

MODEL DEVELOPMENT AND VALIDATION FOR STUDYING CONSUMER PREFERENCES OF CAR OWNERS

Balakrishnan Menon*

Dr. Jagathy Raj V.P**

Abstract:

Globalization and liberalization, with the entry of many prominent foreign manufacturers, changed the automobile scenario in India, since early 1990's. Manufacturers such as Ford, General Motors, Honda, Toyota, Suzuki, Hyundai, Renault, Mitsubishi, Benz, BMW, Volkswagen and Nissan set up their manufacturing units in India in joint venture with their Indian counterpart companies, by making use of the Foreign Direct Investment policy of the Government of India. These manufacturers started capturing the hearts of Indian car customers with their choice of technological and innovative product features, with quality and reliability. With the multiplicity of choices available to the Indian passenger car buyers, it drastically changed the way the car purchase scenario in India and particularly in the State of Kerala. This transformed the automobile scene from a sellers' market to buyers' market. Car customers started developing their own personal preferences and purchasing patterns, which were hitherto unknown in the Indian automobile segment. The main purpose of this paper is to come up with the identification of possible parameters and a framework development, that influence the consumer purchase behaviour patterns of passenger car owners in the State of Kerala, so that further research could be done, based on the framework and the identified parameters.

Key Words: Consumer Behaviour Patterns, Customer Loyalty, Security Features, External Influence, Family Influence, Customer Relationship

* PhD Research Scholar, Department of Management, Karpagam University, Pollachi Main Road, Eachanari Post, Coimbatore, Tamil Nadu – 641 021, India and

Professor, DC School of Management and Technology, One School Avenue, Pullikanam Post, Idukki District, Kerala – 685 503, India.

** Professor, School of Management Studies, Cochin University of Science and Technology, Cochin, Kerala – 682 022, India.

1. Introduction:

In India, till early eighties, consumers had very limited options for passenger cars. The Automobile Industry has been in the booming phase for the past 10 years, on the strength of the Indian Government's liberalized economy policy and freedom from the License Raj. The Government of India allowed Foreign Joint Venture in the industry since early 1990, which saw many automobile giants entering the Indian market with their models, readily available, without much waiting time for the delivery. Sudden interest of major global players has made Indian auto industry very competitive, as India provides twin benefit of ready market and low cost manufacturing base for them. With the explosion of the automobile industry, due to its globalization and liberalization, car manufacturers introduced much innovative and technological advancement in their models. Customers have started thinking to change over to the new models of cars, with related ease than before, to suit their changing life styles.

Automobile Industry in India is growing in a very high rate with more than 1 million passenger vehicle sales per annum and overall 10-15% growth annually. Now more and more foreign manufacturers are coming to India and existing companies are coming up with new models. India's automotive industry is now \$34 billion worth and expected to grow \$145 billion in another 10 years. Indian Automobile industry is the tenth largest in the world with an annual production of approximately 2 million units. In passenger vehicle segment, still Maruti Suzuki is the leader with around 50%, market share followed by Hyundai Motors with 19% and Tata Motors with 16%. Other players in this segment are Honda Siel Cars and Ford India Pvt. Ltd, Toyota, General Motors etc. Accordingly to Society of Indian Manufacturers (SIAM), sales of passenger vehicles segment grew by 31.34 percent in 2010. In 2011, analysts predict that the sales momentum to continue and may achieve a growth rate of 20-25 percent in the passenger vehicle segment alone.

The proposed study is planned to be conducted in the State of Kerala. Kerala is billed as a consumer State by both manufacturers and marketers. The State with its limited land availability does not have much of a production capability in the State. However, manufacturers and marketers treat Kerala as a test market, as the people of the State display high consumerist tendencies in their purchase behaviour. Consumerism in the state is also attributed to high literacy and booming economic conditions, in the middle class, due to the inflow of foreign

money predominantly from gulf, US and European countries. Any new model of the car can be easily spotted in the cities of the State. About 1.2 million passenger cars were sold in the State in the last four years, meaning 0.3 million units per year, approximately. This is about 30% of the car sales in India, which talks clearly about the huge potential of passenger car market segment in the State.

The researcher evaluated various secondary studies conducted on the consumers of passenger car in different parts of India and specifically in the State of Kerala. The following are some of the studies and their relevance to the researcher's area of research.

Sagar, Ambuj and Chandra (2004) discuss in their approach paper, as to how the Indian car industry has advanced technologically, driven by a confluence of factors such as intense competition, demanding consumer preferences, government policies (especially tightening emission standards), and the global strategies of the various players. They elaborate that cars manufactured in India are based on designs, incorporating advanced technologies, that are often comparable with those available globally and Indian car exports are also growing.

Mukherjee and Sastry (1996) discuss that penetration of passenger cars in rural and semi-urban areas is extremely low and could provide fresh markets. They opinion that new entrants will have to deal with uncertainty of demand, different and evolving customer needs, a relatively poor supplier base, a market crowded with competition and industry wide capacity shortages. They see the prospect of India emerging as a significant manufacturing base for exports. They conclude that in the highly price sensitive market, reduction of prices because of lower duties and taxes and progressive indigenization, and rising middle class incomes are likely to further increase industry growth rates.

There have been a few studies in Kerala n the consumer behavioural aspects of passenger cars. In a study conducted by the newspaper (Malayala Manorama, 2008) reveals that people will normally like and go for cars with low cost on the one end, whereas another set of high income group of people prefer the costly cars.

Pillai (2009) reported that the car sales are getting into a steady stage, in the month of December 2008. In spite of the general slump in automobile market, the used car segment has not taken much of a beating. Many of the dealers reported steady sales in December 2008, contrary to the negative sales in the previous few months. This is attributed to the package announced by the

Government of India for the automobile industry in terms of reduction in the excise duty of cars, and attractive packages announced by the car manufacturers.

As per Kotwal (2009), face off buyers now prefer to have cars with the space, comfort and luxury of a mid size saloon or sedan. With the growing affluence and technological advancement, there develops a certain maturity in taste, as evidenced by the growing popularity of the Indian Hatchback market. The “third box” or the boot space does not seem to have the same importance, which it once had. Many customers buy cars with the space and comfort, less the boot, as it is easy to negotiate in our ever-increasing congested cities. That is where the premium hatchback commands a respect in its segment. Though they are costing more money, customers buy them for their practicality and comfort they offer, without sacrificing the feel-good factor.

Kumar (2009) in ‘Business Manorama’ and “Auto Focus” reported identically in The Hindu (2009) that the passenger car market is coming out of the economic slow-down phenomenon being witnessed all over the World. Jeevan Kumar further reported that manufacturers have adopted a strategy to introduce new and modified edition of the existing models in the market in the coming months, to smarten the market, which gives a positive signal to the car industry in general. Due to various measures implemented by the Reserve Bank of India to support the economy and boost up the demand, Indian banks have reduced the interest rate for car loans, which gives a hope for the industry. While the new generation banks in the private sector concentrate their car financing activities in the cities, Public Sector Banks are turning the heat on, in the small and medium towns and rural area, where they have more coverage and influence, as reported by Ajit (2009).

1.1 Rationale and Significance of the Study

The automobile market is getting saturated with many models of passenger cars, competing against each other, in sharp contrast to the monopolistic industry behavior, which was prevalent till late 80’s. It requires tremendous amount of marketing efforts to keep and grow their market share in this scenario, by adopting quite innovative features and value added services, which are very attractive to the customers. Companies are adopting new methods to see, if small families using the two wheelers, can be converted into the car buyers.

Kerala market is considered to be different from other states, due to its high consumerism. Each of the Kerala households is predominantly having at least one gulf employee. With the boom of IT Industry in late 90's, the expatriates are extended to US, Europe, Australia, and other Asian and countries. The economic boom, characterized by the higher purchasing power of the people of the state, coupled with the multitude of comfort and security features offered by various car models, prompted car consumers to be more selective in choosing their preferred passenger cars. In this context, it was thought that this study is very relevant to measure the emerging customer preferences and tendencies in the passenger car industry, which can be very useful to the car manufacturers and marketers to better understand, strategize and orient their marketing programs accordingly

There are new players and models entering the automobile sector, introducing new narrowed segments in the passenger cars. The study findings will definitely help the manufacturers and marketers of passenger cars to strategize, plan and the market their products in the State.

2. Aims & Objectives of the study:

The objective of the research paper is to explore and conceptualize various parameters, which influence the purchase patterns of passenger cars in the State of Kerala. The paper also aims to develop a framework to study the behavioral patterns, and also validate the acceptability of the research model so developed, which might eventually influence the consumer purchase, of the passenger cars in the State.

3. Methodology:

The paradigm underlying this research study is for evolving realistic consumerist tendencies, in the passenger car industry. The methodology adopted is to use exploratory approach. It incorporates three or more views of reality, typically involving a Literature Review of the past and current research work in the respective area, a qualitative and quantitative study assimilating the power of a consumer questionnaire, and consolidation of these methods and views to obtain confirmatory results and thereby a better understanding of the problem that is being addressed.

Thus, the research methodology adopted in this research study comprises of the following stages:

- Literature Review, that is the secondary research
- An exploratory stage that is the Primary Research, consisting of Depth interviews with Car Dealers of new and second-sale cars, Car Financing Agencies and car owners in the city of Cochin. Questionnaires were devised to drive the in-depth interview with car dealers of various manufacturers, second-hand car dealers, car financing agencies, and car owners in the city of Cochin, Kerala, India.
- For depth interviews, sample selection of dealers of 10 major car brands such as Maruti Suzuki, Tata Motors, Ford, Toyota, General Motors, Skoda, Hyundai, Honda, Renault, Mitsubishi, Hindustan Motors, Tata Motors, and Fiat India were chosen from the City of Cochin. A few of the second- sale dealers were chosen from the City of Cochin, again randomly, to get their views on preferences of buyers of second-sale cars. Similarly agents of most of the car financing agencies were chosen randomly from the city of Cochin. Twenty five Car owners were chosen randomly from the city neighborhood, to elicit their preferences on the car purchase and related features.

3.1 Data Collection Strategy

3.1.1 Population

The study was targeted to the passenger car owners in the State of Kerala, as a population. All the twelve brands of car users in all the segments A, B, C, D and MPV consisted of the population size. Both the new cars and used cars were covered as the population. Both rural and urban areas of the State were considered. The population was synchronous and homogeneous, as the car market in the State was highly developed and the dealers had been following well-defined operational procedures mandated by their manufacturers to conduct the sales, delivery and service in their premises.

3.1.2 Sampling Strategy and Sample Size

The sampling strategy implemented for the research study was two-stage sampling method. Out of the 14 districts of the State, 5 districts were shortlisted. These were done on a two-way principle: In order to ensure coverage across the State, the districts selected were: Trivandrum – the capital district, also known for its administrative and huge number of government employees

and the location of the state administrative machinery; Cochin – is known as the business and nerve centre of the production and service industry in the State; Trichur - known as the cultural capital of the State, Kottayam – known for its presence of huge number of overseas keralites in US, UK and other western countries and Calicut – known as the centre of huge number of keralites working in gulf countries. The researcher also wanted Cochin and Trivandrum to be selected in the 1st stage sample units, as the two districts were considered very important for the thesis study. Moreover the researcher collected the total number of passenger cars sold in all the districts of the State, for the last four years, ending in the year 2010. The data was as follows:

Vehicle Class	TVM	KOLLAM	PTA	ALPY	KTM	IDKI	EKM	TSR	PKD	MLPM	KKD	WND	KNR	KGD
LMV - Below 1500 CC	164912	80500	55908	66644	104077	36200	216103	117185	63373	82671	91406	19983	63264	30116
LMV - 1500 CC and above	12014	6354	5426	3294	7351	3910	18300	8035	5175	6766	5058	1251	4276	2182
Total	176926	86854	61334	69938	111428	40110	234403	125220	68548	89437	96464	21234	67540	32298

It was seen that the number of cars sold in the districts of Ernakulam, Trivandrum, Trichur, Kottayam and Kozhikode were the highest. Hence these five districts were selected in the first stage.

In the second stage, it was decided to follow the systematic sampling method to select the sampling units. It was decided to follow to draw every 5th unit from the passenger cars of the households, every 5th apartment in the multi-storage buildings etc. It was also decided to draw 150 units from each districts, totaling a sample size of 750 units across the State. The sample size was determined by the Sample Power Method, which came up with a sample size of 700, as the estimated size. A sample size of 750 was targeted by the Researcher. The final questionnaire, which was designed, reviewed by the research guide and a few experts to confirm its content validity, was administered to 750 respondents, who were car owners from the rural and urban

areas of the five districts of the State. The administration of the survey took about 40 minutes in each case.

3.1 Parameter Identification for the Study

There have been many efforts by researchers to evaluate and measure the consumer behavior in general for durable goods and products. In the following section, the researcher details the various consumer behavior studies undertaken by other researchers in the relevant area, and the important theories of consumer behavior.

3.1.1 Role of Internet Marketing in Consumer Decision Process

As Internet is rapidly growing and providing the platform for e-commerce marketing, many customers use Internet partly or even fully, for all the buying process stages. Just about one in seventeen people may have access to internet in India, but every third car buyer in the country's top cities start their search on the world-wide web. As per Sharma (2010), four out of every ten new car buyers and three in every ten used car buyers, use internet to do initial research, before making the purchase. Liu and Bai (2008) discuss the various opportunities for car manufacturers and dealers to utilize the internet marketing medium in the five stages of e-marketing buying process - Problem Recognition, Information Search, Evaluation of Alternatives, Product Choice, Final Outcome / Post Purchase. The researcher now examines the various theories of consumer behavior, so that it will provide a framework to focus our studies on the behavioral patterns of passenger car industry.

3.1.2 Theories of Consumer Behaviour

Most research in marketing still inhabits the world of cognitive consumers and responsive managers, semi-autonomous buyers and philosophical marketers. The present challenge for marketing researchers is to generate critical interpretations. Behaviour is determined, in whole or part, by internal processing of information, or action of mental traits.

Hill (2003) states that recent research into consumer behaviour, challenges marketing conventions. He explains that people respond to the information gathered by the senses at an intuitive level, as well as on the basis of rational criteria. He describes the use of bio-feedback systems to evaluate the appeal of product offerings, suggesting that this approach is highly effective in predicting consumer purchase behaviour. He points out that consumers'

interpretation of product concepts and brand information may be very different from the messages that the company intended to convey. He recommends that firms wishing to market to the senses, provide simple messages that are memorable, easy to interpret, believable and relevant to consumer needs.

3.1.3 Personality Theory and Consumer Behaviour

There were other researchers, who focused on personality in consumer behaviour, resulting in purchase of goods. Foxall and Goldsmith (1989) paved the way for a new impetus in consumer behavior based on personality research.

3.1.4 Consumer Politeness and Complaining Behaviour

Research suggests that in many cases, companies make good-faith efforts to address the complaints from their disgruntled customers. Many managers, in certain cases, are often prepared to exceed consumer expectations beyond-the-contract or above their proscribed job specification, aimed at striving to address consumer complaints, as notified in the study by Resnik and Harmon (1983)

However, some consumers may be unlikely to complain regardless of the context, due to their extremely polite and restraining nature. More specifically, they may have an interaction style that prevents them from confronting the dealer / retail employees. Politeness may have such an unassuming effect on the consumer behavior. Politeness has already been identified as an interaction style within customer-salesperson encounters by Goodwin and Smith (1990).

3.1.5 Family Influence in Consumer Behavior

White (2004) discusses the factors that affect car-buyers' choices and comments that people expect to haggle with dealers over price and to receive substantial rebates or incentives as well as low-interest payment plans. He points out that with an increase in multi-car households, car marques and advertisers need to target the right audience, taking into account the pester power of children and the importance of life stage. Despite the fact that women are the primary buyers of most new cars, he admits that the motor trade has traditionally been contemptuous of women's role in the car-buying process.

Ferber (1977) provides an overview from various disciplines of consumer behavior in the marketplace. He presents theories of consumer choice, both economic and psychological. Then

he goes on to review what is known about different forms of consumer behavior in the marketplace, which includes decision making in the household - how consumer choice is manifested in the actions of the family unit.

3.1.6 Virtual Brand Community Effect

The importance of virtual brand communities is growing day by day as a result of consumers increasingly using online tools to contact fellow consumers in order to get information on which to base their decisions. For this reason, it attains importance to explore, some of the effects of participation in a virtual brand community on consumer behaviour. Luis, Carlos and Miguel (2007) proposed the positive effects of participation in a virtual community on both consumer trust and loyalty to the product, brand or organization around which the community is developed. The survey reveals that participation in the activities carried out in a virtual community may foster consumer trust and loyalty to the mutual interest of the community (the free software in this case). In addition, the study also found a positive and significant effect of consumer trust on loyalty. In this respect, this study has shown that managers may foster consumer trust and loyalty by developing virtual brand communities and promoting consumers' participation in them.

3.1.7 Relationship, Service Package and Price

Research studies by Garbarino and Johnson (1999) have emphasized the significance and relative prioritization of relationship marketing. Many companies have increasingly been prioritizing their attention and focus to the establishment, development and maintenance of close and lasting relationships with their customers, in order to create a differentiating value addition to their products and / or lowering the product costs to engage in a penetration pricing mechanism. This is corroborated in the studies conducted by Weitz and Bradford (1999). Even in the car industry, which is predominantly driven by the product characterization, classification and orientation, establishing a long-term relationship is being considered to be essential marketing strategy at all distribution levels. Thus, customer knowledge and relationship building, through constantly addressing their needs, are considered to be vitally important selling ingredients to contribute to a car dealer's competitive advantage, as ascertained by Chojkacki (2000).

Sharma and Patterson (1999) state that car dealers are implementing a strategy to position themselves, more effectively in the market place than before, by means of continuous improvement of quality maintenance through services delivery packages, as car dealers are

increasingly being confronted by demanding and technologically knowledgeable consumers, shortened product model lifecycles, intensified competition and fragmented market segments.

There have been studies to evaluate concepts of price fairness and customer satisfaction and empirically demonstrate the influence of perceived price fairness on satisfaction judgments. Herrmann, Xia, Monroe and Huber (2007) seek to examine specific factors that influence fairness perceptions, including price perception and consumer vulnerability, in the context of car purchases in major German car dealerships. Their research paper shows that price perceptions directly influence satisfaction judgments as well as indirectly through perceptions of price fairness.

3.1.8 Customer Satisfaction and Loyalty

Customer satisfaction is often used as a predictive measurement of future consumer purchases as hypothesized by Newman and Werbel (1973). Satisfied customers are more likely to resort to repeating purchases in the time of actual instance, as reported by Zeithaml, Berry and Parasuraman (1996) in their studies. Moreover, highly satisfied customers will convey their success stories of satisfaction and directly recommend that others try the source of satisfaction, as stated in the studies conducted by Reynolds and Arnold (2000). Fitzell (1998) suggested that such satisfied customers shall become less receptive to the competitor's offerings.

A quick observation of customer loyalty is demonstrated by repeated purchase as in the studies prepared by Ball, Simões-Coelho and Macha's (2004). In practical terms, firms want repeated purchases mainly because such behavior in consumers can apparently show the customer preference for a brand or product, as stated by Bowen and Shoemaker (1998).

Some customers have their satisfaction – loyalty linked to the product alone. Keller (1993) evaluated customers, who purchase specific category of products for the first time, were found to focus on the product benefits, and not on the brand. As per Keller, the emphasis in this case, is in the tangible attributes of the product, which are visible and accountable to the buyer. Customers looking for low-price car, to meet their budget, may necessarily focus on the characteristics of the car, regardless of brand.

3.1.9 Brand and Retail Loyalty

Customer satisfaction can be considered the central determinant in all phases of the contact chain. Multi-dimensional recording of customer loyalty reveals clear differences in the interactions, first, with brand loyalty and, second, with dealer loyalty. In contrast to the opinion widely held in practice, customers in the automotive sector definitely do not perceive the brand and the dealer as one unit. Since similar studies in different countries come to almost the same conclusions, it can be argued that the results are valid in several cultural settings. The results obtained by Huber and Herrmann (2001) are so fundamental that they can be translated into implications even by internationally operating companies.

Chaudhuri and Holbrook (2001) examine two aspects of brand loyalty, purchase loyalty and attitudinal loyalty, as linking variables in the chain of effects from brand trust and brand affect to brand performance (market share and relative price).

Brands are important in the consumer market. They are the interface between consumers and the company, and consumers may develop loyalty to brands. This study by Lau and Lee (1999) proposes that trust in a brand is important and is a key factor in the development of brand loyalty. Factors hypothesized to influence trust in a brand include a number of brand characteristics, company characteristics and consumer-brand characteristics. The findings reveal that brand characteristics are relatively more important in their effects on a consumer's trust in a brand. The results also show that trust in a brand is positively related to brand loyalty. Marketers should, therefore, take careful consideration of brand factors in the development of trust in a brand.

In these days, car owners desire to upgrade their models and brands to avail of the new features and environmental changes and comforts of competing brands. On that account, whether to remain loyal to their existing brand / product or to switch over to a new brand / product is a million dollar question that bother many car owners. There lie the fortunes of many automobile manufacturers and retailers. In this confusing scenario, some of the car buyers switch from one brand to another at trade-in time, whereas some other car owners display consistent choice of sticking to their brand / product from purchase to purchase, as hypothesized by Sambanandam and Lord (1995). When it comes to the product evaluation stage, quality products, positive showroom acoustics, ambience, positive showroom experience and a consistent and formidable

after-sales-service, are all essential and central to the loyalty formula, and manufacturers have been concentrating on these considerable efforts in these directions, as illustrated by Illingworth (1991).

As the customer satisfaction level increases, in due course of the time, as more interaction takes place between the customer and the retailer, it results in a better customer relationship between the dealer and the customer. An increased level of customer satisfaction leads to customer delight. At this point of time, customer delight slowly culminates into customer loyalty towards the brand and the satisfied customer at this level will have no difficulty in recommending the brand to his friends, relatives and peers at office. This will definitely influence the customer's post purchase behaviour. On the other side, if the post purchase scenario does not lead to higher satisfaction level, customer may not be willing to recommend the brand to other; Moreover, dissatisfied customers tend to spread negative news on the brand to his associates. This behavioral aspect influences his future upgrade of the car model, whenever the customer decides to go for a replacement of his car brand / model, in future course of time.

Ewing (2000) investigated brand loyalty by examining actual past behaviour and its impact on future behavioral intentions, as well as willingness to recommend the brand to another customer known to him. Findings indicate that purchase expectation / intention remain a valid research metric. It would appear that the brand / consumer interface offers greater predictive ability than the retailer / consumer interface. Willingness to recommend a brand to another consumer does not seem to be influenced by past behavior, but the higher the respondent's expectation to purchase the brand, the higher will be their willingness to recommend the brand.

4 Results and Discussion:

The researcher consolidated the information received through the secondary research material that was collected. The researcher also undertook extensive field work by depth interviews of the car dealers of various manufacturers, second sale car dealers, car owners, and car financing agencies in the city, with the help of questionnaires prepared for each of the categories.

Dealers of various manufacturers, such as Suzuki, Ford, Toyota, General Motors, Skoda, Hyundai, Honda, Renault, Mitsubishi, Hindustan Motors, Tata Motors, and Fiat India were

interviewed on the pre-defined questionnaire to collect information of various parameters in their view points, which were influencing the purchase of passenger car. Depth interviews were conducted with car financing banks / institutions such as HFDC Bank, State Bank of India, State Bank of Travancore, ICICI Bank, Manapuram Financing Group, Muthoot Financing group, Kotak Mahindra financing group and Sundaram Finance, to get information on those parameters of car financing aspects, which influenced the purchased of passenger cars. Depth interviews were conducted by interviewing car owners, to solicit information of those aspects of passenger car purchase, which influenced their search, influence, and decision making process of it.

The parameters were analyzed, identified and classified, based on the data collected through depth interviews. The parameters were grouped into major categories such as product features influence, personal preferences, market influence, external influence and influence of car financing agencies, making it fast and affordable interest rates for car loans, Section 4.1 shows diagrammatic view of the model and major parameters identified.

Based on the data collected and assimilated, the researcher conceptualized the framework of consumer purchase behaviour of passenger cars. The author further developed parameters for further research study and consolidation and identified further areas of study for his full scale research work.

4.1 Framework on Consumer Behaviour Patterns of Car Industry

The following section shows the diagrammatic view of the framework so developed in Fig 1.0:

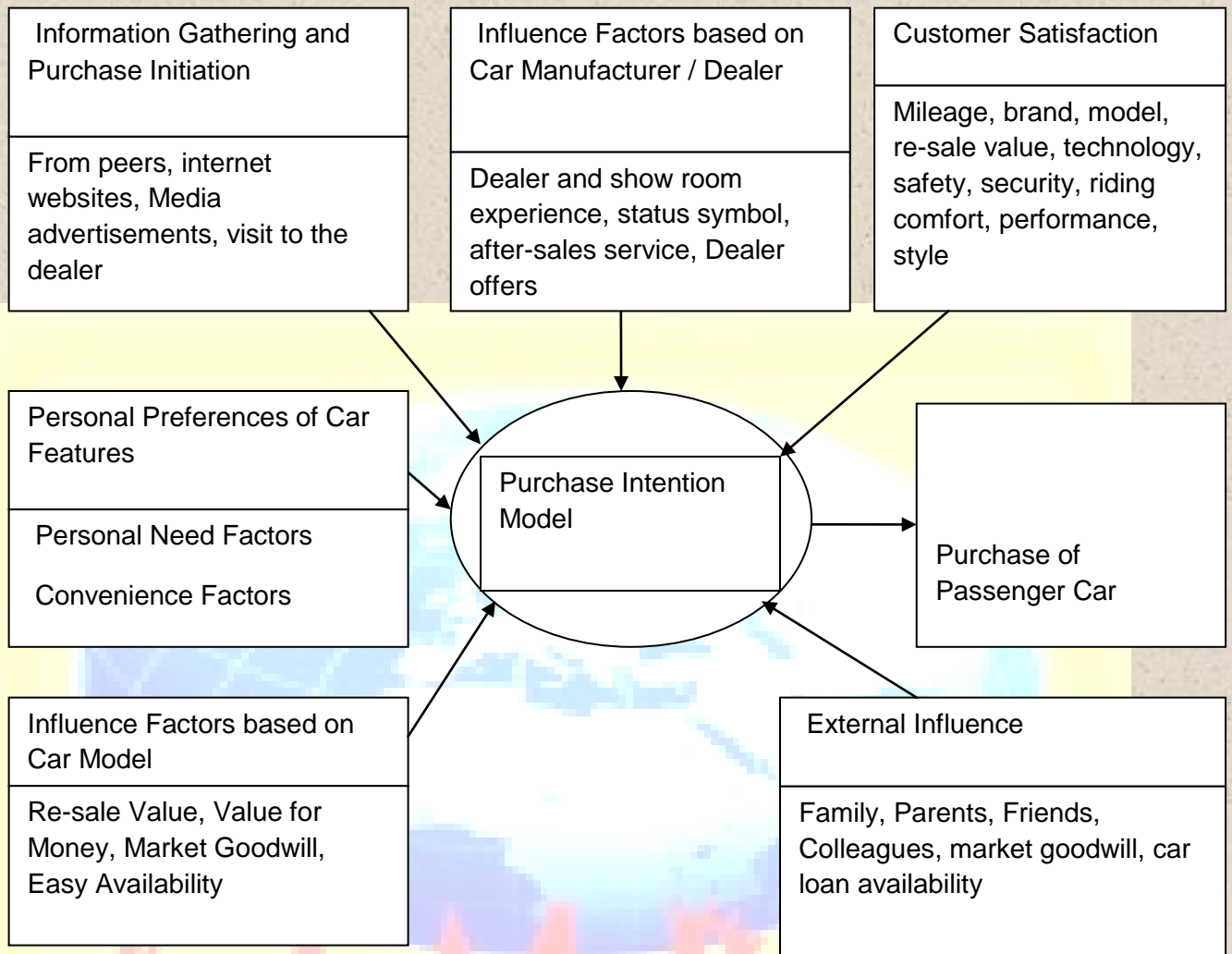


Fig 1.0: Framework of consumer purchase behaviour of passenger cars

4.2 Validation and Acceptability of the Theoretical Model

The main aim of the research study is to analyze and explore the various parametric variables, which influence the purchase behavior of the passenger car customers, in terms of:

- (1) Information gathering and Purchase Initiation (IGCP)
- (2) Preference based on Personal needs (PPP)

- (3) Personal Preference based on Convenience factors (PPC)
- (4) Personal Preference based on Comfort Factors (PPCF)
- (5) Influence factor based on car manufacturer / Dealer (IFD)
- (6) Influence Factor based on car Model (IFM)
- (7) External Influence (EI)
- (8) Satisfaction Level (SL)

4.3 Reliability Analysis

Particularly for field survey, internal consistency is estimated by using Cronbach's alpha. An alpha value of 0.70 or above is considered to be the criterion for demonstrating strong internal consistency, alpha value of 0.60 or above is considered to be significant. For the present research study, the values of Cronbach's Alpha as calculated for the all the eight variables and the results are given in the table 4.1 below. The values show that refined scale is reliable and consistent, as the values are 0.70 or above.

Table 4.1 - Cronbach's alpha for all eight different variables defined in section 4.2

Variable	Cronbach's Alpha	No of Variables
IGCP	0.768	8
PP	0.774	9
PPC	0.713	8
PPCF	0.694	6
IFD	0.778	7
IFM	0.818	11
EI	0.837	9
SL	0.880	15

4.4 Confirmatory Factor Analysis

Structural equation modeling (SEM) was performed to test the fit between the research model and the obtained data. This technique is chosen for its ability to examine a series of dependence relationships simultaneously, especially where there are direct and indirect effects among the constructs within the model. In this study, AMOS 7.0 was used and the SEM estimation procedure is maximum likelihood estimation. In using SEM, it is a common practice to use a variety of indices to measure model fit. In addition to the ratio of the χ^2 statistic to its degree of freedom, with a value less than 5 indicating acceptable fit, researchers recommended a handful of fit indices to assess model fit. These are the Goodness of Fit (GFI), Normed Fit Index (NFI), Standardized Root Mean Residual (SRMR), and the Comparative Fit Index (CFI). CFA can be used to examine whether the original structure of the measure works well in the model.

The following table 4.2 shows the various indices and their recommended values to test the fitness between the research model and the data collected through the Questionnaire.

Table 4.2 - Various indices and their recommended values to test the fitness of the research model:

	Recommended Level of Fit
χ^2	
DF	
P	>0.05
Normed χ^2	<3
GFI	>0.90
AGFI	>0.91
NFI	>0.92
TLI	>0.93
CFI	a>0.94
RMR	<1
RMSEA	<0.05

Following Table 4.3 shows the level of acceptable fit and the fit indices for the proposed research model in this study. All values satisfied the recommended level of acceptable fit. However, the results of the Normed χ^2 (χ^2 / df) value in the present study are all well within the recommended $\chi^2 / df < 3$. The following table gives the model fit for each of the variables:

Table 4.3 - The level of acceptable fit and the fitness indices for the proposed research model

	Model fit values
χ^2	11.707
DF	10
P	0.305
Normed χ^2	1.171
GFI	0.996
AGFI	0.985
NFI	0.996
TLI	0.998
CFI	0.999
RMR	0.200
RMSEA	0.016

The following table 4.4 gives the model fit for each of the eight variables defined in Section 4.2.

Table 4.4 - Model Fitness Values for the first four variables defined in Section 4.2

Parameters	IGCP	PPP	PPC	PPCF
χ^2	23.121	35.532	22.421	11.823
DF	15	22	16	6
P	0.082	0.034	0.130	0.066
Normed χ^2	1.541	1.615	1.401	1.971
GFI	0.992	0.988	0.992	0.994
AGFI	0.980	0.976	0.982	0.980
NFI	0.978	0.969	0.971	0.983
TLI	0.985	0.980	0.985	0.978
CFI	0.992	0.988	0.991	0.991
RMR	0.016	0.018	0.013	0.011
RMSEA	0.028	0.030	0.024	0.037

Table 4.5 - Model Fitness Values for the last four variables defined in Section 4.2

Parameters	IFD	IFM	EI	SL
χ^2	17.162	47.591	29.195	169.345
DF	10	35	20	70
P	0.071	0.076	0.084	0
Normed χ^2	1.716	1.360	1.460	2.419
GFI	0.993	0.988	0.991	0.966
AGFI	0.980	0.977	0.979	0.942
NFI	0.984	0.972	0.978	0.954

TLI	0.986	0.988	0.987	0.958
CFI	0.993	0.977	0.993	0.972
RMR	0.015	0.013	0.013	0.022
RMSEA	0.032	0.023	0.026	0.045

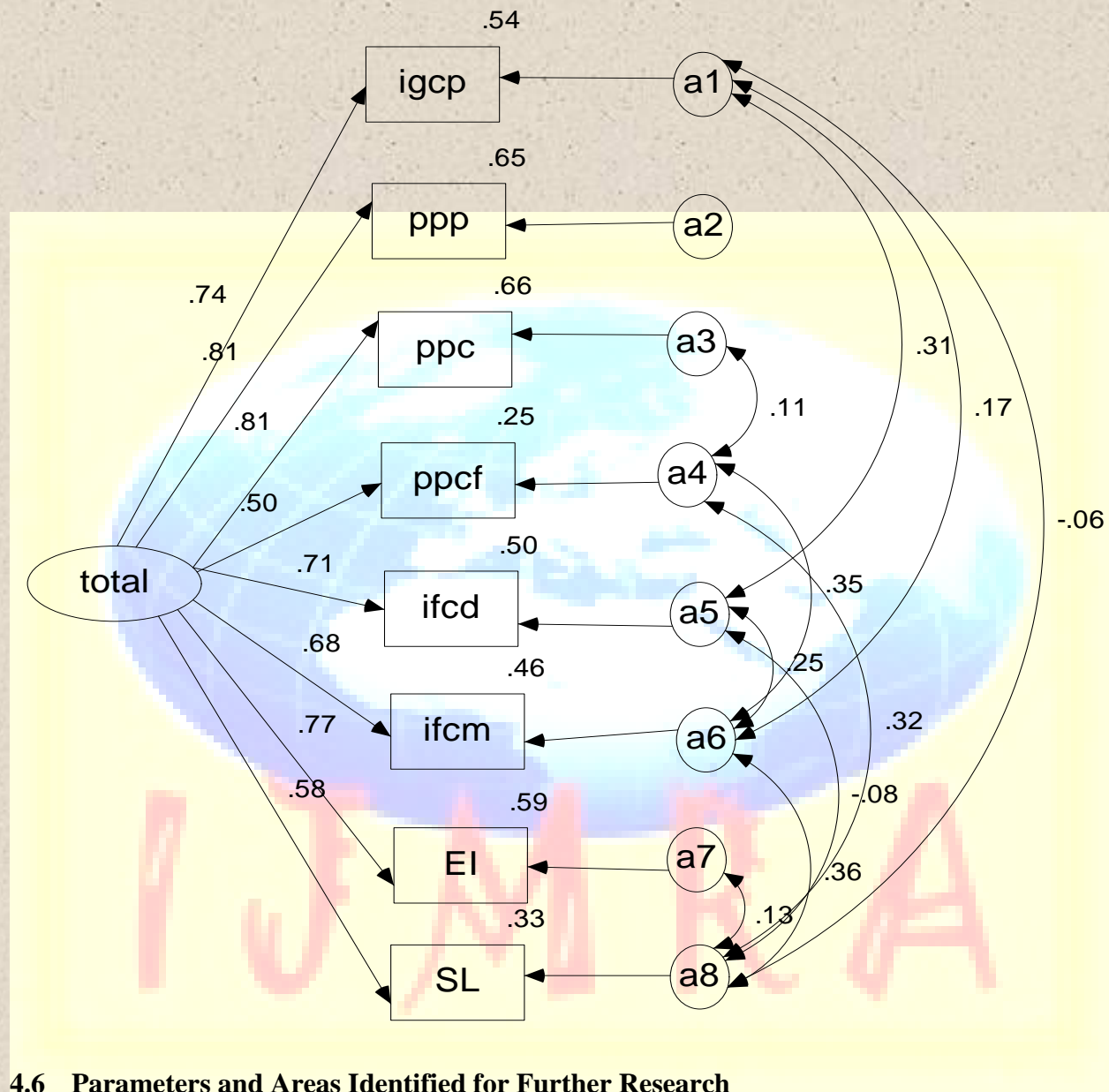
Table 4.6 Standardized Regression Weights: (Group number 1 - Default model)

Variables in the Research Model		Estimated Regression Weights
igcp <---	total	.735
ppp <---	total	.808
ppc <---	total	.810
ppcf <---	total	.496
ifcd <---	total	.705
ifcm <---	total	.681
EI <---	total	.771
SL <---	total	.578

The model of Purchase Intention (PI) can be expressed in the form of the following equation:

$$PI = 0.735 IGGP + 0.808 PPP + 0.810 PPC + 0.496 PPCF + 0.705 IFCD + 0.681 IFCM + 0.771 EI + 0.578 SL$$

4.5 Diagrammatic Representation of the Validated Theoretical Model (Structural Equation Modeling - CFA)



4.6 Parameters and Areas Identified for Further Research

The researcher summarizes the areas and parameters, based on his secondary literature analysis and primary data through the depth interview of car customers, dealers and car financing agencies.

- 1) Small car market is becoming prominent in the state due to its limited road and parking space availability. Many of the major players in the market have launched their small car variant in the market, enthused by the excellent response elicited by Tata's Nano car.
- 2) Middle level segments – Sedan and Higher Sedan executive models are really growing and gaining momentum in the state
- 3) Customer focus is a major differentiator in the passenger car industry, wherein the customer looks for personalized care for his after sales service with the manufacturer / distributor.
- 4) Since there is a major percentage of commoditization in the automobile industry, due to the many choices of brands available immediately, manufacturers have to look internally, if there are making enough growth in the industry, whether it is due to their incompetence or reduced levels of customer satisfaction.
- 5) For the youth, who is on the move, peer group is the greatest influencing factor, of their car purchase decision.
- 6) Irani (2010) argues that for the middle class customers, who seek to enhance their ego, are finding themselves increasing being influenced by their children, who are well informed about the rapid technological changes happening in the auto car segment.
- 7) Irani (2010) further argues that In a highly competitive and technology driven car market, differentiation based on traditional parameters such as engine, performance and power, is giving way to comfort in driving, interior and exterior design and the like.
- 8) As reported by Jacob and Khan (2010), there is substantial proportion of women car buyers, which has increased three fold in the recent years. Companies have started to dig deep into the Indian women's psyche and attention for details. Marketers may need to look at the needs of women customers, who are increasingly growing in the segment. There is also a substantial influence of women in the car purchase decision of the family. The trend has replicated in the State of Kerala as well, where we can see many women driving the car in the city and towns.

- 9) Car makers have woken up to the new reality of internet providing a key role in their marketing and communication strategies. Internet has witnessed increased brand building efforts by car companies over the past few years.

5 Conclusion:

As in other industries, the scenario in domestic Indian Automobile Industry is quite different from the Global Automobile Industry. The industry actually developed in two clear stages - the Maruti era (1983 onwards) and the post-liberalization era (1992 onwards). Compared to the global automobile sector, where substantial research has been done, very little empirical research has been conducted on the Indian automobile industry. Moreover, no organized study has been conducted in the area of passenger car industry, with specific reference to the State of Kerala. Kerala State is well known for its consumerism, due to the higher purchasing power, very high literacy rate and inflow of foreign money into the State, from the huge number of people of the State working in US, Europe, Australia, and other Asian and Gulf countries. With many car manufacturers launching their product in the Kerala state, the study will definitely benefit the stakeholders of car manufacturers, dealers, financing agencies, to formalize and strategize their policies towards an effective marketing strategy. The parameters developed in this paper and the model which has been conceptualized, would be further studied and tested through an extensive research and quantitative analysis, for data analysis, interpretations and recommendations.

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