

VPM's
DR VN BRIMS, Thane
Programme: MMS (2015-17) (Operations)
Third Semester Examination October 2016

Subject	New Product Development & Concurrent Engineering		
Roll No.		Marks	60 Marks
Total No. of Questions	7	Duration	3 Hours
Total No. of printed pages	2	Date	25.10.2016

Note: Q1 is compulsory and solve any FOUR from the remaining SIX questions.

Q1) 20 Marks (Compulsory)

McDONALD'S

McDonald's serves 45 million customers everyday in 28000 restaurants in 120 countries. Interbrand puts a value of \$ 25 billion on McDonald's brand. Its logo of Golden Arches is most widely recognised symbol. McDonald came to India nine years ago (1996). It has friendly, informal, hassle-free ambience, and is conducive to fun-making for the kids. McDonald's in its advertising in India targets the Indian father, a decision-maker in his own right. Its new positioning is that caring dads take the families to McDonald's to have a great time. It is a welcome and affordable family restaurant committed to values of quality, fun and excitement. It wants to strike an emotional bond with the family. It has the latest food processing technology and supply chain in place. It is aiming to set up a chain of 80 restaurants by 2003. It has currently 30 restaurants, most of which are in Mumbai and Delhi and one each in Pune, Jaipur and Mathura. It wants to register its presence in South. By 2005, it wants at least 100 restaurants. It wants the consumers to the concept of drive-through restaurant. It wants to set up such restaurants on high ways, including one on Mumbai-Pune highway. It wants to be price competitive by setting up more outlets. It evaluates Indian food habits and introduces innovative new products. Product launches happen every year, but menu vision is outlined every three years.

McDonald is not so strong with adults. Of course, as children, they went to McDonald's. But as adults, they want an alternative. McDonald has to adopt a different communication strategy, menu development and store design to penetrate this segment.

The message should be focussed. As people grow up, McDonald has to grow up too with them. The brand must be reinvigorated. It has to be made contemporary.

In some countries, the brand is a symbolic target for protest against globalisation, exploitation and animal abuse. A leader has to pay the price. It is a brand available in over 100 countries patronised by 46 million people everyday. Many issues that touch the lives of these people are related to the brand. But still people want McDonald to overcome these challenges. McDonald's brand values are universal e.g., quality, service, family, caring for children, Ronald McDonald.

McDonald will no longer remain confined to prime time TV. It is going to partner with music and entertainment world to react to the young adults. They might sponsor sports.

McDonald will concentrate on core menu and new products that contribute to the image of the brand. e.g., salad lunch. It has introduced in the US one-dollar menu successfully.

McDonald has good opportunity in drive-through outlets, desserts and snacks. People should visit McDonald more often. It should be open when people want to eat out. It should give what people want to eat out. The business has to be totally consumer-driven. People should consider McDonald as an alternative after seeing a movie. It should become a favourite place and way to eat.

The health-conscious population needs quality products. The product must be associated with physical activity e.g., sports. People must be educated about healthy food.

McDonald's Distribution Logistics

It sources its products from local firms. Lettuce comes from Talegaon, near Pune, Nainital, Delhi and Ooty. Cheese comes from Dynamic Dairy Industries in Baramati, Maharashtra; buns from Phillaur and Punjab and Khopoli near Mumbai, and chicken and vegetable patties, pies and pizza puffs from Taloja, also near Mumbai. Most of the raw materials are sourced from the north and the west, as majority of outlets are located here.

Getting the raw materials to the retail outlets is a challenge. They had to develop the concept of a cold chain. They worked for six years to set up a supply chain before opening their first restaurant. The supply chain has been designed to ensure assured supply of safe products at lowest cost, the best value and consistent quality.

Trikaya Agriculture Pvt. Ltd. is a major supplier of iceberg lettuce. The vegetable is grown in Talegaon using drip irrigation. Lettuce is 90 per cent water. It is important to transport the leaves within half an hour of harvesting to a pre-chiller where, temperature is about 1°C, in order to remove the field heat between 25° and 34°C. Here they are vacuum-cooled and sent to another cold room where they are packed and transported in refrigerated trucks to a distribution centre; where the temperature ranges between 1° and 4°C, and from there it is sent to the retail outlets. Tracking devices in the trucks monitor the temperatures at all times and quality checks at various points ensure the quality.

The trucks transport the raw materials to a distribution centre from where they are sent to the retail outlet. A distribution centre must have whatever a store needs. It should be in a position to deliver at a short notice. Each truck has three degrees of refrigeration — a freezer section for meats, a cold refrigerator section for vegetables and a non-refrigerated section for paper cups, napkins and plastic cutlery. The operations are computerized and ERP software has been installed. They know what is selling and where. Accordingly, they place their orders with the producers. The idea is to keep inventory levels to the minimum. Radhakrishna Foodland operates the distribution centres in Mumbai and Delhi.

McDonald of late is not showing healthy financial results. Though the brand still has amazing equity, efforts are needed to bring back the old magic. Even in 2003, it is eighth in the Interbrand list and is valued at \$ 24.70 billion (2003). Perhaps, McDonald over emphasised the growth of restaurants, rather than the customer base. Many customers grew out of McDonald's. Maybe, the brand has lost relevance for the contemporary teenagers. McDonald has started closing many outlets, and has revamped a good many number of outlets. They are trying to attract health-conscious customers by changing the menu e.g., introducing salads and sandwiches. The core essence of the brand is 'fun and youthful spirit, quality and cleanliness.'

McDonald's target segment is people eating out, and this is a growing segment. The fastest growth is in the segment of informal casual eating. McDonald is an eating experience. McDonald especially appeals to children. It is a destination brand. (People express a desire to go to McDonald). Since children are accompanied by families, McDonald is very strong for families too.

Issues

Comment on the product development process of McDonald's. What is the brand image of McDonald? Does it need any change?

Attempt Any FOUR from the Remaining SIX Questions

Q2) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- What are the types of new product development?
- Explain Technology Push and Market Pull.
- Who can be order winners & order qualifiers? Explain with an example.

Q3) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- Write a short note on kanban and kaizen
- What are the challenges of product development process?
- What are the activities & Guidelines of DFMA?

Q4) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- Which are the attributes affected by product architecture?
- "Product Planning is a periodic process that considers the portfolio of product development projects to be executed." Answer True or False. Why?
- What are the benefits of using technology in operations?

Q5) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- What is value engineering & value analysis along with diagram?
- Explain product development process stepwise.
- What is the difference between Alpha & Beta Testing?

Q6) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- How to identify customer needs?
- "PDCA is one of the important tool for continuous improvement" Justify.
- What are the Ergonomic & Aesthetic needs of Industrial Design?

Q7) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- Write Short note on following:

- Off-line quality control
- On-line quality control
- Robust Design
- Quantitative Analysis
- Qualitative Analysis

- "Concurrent engineering is superior to traditional engineering" Explain.
- Which are the four types of prototypes? Explain in brief.