

**Birla Institute of Technology and Science, Pilani**  
**Marketing Research (MBA C483/MBA G583/ECON F435)**  
**Comprehensive Exam (2016-17) – I Semester**  
**(Close Book)**

**Time: 3 Hours**  
**Date: 1.12.16**

**Marks: 35**  
**Weight: 35%**

**Note: Use of Calculator is permitted and Statistical tables are provided.**

- Q.1. A management consulting company presents a three-day seminar on marketing research to various clients. The seminar is basically the same each time it is given. However, sometimes it is presented to high-level managers, sometimes to midlevel managers, and sometimes to low-level managers. The seminar facilitators believe evaluations of the seminar may vary with the audience. Suppose the following data are some randomly selected evaluation scores from different levels of management who attended the seminar. The ratings are on a scale from 1 to 10, with 10 being the highest. Determine whether there is significant difference in the evaluations according to manager level. Assume  $\alpha=0.05$

(1+6=7M)

High Level	Midlevel	Low Level
7	8	5
7	9	6
8	8	5
7	10	7
9	9	4
	10	8
	8	

- Q: 2 Saras Dairy would like to boost the sales of their Milk products. They think that it might be helpful to hang posters that picture their products. They recorded the number of Milk products sold for one week at its various stores. They repeated the sampling for another week when the poster advertising was used. Assume that weekly sales are normally distributed. Is there sufficient evidence to say that hanging the posters improved sales of their Milk products? Use 0.05 significance level.

(5 M)

Store No.	Before	After
1218	215	240
1224	180	220
1236	150	190
1252	180	175
1252	201	220
1282	207	215
1292	195	219
1304	180	195

Q:3 Hewitt Associates conducted a national survey to determine the extent to which employers are promoting health and fitness among their employees. One of the questions asked was, Does your company offer on-site exercise classes? Suppose it was estimated before the study that no more than 40% of the companies would answer Yes. How large a sample would Hewitt Associates have to take in estimating the population proportion to ensure a 98% confidence in the results and to be within 0.03 of the true population proportion? (2 M)

Q:4 Is the type of beverage ordered with lunch at a restaurant independent of the age of the consumer? A random poll of 309 lunch customers is taken, resulting in the following contingency table of observed values. The manager wants to determine whether the lunch ordered depends on age.

Age		Coffee / Tea	Soft drink	Other (Milk, etc.)	
	21-34	26	95	18	139
	35-55	41	40	20	101
	>55	24	13	32	69
		91	148	70	309

(a) State the null and alternate hypothesis. (1 M)

(b) Use  $\alpha = 0.01$  to test the hypothesis. (5 M)

Q:5 List at least four of the procedures used for determining the number of factors in factor analysis. (2M)

Q:6 Read the case below and answer questions following the case.

### **PROCTER & GAMBLE: Using Marketing Research to Build Brands**

As of 2011, Procter & Gamble ([www.pg.com](http://www.pg.com)) delivered products to nearly 4.2 billion consumers in more than 180 countries around the world. Its portfolio of brands included 50 leadership brands that are some of the world's most well-known household names. Its revenues amounted to \$79.57 billion in 2010. The company began operations in the United States in 1837 and has continued to expand its global operations. The stated purpose of the company is to "provide products and services of superior quality and value that improve the lives of the world's consumers."

Over time, Procter & Gamble (P&G) has proven to be an innovator in creating brands and understanding consumers by making extensive use of marketing research. Building brands has been a cornerstone of P&G's success. The marketers at P&G use marketing research to determine a brand's equity and then make sure everyone understands it, because it drives every decision made about the brand. P&G always thinks about the consumer and why a particular product is relevant to the consumer. P&G always asks

“What is in this for the consumer?” This strategy has served the company well. It believes in catering to the consumer. With that in mind, P&G has spent a tremendous amount of money, effort, and innovation on marketing research.

A focus group talking about a product is simply not enough; the marketers at P&G dig deeper to try to really understand consumer behaviors. Leonara Polonsky, the marketing director at P&G, describes the intensity with which P&G pursues its marketing research efforts. Some of these efforts include shopping with consumers and spending several hours in consumers’ homes. In fact, Polonsky describes her own experience at spending time at consumers’ homes in Caracas, making coffee with them and trying to understand how these consumers think about coffee. This marketing research initiative is an innovative approach that puts the consumer at the center of everything P&G does. P&G now thinks much more holistically about the consumer’s entire experience related to its brands, and so it pays much more attention, for example, to the in-store experience.

P&G’s basic marketing principles have not changed, but its methods of targeting and identifying consumers have changed to meet the increasingly complicated consumer base. In the early days, P&G would mass market through television and other sources, because this was the most effective strategy at the time. P&G has changed its key strategy from mass marketing to consumer targeting. According to Jim Stengel, P&G’s Global Marketing director, targeting is the future of brand marketing and brand building, because the better a company understands its market the better its marketing will be.

One of the areas that P&G constantly researches is the consumers’ in-store experience, viewing it as another way of connecting with consumers and making their experience better. One of the ways it does this is by partnering with retailers to develop in-store experiences to please consumers, which has become more difficult because consumers have less time and higher expectations.

P&G realizes that it is no longer possible to shout at consumers. It has to talk to them when they want to listen, and it is the consumers who choose the time and the place for this communication. That time and place, today, is increasingly becoming the Internet. An excellent example is the Pampers Web site, where caregivers can get helpful parenting information. The Pampers site is P&G’s way of connecting with consumers on their terms. All parents want information about babies, and Pampers provides information about babies. The Pampers’ Web site is not about selling diapers, but about helping parents understand their babies and answer questions about them. In the process, P&G also collects valuable marketing research information.

Sometimes new-product plans result from Internet marketing research. P&G has discovered that Internet research offers a more representative feel for consumer reactions, and P&G is leveraging the Internet and social media to understand consumers. This was the case when P&G decided to launch Crest White Strips not on television, but on the Internet. The Crest White Strips product launch was one of the most successful product launches in history.

The Pampers brand also presents an example of understanding brand equity; the brand has recently been redefined from one about absorption to one about baby development. Focus groups and surveys revealed that parents are very emotionally involved in the development of their babies. This simple but deep change from a functional equity to a broad emotional one has resulted in a whole different look for Pampers diapers, a whole different look in the advertising, a different media plan, and a totally new product plan.

P&G is always conducting marketing research to discover new ways to reach out to consumers, sometimes by developing new products and introducing new product categories. P&G invented disposable diapers, home dry-cleaning, and the very popular cleaning tool the Swiffer, which was designed after extensive marketing research. P&G marketing has been innovative and pioneering over the years, and one would expect the same from it in the future.

### **Conclusion**

The case presents P&G's strong culture of understanding its consumers by conducting marketing research and innovating to meet their needs and desires. P&G, with its long and rich legacy, has continuously evolved newer ways to connect with its consumers and gain insights into their behavior. P&G has been adept at adopting newer technologies, such as the Internet, and leveraging marketing research to enhance its understanding of its consumers. P&G is constantly using marketing research to solve the problems of today and to build brands that will continue to be leaders tomorrow.

### **Questions**

- a. P&G is considering further increasing its market share. Define the management-decision problem. (1 M)
- b. Define an appropriate marketing research problem based on the management-decision problem you have identified. (3 M)
- c. Formulate an appropriate research design to address the marketing research problem you have defined. (3 M)
- d. P&G has developed a new toothpaste that provides tooth and gum protection for 24 hours after each brushing. It would like to determine consumers' response to this new toothpaste before introducing it in the marketplace. If a survey is to be conducted to determine consumer preferences, which survey method should be used and why? (1+2=3 M)
- e. Illustrate the use of the primary type of scales in measuring consumer preferences for toothpaste brands. (3 M)