



Measurement of Customers' Brand Choice and Brand Loyalty Expectancy Value & Colombo - Morrison Model Approach

¹M.Prasanna Mohan Raj, ²Varadaraj A., Ananth. S.

¹ Associate Professor, School of Business, Alliance University, Bangalore, India

² Professor, School of Business, Alliance University, Bangalore, India

³ Assistant Professor, School of Business, Alliance University, Bangalore

	ABSTRACT
<p>2016 Research Leap/Inovatus Services Ltd. All rights reserved.</p> <p>DOI: 10.18775/jibrm.1849-8558.2015.41.3003 URL: http://dx.doi.org/10.18775/jibrm.1849-8558.2015.41.3003</p>	<p>Brand choice is the biased, mindful and behavioural tendency which direct consumer's predisposition toward a brand. Brand choice is a fundamental element for all marketing strategies. Strong brand choice is the founding block for brand loyalty. Brand loyalty is one of the key drivers of top-line growth. The committed loyal customers become evangelists for the brand. The brands are increasingly finding it difficult to retain the customers in the era of the brand deluge. The brand success cannot be achieved without achieving brand loyalty. The loyal customers stay with their preferred brand as long as the brand continues to deliver its superior value proposition. Marketers and academics always interested to measure brand choice and brand loyalty. Marketing models are developed to measure both constructs. This paper tests brand choice through the expectancy-value model and brand loyalty score is measured by using this Colombo-Morrison brand-loyalty model. This research is carried out in the smartphone segment in India. Smartphone segment dominated the total handset market by holding a 50% market share during Q3 2018. Top five brands captured 77% share of the total smartphone market during the quarter. In the smartphone segment, Xiaomi leads the market by having a 27 % market share in Q3 of 2018. This paper concludes by developing precise brand choice score and brand loyalty score.</p>
<p>Keywords: Brand Choice, Brand Loyalty, Expectancy-value Colombo-Morrison model, Preference behavior model</p>	

1. Introduction

Brand choice is a fundamental element for all marketing strategies. Brand choice is the biased, mindful and behavioral tendency which direct consumer's predisposition toward a brand. Strong brand choice is the founding block for brand loyalty. Brand loyalty is one of the key drivers of top-line growth. The committed loyal customers become evangelists for the brand. The brands are increasingly finding it difficult to retain the customers in the era of the brand deluge. Marketers are interested in building brand loyalty for their brands to retain their customers. Brand loyal customers do not switch brands for offers and discounts offered by a competitor brand. Brand loyal customers are less price-sensitive. The brand success cannot be achieved without achieving brand loyalty. The loyal customers stay with their preferred brand as long as the brand continues to deliver its superior value proposition in the market. Sometimes the brand loyalty results into habitual buying brand choice and the brand will be placed in the long-term memory of the customer. Smartphone segment dominated the total handset market by holding a 50% market share during Q3 2018. Market share of 77% share held by top 5 players in the smartphone

market during the quarter. In the smartphone segment, Xiaomi leads the market by having a 27 % market share in Q3 of 2018.

Table 1: Smartphone's Market share in India

Brand	2018Q3
Samsung	22%
Xiaomi	27%
vivo	10%
Micromax	9%
Oppo	8%
Others	24%

Source: India Smartphone Market Share, November 2018, Counterpoint Market Research

2. Literature Review

Brand loyalty was analyzed and measured only based on its behavioral dimension. The repeated purchase in terms of volume and value was the only parameter considered for brand loyalty measurement until the 1950s (Lu Ting Pong, 2001). The

loyalty measurements emphasized on well-defined mathematical models such as Bernoulli, The Markov chains, or the linear learning models (Morrison, D. G. (1966), Styan & Smith Jr (1964), Researchers and marketers simply defined loyalty as behavior of the customer. However, brand loyalty involves a deep-emotional link between the customer and the brand. Oliver defines brand loyalty as “a deeply held commitment to re-buy or re-patronize a preferred product or service in the future despite situational influences and marketing efforts having the potential to cause switching behavior”.

David Aaker (1996) distinguishes five levels of customer attitude toward a brand, from the lowest to highest in his words as follows:

- Customer will change Brands, especially for price reasons. No brand loyalty.
- The customer is satisfied. No reason to change the Brand.
- The customer is satisfied and would incur costs by changing Brand
- Customer values the Brand and sees it as a friend
- The customer is devoted to the Brand.

If the Customer attitudes come towards the class of 4, 5 then he becomes more loyal to the Brand. Brown (1953) classifies brand loyalty into four types based on purchase pattern; undivided Loyalty, divided loyalty, unstable loyalty, and no loyalty. Hard-core loyal, the customers always buying the same brand denoting undivided loyalty. Divided loyalty is characterized as customers may be loyal to two brands in the same product category and their final brand choice depends on relative advantages offered by any one of those brands at the time of purchase. They may not be the hard-core loyal customers of any of these two brands, but their loyalty is divided between these brands. The brand choice will be brand ‘A’ or Brand ‘B’ and the buying pattern may be AAA BBB. Unstable loyalty may be exhibited as buying a few brands continuously with a different pattern and switch to other brands. The brand choice will be Brands ‘A’, ‘B’, ‘C’ and the buying pattern may be ABC CBA. No loyalty is described as buying of any brand without any commitment. Customers may switch to any brand in any buying situation. All four types of loyalty will be witnessed in most of the markets. So it is not easy to define brand loyalty only based on purchase criteria. Brand Loyalty is the complex multi-dimensional concept. The definition drafted by Jacoby & Chestnut (1978) is well appreciated by the researchers. According to Jacoby, J., and Chestnut, Brand Loyalty is:

“The biased (non-random) behavioral response (purchase) expressed over time by a decision-making unit concerning one or more alternative brands out of a set of such brands, and is a function of psychological processes (decision-making,

evaluative process)”. The committed loyal customers buy their favorite brand with a robust and favorable attitude towards the brand. Brand choice sets the foundation for brand loyalty. Brand choice sets the foundation for brand loyalty. Customers develop strong brand preferences which may lead to satisfaction. Customer satisfaction is the key to building brand loyalty.

3. Research Methodology

This research study is a descriptive research design in nature. The major objectives of this study are to measure brand choice and brand loyalty for the top 3 Android smartphones in India. Samsung, Xiaomi, and Vivo are considered for this study. The data collection is carried out through a survey among 120 respondents. Quota sampling technique is adopted. The sample is divided into three quotas consists of 40 respondents each who are using the Samsung, Xiaomi, and Vivo. The research is conducted during the last quarter of 2018. Brand choice is measured through Expectancy-value model and brand loyalty is measured through Preference-Behavior model and Colombo-Morrison model. Preference-Behavior model measures hardcore loyalty and shifting loyalty, which will be the measure of brand switching. Colombo-Morrison model measures the final loyalty scores.

4. The Expectancy-Value Model for Measuring Brand Choice

The Expectancy-Value model is one of the multi-attribute decision-making models which is mainly applicable for brand choice measurement. Brand choice can be measured using this model based on the key attributes of the product. Customers apply a variety of decision approaches to select the brand. Some approaches are simple choice heuristics while others are high-involvement purchases require more time and energy to evaluate brands. Mathematical evaluation models see the consumer evaluation process as cognitively oriented. However, Expectancy Value model treats the consumer as forming product judgments on a conscious and rational basis. The expectancy-value model is a cognitively oriented model that assumes that buyers form a set of beliefs about where each brand stands on each attribute and then combines those brand beliefs, both positive and negative, according to their importance. The brand choice of smartphone is measured by using the expectancy-value model.

According to the research studies (Duarte & Raposo (2010), Malviya et.al (2013), Kinra (2006)), the following factors are considered as the significant factors to influence brand choice in smartphones. i) Price ii) Variety iii) Aesthetic appeal iv) Functionality and v) Service and warranty. The above factors were considered in the model for the calculation of the brand choice. Customers were asked to assign values for these factors through a fixed sum scale. This was carried out to capture the relative importance of each factors consumers assign out of 100.

The fixed sum scale used in this study shown below:

Table 2: Brand Choice Fixed sum scale

Factors	Score
Price	
Variety	
Aesthetic appeal	
Functionality	
Service and warranty	
Total	100

Customers have provided different values for these five factors out of 100. Interestingly no respondents have given any value to the service and warranty.

Customers are increasingly changing their mobile phone often which may be the primary reason for not considering service and warranty is the major driving factor. The mean values for the rest of the four factors are given below in percentage format. The weights assigned by the respondents were found to be.

Table 3: Brand Choice weighted score

Factors	Score
Price (W ₁)	40.0%
Variety (W ₂)	30.2%
Aesthetic appeal (W ₃)	19.9%
Functionality (W ₄)	9.9%
Total	100

Consumers and then they were asked to rate the preference for individual brands of mobile phones (Samsung, Xiaomi and Vivo) on all the factors on a five-point Likert scale. Table 3 shows the format of ‘Brand ratings in each attribute’.

Table 4: Calculation of brand ratings score for Samsung in choice criteria

	Samsung	Xiaomi	Vivo
Price	S _p	X _p	V _p
Variety	S _v	X _v	V _v
Aesthetic appeal	S _A	X _A	V _A
Functionality	S _F	X _F	S _F

Customers of each brand (40) have given the different rating score for each attribute for the brands based on their perceptions and experiences. Rating scores for each attribute are calculated by:

Samsung Brand choice score in

$$\text{Price Sp} = \sum \text{Sp1+Sp2+... +Spn} / 200 \quad N=40$$

Similarly, brand choice scores are calculated for other attributes Sv, SA and SF

The final brand choice score is calculated as Samsung’s Brand Choice

$$\text{Score} = \text{Sp} (W1) + \text{Sv} (W2) + \text{SA} (W3) + \text{SF} (W4).$$

4.1 Brand choice Measurement of Samsung

The brand score (Samsung) was calculated through the mean score of Samsung in four factors and the factor score is obtained by multiplying the brand score and the factor weightage.

Table 5: Brand Choice weightage score for Samsung

Factors	Weightage	Samsung Score	Factor Score
Price	0.4	75	30.0
Variety	0.3	80	24
Functionality	0.1	85	8.5
Aesthetic appeal	0.2	70	14
Brand Choice Score			76.5

Samsung scores the best in the factors of ‘functionality’ and ‘varieties’ making the brand leading in all segments of mobile devices. Samsung mobiles are available in different price ranges from INR Rs. 1100 (Guru 1200) to 65,000 (Galaxy S9+) tapping to different market segments. Samsung has mobile phones in the Windows operating system also. Samsung gains wide brand preferences by having varieties of models at different price ranges.

4.2 Brand Choice measurement of Xiaomi

Table 6: Brand Choice weightage score for Xiaomi

Factors	Weightage	Xiaomi Score	Factor Score
Price	0.4	80	32.0
Variety	0.3	76	22.8
Functionality	0.1	69	6.9
Aesthetic appeal	0.2	78	15.6
Brand Choice Score			77.3

Xiaomi scores the best in the factor of ‘price’ which leads to gain high brand preferences in smartphone brands. Redmi Note 4, the flagship brand of Xiaomi has become the fastest selling smartphone to reach \$1 sales marks in India with its latest smartphones. This model is priced in the range of Rs 10000-11000 in India with the specifications at par with higher priced mobile phones. The pricing strategy yields the leadership position to Xiaomi in a short span of time. Xiaomi entered India

in 2014 with Mi 3 and Redmi 1S which redefined the low budget category. Xiaomi became the leader in the smartphone market in 2017 and continues to dominate the industry.

4.3 Brand choice measurement of Vivo

Table 7: Brand Choice weightage score for Vivo

Factors	Weightage	Vivo Score	Factor Score
Price	0.4	75	30.0
Variety	0.3	60	18.0
Functionality	0.1	62	6.2
Aesthetic appeal	0.2	85	17.0
Brand Choice Score			71.2

Vivo relatively scores high on the Aesthetic appeal comparing to other brands. Vivo had launched a new mid-range premium device called V5 Plus with the highlight being a dual selfie camera in 2018. Vivo had a 10% share of India’s smartphone market in the third quarter of 2018 according to the Counterpoint Technology Market Research, a Hong Kong-based firm that tracks device shipments. During the same year, Oppo’s share, another competing Chinese brand increased to 8% from 4% during this time. In the year 2017, Oppo and Vivo were among the fastest-growing smartphone brands. Interestingly, both the brands focus on the specialized mobiles for a selfie.

Table 8: Brand choices scores

Brand	Score in %
Samsung	76.5
Xiaomi	77.3
Vivo	71.2

5. Colomobo-Morrison Model for Measuring Brand Loyalty

Brand loyalty score the brand can be measured by using this Colomobo-Morrison brand-loyalty model. This model is based on the concept of an asymmetric generalization. Colombo and Morrison (1989) assume that few non-switchers are committed to brand loyal customers whereas other customers are represented by a zero-order symmetric switching probability. The Colombo-Morrison (C-M) brand choice model classifies consumers as “Hard-Core Loyals” (consumers who do not consider any other brand than the one they are loyal to) and “Potential Switchers” (consumers who consider all the brands in the market before making a purchasing decision). This model measures loyalty by considering the switching pattern also.

$$X = \alpha_i + (1 - \alpha_i) \times \beta_i$$

Based on this model, brand loyalty of Samsung is measured as follows:

Calculation of α_i :

α_i (Brand A) = (All respondents who use & prefer only brand ‘A’ i.e.: no switching)/ (sum of all those respondents who currently use brand ‘A’ & also prefer other brands).

Calculation of β_i :

β_i (Brand A) =(Sum of all respondents who currently use other brands except brand ‘A’ but have said they prefer brand ‘A’ ie: may switch)/ (sum of all respondents who currently use all brands including brand ‘A’ and have said they prefer brand ‘A’ ie: may switch).

Preference –behavior model could be developed to find the values of α and β .

Obermiller, C. (2002) proposes the preference behavior model which measures the preference and switching behavior of the customer. This model captures both behavioral and attitudinal components of brand loyalty. The brand last purchased and the brand the consumer prefers are considered as input for this model. Different brands in the category can be taken for this exercise on both the axis. This matrix is illustrated in table.

Table 9: Preference Behavior Model matrix

		Current Brand				Total
		Bran d 1	Bran d 2	Bran d 3	Bran d 4	
Preferred Brand	Bran d 1	X	1	2	3	X+1+2+3
	Bran d 2		X			
	Bran d 3	Y		X		
	Bran d 4		Z		X	X+Z
Total		A	B	C	D	E

- X: Hardcore loyalist who bought the brand they preferred.
- Y: Switcher who prefers Brand 3 but last bought Brand 1.
- Z: Switcher who prefers Brand 4 but last bought Brand 2.

Based on the above model, table 10 is developed based on the data collected from 120 respondents.

Table10: Calculation of Preference Behavior Model

		Current Brand			Total
		Samsung	Xiaomi	Vivo	
Preferred	Samsung	20	16	16	52
	Xiaomi	12	12	14	38
	Vivo	8	12	10	30
	Total	40	40	40	120

We can compute the brand loyalty score of Samsung based on the data in Table 10.

Calculation of α_i :

α_i (Samsung) = (All respondents who use & prefer only 'Samsung' i.e.: no switching)/ (sum of all those respondents who currently use brand 'Samsung' & also prefer other brands)
 = 20/40
 =0.5

Calculation of β_i :

β_i (Samsung) =(Sum of all respondents who currently use other brands except brand 'Samsung' but have said they prefer brand 'Samsung' ie: may switch)/ (sum of all respondents who currently use all brands including brand 'Samsung' and have said they prefer brand 'Samsung' ie: may switch).
 = 32/52
 =0.615

Substitute the values of α_i and β_i in the Colombo-Morrison(C-S) brand-loyalty model, to get the final loyalty score.
 = 0.5 + (1-0.5)*0.615
 = 0.8075

So, the final brand loyalty score of Samsung based on (C-S) model is 0.807. Similarly, α_i & β_i values are calculated for the rest of the brands Xiaomi and Vivo.

Table 11: Final Brand loyalty scores

Brand	Score
Samsung	0.807
Xiaomi	0.770
Vivo	0.732

Brand loyalty scores reflect the loyalty which is the combination of brand choice and brand's purchase. Xiaomi is the most preferred brand in customers' choice. But, Samsung scores high in brand loyalty.

5.1 Customer Commitment Score

Customers' commitment can also be measured based on the preference-behavior model. It is measured as the ratio of customers who prefer Samsung & using Samsung.

The above table shows the 'commitment' score for the three brands by using the same calculation. Customer commitment reflects the brand loyalty scores. Customer commitment and brand loyalty are highly interdependent with each other.

Table12: Customers' commitment scores

Brand	Hardcore loyalty score	
	in Ratio	in %
Samsung	20/40	50
Xiaomi	12/40	30
Vivo	10/40	20

6. Conclusion

Expectancy-Value Model captures the brand choice and also identifies the key driving factors of product preferences. The model identified pricing and the varieties are the key factors for smartphone preferences. Brand loyalty is measured through Colomobo-Marrison model and Customers' commitment score also captured by preference behavior model for all the brands. Samsung tops the chart in both brand choice and brand loyalty in the highly competitive market. Samsung has a lot of varieties in the different price range. Samsung understands the market driving factors and scored well to retain the leadership position. But Xiaomi has taken over the leadership from Samsung in 2017. Currently, smartphone market could be termed as a 'Hyper-dynamic market'. Samsung was the market leader in 2016 and a year after Xiaomi captured the market leader in smartphone market. In 2018, Xiaomi is launched more phones than ever and has launched more than nine models in this year . So the Marketers huge challenge is to convert their buyers into committed customers to stay in the market. Identifying the market dynamics and consumer gaps, Launching of new models with different features which will satisfy the consumer's latent demand are the few ways to win over the customers forever.

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