large variations in the type of information being sought. The key findings of the literature review with respect to the assumptions listed in the introduction are presented below.

Importance of safety features to consumers

There were several Australian sources of information on this issue, some US sources and a UK report with minor mention of safety.

Only the most recent Australian report (Synovate, 2006), commissioned by The Royal Automobile Club of Western Australia and the Western Australian Office of Road Safety, provided more than superficial information on consumer attitudes and behaviour relating to the general motoring community, although it was targeted towards new and near-new vehicles, rather than general used vehicles. It was found that, while 32% of respondents nominated safety as important in the purchase of a vehicle, only half of these respondents said they would take safety into account in their next purchase. Synovate noted as one of the key findings that 'Vehicle safety is considered important in the broader context of road safety, as well as in the context of vehicle features. However, relatively other features and issues are significantly more important, making safety less of a priority' (Synovate, 2006, p5).

This detailed report included comprehensive information on specific safety related aspects of vehicle purchasing. The report presented recommendations for improving communication of the benefits of safety aspects and also presented supporting behavioural theory discussion points related to their findings. Synovate noted that knowledge of vehicle safety was limited to the better known features such as airbags and anti-lock braking systems (ABS) and that consumers believed they had a greater level of knowledge than was really the case. From this they considered two broad communication tasks were necessary, firstly to 'Raise the importance of safety in the purchase decision' and secondly to 'Address the knowledge gaps and misconceptions' (Synovate, 2006, p28).

The Australian Automobile Association (AAA) regularly commissions market research on motorist's attitudes on a wide range of motoring issues. Their surveys contain only minimal reference to vehicle safety issues, instead reporting on key findings across many topical areas. Nonetheless, in 2005 it was found that 22% of respondents identified safer cars as 'extremely important' in response to 'Ways to prevent death and injuries', with a further 41% indicating safer cars were 'very important'. (ANOP, 2005, p10). In an open-ended question in an earlier survey, on 'What helps to make a car safe in a crash?', 75% of respondents identified safety features such as air bags and seat belts, followed by 44% indicating accident prevention features such as anti-lock braking systems (ANOP, 2004, p7).

In Victoria, Charlton, et al. (2002) undertook a detailed analysis of vehicle safety related issues for older drivers in terms of choice of a safe vehicle. Their report contained comprehensive discussion and findings that included identifying a lack of awareness and understanding regarding modern safety features by these older motorists. One finding from focus groups attended by age 55+ participants, showed safety features were identified as 'Important vehicle features' in less than half of all the groups. The authors commented that 'Some features related to safety were also noted, however, few specific features were reported' (Charlton et al, 2002, p27).

A 2003 survey of young adults in the United States on automotive preferences and the role of the internet found that after 'performance', 'safety' was the second most important key issue in vehicle selection (37.3% and 32.4% respectively) (Navarre, Hwang, Ly and Waller, 2003). They concluded that 'performance was the principal differentiator for one of every two young men' (Navarre et al, 2003, p8). Overall this survey made only limited reference to safety aspects and there was no analysis to expand on the above finding.

The Advocates of Highway and Auto Safety regularly commission surveys of the attitudes of Americans on highway and vehicle safety and report on their key findings on a range of safety related issues, although with limited discussion on any particular aspect. Their 2001 survey (Harris, 2001) showed a willingness to pay more for a vehicle to obtain improved safety levels.

A US national automotive consumer study in 2003 (TRW Automotive, 2003) found consumers had progressively increased their rating of the importance of safety features such as anti-lock brakes, front air bags and side air bags since 1999, with combined responses of 'very important' and 'important' for the three features at 91%, 91% and 74% respectively. It was claimed that the results showed that safety influenced the purchase decision, but no clear evidence of the role of safety information in the purchase decision process was offered. In response to a more direct question, another US survey found that 78% of respondents would pay more for a safer vehicle (Progressive Casualty Insurance Company, 2001).

In the UK, research by The AA Motoring Trust (2003) found that most people buy a new car because of security, reliability and 'status value', however only 3% cited safety as a consideration. More positively, they found respondents reported safety as the area of biggest improvement in vehicle design over the past ten years.

The literature is far from clear on the importance of safety information to consumers, apart from a generally high response to particular vehicle features such as anti-lock braking systems.

Sources of information on safety features reported by consumers

There was little comparative in-depth information on this in the literature reviewed, and the only studies providing some level of information came from the US. One of these (Navarre et al, 2003) was restricted to the use of the internet as a source. The other two addressed a proposed, rather than actual source of information, finding that consumers liked the suggestion that government safety rating stickers should be posted on the windows of vehicles offered for sale (Harris, 2001; Progressive Casualty Insurance Company, 2001).

"It is understood that recent research in Western Australia identified a number of sources used by people planning to buy a new car, but no source was identified specifically as a source of safety information (L. Crackel, personal communication)."

Consumer behaviour when seeking information on safety features

Once again, there was little information on this, with only two US studies providing limited insights. The Progressive Casualty Insurance Company (2001) found that 73% of their respondents researched safety performance ratings before purchasing a vehicle, and Harris (2001) reports a similar result.

It is clear that there is a lack of information on the role that information on safety features plays in the purchase decision for a used car, what sources typically provide such information, and whether consumers seek out these sources. It was therefore decided to undertake research aimed at providing such information.

It was also apparent that much of the material was largely free of supporting theory, even though theory is important in considering how to change consumer behaviour. For example, the Health Belief Model (HBM) is widely used in research on health. It can assist in identifying effective programs for addressing health risk behaviours by considering an individual's perception of exposure to health risk threats, barriers to adopting preventative measures, perceived benefits and the application of communications to influence behaviour change (Becker, 1974, Rosenstock 1974, Kirscht, 1988). HBM applications include anti-smoking programs, improving participation in vaccination programs or use of contraceptives to reduce pregnancies or sexually transmitted diseases. Kirscht (1988) notes that applied research in health education programs resulted in the development of the model. The literature review included a search for any specific studies where the HBM had been applied to consumer behaviour relating to the selection of safer products such as motor vehicles, however no studies were found. The HBM was selected for research on the attitudes of used car purchasers towards safety given the alignment of the model to other preventative health behaviour applications.

It should be noted that the research reported here is part of a research project study looking at the operation of the HBM as applied to the use of safety information in the purchase of a used vehicle, including whether or not crash experience influences choice. This paper will report only the information on the consumer behaviour aspects of the survey responses and how safety information is perceived, used and sought

METHOD

A set of survey questions was developed containing a combination of 37 questions and sub-questions to assist in providing an understanding of the consumer perspective on a broad range of used vehicle related purchasing issues. No definition of a 'used' vehicle was given, so the vehicle could be of any age, as long as it was not new. This covered aspects of attributes considered important in a future vehicle choice, information sources, aspects of vehicles that have improved in recent years, promotion and advertising, seller provided information, understanding of safety features, beliefs regarding likelihood of involvement in a future accident and receiving subsequent injuries, responsibility for the provision of information on safety and attitudes towards the safety of other road users.

Limitations on resources meant that a population sample could not be obtained. However, the author was able to gain access to the employees of The Royal Automobile Club of Queensland (RACQ). RACQ employs around 1,300 staff throughout Queensland in a wide range of service delivery and member support roles, i.e. clerical, administration, internal support, supervisory and management roles such as are found in many medium to large organisations.

Consideration was given to the nature of roles within RACQ in regard to the need to avoid introducing a bias into the sample because of some of the technical roles within a motoring club. To remove this risk, staff involved in the provision of technical and motoring advice and delivery of vehicle inspection services to members were excluded from the survey.

The survey was distributed to approximately 1,200 staff via RACQ's email network as an electronic document which was to be printed off, filled out and mailed to the researcher. Approximately 100 hard copies were also mailed, with a reply paid envelope, to staff who did not use a computer as part of their regular daily duties. These distribution methods assured respondents of anonymity. In total, approximately 175 completed questionnaires were received from RACQ employees.

RESULTS

As a general indication of future used vehicle purchases, respondents were asked to nominate the vehicle type which they were most likely to next purchase. These are set out in the following table

Nominated likely future vehicle purchase types

Survey Rank	Vehicle category	Nominated (%)	2005 total sales (%)	Notes
1	Medium hatchback or sedan	23.7	8.7	
2	Small hatchback or sedan	19.1	31.8	Includes 'light' and 'small' vehicle categories
3	Large family sedan or wagon	16.8	17.6	Includes 'large' and 'upper large' categories
4	Medium sized 4WD	10.4	7.1	
5	Large sized 4WD	6.9	1.9	

Federal Chamber of Automotive Industries (FCAI) sales national volumes for 2005 as segmented by their vehicle categories.

It should be noted that the vehicle category nominated by respondents was determined by their assessment of what category their next potential vehicle fell within and their selections may therefore not necessarily align with the automotive industry's categorisation of a particular vehicle.

As an example a Toyota Camry is categorised as a medium sized vehicle but the respondent may consider this vehicle to be a large sized one (FCAI, 2006).

Following are the results of the survey which relate to the three assumptions about safety and used vehicle purchase (that the purchase decision is influenced by safety aspects of the vehicle, that sources like ANCAP and UCSR are important influences on the decision, and that consumers will actively seek out such information):

Consumer decision to purchase a vehicle will be influenced by its safety aspects

The five attributes identified as most important when next looking for a used vehicle were (open-ended responses):

1. Its general condition (31.2%)
2. Practicality considerations (27.2%)
3. How economical it is (25.4%)
4. The amount of kilometers traveled (24.8%)
5. Its reliability and safety (both at 21.4%)

When asked to select a statement about their knowledge of the safety features in their current vehicle, 41% said that they did 'know about the safety features prior to selecting the vehicle'.

When asked to select a statement about their choice of vehicle regarding safety features and levels of protection, 63% said they would 'choose a vehicle based on other factors but expect safety levels to be set very high as standard'.

When asked to select a statement regarding the main reason for not previously purchasing a vehicle with improved safety levels, 48.6% 'considered the level of safety was adequate'.

The three attributes identified as most improved in recent years (open-ended responses):

1. Safety (64.2%)
2. Economy (19.7%)
3. Comfort levels (15.6%)

When asked to select a statement regarding their beliefs about vehicles with higher safety levels costing more, 52% rated this likelihood as 'high'.

Regarding the safety of other road users in a used vehicle choice, 31.2% considered this to be 'very important' with 38.7% nominating 'quite important'.

Consumer perceptions of safety aspects associated with particular vehicles will be influenced by information from sources like ANCAP and UCSR

When asked to select a statement about their awareness of vehicle safety programs, 89% were aware of independent crash testing, 46.8% were aware of ANCAP and 20.8% were aware of the UCSR program.

When asked to select statements about a future purchase if they were provided with information on the benefits of safety features, 41.6% said they would 'probably place greater emphasis on safety factors when selecting a vehicle', 35.3% said they would 'probably select or reject a model based on safety aspects' and the same number would 'probably spend more on a vehicle to obtain improved safety levels'.

Consumers will seek out information on the safety aspects of vehicles

The internet was identified as the main source of information when deciding which car they would buy next. Around one quarter of respondents (25.4%) listed it as the primary source and 15.6% listed it as the secondary source (open-ended responses). Other main sources of information when deciding which vehicle to buy were identified as a motoring club and also from family and friends.

When asked to select a statement about how well the seller informed them about the safety features of the last used vehicle they purchased, a combined 79.8% rated this as either 'only to a limited extent' or 'very poorly'. When asked to select a statement about who they consider has primary responsibility for informing used vehicle purchasers about the benefits of safety features, 31.3% listed 'motor dealers' followed by 29.4% for 'vehicle manufacturers'.

When asked to indicate how they would value various sources of information on vehicle safety, respondents selected 'advice from motoring club' and 'magazine road test reports' as two sources to be 'very useful' at 61.8% and 54.9% respectively. These two rated higher than a range of other information sources.

When asked to select a statement about safety related comments made in discussions with friends, family or work colleagues regarding purchasing a vehicle, 50.9% said the 'comments often relate to better known safety features such as airbags or ABS'. The second highest ranking response at 30.1% was 'safety aspects are rarely talked about'.

The five vehicle attributes identified as mainly promoted by manufacturers in their advertising were (open-ended responses):

1. Price or affordability (42.2%)
2. Appearance or styling (37.5%)
3. Safety (33%)
4. Power or performance (32.4%)
5. Features and options (30%)

Note: 'power and performance' would have ranked the highest at 44.4% if combined with 'speed'.

When asked to select statements about how well safety related aspects are communicated to potential purchasers in vehicle advertising, 40.5% said 'quite well about safety equipment levels', 53.8% said 'only to a limited extent about crash performance' and 48.6% said 'only to a limited extent about the manufacturer's commitment to safety'.

DISCUSSION

Purchasers place a priority on core practical considerations when looking for a used vehicle. A vehicle's general condition and kilometres traveled are a reflection of past ownership care and future expectations of being a sound and reliable purchase. The ranking of attributes such as a vehicle's practicality and economy further indicate that purchasers give consideration to selecting a vehicle that fits their motoring needs and financial constraints.

Safety isn't, for the majority of used vehicle purchasers, the primary factor of consideration. There is however, a clear view that these purchasers expect safety levels to be set very high as standard. There are encouraging signs to meeting this expectation as purchasers rate safety as the most improved vehicle attribute in recent years. What was also encouraging was a solid level of importance regarding the safety of other road users. It is also important to note that 'safety' was not defined in the survey and consumers may therefore associate the term only to specific features.

Around 40% of purchasers think they are informed about the levels of safety in their current vehicles, just as nearly half of them chose a vehicle with a level of safety that they believed was adequate.

However, although there is an extensive range of safety features that contribute to making a car safer, just over half of the respondents said that discussions with work colleagues, friends and family were limited to the better known safety features such as airbags and ABS, so that many safety features remain unrecognised by consumers. Additionally, key consumer safety testing and information programs such as ANCAP and UCSR, programs which can provide valuable information on crash related occupant protection, could be better communicated to consumers. UCSR, in particular, was only known to around one in five potential used vehicle purchasers.

The internet, both as a primary and secondary source, is the medium preferred by consumers when researching their next used vehicle. However, while a majority indicated they most valued information advice from motoring clubs and magazine road tests, they believe the responsibility for providing information on the benefits of safety lies primarily with motor manufacturers and dealers.

From a consumer's perspective, the message from manufacturers is focused on price and affordability, appearance and styling and safety, in that order. However, there is also a perceived strong emphasis on power, performance and speed. There was acknowledgement from around 40% of respondents that manufacturers communicated safety equipment levels quite well. However, there was less acknowledgement of how well manufacturers communicated crash performance and their commitment to safety.

In regard to their own experiences when last purchasing a used vehicle, there was an overwhelming majority who believed the seller did not provide this safety information very well. This view however tends to not align with their claim that they made informed decisions about the safety levels of the vehicle they were purchasing.

Around 35 to 40% of consumers reported they would take a more favourable approach to selecting a safer vehicle if they were better informed about the benefits of safety features. This ranges from placing more emphasis during selection through to selecting or rejecting one on its safety aspects.

Improved levels of safety will, however, come at a perceived additional cost with just over half the respondents believing there is a high likelihood this will add to the cost of a vehicle. Encouragingly, around a third believed they would spend more to obtain improved safety levels if they had this information.

This research was conducted at about the same time as similar research was being conducted in Western Australia (Synovate 2006), without either party being aware of the other's research. In comparing the results there were instances where variations existed, one such example being the Queensland based research regarding awareness of crash testing programs recorded significantly higher levels of awareness than found in the Synovate study. Further exploration of the differences and methodology between the two studies might shed some light on possible reasons for the differences in results.

CONCLUSION

The results show there is evidence to suggest that safety aspects of a used vehicle are important to purchasers and that, while not the primary consideration, there is an expectation that safety levels are set very high. This is a positive sign given that used vehicle purchasers are faced with additional barriers and considerations to that of new car buyers but may also raise cautions that these high expectations could lead to beliefs that safety levels are sufficiently high and do not warrant appropriate consideration.

Results also show that consumers are prepared to place more emphasis on the safety aspects of used vehicles if they are better informed. Importantly, they also indicated that they would be prepared to spend more on a vehicle or consider either accepting or rejecting one if they had this information. These are encouraging signs and provide opportunities for programs such as ANCAP and UCSR to improve their awareness to consumers and deliver this information.

There are also opportunities for other stakeholders to deliver this safety message in view of who and where consumers currently seek information from, how they perceive information is communicated to them and who they believe has responsibilities to deliver this information. This suggests consumers are interested in being informed about used vehicle safety.

While interesting insights are emerging from this research, there are limitations to their generalisability, owing to a modest sample size and the use of RACQ employees for the sample. These limitations could be addressed by a population based survey, which would also enable an expansion of questions to better follow up issues which have emerged from this survey.

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