Introduction

Research methodology is the process of solving the problem systematically by research. The objective of the study is to solve the problem by using available data. The research methodology of the study discusses the research questions, objectives of the study, hypothesis of the study, description of the study area, research approach, research design, sampling, instrument selection and data collection, operational definition, pilot study, period of study, analysis, reliability, replicability, and validity.

The main intention of this study is to analyze the inner and outer factors involved in buying behaviour of toothpaste brands. The hypothesis was developed based on the objectives of the study. The descriptive research design was adopted in this study because of strong theoretical base. The sample size of 485 consumers are selected in Bangalore city covering the target group like employees, students, home makers and the people running their own business. Structured questionnaire was used to collect information from consumers, it contains three parts like part one (consumer profile), part two (current toothpaste purchase) and part three (psychological variables). Analytical tools like frequency analysis, Chi-square, correlation, t-test, ANOVA, regression and factor analysis were applied.
3.1. Research Questions

In order to answer the identified problem statement and to contribute to the academic literature on this particular topic, the present study will seek to answer the following research questions (RQ):

**RQ1:** What are the consumer profile variables affecting the buying behaviour of toothpaste brands?

**RQ2:** How can the current toothpaste purchase affecting the buying behaviour?

**RQ3:** Examine the toothpaste brand preference in Bangalore city.

**RQ4:** What are the psychological variables affecting the buying behaviour of toothpaste brands?

An understanding of buying behaviour, and its determinants would improve decision making in market segmentation, new product development and product positioning. Thus, this knowledge would benefit manufacturers by improving their performance in marketing toothpaste brands.
3.2. Objectives of the Study

To find the impact of consumer profile on buying behaviour towards toothpaste brands

To find the impact of consumer profile on factors influencing buying behaviour

To analyse the influence of current toothpaste purchase on buying behaviour towards toothpaste brands

To find the brand preference of consumers in Bangalore city

To analyse impact of psychological variables on buying behaviour towards toothpaste brands

To group the factors involved in buying behaviour

3.3. Hypothesis of the Study

H1-There is relationship between consumer profile and buying behaviour towards toothpaste brands

H2-There is association between consumer profile and factors influencing buying behaviour

H3-There is relationship between current toothpaste purchase and buying behaviour towards toothpaste brands

H4-There is relationship between brand preference and buying behaviour towards toothpaste brands

H5-There is relationship between psychological variables and buying behaviour towards toothpaste brands
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Consumer Profile
- Gender
- Age
- Educational qualification
- Marital status
- Number of years married
- Number of children
- Age group of children
- Family type
- Family size
- Status of the respondent
- Occupation
- Family income
- Spouse working status
- Savings
- Income tax payer
- Investment portfolio
- Movie preference
- Social class
- Religion
- Mother tongue
- Community
- Status of house native
- Status of house current
- Food habit
- Native place
- Current residence

Schematic Diagram for Hypothesis

Current Toothpaste Purchase
- Current toothpaste brand in use
- Brand used within 3 months
- Brushing habit
- Frequency of purchase
- Consumption of toothpaste
- Number of toothpaste value in rupees
- Spending money
- Dental problem
- Dentist visit
- Frequency of dentist visit
- Brand preference

Buying Behaviour

Buying Behaviour Factors
- Advertising
- Sales promotion
- Attribute
- Brand
- Price
- Shelf arrangement
- Past experience
- Status
- Company image
- Store image
- Risk taking
- Information seeking
- Influencer
- Involvement
- Purchase spending time
- Consumer satisfaction and loyalty

Psychological variables
- Self concept
- Psychological reactance
- Decision making

H1 - Chi-square
H2 - Regression
H3 - Regression
H4 - Multiple regression
H5 - Correlation
3.4. Description of Study Area and Profile of the Consumers

Description of Study Area

Bangalore is the fastest growing city in Karnataka. The population is heterogeneous with diverse cultural, religious and economic background. Because of the existence of various linguistic, religious and ethnic groups, it has been a very good marketing center for targeting various groups of customers. So the researcher selected Bangalore city for studying buying behaviour towards toothpaste brands.

Profile of the Consumers

Profile of the consumers are based on gender, age, educational qualification, marital status, number of years married, number of children, age group of children, family type, family size, status of the respondent, occupation, family income per month, spouse working status, income tax payer, savings per month, investment portfolio, social class, status of house in native, status of house in current residence, nationality, religion, community, mother tongue, movie preference, food habit, native place and current residence.

3.5. Research Approach

The researcher used quantitative research strategy in this study. The quantitative research strategy entails a deductive approach where the focus is on testing existing theories (Bryman and Bell, 2007). Quantitative research focuses on data collection techniques and data analysis procedures that use or produce numerical data (Bryman and Bell, 2007). They also note that quantitative data is based on the meanings that have been derived from numbers and analyzed by using diagrams and statistics whereas qualitative data is based on the meanings expressed through words and analyzed by using classification into categories and conceptualization (Lewis et al., 2009). A qualitative strategy would not address to research problem in the same manner.

A qualitative strategy adheres more to an inductive approach where the aim is to generate theory and not to test it (Bryman and Bell, 2003). Easter by-Smith et al., (2002), state that qualitative research aims to set straight the meaning of social phenomena, not its frequency.
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As been declared previously, this study does not wish to probe the meaning and interpretation actors make of the social world. Rather it is to explain the frequency of the defined research problem by testing predetermined factors as derived from theory. As the approach is quantitative, the aim is not to generate new theories and a quantitative strategy therefore explains the research problem more appropriately than a qualitative.

3.6. Research Design

Prior to determining which research method to use, it is imperative to decide on research design (Bryman and Bell, 2003). The research design is a framework that determines the collection and analysis of data. It details the procedures that are needed to carry out the study and the nature of the information that is to be collected is thoroughly defined (Malhotra and Birks, 2003).

Descriptive Research Design

Descriptive research can be either quantitative or qualitative. It can involve collections of quantitative information that can be tabulated along a continuum in numerical form, such as scores on a test or the number of times a person chooses to use a certain feature of a multimedia program, or it can describe categories of information such as gender or patterns of interaction when using technology in a group situation. Descriptive research involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data collection (Glass and Hopkins, 1984). In this study, the researcher adopted descriptive research design. In descriptive research design, objectives are clearly established based on that questionnaire was designed and analyzed. The study is a descriptive study and conducted on basis of consumer buying behaviour towards toothpaste brands in Bangalore city. The important marketing factors influenced by the toothpaste companies were identified and refined as advertisement, sales promotion, attribute, brand, Price, shelf arrangement, involvement, information seeking, company image, store image, status, past experience, influencer, risk taking, purchase spending time, consumer satisfaction and loyalty.
3.7. Sampling

Sampling Design

The sampling method chosen for this study was convenience sampling which is a form of non-probability sampling. A non-probability sample is a sample that has not been selected using a random sampling method which means that in non-probability sampling some people are more likely to be chosen than others (Bryman and Bell 2007). The researcher selected convenience sampling in this study, because most of the people in Bangalore city are using toothpaste. It is difficult to select the consumers based on any other sampling method, so based on the researcher convenience the consumers are selected in Bangalore city.

Sampling Frame

Thus the population chosen for this study was 485 respondents from different categories like home maker, students, own business and employees in Bangalore city.

![Status of the Consumer](image_url)

In the above graph, the status of the respondent distribution of the population is illustrated.

Sampling Size

Determining the sample size is a difficult task. In general the more precise the required information has to be bigger the sample size should be. Statistical approaches based on confidence intervals can also be used in setting the appropriate sample size. In the literature, a rough range of 200-2500 is suggested for a typical sample size. (Malhotra and Birks, 2000). For this study, the researcher selected 485 consumers as sample size.
Making use of the sample size calculator (Right size) software the required sample size is calculated:

Sample size : 485

Confidence Coefficient : 95%

Confidence interval : ±4.45%

3.8. Instrument Selection and Data Collection

Brymen and Bell, discussed more specifically structured interviewing, questionnaires, structured observation and content analysis. Structured observation was not chosen, because it is difficult to analyze the influencing factors lies inside a person, it can be difficult to observe what a person actually thinks. This study aims to capture the influence of defined factors at the moment of truth, i.e. how the buying behaviour has taken place. Therefore this study also excludes content analysis. The structured interview method was not applied in this study because of the larger sample size. Structured questionnaire was used to collect the information from consumers in Bangalore city (primary data). Secondary data were collected through website, journal, magazine, books, dissertation and database for theoretical support.

Questionnaire Preparation

Malhotra and Briks (2003), state it is important that procedures are standardized so that the data collection is internally consistent and can be analyzed uniformly and coherently when constructing the questionnaire. When formulating the questionnaire this principle as well as other principles declared by Malhotra and Briks was taken into consideration. These considerations are here accounted for. First, when formulating the questions of the questionnaire, the principle of translation has been regarded (Malhotra et al., 2003). The translation of theoretical themes and the variables had to be translated into a language that the consumers are familiar with. Since the survey is conducted in Bangalore, the questions had to be formulated in common language English, due to cultural diversity in Bangalore. To avoid ambiguities and confusion, questions were put in a logic order to facilitate the completion of the questionnaire.
The questionnaire contains four parts. First part explaining the profile of the consumers, second part explaining the current toothpaste purchase, third part explaining the statements (one twenty six statements) related to buying behaviour towards toothpaste brands in five point Likert scale and fourth part explaining the psychological scale (self-concept, psychological reactance and decision making scale). The questionnaire used in this study was open ended, closed ended, multiple choice and dichotomous questions. The statements used in this study were a combination of both positive and negative statements related to buying behaviour towards toothpaste brands, a scale ranging from strongly disagree to strongly agree.

Questionnaire Scale Development

In designing the questionnaire the researcher used nominal, interval and Likert 5 point scale. In nominal scale number identifies and classifies objects. In interval scale differences between objects can be compared. A Likert item is simply a statement which the respondent is asked to evaluate according to any kind of subjective or objective criteria; generally the level of agreement or disagreement is measured. It is considered symmetric or "balanced" because there are equal amounts of positive and negative positions. Nominal and interval scale was used in developing the questionnaire for profile (part one) and current toothpaste purchase (part two). Likert scale was used in developing one twenty six statements related to buying behaviour towards toothpaste brands. (Part three). For psychological variable (part four) the scale is used as per the source article.

Consumer profile (Part One)

The consumer profile contains the details related to gender, age, educational qualification, marital status, number of years married, number of children, age group of children, family type, family size, status of the respondent, occupation, family income per month, spouse working status, income tax payer, savings per month, investment portfolio, social class, status of house in native, status of house in current residence, nationality, religion, community, mother tongue, movie preference, food habit, native place and current residence. Nominal and interval scale was used in the Part one questionnaire. Open ended, closed ended, multiple choice and dichotomous questions were used in this study for developing consumer profile.
Current toothpaste Purchase (Part Two)

Current toothpaste purchase of the consumers contains the details related to, the usage of toothpaste, the current toothpaste brand in use, the brand used within 3 months, the preference of toothpaste and toothbrush in one package or product bundle, brushing habit, the frequency of purchasing toothpaste, the consumption of toothpaste in quantity, the number of toothpaste per month, the value in rupees, dental problem, dentist advice, the frequency of dentist visit and the brand preference. Nominal and interval scale was used in developing part two questionnaire. Open ended, closed ended, multiple and dichotomous questions were used in the current toothpaste purchase.

Buying Behaviour Factors (Part Three)

Part three contains sixteen factors. The factors involved in buying behaviour towards toothpaste brands are like advertising, sales promotion, attribute, brand, shelf arrangement, involvement, information seeking, company image, store image, status, price, past experience, influencer, risk taking, purchase spending time, consumer satisfaction and loyalty. In part three, one twenty six statements are used in analyzing buying behaviour towards toothpaste brands. Likert five point scale (Strongly disagree, disagree, neither agree nor disagree, agree and strongly agree) was used in part three questionnaire.

1. Advertisement (Advertisement + newspaper + magazine + radio + television + internet)
2. Offer (Free extra quantity offer + price discount + coupon offer + saver pack offer + free gift offer + contest)
3. Attribute (Packaging + quality + color + taste + ingredients + innovation + benefit + sensitive toothpaste + whiter teeth + cavity protection + fresh breath + toothpaste class + strong teeth and gum care)
4. Brand (Brand image + information about brand + brand switching)
5. Price
6. Shelf arrangement
7. Involvement
8. Information seeking
9. Company image
10. Store image
11. Status  
12. Past experience  
13. Influencer  
14. Risk taking  
15. Purchase spending time  
16. Consumer satisfaction and loyalty (Consumer satisfaction + Consumer loyalty)

Throughout this study the researcher used 16 factors.

**Psychological variables (Part Four)**

Part four contains three psychological scales like self-concept, psychological reactance, and decision making. In part four, the researcher used the scale as per the source article. Jenifer et al., (1996), used self-concept scale to measure the self-concept clarity, personality and cultural boundaries between Canadian and Japanese participants. Ronald A. Clark, (2006) applied psychological reactance scale to measure the consumer independence. The Flinders Decision Making Questionnaire (Mann, 1982) was used to analyze the decision making style.

**Self-Concept Scale**

Jenifer et al., (1996) used this scale to measure the self-concept clarity, personality and cultural boundaries between the Canadian and the Japanese participants. The result showed that the Canadians have high SCC (Self-Concept Clarity) when compared to the Japanese. This study applied self-concept scale to measure the association between self-concept and buying behaviour towards toothpaste brands. Self-concept scale contains 12 statements. Statements 1, 2, 3, 4, 5, 7, 8, 9, 10, and 12 are reverse keyed items.

**Psychological Reactance**

Ronald A. Clark (2006) applied this scale to measure the consumer independence. In his dissertation, he discussed how consumer independence is affected by psychological reactance. The result found was the psychological reactance of the consumer is affecting the consumer independence. This study also applied psychological reactance scale to measure the relation between buying behaviour towards toothpaste brands and psychological reactance. Psychological reactance scale contains 14 statements; all these statements are combined into one.
Decision Making

The Flinders Decision Making Questionnaire (DMQ; Mann, 1982) was designed to measure decision making coping patterns identified by Janis and Mann (1977). In order to assess the patterns proposed by the aforementioned model; in 1982 Leon Mann presented the Flinders Decision Making Questionnaire, Flinders. D.M.Q. (31 items), consisting of a vigilance scale (6 items), a hyper vigilance scale (5 items) and a defensive avoidance scale (5 items); as well as another three scales measuring different expressions of defensive avoidance, namely procrastination or postponement (5 items), buck-passing (5 items) and rationalization (5 items). Psychiatric research has also used the Flinders scales, linking scores on the hyper vigilance and defensive avoidance scales to the severity of some disturbances (Redford et al., 1986). Similarly, research has also been carried out into the relationship between the scores on the procrastination scale and the tendency to ruminate on the past or future states rather than focus on immediate plans of action (Kuhl, 1985). On a slightly different note, the Flinders D.M.Q. has also been used as a means of assessing the tendency to use different decision making styles during the course of academic life (Beswick et al., 1988).

In this study, the researcher applied decision making scale to find the relation between decision making and buying behaviour towards toothpaste brands. Decision making scale consist of 31 items, scale ranging from strongly disagree to strongly agree (5 point scale). Decision making scale is converted into five decision making factors.

Vigilance (Statement 3 + 7 + 11 + 14 + 19 + 24)

Hyper vigilance (Statement 1 + 6 + 21 + 25 + 31)

Defensive avoidance (Statement 4 + 10 + 15 + 23 + 26)

Procrastination (Statement 9 + 12 + 17 + 27 + 30)

Buck-passing (Statement 5 + 8 + 18 + 22 + 28)

Rationalization (Statement 2 + 13 + 16 + 20 + 29)
3.9. Operational Definition

**Consumer Behaviour**

Consumer behaviour as “all psychological, social, cultural, economic and physical behaviour of potential customers as they become aware of, evaluate, purchase, consume and tell other about products and services.

**Consumer Buying Behaviour**

Consumer buying behaviour refers to the buying behaviour of the individuals and households who buy the goods and services for personal consumption. How the buying behaviour is influenced by inner and outer factors.

**Advertising**

Advertising is a form of communication intended to persuade a consumers to purchase or take some action upon products, ideas, or services. It includes the name of a product or service and how that product or service could benefit the consumer, to persuade a target market to purchase or to consume that particular brand. Advertising media is useful to communicate the messages (Television, radio, newspaper, magazine, and internet).

**Sales Promotion**

Sales promotion refers to any incentive (free gift, saver pack, contest, coupon, price discount, etc.) used by a manufacturer to induce the consumers to aware the product and buy a brand.

**Attribute**

Attributes are important to consumers because these characteristics deliver the benefits that consumers are seeking from the products (colour, taste, cavity protection, whiter teeth etc).

**Price**

Price is defined as the value of an item (i.e. Product or service expressed in monetary terms. Price is unquestionably one of the most important market place cues). A consumer infers the quality from price.


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**Shelf Arrangement**

Products with more facings or placed on more prominent shelf positions are more likely to be noticed by consumers or catch attention first. Sequence of attention is especially important when consumers seek a satisfying and effortless solution. In this case they will often stop their search procedure once a suitable product is found.

**Involvement**

Consumer involvement is defined as the consumer’s perceived relevance of an object (e.g. Product or brand advertisement, or purchase situation) based on the inherent needs, values, and interests of the person.

**Brand**

A brand can be defined as a distinguishing name and/or symbol, intended to identify a product or producer. Brand convey the image of the product with help of using symbol, logo, slogan and name, it provide information to consumers. Brand switching occurs due to promotion or category expansion.

**Information Seeking**

Consumers seek information from friends or discuss with friends to get advice for buying toothpaste brands.

**Company Image**

What an organization is ‘the set of meanings by which an object allows itself to be known and through which it allows people to describe, remember and relate to it.’ Quality is inferred from the company image.

**Store Image**

Store image is built up through experience and totally conceptualized or expected strengthening that urge consumers to purchase at the specified store.

**Status**

Status consumption as, “the motivational process by which individuals strive to improve their social standing through conspicuous consumption of consumer products that confer or symbolize status both to the individual and to surrounding significant others.”
Past Experience
Consumers experience with the product is good, and then the consumer continues the same product.

Reference Group
Consumers had at least one reference (child, spouse, and parents) they involved in their buying behaviour. Most individuals belonged to a group and would like to belong to a group and would like to belong to several others. Certainly his or her consumption behaviour would be affected by this feeling of belonging. “Reference group” is defined as a group that an individual uses as a guide for behaviour in a specific situation.

Risk Taking
Consumers are ready to take risk when new toothpaste brand is introduced in the market.

Consumer Satisfaction
Consumers are ready to continue the same toothpaste brand if it satisfy the consumer requirement or otherwise they switch to other brands.

Consumer Loyalty
Loyal consumers are those who repeatedly buy the same brand, considered only that brand.

Oral Health
The optimal state of the mouth and normal functioning of the organs of the mouth without evidence of disease.

Toothpaste
The tooth is used for basic maintenance of teeth. There are other solutions to this need as well, like Ayurvedic, Neem and other products.

Brand Preference
Selective demand for a company's brand rather than a product; the degree to which consumers prefer one brand to another.
Product Bundle

Product bundling refers to the bundling together of more than one product for a sale (toothpaste and toothbrush in one package).

Consumption

The process in which the substance of a thing is completely destroyed, used up, or incorporated or transformed into something else. Consumption of goods and services is the amount of things used in a particular time period.

Self-concept

Self-concepts are qualities present in one-self. One assesses these qualities through estimates rather than by measurement. Those qualities may concern what one does and/or may concern non-measurable aspects of how one appears (e.g. pretty, handsome).

Psychological Reactance

The theory of psychological reactance states that people react against attempts to control their behaviour and threats to their freedom of choice. The arousal of such reactance creates a motivation to reassert the threatened freedom.

Decision Making

Decision making is influencing the consumer to take decision for buying toothpaste. Decision making is classified in to vigilance, hyper vigilance, defensive avoidance, procrastination, buck-passing, and rationalization.

Vigilance

Vigilance means analyze all the possibilities before buying a product.

Hyper Vigilance

Hyper vigilance people emotionally take decision at the time of buying

Defensive Avoidance

Defensive avoidance means take decision at the time of only urgent need
Procrastination

Procrastination means late in taking decision

Buck-passing

Buck-passing means leave the decision to others, blame others when the decision turns out badly

Rationalization

Rationalization means think only about the preferred alternative and undervalue the worth of alternative not chosen

3.10. Pilot Study

A pilot survey was conducted on the location where the actual study took place with real respondents. This was done in order to identify and eliminate possible flaws of the questionnaire. Insights gained from this pilot study led to some modifications of the questions.

3.11. Period of Study

The Questionnaire was distributed in the month of September 2011, and collected in the month of December 2011. The researcher distributed 700 questionnaires to respondents from various places in Bangalore. A 75%, response rate was achieved (520 questionnaires). Of the questionnaires returned, 485 were deemed usable for further analysis.

3.12. Analysis

The research in this study is to explain the relative influence of factors on consumers’ buying behaviour concerning toothpaste brands. The data is processed through an accepted statistic program, namely SPSS 11. The respondents’ answers and data material are coded in SPSS. Since a five point Likert scale is used in one twenty six statements, the results scored from one at the lowest to five for the highest. The SPSS-program is then used to describe the data material and to analyze and compare the results.
In the cases where consumers have omitted an answer in the questionnaire, the answers have been treated as missing values. The statements used in the questionnaire are a combination of both negative and positive statements.

In part one and part two (consumer profile and current toothpaste purchase), open ended questions are converted into the close ended after that coding is done in SPSS sheet. For part three (buying behaviour towards toothpaste brands), the answers are coded as 1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, 5-strongly agree. For negative statements, statements are recoded as 5-strongly disagree, 4-disagree, 3-neither agree nor disagree, 2-agree, 1-strongly agree. After recoding all the statements are totaled and converted into three point scale. (Low, medium and high).

For part four, the scales are coded as per source article. Self-concept scale, the answers are coded as 1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, 5-strongly agree. Psychological reactance scale, all the 14 statements are combined into one statement and coded as 1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, 5-strongly agree. Decision making scale, the statements are combined based on vigilance, hyper vigilance, procrastination, defensive avoidance, buck passing and rationalization and coded as 1-strongly disagree, 2 neither agree nor disagree 3-strongly agree.

Consumer profile, current toothpaste purchase and psychological variables are considered as an independent variable in buying behaviour towards toothpaste brands. Overall buying behaviour and factors influencing buying behaviour (16 factors) are considered as a dependent variable. So with the help of using Chi-square, correlation, t-test, regression, and ANOVA, the association, relationship and significant difference between independent and dependent variables are analyzed and discussed in chapter 4. Factor analysis was applied to reduce the factors involved in buying behaviour towards toothpaste brands.

**Tools Used in Analysis**

**Chi-square**

The Chi-square test is a non-parametric test which would indicate whether or not the observed pattern is due to chance. Non-parametric tests are used when normality of distributions cannot be assumed as in nominal or ordinal data. In this study Chi-square test was applied to find the association between consumer profile and buying behaviour towards toothpaste brands and buying behaviour factors.
**Correlation**

Correlation test is useful to see the nature, direction, and significance of the bivariate relationships of the variables used in the study (that is, the relationship between any two variables among the variables tapped in the study). A Pearson correlation matrix will provide this information, that is, it will indicate the direction, strength, and significance of the bivariate relationships of all the variables in the study. In this study, correlation analysis was applied to find the relation between consumer profile and buying behaviour towards toothpaste brands and buying behaviour factors. Relation between current toothpaste purchase and buying behaviour towards toothpaste brands, relation between psychological variables and buying behaviour towards toothpaste brands.

**t-test**

A t-test may be used to compare the differences of means between two groups. It is appropriate with a single interval dependent variable and a categorical independent variable. It can be used to test the differences of two dependent or independent samples, or between a sample mean and a known mean. The t-test requires that the variable is normally distributed, means are known and that variances are roughly similar. (Garson 2008). t-test was applied to find the significant difference between consumer profile and buying behaviour towards toothpaste brands and buying behaviour factors, current toothpaste purchase and buying behaviour towards toothpaste brands.

**One way ANOVA**

One-way analysis of variance is used to test the significance of the differences between the mean values of the dependent variable in different categories of an independent variable. The dependent variable must be measured using an interval or ratio (metric) scale and the independent variables must be measured using a nominal or ordinal (categorical) scale. Independent variables can also be called a factor. (Blaikie 2003, Malhotra and Birks, 2000). ANOVA analysis was applied to find the significant difference between consumer profile and buying behaviour towards toothpaste brands. Significant difference between current toothpaste purchase and buying behaviour towards toothpaste brands are analysed by using t-test.
Multiple Regression

Multiple Regression analysis is done to examine the simultaneous effects of several independent variables on a dependent variable that is interval scaled. Multiple regression analysis aids in understanding how much of the variance in the dependent variable is explained by a set of predictors. Brand preference was analysed by using multiple regression test.

Simple linear Regression

Simple linear regression means relationship between one independent and one dependent variable. Relationship between consumer profile and buying behaviour towards toothpaste brands, relationship between current toothpaste purchase and behaviour towards toothpaste brands, relationship between psychological variables and behaviour towards toothpaste brands are analysed by using simple linear regression.

Factor Analysis

Factor analysis is an interdependent technique, whose primary purpose is to define the underlying structure among the variables in the analysis. Factor analysis provides the tools for analyzing the structure of the interrelationships among a large number of variables by defining sets of variables that are highly interrelated, known as factors. Factor analysis helps to reduce a vast number of variables (for example, all the questions tapping several variables of interest in a questionnaire) to a meaningful, interpretable, and manageable set of factors. A principal-component analysis transforms all the variables into a set of composite variables that are not correlated to one another. In this study factor analysis was applied to reduce and group the buying behaviour factors.

3.13. Reliability

Cronbach’s alpha test was applied to find the internal consistency between the statements involved in buying behaviour towards toothpaste brands.

<table>
<thead>
<tr>
<th>Reliability test</th>
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<tr>
<td>Cronbach’s Alpha</td>
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<tr>
<td>0.823</td>
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</table>
Reliability test was applied for one twenty six statements used in buying behaviour towards toothpaste brands. For testing the reliability, Cronbach’s alpha test has been used. The alpha test ensures the internal reliability. The alpha value varies between zero and one. One connotes perfect internal reliability and zero signifies no internal reliability. An acceptable value should be higher than .80 (Bryman and Bell 2003).

However, an alpha value of higher than .7 is acceptable as well. On the other hand, stress that .6 and higher are acceptable and thereby indicates consistency reliability (Malhotra and Birks, 2003). The result indicates that the Cronbach’s alpha reliability coefficients of the variables were obtained. They were all above 0.80. Thus the internal consistency reliability of the measures used in this study was considered to be good.

3.14. Replicability

As a way to increase the replicability of research, procedures of data collection and data analysis should be explicitly accounted for (Bryman and Bell, 2003). In this study the operationalization of the questionnaire have been spelled out so that the ingredients that makes up the study is thoroughly explained. The steps taken in the data analysis have also been fully declared. In this vein, future research can replicate this study both when it comes to the collection of data and data analysis. Further, the attempt to detail the steps of the research methods allows other researcher to discover and point out possible flaws of this study. It will be useful for future research when making similar attempts.

3.15. Validity

Validity concerns whether the research is measuring what it is said to be measured (Easterby-Smith et al. 2002; Bryman and Bell, 2003). Internal validity refers to whether the conclusions drawn from the effects between independent and dependent variable are valid. It assesses the capability of the research to measure the phenomena of interest. External validity refers to whether the results of the research can be generalized to a larger population. Internal validity is the minimum for any research and without it the results are confounded. (Malhotra and Birks 2000).
Conclusion

Chapter three, discussed about the research methodology. Research methodology discussed the research questions, objectives, and hypothesis of the study. The researcher developed the hypothesis based on the objectives of the study. The quantitative research strategy was applied in this study. The researcher used a descriptive research design with the sample size of 485 respondents in Bangalore city. Structured questionnaire was used to collect the information from respondents. Analytical tools like Chi-square, correlation, t-test, ANOVA, regression and factor analysis were applied with the help of SPSS 11.