

Market segmentation strategies for complex automotive products.

Abstract

With the advent of ‘big data’ the purpose of this empirical study was to take the opportunity to rethink conventional market segmentation strategies. This is particularly relevant for the automotive industry which is going through a period of rapid change with advanced technologies such as electric powered and autonomous vehicles, creating increased concerns as to how this complexity is communicated effectively.

A mixed methods approach was utilised to collect data from multiple sources, incorporating in-depth discussion groups, semi-structured interviews, an online survey and data collection of communication processes through the attendance of new car product launches.

The results suggest that marketing departments should rethink their data capture methods to collect more relevant consumer information, not the contemporary trend of needs, attitude and motivation variables that are difficult to identify and collect, but basic information on their level of familiarity with products through previous experience and exposure. The basic dimensions identified are characterised by a consumer’s expertise, involvement and familiarity with a product. The findings are synthesised into a theoretical framework to define differing levels of product complexity, which would enable manufacturers to provide more closely defined market segmentation strategies when communicating new product information.

Introduction

In a world where technological change within existing product categories is increasingly rapid the marketing of these ‘new’ products is vital to a company’s success. This is particularly the case for the automotive industry where although people have been driving cars for over a hundred years their experience has been primarily based on the technology of the internal combustion engine. With the advent of hybrid technology, electric vehicles, hydrogen fuel cell propulsion and autonomous cars the consumer is faced with a level of complexity not previously experienced. Changes in a product can be incremental e.g. hybrid or radical e.g. hydrogen fuel cell incorporating a greater or lesser degree of innovation (Gobeli and Brown, 1987; Pi-Chuan Sun, 2010; Shams et al., 2015), some of these changes can be misunderstood by customers and the general public, as they can be too complex or poorly explained (Chapman, 2005; Elena Delgado-Ballester and Estela, 2015; Pappu and Quester, 2016).

Although this challenge applies to a number of industries the automotive sector and new automotive products has been chosen because there is evidence that new cars are not easily understood (Gibson 2010; Sasu and Ariton, 2011). With a plethora of features and new innovations that are increasing in complexity some consumers are confused or even alienated, resulting in the products often been overlooked or even ignored (Talke et al., 2009; Whitfield, 2009; Loginova, 2010; Johannessen et al., 2011; Simonsohn, 2011; Warman, 2011; Reynolds and Ruiz de Maya, 2013; Kasabov, 2015).

The response to this situation is that the marketing strategies for new automotive product launches continue to be formulated for mass markets with one-size-fits-all messages, leaving it to a consumer's summary judgement rather than tailoring messages to a more defined segmented market (Dibb, 1998; Beck et al., 2012; Elena Delgado-Ballester et al., 2012). Although segmentation is used to target consumers, it is done at a higher tier - usually demographics, without any consideration to the differences in views and opinions that consumers may have, however consumers no longer fit into convenient boxes (Shillito, 2001). The reason for this approach is due to the limitation of basic data collection methods which opt for the easy route to the access of information such as age, marital status, postcodes, etc., all of which are readily available. This is also a limitation of bought-in information, such as consumer databases (Dibb and Simkin, 1991; Dibb, 1998). Unless there is a change in the type of data and how it is collected, then more effective segmented marketing campaigns will remain elusive to automotive manufacturers as well as their retailers.

Although there is evidence that there is a need to provide more detailed information on new products, the information must be relevant and if possible customised to each individual consumer (Johannessen et al., 200, Elena Delgado-Ballester et al., 2012), but it may not be feasible because the provision of a one-to-one information service would not only be expensive, but also impractical (Rokeach, 1973; Chikweche and Fletcher, 2012). However, differing levels of information aimed at different groups of consumers would be more useful than the current diffusion method of sending the same message to a mass market.

The evidence suggests that any development of how manufacturers communicate new products should begin with an assessment of the newness of the product from the consumer's viewpoint (Vercauteren, 2005; Kishore et al., 2015). If consumers are confused by product complexity then this is the variable that should be used to measure newness. This categorisation of complexity could then be matched to the information needs of consumer groups.

Even if manufacturers could establish a new measure of consumer product complexity and develop marketing campaigns based on the consumer's viewpoint and lifestyle, they only have conventional consumer data based on demographics and social class that can be used for conditional segmentation methods, such as post code areas, income levels etc., (Bayus, 1991; Simon Françoise & Andrews, 2015). Even the increase in social classes to seven instead of the accepted three (Hall, 2013) are still inadequate, because whilst this type of data tells you where consumers are located, they are unable to differentiate between individual's views and behaviour, even if they have the same demographic (Bayus, 1991; Simon Françoise and Andrews, 2015).

Bloch (1981) suggests these views and behaviour are very emotive in nature when related to automobiles, some to a greater or lesser extent depending on how involved they are with their cars, and that basing campaigns using only demographic data is inappropriate. New products arouse different levels of interest and enthusiasm between consumers and what may be new to one consumer may not be to another (Rogers and Shoemaker, 1971; Valéry Bezençon and Blili, 2010), this is due in part to the level of

knowledge or expertise of an individual as well their enthusiasm or involvement for a product (Bloch, 1981; Kleiser and Mantel, 1994, 1999; Laaksonen, 1994; Sasu and Ariton, 2011; Barrutia and Maria, 2014; Reinders et al., 2015).

There is evidence to suggest that emotional involvement moderates the level of consumer product knowledge (Bloch, 1981; Zhang et al., 2013), not the in-depth technical knowledge associated with experts, but more from the aspect of interest in what it does rather than how it works, yet there is a gap in current literature that measures this construct. Another aspect that is not utilised, is the previous exposure or familiarity that consumers have with current products. For example, in the case of cars, previous owners will have more knowledge and be more aware of the changes to a new model compared to other consumers.

From a marketing strategy perspective, data of this nature would provide more insight into their consumer base and provide more accurate consumer segments. To do this the areas of expertise, involvement and familiarity need to be unpacked so that they focus on the time when consumers are first exposed to new products.

If data was available for consumer segments, based on their level of familiarity, involvement and expertise with a product, then a sample of consumers that represent those segments could be used to establish a products level of complexity. This will provide two significant benefits; firstly, manufacturers would be able to establish an optimum level of complexity for a new product, with lower and upper levels. Secondly marketers could provide greater or lesser information based on these levels. For example, clearer explanations can be given when communicating products that are high in complexity to avoid alienating consumers that have low levels of expertise, compared to more detailed information that would be sought by experts. This would provide marketers with a more strategic approach to designing effective advertising campaigns.

Currently, most advertising is based on lifestyles and consumer aspirations to those lifestyles (Young and Rubicam Inc, 2002; Experian, 2003; Acxiom, 2004; Harris, 2004; Lilley, 2004; thevaluescompany, 2004; WPP Group, 2005). These are centred on a consumer profile established by manufacturers, or their marketing agencies, which they believe fits with their product. Methods that utilise this shoe-horning of product to consumer or consumer to product are unlikely to be successful if it relies on consumer aspirations. Although practitioners continue to use product positioning and aspirational methods as their main marketing tool, there has been very little academic research in this area, probably because this catch-all approach has little merit. Evidence suggests that consumers should be the judge of new products (Rogers, 1995; Danneels and Kleinschmidt, 2001; Johannessen et al., 2001; Marchand et al., 2015) and marketers would benefit from obtaining consumer views, rather than imposing their own.

Consumers would benefit from more information that is appropriate to them as an individual (Johannessen et al., 2001; Elena Delgado-Ballester et al., 2012) and provide a greater awareness of products that they may normally overlook (Rogers, 1995; Elena Delgado-Ballester et al., 2012), and for manufacturers it would increase the effectiveness of their marketing campaigns whilst providing a better indication and likelihood of success (Shillito, 2001; Millberg et al., 2014; Wu et al., 2015).

A number of meetings with automotive marketing teams revealed that currently, there are no classifications that accommodate the consumers view or indeed categorise the degree of innovativeness (newness) and complexity they perceive in a new product. Marketing strategies are based on a consumer profile established by the product development teams, it was not uncommon to find an existing consumer profile being shoehorned into a product and visa-versa, in both cases just one message is sent out to mass market segments based on demographics, simply because they do not have data relating to the customer profile.

The objective should be to design a more effective method of profiling consumers, with data that identifies consumer segments more accurately, instead of using a structure based on intuition rather than systematic analysis (Dibb, 1998; Millberg et al., 2014; Wu et al., 2015). Yet an intuitive structure is the approach most used by manufacturing industries, including the automotive sector, and one that has remained unchanged for some time (Dibb, 1998; Maheshwari et al., 2016).

Literature Review

Bloch (1981), Shimp and Sharma (1983) and Lennox and MaClaren (2003) have all argued that consumer views are moderated by a consumer's enthusiasm or involvement with the product. Products arouse different levels of interest and enthusiasm between consumers and impact on how they view new products. Research by Zaichkowsky (1985b) suggests this interest and enthusiasm is involvement with the product, a motivational construct that increases with more frequent use. Zaichkowsky also suggests that product use and involvement are correlated when use of the product is optional, although most consumers regard a car as a necessity.

Involvement

Involvement is a personal phenomenon that is an expression of an individual's views and feelings, as a well as how they respond to an object (VonRiesen and Herndon, 2011). Consumers also differ in how long they spend in assessing a product, what search patterns they apply and how much detailed information they need to make a decision (van Rijnsoever et al., 2009). Consumers can be active or passive to advertising and marketing communications which may cut short or activate further information searches depending on the intensity of involvement with a product (Laurent and Kapferer, 1985; Zaichkowsky, 1985a; Pi-Chuan Sun, 2010). This supports the view by Sasu and Ariton (2011) that the intensity of product involvement influences consumer behaviour. However, increased involvement does not necessarily mean an increase in expertise; it is suggested that you do not need to be an expert to have involvement (Zaichkowsky, 1985a; Marie-Cecile Cervellon and Carey, 2014).

Richins and Bloch (1986) states that involvement is consumer-defined, not product-defined, yet most products are classified as high or low involvement by researchers, although Peter and Olson (2010) suggest even this is inaccurate as involvement is a continuum rather than a bipolar classification. Laurent and Kapferer (1985) suggests all surveys should include a measurement of consumer involvement as advertising

messages should be tailored to be active or passive in order to limit or extend the way in which consumers' process information.

Bloch (1981) developed the Automobile Involvement Scale (AIS) based on the so-called 'love affair with the automobile' that is associated with ridership and a long-term interest in cars. The scale is based on the importance of personal needs, image and values that reflect an individual's involvement on an ongoing basis, ranging from minimal to extremely high levels. The use of the scale has prevailed over a number of years (Bloch, 1981; Shimp and Sharma, 1983; Lennox and McClaren, 2003, Taylor-West et al., 2012).

Familiarity

Mandler (1981, p5) suggests that it is a "pervasive human characteristic to prefer the known to the unknown, the usual to the unusual, the familiar to the strange". A number of authors suggest that increased use of a product reduces complexity as they become more familiar and comfortable with the product (Park and Lessig, 1981; Zaichkowsky, 1985a; Chapman, 2005; Hutchinson and Eisenstein, 2008; Lakshmanan and Krishnan, 2011; Reynolds and Ruiz de Maya, 2013; Marie-Cecile Cervellon and Carey, 2014). This may be the case with some high-frequency repeat purchases that are low in value, with high-value infrequent purchases this argument does not hold completely. Usage of the product will be relevant where some pre-experience exists, for example in the case of cars, the ownership or use of the previous model. Park and Lessig (1981), suggest that the highest level of familiarity is ownership.

Barroso and Llobet (2012) found that consumers were only aware of a limited number of alternative products when they are in market, relying on past experience of product usage and information spillovers of other products sold by the same firm, this can be particularly powerful when vehicles that generate 'buzz', spur sales of all the other automaker's vehicles (Train and Winston, 2007; Marchand et al., 2015; Maheshwari et al., 2016).

Mantonakis et al. (2008) found that familiarity uses two types of information, implicit knowledge formed from prior experience without any conscious awareness and explicit knowledge formed from observed effects giving conscious awareness. Danneels and Kleinschmidt (2001) suggest that more importance should be attached to products having a familiarity fit with consumers - what they know and expect from a particular product. If this is the case then the path to increasing awareness is to employ communication methods that increase the explicit components of familiarity. Sometimes there is confusion between familiarity and expertise.

Expertise

Hutchinson and Eisenstein (2008) suggest a positive correlation between familiarity and expertise, but it is argued here that familiarity is built on product experience and so is different to detailed expertise.

Chi et al. (1982) suggest that experts categorise problems differently than novices, for example physicists look at the deep structure (underlying principles); they look at things

that will solve the problem rather than novices who look at surface structure (features). Hence, they propose that it is not just the acquisition and memory recall of information that differentiates a novice from an expert, it is the difference being the depth of knowledge and how it is stored.

The degree of familiarity and/or expertise will raise or lower consumer views of what is new in a new product. For example, Alba and Hutchinson (1987) suggest novices are likely to view products non-analytically compared to experts, who actively seek more information simply because they know it is likely to exist; novices rely on recall (familiarity) and fewer details. In contrast Sujan (1985) argues that knowledgeable customers are less likely to be extreme in their evaluations than novices, due to what they think they know, later research supports this view. Wood and Lynch (2002) found that experts tended to punch above their weight describing it as overconfidence – a feeling of knowing phenomenon, a prevalent bias with people assuming they know more than they do; findings by Mehta et al. (2011) revealed that sometimes experts had a hard time recalling product features and simply filled in missing information, basically they took a guess.

Moreau et al. (2001) found that even experts with their entrenched knowledge require supplementary information when faced with a discontinuous innovation. In addition, Johnson and Russo (1984) found that experts rely on their knowledge to limit their searches for information and their analysis of prior knowledge revealed an ‘inverted U’ effect where information searches were more likely to be carried out by consumers who were moderately familiar than those who were highly familiar with the product. There is a danger here that if experts use what they think they know, rather than what they do know they will overlook a lot of information, this can become problematic, as expert advice is known to sway consumer demand (Simonsohn, 2011; Shams et al., 2015).

This is important as it demonstrates why the perception of the degree of product complexity varies between novices and experts, and their understanding of new products. Peter and Olson, (2010), expand on this; they suggest that during a decision-making process, only experts and motivated consumers, with high interest in the product, seek out more detailed information. Their evidence suggests that although information is available, it is not at a level that consumers understand and this is something that needs to be resolved by marketers.

In the automotive sector, research by Wiedmann et al. (2011) found the main barrier to adoption for consumers with low levels of technical knowledge, was lack of information.

Development

The literature highlights a preference for manufacturers to use product positioning based on lifestyles in their marketing communications, rather than product information, despite the evidence that complex innovations are often sidestepped or ignored because they are not understood (Berlyne, 1978; Rogers, 1995; Chapman, 2005; Silvia, 2005; Kasabov, 2015). The literature shows that marketing in general strives to position the product in the mind of the consumer, by generating illusions and manipulating the

notions of what is possible, yet consumers will not buy what they do not understand (Gibson, 2010; Taylor-West et al., 2013).

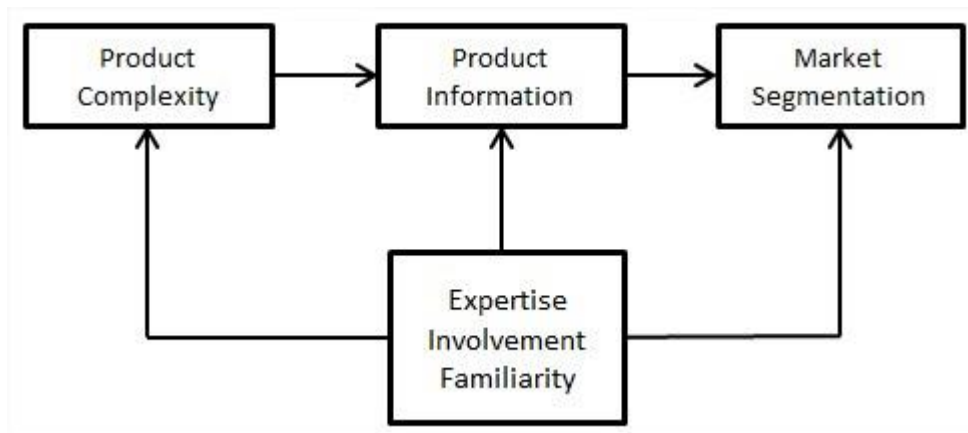
Instead of aspirations literature suggests more importance should be attached to providing product information, particularly in the automotive industry where complex innovations are now the norm. Whatever choice the consumer has, success can only be achieved if they are able to understand the product. In helping people to make those choices the only way to fill that gap in their knowledge is by providing information that is relative to them (Rogers, 1995; Taylor-West et al., 2013; Kasabov, 2015).

To do this, there is a need to identify and capture the aspects of consumer product knowledge. The literature identified a number of key variables to identify the knowledge held by consumers: expertise, involvement and familiarity, in this research expertise is in the context of actual knowledge (Zaichkowsky, 1985a; Alba and Hutchinson, 1987; Gregan-Paxton and John, 1997; Novick, 1998; Kleiser and Mantel, 1994, 1999; Kasabov, 2015); involvement is perceived or accumulated knowledge gained through a keen interest with a product (Bloch, 1981, 1986; Shimp and Sharma, 1983; Lennox and MaClaren, 2003; Kassubeck et al., 2011; Pi-Chuan Sun, 2010; Marie-Cecile Cervellon and Carey, 2014) and familiarity is taken as previous exposure through ownership or access to a specific product (Rogers and Shoemaker, 1971; Alba and Hutchinson, 1987; Danneels and Kleinschmidt, 2001; Simonsohn, 2011; Shams et al., 2015).

The present literature does not provide a comprehensive understanding of how manufacturers can get their new innovative products noticed by consumers and the data that is required to measure the complexity of the innovation and consumer product knowledge. Therefore, this study investigated the appropriateness of measures and constructs required to establish a more reliable segmentation tool when considering marketing strategies, in doing so the object was to supplement the knowledge gained from literature with exploratory studies using field-based discussions and interviews with practitioners and consumers, followed by an online survey of consumers.

In summary there are a number of gaps to be resolved. Firstly, there is a need for data which identifies consumer perceptions of product complexity that can be used to group consumers into low, medium (optimum) and high segments. Secondly, data is also required which identifies the level of complexity in all new products, taken from a consumer's viewpoint – using the same scaling as the consumer segments. Lastly, there is an opportunity for manufacturers to match both sets of data – perceived consumer complexity with perceived product complexity to enable them to provide relevant levels of product information for a more effective marketing strategy.

Conceptual Framework



Methods

The research began with a number of exploratory studies, followed by a pilot online survey and a major automotive consumer survey.

To investigate how automotive manufacturers and practitioners communicate new products to consumers, a number of meetings and events were organised/attended to discover the nuts and bolts of how this worked. This involved nine meetings with key informants and attendance at two new automotive model launches.

This was followed by 3 in-depth discussion groups with a random sample of the customers of a retail car dealership to stimulate discussions on their views on the communication and information supplied by manufacturers on new automotive products. Also, the opportunity was taken to pilot Likert scales to measure expertise, familiarity and involvement.

The results and findings of the exploratory studies were used to compile a pilot online questionnaire with friends, family and all staff and students of a University faculty to collect qualitative data and obtain feedback on layout and content. Response rates from friends and family was 99 from a total of 141 invitations (70.21%) and 61 from the University total of 283 invitations (21.55%). The questionnaire had several minor amendments based on the feedback obtained. An invitation to complete the online questionnaire was then sent out to customers and prospects on the database of a major automotive manufacturer.

Target Population and Sample

The unit of analysis for the study was individual consumers, with the level of analysis being owners of new cars. The study was concerned with how consumers perceive the complexity of new car innovations; therefore, the sampling population was restricted to owners of cars up to four years old; it was agreed by the panel of experts that recall and experience of new cars would diminish after this period. In addition, age criteria of 18 or over was also agreed, as the amount of new car owners below this age would be limited.

The total sample, based on the criteria, was 91,968. The breakdown was as follows: 89,510 (97.33%) were customers and 2,458 (2.67%) were prospects; 62,170 (67.6%) were male and 29,798 (32.4%) were female. Because of data protection concerns the email invitations were sent out by the manufacturer. The actual response to the survey was 1,401 (1.53%), much lower than anticipated. Not having control of the contact data, it is difficult to provide reasons for this low response rate. For example, it is not known if there were any invalid/incorrect email addresses as the manufacturer used a no-reply service.

Scales

The instruments identified in the literature required a review of the scale and items used. It was decided to establish a panel of industry experts to scrutinise the instruments and items and advise/approve the wording and clarification of questions and to trim redundant or irrelevant questions, so that participants in the survey had a clear understanding. The panel consisted of five experts with extensive experience of the automotive industry with dealership and academic backgrounds.

Two key aspects of newness, identified in the literature review were ‘What is new?’ and ‘How new?’ (Johannessen et al., 2001). This required scales that categorise the aspects of newness of a car and provide complexity ratings of the models innovations. These were devised in collaboration with the Advanced Product Group team of a major automotive manufacturer based in the UK and their team of six New Product experts based in Europe, who were involved in the development of the new car used for this research. By having this resource of people, who were knowledgeable in this area, their review of scales and items served as a measure of content validity (DeVellis, 1991).

Questionnaire

The initial design grew from questions formed from findings in the literature review and which were used as a framework for the exploratory studies with consumer discussion groups. Although Aaker et al. (2007) suggests the construction of a questionnaire is an imperfect art, care was taken to obtain as much feedback as possible through the pre-testing and pilot stages to ensure that questions were clearly defined, to avoid ambiguity, so they could be accurately answered by respondents (Hair et al., 2007). The answers given in the pilot stages were also scrutinised for response substitution (Gal and Rucker, 2011) where respondents may reflect their attitudes to a brand or model (i.e. bad experiences). There were no answers to indicate ambiguous or response substitution content in the pilot tests, but this could not be ruled out completely.

The questionnaire had a number of sections designed to capture data. The questionnaire began asking respondents to provide some information on their background this included socio-demographics and questions relating to car ownership/usage and what was the most important aspect of car purchase to them. These were followed by questions relating to expertise, involvement and familiarity constructs as well as the sources of information they used when looking for a new or newer car.

Questions were then asked on the eleven new innovative options of a new car that had just been launched; questions were the same for all the options. Firstly, the option was described and respondents were asked: 'I know what the option is'. Respondents were then asked to view a product video for that option before continuing to respond the following questions:

- I would like to have the... (name of option)
- I would buy this as an option
- I think this option is very complex to understand
- I would class this option as being new, e.g. not seen before
- I think this option is very innovative, e.g. very advanced, ground-breaking

Respondents were then asked if they had been aware of any of the options they had just viewed prior to the survey and indicate the source from an options list.

As in the pilot questionnaire, respondents were required to answer all questions for their entry to be recorded; this was to ensure there were no incomplete questionnaires or missing data.

Results

Construct Reliability

The first part of the analysis was to test the reliability of the scales. All constructs reported good Cronbach alpha coefficients and compared well with previous studies (Inspection of the 'Cronbach's Alpha if item Deleted' column in the Item-Total Statistics matrix revealed that none of the constructs resulted in an alpha that exceeded the final alpha.

Expertise and Involvement Relationships

Results identified that Expertise had a large positive relationship with the triangulation scale: I would consider myself to be an expert on automobiles - (Pearson Correlation $r = .973$, $n = 1401$, $p < .05$); Involvement had a large positive relationship with the triangulation scale: I really enjoy driving - (Pearson Correlation $r = .901$, $n = 1401$, $p < .05$).

The results also revealed a large positive relationship between Expertise and Involvement (Pearson Correlation $r = .795$, $n = 1401$, $p < .05$). These findings show positive relationships exist between a consumer's expertise and their involvement with the product, this concurs with previous findings by Taylor-West et al. (2008) that expertise increases pro-rata to the involvement that one has with an automobile and provides a reliable measurement of a Consumers Product Experience (CPE). The results compare well with the pilot findings ($r = .708$, $n = 160$, $p < .05$), (Section 3.6.3(and the Pilot Survey) $r = .860$, $n = 114$, $p > .05$).

To reveal the presence of socially desirable responding bias for the triangulation question ‘I would consider myself to be an expert’ the Marlowe-Crowne Social Desirability Scale (Crowne and Marlow, 1960), using Pearson Partial Correlation, was applied; results showed a small decrease in the strength of the relationship (from .795 to .786) suggesting that controlling for socially desirable responding had little effect on the strength of the relationship between Expertise and Involvement variables.

Familiarity Constructs and Triangulation

The online survey utilised contained two familiarity constructs. The Bettman and Park (1980) construct (Familiarity LMH) was used to categorise consumers into three groups of familiarity – Low; Medium and High. It was proposed in the questionnaire design that the Bettman and Park (1980) groupings did not take into account consumers who had no familiarity and grouped those who had searched for information and those who had past use of the product into the Medium group. It was observed that it was likely that familiarity would be higher for those who had used a product than those who had searched for information on a product and similarly for current and past owners. In comparison the Familiarity 1 to 5 construct categorised consumers into five groups of familiarity with the Ford Focus – None - No Familiarity; Low – Searched for [Information; Moderate – Shared or had use of; High – Past Owner and Very High – Current Owner.

Two triangulation questions were used to test scale reliability. A one-way between groups analysis of variance was conducted with the nominal constructs: Familiarity LMH; Familiarity 1 to 5 and the triangulation scales: ‘I am very familiar with this manufacturer’; ‘I am very familiar with this model’. There was a statistically significant difference at the $p < .05$ level in overall scores for the Low, Medium and High familiarity groups (Table 28). Eta Squared values indicated a medium effect with Familiarity with the manufacturer ($\eta = .07$) and a large effect with Familiarity with the model ($\eta = .11$).

Socio-Demographics Relationships

It was expected that Socio-Demographics would have a direct relationship with CPE e.g. high levels of education with high levels of expertise.

An independent-samples t-test found that males had more Expertise and Involvement with cars than females and more Familiarity with the model: Expertise had a large relationship ($\eta = .180$); Involvement and Familiarity had medium relationships ($\eta = .64$; $.119$).

Comparisons with the remaining Socio-Demographics were run with One-way ANOVA. Statistically significant differences were found with all of the remaining Socio-Demographics, except for the Area they lived in ($p > .05$), although actual differences in mean scores between the groups were quite small; Eta squared values were close to or less than .01.

An independent-samples t-test was run to identify any differences between car owners that purchased a new car or a used car with Expertise and Involvement. There were no

significant differences ($p < .05$). Similarly, the results of a One-way ANOVA found no significant differences in the Age of the Current Car with Expertise and Involvement, this was expected as the criteria given for the data selection was Owners of new cars up to 4 years old, the Descriptives n count show that only a small amount of data supplied fell outside these criteria (Table 44). The pre-test results showed a large positive relationship between the Over 10-year group and Expertise, however it was suggested that it may be because of necessity e.g. carrying out their own repairs.

LISREL

Finally, to confirm the theoretical factor structure, and establish goodness of fit, structural equation modelling (SEM) using LISREL was used to apply confirmatory factor analysis (Kelloway, 1998). Constructs used in the model are as follows: Measures of Consumer Product Experience (CPE) – Expertise, Involvement and Familiarity

LISREL output: Chi-Square=6566.93, df=269, P-value=0.00000, RMSEA=0.129. Although RMSEA is larger than .10 the reduced chi-squared statistic is 24.41 (chi-squared divided by the number of degrees of freedom – Bartlett, 1954); guidelines suggest that <100 is a good match between the model and data; the smaller the better (Sharma, 1996; Byrne, 1998; Hair et al., 2010). Goodness of fit statistics were acceptable; GFI = 0.727. None of the items loaded on more than one latent variable making the causal relationships unidimensional.

Conclusions and Implications

The objective of this research was to provide more closely defined market segmentation strategies when communicating new product information.

The results suggest an alternative approach to traditional methods by using independent variables that measure a consumers' expertise, involvement and familiarity with a product are more reliable components of their marketing strategy.

The exploratory investigations found that manufacturers and practitioners use a number of well-known commercial products for identifying the target market for their marketing communications, but all of these products use high level groupings based on a limited survey of consumers and can only provide generalisations or representations of the market.

In interviews with key informants it was revealed that manufacturers come up with a composite consumer profile and then make the product to fit that profile. The difficult thing is then to decide who fits those profiles, with the data they have already.

Automotive manufacturers already have data of current/past owners and households that may have shared or used previous models, as well as consumers who have enquired for product information such as brochure requests. In effect they already have access to a lot of information that they do not use to effectively target marketing communications. This data could be used as a key Familiarity variable.

As well as existing car owners, manufacturers hold demographic data for potential customers, gained through marketing campaign enquiries. If records are matched by house number and postcode data it is likely to identify the number of instances of current and previous ownership for all the members of a family of a particular make and/or model. If one or more members of the same household owned a particular car, the other members of the household are likely to be more familiar with those manufacturers products than those in households that own another make. The level of familiarity would be more focused if the matching was made for a specific model, and more so if members of the household shared or had access to that model.

Other researchers have also questioned businesses that have become entrenched in using demographic segmentation tools that are no longer appropriate, and that it is not uncommon to find marketing campaigns are carried out without any consideration as to who may be the users of the product (Dibb, 1998; Vercauteren, 2005; Elena Delgado-Ballester et al., 2012; Wu et al., 2015). This means that manufacturers and practitioners need to look at the type of data they collect from current as well as potential customers.

There is also a need for manufacturers and practitioners to re-assess the type and style of their communication methods, this research shows that product knowledge is gained through product exposure, how much knowledge is accumulated depends on a consumers Expertise, Involvement and Familiarity with the product. The highest level of knowledge was found to be a combination of all three constructs. However, even consumers with low levels of Expertise and Involvement but high Familiarity with a particular product means that a novice may have greater expertise than an expert who is unfamiliar with the same product.

This research has shown only limited usefulness for Socio-Demographic data, the only relationships being the usual stereotypes of masculinity associated with automobiles.

In conclusion, this study investigated the appropriateness of measures and constructs required to establish a more reliable segmentation tool for marketing communications in doing so it concludes that collecting data relating to a consumers Expertise and Involvement as well as Familiarity will provide manufacturers and practitioners with an understanding of a Consumers Product Experience. This would enable the tailoring of marketing communications by providing the correct level of product information based on the individual's CPE, rather than the current one-size-fits-all lifestyle messages. This would be particularly useful for manufacture launch campaigns of new products where new complex innovations are not easily understood. Not only would this increase the appeal of the marketing messages, it would make them more cost-effective as they would reach more accurate market segments.

This research builds upon previous studies in market segmentation (Haley 1968; Alpert and Gatty, 1969; Dibb, 1998; Dibb and Simkin, 1991; Kotler, 1991; Du and Kamakura, 2006; Kotler and Keller, 2006; Malhotra and Birks, 2007; Smith, 2009; Wells et al., 2010; Goyat, 2011; Tkaczynski and Rundle-Thiele, 2011; Elena Delgado-Ballester et al., 2012; Wu et al., 2015). In doing so it provides important guidelines for

manufacturers and marketing departments on the collection of data and the diffusion of product information.

Limitations and Future Research

This research has clear implications for manufacturers and practitioners but it should be noted that there are some possible limitations with the research.

The respondents to the main research were current customers of Ford Motor Company Limited, with only a small number of prospects. Research was also centred on a specific model, the Ford Focus. Whilst this was deliberate to enable the Familiarity construct to be evaluated, replication with other manufacturers and models is needed to be able to draw wider comparisons.

Lastly, although no useful relationships were found with Socio-Demographic measures, they should not be overlooked. For example, demographics are, and will remain, essential when describing respondents – there is little value in establishing links between variables and constructs without being able to identify what those respondents look like or where they live.

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