

## ERRATA

Customer Relationship Management: A Databased Approach (2006)

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### 1) Page 24 Figure 2-4

Spending (in billions) instead of Spending (in millions)

### 2) Pages 44 - 47 – Additional References

Part of the material is an abstract from Prof. Francis A Buttle's work titled "*The S.C.O.P.E. of Customer Relationship Management*".

Source: [http://www.kitshoffleaves.co.uk/documents/FButtle\\_Scope\\_crm.PDF](http://www.kitshoffleaves.co.uk/documents/FButtle_Scope_crm.PDF)

Requesting permission from Prof. Francis A Buttle

### 3) Pages 58 - 61 – Additional References

Part of the material is an abstract from Prof. Francis A Buttle's work titled "*Is it worth it? ROI on CRM*". Source: [www.crm-forum.com](http://www.crm-forum.com). Requesting permission from Prof. Francis A Buttle

### 4) Page 113 – Equations 4 and 5

Equation 4 is true under the condition that all individuals have the same share of wallet.

Equation 5 should be a separate equation and not linked to equation 4.

### 5) Page 127 – Change in Equation 13

Equation 13 which is currently given as  $LTV = \left( \sum_{t=1}^T \left( \prod_{t=1}^T Rr \right) CM_{it} \left( \frac{1}{1+\delta} \right)^t \right) - AC$

Should be changed to  $LTV_i = \left( \sum_{t=1}^T (Rr)^t CM_{it} \left( \frac{1}{1+\delta} \right)^t \right) - AC$

If retention rate varies by period (so we can write the retention rate in period 't' as  $Rr_t$ ), then survival rate can be used:

$$LTV = \left( \sum_{t=1}^T S_{r_t} * CM_{it} \left( \frac{1}{1+\delta} \right)^t \right) - AC$$

Where the survival rate in period 't'  $S_{r_t}$  is given by the formula  $S_{r_t} = \prod_{k=1}^t Rr_k$

## 6) Page 127 – Change in Equation 14

Equation 14 which is currently  $LTV_i = CM_i * \left( \frac{1}{1 + \delta - Rr} \right) - AC$

should be changed to  $LTV_i = CM_i * \left( \frac{Rr}{1 + \delta - Rr} \right) - AC$

Derivation: The new equation is derived as follows.

When equation 13 is written as above, and there are infinite time periods with the same margin in each time period, the formula becomes:

$$LTV_i = \left( \sum_{t=1}^{\infty} (Rr)^t CM_i \left( \frac{1}{1 + \delta} \right)^t \right) - AC$$

Consider the first term, and denote the sum by S, so that:

$$S = \sum_{t=1}^{\infty} (Rr)^t CM_i \left( \frac{1}{1 + \delta} \right)^t$$

Collecting terms,

$$S = \sum_{t=1}^{\infty} CM_i \left( Rr * \left( \frac{1}{1 + \delta} \right) \right)^t$$

$$\text{Put } a = Rr * \left( \frac{1}{1 + \delta} \right)$$

$$\text{Then } S = \sum_{t=1}^{\infty} CM_i (a)^t$$

Expanding

$$S = CM_i (a)^1 + CM_i (a)^2 + CM_i (a)^3 + \dots \infty$$

Equation 14 A

$$\text{Multiply the series by } a = Rr * \left( \frac{1}{1 + \delta} \right)$$

$$aS = CM_i (a)^2 + CM_i (a)^3 + CM_i (a)^4 + \dots \infty$$

Equation 14 B

Subtract Equation 14B from Equation 14A:

$$S - aS = CM_i (a)^1$$

Therefore

$$S * (1 - a) = CM_i (a)^1$$

$$S = \frac{CM_i (a)^1}{(1 - a)}$$

$$\text{If } a = Rr * \left( \frac{1}{1 + \delta} \right), \text{ then } 1 - a = 1 - Rr * \left( \frac{1}{1 + \delta} \right) = \frac{1 + \delta - Rr}{1 + \delta}$$

Therefore

$$\frac{(a)^t}{(1-a)} = \left(\frac{Rr}{1+\delta}\right) * \left(\frac{1+\delta}{1+\delta-Rr}\right) = \left(\frac{Rr}{1+\delta-Rr}\right)$$

Substituting back:

$$S = \frac{CM_i (a)^t}{(1-a)} = CM_i * \left(\frac{Rr}{1+\delta-Rr}\right)$$

Therefore the formula for lifetime value is:

$$LTV_i = CM_i * \left(\frac{Rr}{1+\delta-Rr}\right) - AC$$

## 7) Page 128 – Change in Table 6-12

Customer Equity Calculation example (*last column was missing*)

1. Year from Acquisition	2. Sales per Customer	3. Manufacturer Margin	4. Manufacturer's Gross Margin	5. Marketing and Servicing Costs	6. Actual Retention Rate	7. Survival Rate	8. Expected Number of Active Customers	9. Profit per Customer per Period to Manufacturer	10. Discounted Profit per Customer per Period to Manufacturer	11. Total Discounted Profits per Period to the Manufacturer
0	120	0.3	36	20	0.4	0.4	400	16	16	6400
1	120	0.3	36	20	0.63	0.25	250	16	14	3500
2	120	0.3	36	20	0.75	0.187	187	16	12	2244
3	120	0.3	36	20	0.82	0.153	153	16	11	1683
4	120	0.3	36	20	0.85	0.131	131	16	9	1179
<b>Total customer equity</b>										<b>15006</b>

## 8) Pages 129, 130 – Change in material

Hockey equipment should be read as scuba equipment

## 9) Pages 152-154 – Additional References

Part of the material is an abstract from the book “Strategic Database Marketing” by Rob Jackson and Paul Wang (1994), Chicago: NTC Business Books, pp 40-53. Printed with permission from McGraw-Hill Education

10) Page 183 – Change in Figure 9.1

Figure 9.1 should be changed to the one shown below

