

PGDM (RM), 2019-21
Category Management and Private Labels
RM-501

Trimester – V, End-Term Examination: December 2020

Time allowed: 2 Hrs 30 Min
 Max Marks: 50

Roll No: _____

Instruction: Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means**. All other instructions on the reverse of Admit Card should be followed meticulously.

| Sections | No. of Questions to attempt | Marks | Total Marks |
|----------|--|-----------------------|-------------|
| A | Minimum 3 question with internal choices and CILO (Course Intended Learning Outcome) covered Or Maximum 6 questions with internal choices and CILO covered (as an example) | 3*10 Or 6*5 | 30 |
| B | Compulsory Case Study with minimum of 2 questions | 20 | 20 |
| | | | 50 |

Section A

Q1. The following information is available about a retail store:

Super area: 3500 sq. ft, the covered area is 20% less than the super area, the rental is Rs 65/sq. ft. The store has the following categories: fruit and vegetables (5 bays), staples (10 bays), processed food (12 bays), home and personal care (4 bays), auto zone (1 bay). Assume that each bay has got 6 shelves. Each bay is 1200 mm wide. Assume suitable MBQ's for each shelf. There are 2 floor palettes. The end cap has the following promos: (a) Rice 5kg: BOGO offer (b) 100 gm lemon tea free with 1.25kg pack of Red Label tea. The number of bills made per day in the store is 500. The assortment available has to be chosen from the SKU's given below.

| Article code | Article description |
|--------------|---------------------------------------|
| 108043278 | MAHAKOSH SOYABEAN OIL PP 1L |
| 108003952 | NATURE FRESH OTH CM VEG OIL SOY PP 1L |
| 108037568 | FB SUGAR MEDIUM LOOSE |
| 300864804 | GH TUR DAL PREMIUM 5Kg |
| 108001293 | FB SUGAR CRYSTAL 5Kg |
| 108004423 | FORTUNE SOYABEAN OIL PP 1L |
| 108003616 | BAIL KOHLU MUSTARD OIL PP 1L |
| 108003612 | BAIL KOHLU MUSTARD OIL JR 5L |

| | |
|-----------|--|
| 300833451 | BEST BASMATI RICE SPECIAL 5Kg |
| 108004234 | VERKA GHEE DESI BX 1L |
| 108003448 | AASHIRVAAD ATTA WHOLE WHEAT 10Kg |
| 108000707 | FB TUR DAL PREM LOOSE |
| 300703889 | FRESH&PURE GHEE COW PP 910ml |
| 300047612 | FB WHO SPICE GARAM MSL 200g |
| 108003478 | FB WHEAT FLOUR 10kg |
| 300782222 | GH BASMATI RICE SUPER 5Kg |
| 108001127 | FB WHO SPICE JEERA 200g |
| 300685333 | PARAM GHEE DESI PP 805gm |
| 108004977 | FB GROUNDNUT 500g |
| 108037499 | FB MOONG DAL PREM LOOSE |
| 59000010 | Potato |
| 59000011 | Onion |
| 59000012 | Tomato |
| 59000013 | Capsicum |
| 59000014 | Lemon |
| 108023822 | FROOTI NON AERATED 2L |
| 108035436 | THUMS-UP SOFT DRINK 2L |
| 300645208 | RED LABEL CTC TEA PP 1.25k |
| 300123184 | SUPER CUP CTC TEA PP 900g |
| 108034290 | SPRITE SOFT DRINK 2L |
| 300481673 | MAGGI NDL MASALA 480g |
| 108020344 | BOURNVITA HEALTH DRINK PP 500g |
| 108035984 | TROPICANA JUICE MIXED FRUIT 1L |
| 300834787 | MAGGI NDL MERI MASALA DUMDAAR 2*324g OP |
| 108019966 | BIKANO NAMKEEN BIK BHUJIA 1K |
| 300691353 | KNORR SOUPY NDL MAST MASALA 4*240g OP |
| 108026389 | KISSAN JAM MIXED FRUIT 500g |
| 300347917 | RIN DET POWDER ADVANCE 6Kg |
| 108016189 | SURF DET POW EXCEL 3.8Kg |
| 300349272 | HIT SPRAY FIK 700M |
| 300680423 | TIDE PLUS DET POW JASMIN & ROSE 6Kg |
| 300449440 | GOODKNIGHT ADVANCED ACTIV+CARTRIDGE*2 OP |
| 300666322 | SURF DET POW EXCEL QUICKWASH 3Kg |
| 300577985 | TIDE DET POW PLUS JASMIN ROSE 3.5Kg/4Kg |
| 300165587 | GOODKNIGHT LIQ REFILL ACTIV+CARTRDGE 45m |
| 300511634 | MORTEIN SPRAY ALL INSECT KILLER 625m |
| 300470857 | SANIFRESH TLT CLNR SHINE 1L |
| 300497088 | COLGATE TOOTHPASTE TOTAL 2*150g OP |
| 108017245 | VIM UTENSL BAR 3*225g / 235g |
| 108015133 | RIN DET BAR SUPREME SURF EXCEL 800G |

| | |
|-----------|---------------------------------|
| 300612598 | ARIEL DET POW OXYBLU 2.5Kg /3Kg |
| 108010225 | HARPIC TOILT CLNR POWER 500M |
| 300404299 | HOMEFOIL ALUMN FOIL RED 9MT |
| 300582962 | DOVE SOAP 5*75G OP |
| 300582960 | Ambipur car freshener 50ml |
| 300582961 | Car mobile charger |

Draw the layout of the store showing all the bays and the floor palettes(if any). Label them and number them along with the promo end caps. Also find out the MBQ of each article in the shelf/bay. State all the assumptions made. CILO 2 (4+2+4 marks)

OR

Q1. The private label for an organized retailer is a source of high profit margin. Take the PL of the e-commerce website Amazon in India and compare the items of national brands (one of the top 3 in India) with the following products (a) ketchup (b) fruit and nut muesli (c) toilet paper/tissue roll (d) non-stick tawa (e) shower gel (f) aluminium foil (g) pasta (h) corn flakes (i) men's regular fit shirt (j) women's cotton kurta

Note: State the PL brand name of Amazon India and one of the top three national brands. Use the following components for comparison: (i) price (ii) pack size (same or nearly same)
State the difference in % of the price and comment. CILO2 (10x1 marks)

Q2. Share which of the 8 steps of the category management concept is the most important and the least important in organized retail. Quote 2 examples for each from Indian context to drive home your point. CILO-2(2x4+2 marks)

OR

Compare the private label between Big Basket and Reliance Retail for PF and staples category. What should be the PL strategy of Reliance Retail post the acquisition of Big Bazaar? CILO-2 (2x5 marks)

Q3. An organized retail outlet selling apparel has to plan out a new store roll out. Which all important elements are to be kept in mind before the new store opening? CILO-1 (10 marks)

OR

Q3. The following picture gives the label tag and RFID tag of an apparel SKU sold in FBB.

Pl. label the different components given in the picture and explain it. CILO-1 (10 marks)



Section B

Calculating CLV

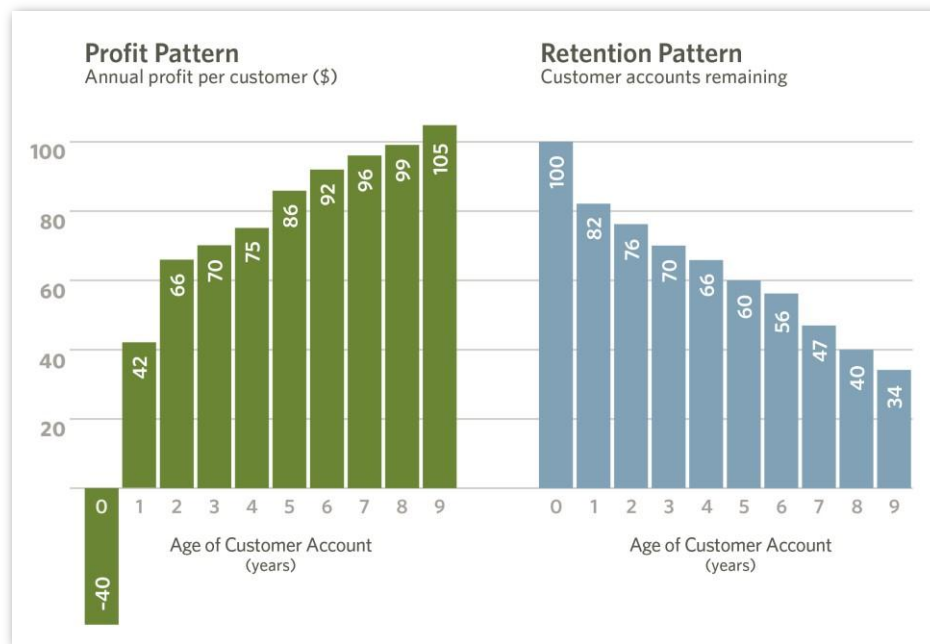
CLV (customer lifetime value) refers to the total amount of money a customer is expected to spend in your business, or on your products, during their lifetime.

Now that we have clarified the importance of CLV, we can determine how to calculate it. To estimate CLV, a firm needs to track two pieces of information—annual profit per customer and the customer retention pattern.

Exhibit 3 shows the profit and retention pattern of the customers of a credit card company.

EXHIBIT 3

Profit and Retention Patterns for the Customers of a Credit Card Company



Source: Adapted and reprinted from *The Loyalty Effect: The Hidden Force Behind Growth, Profits, and Lasting Value*, by Frederick F. Reichheld and Thomas Teal. Harvard Business Review Press. Boston, MA: 1996, p. 57. Copyright © 1996 by the Harvard Business School Publishing Corporation; all rights reserved.

In this example, the credit card company, like many of its competitors, sent direct mail and other promotional materials to acquire customers. Most of these mailings went in the trash and the response rate was 1%. The effective cost to acquire one customer in year 0 for this company was \$40 (each mailing cost \$0.40, and it required 100 mailings, on average, to gain one customer). In our example, the firm acquired 100 customers in year 0 at a cost of \$40 each, for a total investment of \$4,000.

Once these customers were acquired, they started using their cards and generating profits for the firm. By tracking the **cohort** of the original 100 customers, the firm discovered that 18 of the customers defected in the first year, leaving the firm with 82 customer accounts.^a Each of the remaining 82 customers provided the firm, on average, a profit of \$42 in the first year. By the end of the second year, another six customers defected, leaving the firm with 76 customers, each providing an average profit of \$66. Thus, as the right side of Exhibit 3 shows, the cumulative retention probability of an average customer was 0.82 (82%) in year 1, 0.76 in year 2, and so on. Exhibit 3 shows the effect of the cumulative retention probabilities for the original 100 customer accounts.

^a CLV is an individual-customer-level concept, and ideally firms should assess the profitability and retention rate of each individual customer. However, many companies find it easier to apply it to a cohort of customers, as illustrated in this example.

Assuming a 10% annual discount rate, the CLV of a customer in this cohort can be calculated as follows:

$$CLV = \frac{\$42 \times 0.82}{(1+0.1)} + \frac{\$66 \times 0.76}{(1+0.1)^2}$$

The first term in the equation is the present value (PV) of profit generated by the average customer in year 1, the second term is the present value of the profit from the average customer generated in year 2, and so on. **Exhibit 4** shows detailed calculations for a typical customer in this cohort. The third column (annual retention probability) shows the probability that a customer was retained that year. The fourth column (customer accounts remaining) shows the cumulative effect of those probabilities on the original 100 customer accounts. Because the nine-year horizon CLV of a customer from this cohort is \$261, which is significantly higher than the acquisition cost of \$40, these customers are a good investment for the organization.

EXHIBIT 4 Calculating CLV for a Credit Card Company

| Year | Profit per Customer (\$) | Annual Retention Probability | Customer Accounts Remaining | Annual Discount Rate | Cumulative Discount Factor | Discounted Cash Flow (\$)* |
|-------|--------------------------|------------------------------|-----------------------------|----------------------|----------------------------|----------------------------|
| 0 | | | 100 | | | |
| 1 | \$42 | 82% | 82 | 0.10 | 0.91 | \$31 |
| 2 | 66 | 93% | 76 | 0.10 | 0.83 | 41 |
| 3 | 70 | 92% | 70 | 0.10 | 0.75 | 37 |
| 4 | 75 | 94% | 66 | 0.10 | 0.68 | 34 |
| 5 | 86 | 91% | 60 | 0.10 | 0.62 | 32 |
| 6 | 92 | 93% | 56 | 0.10 | 0.56 | 29 |
| 7 | 96 | 84% | 47 | 0.10 | 0.51 | 23 |
| 8 | 99 | 85% | 40 | 0.10 | 0.47 | 18 |
| 9 | 105 | 85% | 34 | 0.10 | 0.42 | 15 |
| Total | — | | — | | — | \$261 |

*Numbers may not sum due to rounding.

EQUATION 1 Customer Lifetime Value (CLV)

In general, CLV for a customer can be written as:^b

where $CLV = \sum (m_t \times r_t) / (1 + i_t)$

m_t = profit or contribution margin during

year t , r_t = retention probability rate, i_t

= constant discount rate, t = year

^b It is also common to define *net* CLV after deducting the acquisition cost from this equation.

Equation 1 captures several key aspects of customer profitability: the current as well as future revenue potential of the customer, the cost of providing goods and services, the time value of money, and the uncertainty associated with future cash flows should a customer stop doing business with the organization.

The concept of CLV is analogous to **discounted cash flow** in finance, with two major differences. First, CLV is calculated at the individual customer level, not at the aggregate level, because profitability and retention probability vary by customer. Second, we account for the possibility that customers stop doing business with the company by defecting to a competitor or getting out of the market.

We can simplify the CLV calculations by assuming that (1) customers have a constant profit margin m over time, (2) customers have a constant rate of retention r over time,^c (3) the discount rate is constant over time, and (4) value is estimated over an infinite horizon. These assumptions are reasonable under most scenarios and can be easily modified. Under these assumptions,⁵ CLV simplifies to **Equation 2**:^d

EQUATION 2 Simplified Customer Lifetime Value (CLV)

$$CLV = m * \frac{r}{1+i-r}$$

In this equation, we call the term $\frac{r}{1+i-r}$ the *margin multiple*.

CLV for a customer is the annual profit margin that a customer provides to the firm multiplied by the margin multiple. The margin multiple depends on two components: the retention probability and the discount rate. If the customer has a high probability of staying with the company, then he or she is expected to have a longer lifetime with the company and therefore a higher lifetime value. If the discount rate is high, then future cash flows amount to less and thus reduce the total lifetime value of a customer.

For example, consider a prepaid wireless customer in the telecom industry. In 2012, the annual retention rate in this industry was 90%, and the discount rate based on **weighted average cost of capital** was 11%. Using Equation 2, the margin multiple is

$$\frac{0.90}{1 + 0.11 - 0.90} = 4.29$$

Using the average monthly revenues in this industry of \$53, and the cost to serve of \$13, we estimate monthly profits of a typical customer as \$40 and annual profits as \$480. Therefore, CLV of a customer can be estimated as \$480 · 4.29 = \$2,059.

(a) (i) What is the difference between CLV formula (Equation 1) given initially and the simplified CLV (Equation 2) which follows? (ii) Average acquisition cost: \$ 1200, Customer retention rate= 80%, Calculate: (ii) Customer churn rate= ?, (iii) Average lifetime in years= ? (iv) Simple CLV? CILO 3 Marks (5+1+1+3)

(b)

| | Year | | | | | | | |
|---------------------------------|--------|------|-----|-----|-----|-----|-----|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Total acquisition cost (\$) | 120000 | | | | | | | |
| New customers acquired | 600 | | | | | | | |
| Average acquisition \$/customer | | | | | | | | |
| Average customer revenue(\$) | | 500 | | | | | | |
| Average customers cost | | | | | | | | |
| Average customer profit(\$) | | | | | | | | |
| Customer retention rate(%) | | 100% | 60% | 65% | 70% | 75% | 80% | 85% |
| Cumulative retention rate(%) | | | | | | | | |
| Likely customer profit(\$) | | | | | | | | |
| Discount rate | 1 | 1.10 | | | | | | |
| CLV per year(\$) | | | | | | | | |
| Cumulative CLV(\$) | | | | | | | | |

Pl. fill up the table above shaded in yellow. The following information is shared with you. The Av. Customer revenue increases @ 30% every year. The Av. Customers cost is @60% of Av. Customer revenue. The discount rate is 10% every year. CILO 3 (Marks 10)
