

SHODH-MARKET RESEARCH FOR ECONOMY HOUSING

Priyanka Shrivastava, Symbiosis International University
Sundara Rajan, Symbiosis International University
Ananthanarayan, Universal Dwellings

INSTRUCTOR'S NOTES

CASE DESCRIPTION

Market Research is the main topic on which case is written. The sub-topics covered in the case are Concept testing, demand estimation, conjoint analysis, product offering, Segmenting and targeting end consumers for better positioning

CASE SYNOPSIS

The client OBL wanted to launch an economy housing project in 10 cities across South India took help of market research company Shodh. OBL had completed several mid-range housing projects involving apartments in the price class INR 2.5 million to INR 7.5 million. The client appointed Shodh to understand about the market potential and consumer preferences in the economy segment. The company therefore decided to obtain a deeper understanding of the market in a large, metropolitan city like Bengaluru in India. It took services of market research company Shodh to assess the market size, consumer requirements and consumer preferences in the economy segment in Bengaluru, India. To address OBL's information needs, Shodh conducted market and consumer research studies during March-May, 2015 using secondary data analysis, focus groups, expert interviews, field surveys and conjoint analysis. Since OBL wanted a presentation on the project by early-July, Vaseem had to analyse the data, prepare the demand forecasts, define the consumer segment profiles and describe the consumer preferences based on conjoint analysis and draw out the implications for the client's marketing strategy.

On a rainy day in June 2015, Vaseem, MD of Shodh, started working on case B of economy housing after validating results of case A on economy housing for Oriental builders Ltd. (OBL). Shodh is a Bengaluru, India, based market research agency which began analysing data for second part of a market research project that he carried out for a client named - Oriental Builders Ltd. (OBL).

INTRODUCTION

The Western Economies were overwhelmed by the housing financial/economic crisis in 2007-2008. But, in India the sector was not hit by the financial crisis. Bengaluru was one of the cities in India which managed to have a decent growth of house sales averaging 15% per year during the economic crisis period of 2008. But, even with this growth, supply of housing projects exceeded the demand levels. As a result, developers started taking initiatives to make apartments more affordable. Developers who were known for offering premium apartments started their foray into economy housing projects. OBL wanted to enter economy housing segment comprising of apartments below Rs. 2.5 million and launching it simultaneously in 10 cities. For

this purpose, they commissioned “SHODH”, a Bengaluru based market research agency to assess the market potential and consumer preferences in the economy housing segment. After the proposal was approved, agency took 3 months to finish the field work. Agency is thinking how to analyse and present the results. Given the data and the results, how will SHODH interpret and make recommendations on marketing strategy such as product/pricing decisions and targeting the right customers for success.

CASE OVERVIEW

OBL Economy Housing research project on economy housing was developed by SHODH Market research agency. After finding information areas from qualitative research, SHODH designed quantitative questionnaire and identified information areas to answer issues. The case first addresses the concept testing of the Economy Housing Project and understands the proportion of rented and owned households, and availability of opportunistic investor buyers. The propensity of rented households and investors to purchase the economy housing project offer from OBL was discussed. SHODH aims to find the demand and sales potential of the concept from various people who are working or living in and around the project place in South Bangalore. Shodh needs to develop a methodology to estimate demand from survey research and concept testing. The task in front of Shodh is to develop a mathematical model for forecasting demand from concept testing. Further, they need to extrapolate demand by various favourable segments of consumers. It is important to estimate and project demand for the next 5 years for the critical success of the project by OBL.

The case then addresses the need to concept test architectural features to be included in the housing project based on consumer feedback. SHODH used various bipolar semantic differential scales on design features to understand preferences of consumers. This helped them to understand consumer buying behaviour, design and construction elements of economy housing projects for target consumers.

The case gradually unfolds to understand kind of products to give to the end consumers. SHODH designs surveys to understand housing configuration suitable for different consumer groups. It also aims to find out price sensitivity of the end consumers to the economy housing projects' feature gradation. Built up area, different kinds of room in the apartment, amenities to be provided are the key questions kept in mind while designing the survey. SHODH proposed of conducting conjoint analysis using following three variables to understand the above discussed aspects:

- Built-up area
- No. of rooms
- Price of the apartment

OBL did not want to keep too many variables in the conjoint design complicating the survey. OBL rejected the idea of keeping “range of amenities” as the fourth variable giving reasons such as not much leeway of offering many amenities to the consumers at the given price point of economy housing projects. Understanding the factor levels of the attributes and corresponding price points for the attribute levels to conduct conjoint analysis was a tough task at hand. Shodh needed to find out likely price ranges for different types of buyers. OBL expressed one of the key issues faced by them in pricing decision is the budget allocation for different pricing decisions. For the conjoint analysis, the researcher constructed plans card experiment to design full profile cards. SPSS software was used to design the orthogonal plans card experiment.

Later, the segmentation analysis is conducted to understand the targeting decision of the preferred consumer groups. By cross tabulating, cluster membership with demographic and geographic variables; we get the target market profile. SHODH designed questionnaires to understand demographic, geographic and psychographic profiles of the target audience to ease positioning decisions.

This case can be effectively taught to MBA students and executives at any level in courses such as Marketing Research, Research Methodology and Marketing Management. The case can be used to teach segmentation using cluster analysis and demand forecasting using conjoint analysis and concept testing. The case provides an excellent illustration for understanding consumer preferences using categorical conjoint analysis. The case estimates demand for economy housing project keeping prospective customer base of people working in Bannerghatta region or people who are planning to settle in the particular regions near Bannerghatta. The case uses profiling questionnaire and main questionnaire for understanding the demographic and psychographic segments of the target market. The case unfolds after this by discussing demand forecasting technique and elicits consumer preferences from conjoint analysis. The key topics which can be taught by the case are:

- Concept testing and demand estimation
- Conjoint analysis and product offering
- Product line variety and pricing decisions
- Segmenting and targeting end consumers for better positioning
- Concept testing of architectural features to be offered to the buyers

SUGGESTED DISCUSSION POINTS

The case does not explicitly mentions managerial decision points, so it is imperative for the instructor to open discussion of the following topics keeping in mind the objectives of the case.

- Assess economy housing demand (potential) and market attractiveness of middle class housing project in Bannerghatta when there exists no data.
- Develop product profiles from customers – custom design economy housing for target consumers
- What are the geographic, demographic and psychographic profiles of prospective consumers?
- What is the price perception, optimal price structure, price sensitivity and feature offerings that will determine value proposition to target consumers?
- Identify target segment's motivators, deterrents and inhibitors of choice of middle class dwellings
- Study consumer behaviour for success of the project

Section 1: Demand Estimation Steps

- Population statistics for various places got from Population Census 2009/2010 conducted by the government of India.
- Average number of persons living in a household is 4.5 to 5.0. So divide the projected population by average household size to get number of families in the potential market.

- Year on year growth rate is calculated by comparing census data in 2001 to that of 2009. The average population growth rate is assumed as 1.4% per year.
- We downsize the demand from households by 40% to account for below the poverty line customers and households.
- Based on this target population levels, we multiply concept acceptance rates for different geographic areas leading to estimates of demand for economy housing.
- We have given demand statistics for two years 2012 and 2013. We can extrapolate the demand for future years by assuming a growth rate of 15 to 20% per year in housing demand based on consensus obtained from Delphi technique interviews with experts belonging to leading agencies in Bangalore.
- We then multiply the market demand with simulated shares from conjoint analysis to project demand potential for OBL by different geographic regions.

1. Discuss various approaches for demand forecasting?

Following are some majorly used forecasting models:

- Macro-Economic models (Penetration= $F(\text{target population size, income, price and Stock of existing goods})$)
- Micro-Economic models based on resource allocation theory - sales and market share models from marketing with resource commitment variables
- Brand sales= $F(\text{marketing variables, industry variables and category variables, seasonality and trend})$
- Box-Jenkins time series forecasting models called ARIMA models from Industrial Engineering and Management Science
- Innovation-diffusion models for forecasting demand for durables and their extensions
- Econometric modelling from Economists
- Concept testing and conjoint based demand projection modelling for assessing demand based on survey research

It's important to note that SHODH preferred using concept testing and conjoint based demand forecasting method, the major advantage of this method is that market segmentation can be done with current demand forecasting data without having to collect additional secondary data.

Section 2: Market Research Issues to be Discussed

- ### 2. Based on the profiling questionnaire and Exhibits 6 and 7, which are the psychographic segments getting highlighted and what is their estimated segment size?

Segmentation is the process of grouping customers into distinct groups based on similarities in traits: tastes, willingness to pay, capacity to buy, attitudes, psychographic, geographic and demographics. The profiling questionnaire has been designed to obtain the respondent's geographic area where he resides or works, demographic profiles of customers based on gender, age, monthly household income, family life cycle stages, social class groups, languages spoken at home, psychographic profiles based on personality, activities, interests and opinions, life style products owned such as durables, brands, etc. behaviour-mode of commuting for work, media consumption habits and details of current housing such as: apartment dweller or

independent house dweller, rented versus owned houses. For evaluating acceptance of the economy apartment concept, SHODH had planned that the research investigator would read out and explain the concept as mentioned in Exhibit 2 and follow up with questions on purchase intention (likelihood of purchase), likely budget for the purchase, purpose of purchase (self-occupation, rented or investment purposes) and expected appreciation of property value (in percentage terms per year).

Target Marketing: A target market is a group of customers a business has decided to aim in its marketing efforts and ultimately reorient its goods to attract them. A well designed target market is the first element of a marketing strategy. Targeting is the process of breaking down a market into segments and then concentrating all your marketing efforts on one or more key segments.

Section 2		
MARKET RESEARCH ISSUES		
Nondescript low potential group	Sociable, modern and luxurious, independent house gated community, asset investor segment	Traditional, materialistic, hardworking, socialites, entertainment seeking, use no credit, community living prefer flats – top apartment consumption people
Segment 1	Segment 2	Segment 3
Low on all psychographic statements. Low potential group.	Independent living, gated community person, male dominated decision making, friendly, sociable, modern and luxurious consumers, buying flats for investment purpose, pay EMI instead of rent and spend now for living than saving.	Prefer community living, preference for apartments, contended, traditional, materialistic, hardworking socialites, entertainment seeking, pay cash and take no credit, try new products, bold and confident, save for future.
Size: 17%	Size: 41%	Size: 43%

3. Discuss results of conjoint analysis for understanding consumer preference.

Section 3: Findings on Architectural Factors Based on Concept Testing: A Summary

- Common architectural concept preferences across age groups – small open spaces, no common verandah, closed circulation, single side facing, two BHK apartments with small rooms, closed kitchen area, common area opaque and less colours.
- Two age groups (20 to 30 and 30 to 40) prefer independent living, high rise flats, no balconies, common area opaque and variable/standardized built form.
- Older Age groups (40 to 50 years) prefer – community living, mid-rise flats, fewer houses, no balconies and standardized built form.

Situation analysis: Typically, firms follow situation analysis based on external and internal environments. Situation analysis is a strategy to study the market and prepare a marketing plan. Based on the findings of the economy housing project, what marketing strategies you will undertake? The situation analysis looks at both the macro-economic environmental factors that may affect all firms within the environment and the micro-environmental factors that specifically affect individual firms. The purpose of the situation analysis is to indicate to a

company about its fit with the organizational environment and product positions it takes such that the overall success of the company is guaranteed. Companies must be able to summarize opportunities, threats and problems within the competitive environment and steer their companies with suitable competencies and strategies by appropriate resource allocation to desired vehicles of marketing. Situation analysis operationalizes the internal and external factors that affect the firm in the economic environment and devise strategies to tap the opportunities that evolve in the market.

Housing demand depends on degree of urbanization, rising consumer incomes and expectations and easier availability of housing finance.

4. Suppose you are a researcher how will you use Delphi Technique to capture demand?

The Delphi technique to capture demand is a qualitative method which belongs to the family of methods such as Grass Roots, Market Research Panel, Historical Analogy, Expert Judgment, and Sales Force Composite. The common link among all these methods is the use of the opinions of experts, rather than historical data, to make predictions and forecasts.

Please find the stepwise process which can be adopted to capture demand using Delphi technique:

Step 1: Selecting the experts.

Step 2: Anonymous forecast of the topic of interest in this case it was demand for economy housing. This also called as "Round 1".

Steps 3 & 4: Discussion and giving statistical figure to the topic of interest. Repeating round 4 till a consensus is reached.

FACTOR	CARD 6	CARD 3	CARD 1	CARD 4	CARD 7
Built up area (sq. ft.)	650 to 750	750 to 850	750 to 850	500 to 650	650 to 750
No. of Bedrooms	2 BR+hall+kitchen	Hall+kitchen	1 Bedroom+Hall+Kitchen	Hall+Kitchen	2 Bedroom+study+Hall+kitchen
Price (Rs. Lakhs)	12 to 16	16 to 20	10 to 12	10 to 12	8 to 10

4.1 Show pictures of the concepts and ask the respondent to enter their responses in the following semantic differential scale. There are two concepts with opposing words attached to each end of the scale describing these concepts. We are requesting you to give below your preferences for the concepts. If your preference is for the left hand side descriptor, please mark your answers on the any of the three dashed line ratings describing the shades of differences. If you prefer right hand side word description please mark your responses on the three shades of differences on the right side of the descriptor.

Given below are pairs of photos with verbal descriptions of housing concepts. We request your preference ratings on the scale given below: It is a preference scale and by putting your markings close to their chosen words you are showing your degree of preference for those concepts.

Section 4: Investigator

Show each pair of photos one by one and take ratings on the statements

Section 4 INVESTIGATOR								
Independent living	1	2	3	4	5	6	7	Community living
Mid-rise flats	1	2	3	4	5	6	7	High-rise flats
Many, small open spaces	1	2	3	4	5	6	7	One, large, open space
Few houses per floor	1	2	3	4	5	6	7	More houses per floor
Common verandah	1	2	3	4	5	6	7	No common verandah
Open common areas	1	2	3	4	5	6	7	Closed common areas
Single side facing house	1	2	3	4	5	6	7	Two side facing house
One bedroom house with larger rooms	1	2	3	4	5	6	7	Two bedroom house with smaller rooms
Open kitchen	1	2	3	4	5	6	7	Closed kitchen
Open balconies								Closed balconies
Common area transparency								Common area opaque
Variable built form								Standardized built form

- 4.2 What are the essential features you look for when buying an apartment or flat from a builder? Tick the appropriate boxes given below:
- Reputation and name of the builder
 - Quality of construction
 - Modern/aesthetics of the design
 - Durability of the building and products used in building
 - Different housing configurations/variety of options for buyers at various prices
 - Value for money of the construction
 - Low monthly maintenance charges
 - Speed of delivery time from starting to completion of project and hand over
 - Customer service and courteous treatment by salesmen of the company
 - Other reasons

- 4.3 Given below are statements that cause dissatisfaction amongst apartment buyers? Please rank these statements from 1 to 8 as per your understanding?
- Poor past reputation of the builders elsewhere
 - Not delivering promised amenities
 - Legal papers and land ownership rights are not proper
 - Poor quality of construction
 - Project delay and cost over runs- no timely
 - Hand-over of the apartment
 - Expensive

5. Discuss the Concept Testing and Conjoint Technique used by the researcher in the case.

Conjoint analysis is the most widely used marketing research technique that researchers used to identify what features would consumers prefer in a new product and how it should be priced. In this case conjoint analysis is used consumer preference of economy housing project in

terms of built up area, no. of bed rooms, and price of the apartment. Please refer to following table depicting preference of five cards giving preference of customers.

Section 5: Conjoint Section

(Explain all concept cards - show full profile cards)

- 5.1 Please find here 25 numbers of full profile cards with important features and levels of features based on which your choice of an apartment in Bannerghatta Road and its surroundings is decided. There are 3 parameters describing the apartment choice. They are- built up area of the apartment, type of apartment with various bed room configurations, number of bedrooms, halls and kitchens and prices of various combinations (price includes only flat price-other registration charges are not included in the price). Investigator please shuffle the concept cards and give it to the respondent. The respondent is requested to go through the cards carefully and sort them into 2 piles such that:
 Pile 1 consists of cards that you prefer or like or choose from the various combinations. Choose a maximum of 10 cards or less in terms of preference or liking. Investigator to enter the card numbers in the grid below;
 Pile 2 consists of cards that you don't like or prefer or choose from the various combinations
 For the cards rejected by the respondent Investigator to enter their card number in the questionnaire.

Section 5 CONJOINT SECTION			
S. No.	Cards liked or preferred	S. No.	Cards not liked or
1		11	

Section 6: Decision Making Process

- 6.1 You have chips of total value 100 and you are requested to allot them to the following people who may be helping you to decide the purchase of an apartment/flat of your choice. Allot more chips to most to the person whose influence is highest in your decision to buy the apartment. Similarly allot all chips to the people influencing such that the total adds up to 100adds up to 100.
 CWE-Head of the household, Spouse, Children, Parents, Other family members, Friends/Relatives, Real estate agent/broker, Others– specify (Weights Assigned - 100)
- 6.2 The following factors influence a buyer in purchase process? Please rate the following statements as it applies to your purchase process for an apartment/flat?
- Strongly agree (SA) 5
 Somewhat agree (SWA) 4
 Neutral (N) 3
 Somewhat disagree (SWD) 2
 Strongly Disagree (SD) 1

Section 6.1 DECISION MAKING PROCESS						
S. No.	Influencing Factors	SD	SWD	N	SWA	SA
1	Advertising and promotional activities influence us to buy a flat	1	2	3	4	5
2	Discounts and free offers influence us to buy a flat	1	2	3	4	5
3	Word of mouth recommendation of friends and relatives influence us to buy a flat	1	2	3	4	5
4	Recommendations by real estate consultants influence us to buy a flat	1	2	3	4	5
5	We always compare different builder's offers and choose the one which is the best in terms of price and quality.	1	2	3	4	5
6	Easy availability of bank loans and convenient repayment schemes influence us to buy a flat.	1	2	3	4	5

6.3 What factors motivate you to buy an apartment/flat in Bannerghatta Road and its surroundings? Check appropriate statements using agree–disagree scale?

Strongly agree (SA)	5	Somewhat agree (SWA)	4
Neutral (N)	3		
Some-what disagree (SWD)	2	Strongly Disagree (SD)	1

Section 6.2 DECISION MAKING PROCESS						
	Statements – Motivators	SD	SWD	N	SWA	SA
1	Because of farther distance from the costly main city, Bannerghatta Road offers us a good place to buy a middle class house/flat/apartment- cheap prices of flats are attractive	5	4	3	2	1
2	For middle class households and blue collar workers like us Bannerghatta Road is a comfortable and easy place to adjust to its surroundings	5	4	3	2	1
3	Bannerghatta Road neighbourhood is calm and peaceful with adequate privacy	5	4	3	2	1
4	Because of NH4 and NH207 easy access to airport, bus stand, railway station and good connectivity to cities nearby	5	4	3	2	1
5	Planned growth of the locality with good street lights, roads, pavements and lack of traffic congestion is helpful to own a house/flat their	5	4	3	2	1
6	Cost of living in Bannerghatta Road is cheaper than many localities of Bangalore on the out skirts	5	4	3	2	1
7	Population density is low which means easy availability of water, electricity and sanitation	5	4	3	2	1
8	Bannerghatta Road is clean and free from pollution leading to green healthy way of living	5	4	3	2	1
9	Adequate parking places in common areas, very convenient for shopping in market places	5	4	3	2	1
10	Easy to commute with, building and opening up of 6 lanes and 8 lanes national high ways through Bannerghatta Road	5	4	3	2	1

6.4 What are the de-motivating factors that may affect your purchase decision of an apartment/flat offered in Bannerghatta Road and its surroundings by builders?

Section 6.3 DECISION MAKING PROCESS						
	Statements– Demotivators/deterrents	SD	SWD	N	SWA	SA
1	Far away from the main city of living, leading to high commuting time and money spent on transportation	5	4	3	2	1
2	Our salaries are low, and prices of apartments are high so we can't afford to buy a flat	5	4	3	2	1
3	Lack of availability of entertainment places in Bannerghatta Road	5	4	3	2	1
4	Difficult to reach Bannerghatta Road from city, there are traffic jams enroute to Bannerghatta Road, poor rail and road connectivity	5	4	3	2	1
5	Lack of availability of civic amenities like drinking water, electricity, drainage, etc.	5	4	3	2	1

Section 7: Amenities Desired

- 7 Mentioned below are some facilities/amenities that apartment builders give along with house purchase. I request you to go through the list and tell us how important these are in influencing your purchase decision of a flat?

Use the following scale of importance.

Very essential	5	Somewhat essential	4
Neutral	3		
Not Essential	2	Not at all essential	1

Section7 Amenities Desired		
S. No.	AMENITY DESIRED	Rating
1	Children's play area	1 2 3 4 5
2	Community hall	1 2 3 4 5
3	Parking for vehicles	1 2 3 4 5
4	Indoor sports facilities for table tennis and badminton	1 2 3 4 5
5	Adequate sanitation and provision of modern toilets with water/septic tanks and disposal of sewage, waste water and garbage	1 2 3 4 5
6	Floor choice – mosaic, ceramic tiles	1 2 3 4 5
7	Borewell for water supply	1 2 3 4 5
8	Provision of slabs for wardrobes, lofts and cabinets	1 2 3 4 5
9	Adequate path ways inside apartment complex	1 2 3 4 5
10	Security – alarm and guards at the entrance	1 2 3 4 5
11	Greenery, plants, trees, water bodies, etc., in the compound	1 2 3 4 5
12	Balconies and sit outs in the flats/apartments	1 2 3 4 5
13	Vastu compatible	1 2 3 4 5
14	Utility area for washing machine, cleaning of utensils and clothes	1 2 3 4 5
15	Backup power	1 2 3 4 5
16	Others	1 2 3 4 5

Guidelines for Teaching the Case

Instructors should find this case fun to teach. The case is split into profiling study and the main study. Reasons for the two step design of profiling and main interviews are given below. Demand estimation based on concept testing requires large sampling base with lower cost of administration (including shorter duration of time to answer the questionnaire) of the survey instrument and hence profiling and concept testing are based on larger sample size of around 800 respondents. While the main questionnaire needs lots of information, which are time consuming and costly to administer: hence the sample size for main study was limited to 250 respondents. The profiling study covered demand estimation for different consumer segments and the main study covered details on concept testing, conjoint analysis, and segmentation. This was followed by market share projection for OBL by using predictive analytics through simulation of conjoint variables to downsize OBL's demand from overall market demand. The utilities table was used to construct new profiles and new offerings that the client would like to include in the market before launching the project.

The below note discusses some broad information areas, design items and questions which instructor should discuss in the class while teaching the case:

How to develop psychographic profiles and properties of end consumers based on activities, interests and opinion scales? Specific psychographic statements pertinent to this study were chosen by experience and by relying on focus group discussion outcomes of the life style of the end consumers. How to study psychometric properties of the psychographic scale developed for the study? Find the preferred consumer segments and their sizes from different demographic and psychographic segments for precise targeting decisions. After finding the demographic and psychographic segments, how to reach them though which media and with what product offerings is the key research question. What statistical procedures can be used to arrive at different consumer segments and their sizes? Given a variety of segmentation procedures such as- Cluster analysis, latent class modelling, decision trees and CART and multi-dimensional scaling which is the most suitable procedure? one must decide based on the needs and the available techniques and software. What are the advantages and disadvantages of different segmentation procedures? And when can you conduct which segmentation procedure is the CRUX of the research process. One can use partitioning methods of cluster analysis or additive methods of hierarchical cluster analysis. Usually, a range of cluster segments from 3 to 8 are selected and the best discriminating cluster numbers is used to arrive at the optimal number of clusters.

While discussing conjoint analysis, it is important for the instructor to discuss how to choose different design variables for conjoint analysis and what factor levels to provide for the design? What are the consequences of omitting some design variables like amenities in this case for the plans card conjoint experiment? One of the challenges in designing conjoint analysis is to include the right variables. Too many variables will complicate the design with large number of profile cards and also needs more time in administering the conjoint analysis to the respondents. On the other hand, omitting important variables will bias the results. Factor levels in this study was decided based on the focus group discussion results and based on the client needs especially the products he wants to offer at what prices? In conjoint analysis, one needs to find the right variables and correct factor levels. Given that there are three types 3 types of conjoint analysis namely: metric conjoint analysis, categorical conjoint analysis and rank ordered conjoint analysis (MANOVANOVA), how to choose the best method of conjoint analysis. How to design product line variety and which type of conjoint analysis leads to success is essential to discuss in the

class. How to position the product value offering at what price levels to different consumer segments is the quintessential research question to be discussed in the class. It is imperative for the instructor to make students analyse consumer preferences, price sensitivities and choice behaviour. Based on the utilities table, students need to compute importance weights for each variable by subtracting the highest utility from the lowest utility and then ascertain the contribution of each factor in the overall choice process. By simulation from the utilities tables, we can estimate market shares and prices of new product offerings by combining different feature levels for the chosen variables.

Instructor should highlight in the class that the vast majority of business decisions involve some degree of uncertainty and managers seldom know exactly what the outcomes of their choices will be. One approach to reducing the uncertainty associated with decision making is to devote resources to forecasting. Forecasting involves predicting future economic conditions and assessing their effect on the operations of the firm. Frequently, the objective of forecasting is to predict. Forecasts can also provide information on the proper product mix. Forecasting is an important management activity. Major decisions in large businesses are almost always based on forecasts of some type. Forecasting requires the development of a good set of data on which to base the analysis. A forecast cannot be better than the data from which it is derived. Three important sources of data used in forecasting are expert opinions, surveys based estimation and market experiments. The case uses all the above sources for demand forecasting.