

The smart phone market in india marketing essay



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In this paper we discuss whether the launch price of Nokia N900 is suited to achieve the dual pricing objectives of improving market share and increasing revenue. The product features have been analyzed with respect to competition. The attribute space has been defined and the relative attribute of each attribute has been determined using a conjoint analysis. For the purpose of analysis, data was collected through online consumer survey. Based on the analysis, it has been found that price, brand, input mechanism, media performance, memory and battery are the important attributes in that order. Finally, it has been recommended that price be set at Rs. 26, 500.

Smart Phone Market in India

Smartphones are mobile phones with advanced media features, better computing ability and incorporating the latest technology such as 3G, Wi-fi etc. They have hybrid functionalities of both PDAs and 'cellular', phones. Mobile phones including features similar to office-type applications e. g. note-takers, calendars, mail clients, to-do lists, PDF readers are functions traditionally found in PDAs. What these mobile phones also include nowadays are embedded cameras and the ability to take video. They also have the ability now to act as a Personal Media Player (PMP) that can store and play music and video as well as store and view the captured snapshots. They are coming with browsing capabilities and are able to connect to the Internet through various wireless communications protocols e. g. IEEE 802. 11b, 802. 11g and 802. 11n.

India is the fastest growing mobile market in the world and witnessed an addition of 185 million subscribers in 2009 (Business Line, 2010). In the third quarter of the financial year 2009, India shipped nearly 4. 8 lakh

smartphones by volume (Financial Express, 2010). Moreover, the smartphone segment is expected to grow at a rate of 20.9% CAGR in the period 2009-2013.

In India, there have been a slew of launches in the smartphone category in the past one year. The number of phones to be launched in 2010 also is expected to be high due to the government opening up the 3G spectrum for telecom operators. International companies such as Dell and Garmin (Mint, 2010) are planning to enter the Indian market whereas existing players like Samsung and Nokia are concentrating on improving their market share by launching new mobiles (Business Standard, 2010). Samsung is planning the launch of 7 to 8 new smartphones whereas Nokia has launched the N900 with C3, C6, E5, N8, N7 and X2 in the pipeline (Nokia, 2010). The market has also witnessed new low-cost players such as Micromax, Fly, G-Five entering the smartphone category.

Nokia's Position in the Smartphone Market

Nokia is rated as the most trusted brand in India (Economic Times, 2009). Nokia has phones serving to different segments in India. In the smartphone segment, the Indian market is dominated by three players, namely, Nokia, HTC and RIM (Financial Express, 2010). Though Nokia is the leader in smartphones with 35% share, it has been consistently losing its share to competitors like Apple, Samsung and RIM.

In the past one year, Nokia has launched new products such as 5230, 5233 and E63 at price levels below Rs. 10,000 to compete aggressively in the smartphone market. With many products and brands in the category,

features such as browsers and media players have become commoditized. Therefore, phone manufactures have started differentiating their products based on the operating system, availability of applications, new input methods (touch screens, accelerometers) and price. The N900 is one such product from Nokia which is portrayed as mobile computing device with a new OS and unique set of features.

Nokia N900 – The Phone

Nokia N900 is a new model by Nokia released in the Indian market in the first week of June. Following are the salient features of Nokia N900:

It has the fastest processor among all Nokia mobile phones with multi-tasking abilities

Open Source Platform with the Maemo OS based on Debian OS

High speed internet browser

Instant messaging via a variety of platforms like GTalk, Ovi and Skype

Trans-reflective screen which makes it usable in varied lighting (from daylight to night) using its ambient light sensor which adapts the display and activates the backlit keypad

5 Mega Pixel Camera which can capture high quality pictures and above DVD quality video

Touch-screen plus QWERTY keyboard as input mechanism

Variety of applications to choose from and over the air mobile software updates

New operating system based on Linux

Market – Target Segment, Competitors

Target Segment

Nokia N900 is touted as a “ mobile computer”, but it is normally considered as a high end smart phone by consumers (as evident by the fact that it features in the ‘ smart phone’ section in online product reviews). Within the high-end smart phone market, it particularly targets the tech savvy consumer (‘ geek’ as specified by a Nokia sales manager) within the high income bracket.

With the given set of features, it would be appropriate to target a segment that is constantly on the move or frequently traveling. These kinds of people are likely to require a lot of software on their phone unlike a person who mostly is stationed at a particular place (“ home users”) and use their phones primarily for making calls and messaging. N900 with its brilliant online data and browsing capabilities is ideal for the former segment (e. g. tech-savvy people constantly on the move).

Competition

As per information provided by a Nokia Sales Manager, the main competitors’ smart phones which target a similar segment as perceived by Nokia for the N900 are: iPhone 3GS, Sony Xperia, HTC Hero, Samsung Jet and Palm Pre. (Business phones such as Blackberry are excluded while considering the competition as N900 is mainly targeted towards the tech-

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savvy consumer who can make use of advance features, and comparing it with a business phone which is designed to be simple may not be appropriate.)

Based on data from the sales person in multi brand outlets, as well as the relative sales of various smart phones within India, we have chosen to use iPhone 3G, Sony Xperia and HTC Hero for comparison with the N900.

Current Pricing of the phone

At the launch of N900, its price was announced as Rs. 30, 639. As informed by the Nokia Sales Manager, this price is arrived internally based on the price of the handset in other markets and by adjusting it to suit the India market. However, the recommended price for the product by Nokia is Rs. 25999. Nokia specifies an MRP and a recommended price due to the selling process in the channel. The retail channel is used to giving discounts on phones and the consumer's reference prices have been lowered. The consumer refuses to accept the MRP as the final price and insist on bargaining and getting a lower price before buying a product. Though the company suggests a recommended price, the dealers end up selling at an even lower price of Rs. 24, 000 so that they can compete effectively with other retailers and the grey market.

The Pricing Decision and objective

The Pricing decision

What is the right launch price of Nokia N900 in the Indian market, given its features? What could be the consumer reaction to the price? How should the price of the model be framed?

The Pricing objective

The pricing objective is to gain maximum possible revenues, and hence the maximum market share in monetary terms, after the launch.

Defining the Attribute space

There are multiple attributes based on which consumers make a decision on purchase of a mobile phone. Following are the significant attributes, apart from price, which are considered to influence a consumer's purchase (i. e. have a differentiating effect on consumer buying behavior) in the smart phone market.

Brand: A typical smart phone user is very brand conscious and changes his/her decision only if another brand offers significantly better features. And since the downloadable applications available for each of the phone are more aligned with their respective brands (like Ovi Store for Nokia, I-store for Apple etc.), brand will also act as a surrogate for the range of applications available for use in the smart phones.

Input Mechanism: The input mechanism (QWERTY keypad, touch-screen etc.) used by the phone. This is one of the important factors influencing the ease of use of the product.

Battery life (talk-time): Battery life in terms of talk time available is one of the main determinants of purchase even in smart phone segment. Otherwise high performance phones with low talk-time can shy away customers from purchasing the product.

Memory: Memory is an important factor as it determines the maximum number of media files and documents that can be stored in the phone.

Media Performance: Media performance includes picture quality, audio and video playback quality. It also includes the range of media formats supported by the phone.

The Design of Attribute Space

A consumer attitudes survey would be conducted to identify the consumer purchase behavior, given a particular brand, price and specific features.

Since the attributes take discrete values, all of them will be considered as categorical variables.

Following are the details of each attribute being considered for the survey:

Attribute Name

Attribute Type

Permissible Values

Brand

Categorical

Nokia, Sony Ericsson, HTC, Apple

Input Mechanism

Categorical

Touch + QWERTY key pad, Touch only

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Battery life (talk-time)

Categorical

The talk-time available in hours

Memory

Categorical

1GB to 32GB

Media Performance

Categorical

Media performance would be qualitatively described to the consumer

For getting the various values for each of the attribute, we assign values with respect to each of the attributes for Nokia N900 and its three competitor smart phones: iPhone 3G, Sony Xperia and HTC Hero. Following is a list of attribute values corresponding to each smart phone, as presented to the consumer in the survey, and the corresponding internal values (GSM Arena):

List of attribute values as presented to the customer

Nokia N900

I-phone 3GS

HTC Hero

Sony Xperia X2

Brand

Nokia

Apple

HTC

Sony Ericsson

Input Mechanism

Touch plus QWERTY keypad

Touchscreen

Touchscreen

Touch plus QWERTY keypad

Battery life (talk-time)

6 hours

12 hours

8 hours

10 hours

Memory

32GB

16GB

32GB

16GB

The “ media performance” attribute is represented as follows to the consumers:

(Nokia N900): 5MP camera with flash; can play all video formats (avi, divx, mp4)

(I-phone 3GS): 3. 2MP camera; can play common video formats (mp4, mov)

(HTC Hero): 5MP camera; can play common video formats (mp4, wmv)

(Sony Xperia X2): 8MP camera with flash; can play most video formats (xvid, mp4, wmv)

List of attribute values as taken internally

Nokia N900

I-phone 3GS

HTC Hero

Sony Xperia X2

Brand

1

2

3

4

Input Mechanism

1

2

2

1

Battery life (talk-time)

1

4

2

3

Memory

2

1

2

1

Media Performance

3

1

2

4

Apart from the above attributes, the prices will be fixed at 4 levels: 22, 500, 26, 500, 30, 500 and 34, 500, corresponding to levels 4, 3, 2 and 1 respectively.

Design of consumer attitudes survey

Based on the above attribute space design, a consumer attitudes survey was conducted in which the customers are asked their propensity to buy a particular smart phone based on the various levels of each of the features shown above. The ultimate aim of the survey is to identify the importance attached to each of the attributes in the buying decision, and thereby find an appropriate price that maximizes the appropriable revenues.

For this, a fractional factorial design is considered to decrease the number of full-profile combinations ($4 \times 2 \times 4 \times 2 \times 4 \times 4 = 1024$) that need to be evaluated by the consumers. Following is the fractional factorial design depicting the various full-profile combinations of smart phones that was used to evaluate by the consumers in the survey.

S. No.

Input Mechanism

Memory

Price

Brand

Battery life (talktime)

Media Performance

1

1

1

1

1

1

1

2

1

1

2

2

2

2

3

1

1

3

3

3

3

4

1

1

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16

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2

4

1

3

2

While administering the survey, each customer was asked his/her willingness to buy based on four different full-profile combinations of attributes selected

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from the sixteen above. The “willingness to buy” is a Likert scale variable which can have 9 values (to be chosen by a sliding scale which goes from very low to neutral to very high). This will in some way indicate the utility derived from a specific full-profile combination of attributes. The survey can be found at: <http://smartphones2010.questionpro.com>

Analysis of data

For the purpose of conjoint analysis, the respondents were asked to specify a willingness to buy (preference rating) than do a ranking because ratings are convenient to provide by the respondents and the ease of analysis in case of rating. The pair-wise comparison approach was ruled out because of a significantly high number of comparisons required (120), which could not have been done sufficiently, given the low respondent base. Since ratings reflect in some way the “Utility” attached to an offering, the basic conjoint analysis model (Naresh K. Malhotra; Satyabhushan Dash.) is used for analyzing the data.

The basic conjoint analysis model is based on the following equation:

Where

$U(X)$ = overall utility (i. e. rating) of a full-profile combination of attributes

u_{ij} = the part-worth contribution of the i th attribute and the j th level

x_{ij} = 1 if the i th attribute with the j th level is present, 0 otherwise

k_i = number of levels present for attribute i . For $i= 1$ and 2 (input mechanism and memory); the value of k_i is 2 , for all other attributes it is 4

By solving for the above model, it would be possible to identify the utility attached to a hypothetical phone, given its attributes.

Results

Importance of Attributes

The analysis showed that price is the most important attribute for determining the preference attached to a particular phone. Price was followed by Brand and Input mechanism which have almost similar importance. Battery life and memory were not considered to be so important while taking the buying decision. Following is the graph depicting the importance of each attribute.

Attribute-wise parts-worth for each level

Brand

Though Nokia is rated as the most trusted brand in India, Apple turns out to be the preferred brand in the smartphone category. This may be due to the fact that the opinions in this segment are formed based on the based on the global brand perceptions and not just based on the Indian market.

Input Mechanism

It is interesting to note that Input mechanism is a very important factor in deciding the mobile to be purchased. A Qwerty keypad apart from the touch screen can create a rating swing of nearly 1 which is quite significant.

Media Features

It is observed that there is a strong negative bias towards 3. 2MP cameras. But users remain largely indifferent between mobiles with 5MP and 8MP

cameras. This may be because an 8MP camera may not increase picture quality for the consumer's needs.

Memory

There is a clear preference for higher memory capacity. Though the survey did not differentiate between internal and external memory capacities, it was found that generally consumers prefer higher memory capacities.

Battery Life

The analysis shows that consumers value a 10-hour battery life (talk-time) more than a battery life of 6 hours or 8 hours. However, the analysis shows that they value 10 hour battery life even more than 12 hour. This could be an anomaly caused due to users remaining fairly indifferent between 10 hour and 12 hour battery life and the data may reflect inherent randomness in ratings. This is also evident from the high p-value of the parts-worth of this attribute.

Price

As the graph shows, consumers are significantly price-sensitive. There is a steep fall in preference if the price is raised from Rs. 26, 500 to Rs. 30, 500. However there is a marginal increase in preference for the price Rs. 34, 500 over Rs. 30500. This could be due to better quality perception associated with higher price in that range.

Identification of the best price

The revenue realizable will be based on:

Price charged to the consumer

Tendency to purchase given the features of N900 and its price

Based on the model as described above, the expected utility at each price level will be calculated. Based on the utility, the realizable revenue will be calculated. The price where the realizable revenue is maximum would be the best price to launch the product at.

Attribute

Attribute Value

Parts-worth for N900

Brand

Nokia

0. 201

Input Mechanism

Touch + Qwerty

0. 489

Media Features

5MP camera with flash, can play all video, audio files

0. 124

Memory

32GB

0.141

Battery Life

6 hours

-0.135

Price

??

₹

Constant Term

4.107

Total average rating

4.926 + ₹

Rating of the best possible mobile phone based on all attributes

6.345

It has been assumed that the probability of purchase is equal to the ratio of the average rating to the rating of the best possible mobile phone on all attributes. Based on this assumption, the following table depicts the probability of purchase at different price levels.

Price (in Rs.)

Parts-worth

Rating

Probability of purchase

Expected Revenue (in Rs.)

22500

0.703

5.630

0.887

19,964

26500

0.393

5.320

0.838

22,219

30500

-0.692

4.314

0. 680

20, 738

34500

-0. 484

4. 442

0. 700

24, 156

Considering the dual objective of improving sales volume and increasing revenues, the price of Rs. 26, 500 seems to be the best option. Therefore, the Nokia recommended price of Rs. 25, 999, which is close to Rs. 26, 500 is apt for this product.

Framing of the price

Since price is a significant attribute and the price of Rs. 26, 500 (which has been recommended) is competitive, it makes sense to highlight the price in the advertising campaigns. In comparative ads, Nokia should focus on the dual input mechanism which is valued highly by the consumer. This feature is also not present in many competitors' products. If necessary, the media capability of the product can be demonstrated in store. However, the internal 32GB memory and the battery life do not add much value to the consumer and should not be focused upon.