***Supply Chain Management – Strategy***

***Customer Pricing***

***Chapter 13***

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|  | 🡨 Flow of Information 🡨 | | | | | | | | |  |
|  | Supplier | 🡪 | Manufacturer | 🡪 | Distributor | 🡪 | Retailer | 🡪 | Customer |  |
|  | 🡪 Flow of Material 🡪 | | | | | | | | |  |

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| ***Customer Pricing***  ***Chapter 13*** |
| *Balancing Customer Loyalty*  *with Profit Generation* |

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|  | ***Customer Pricing*** | |  |
|  | **Price Differentiation** | Price based on price-demand relationships |  |
|  | **Revenue Management** | Price based on market segmentation |  |
|  | **Smart Pricing** | Differential pricing (price sensitivity)  & Dynamic pricing (time sensitivity) |  |
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|  | **Internet** | Enable Customer Pricing Strategies |  |
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| **Price differentiation.** Vary price (markdowns) to capture market segments. |
| Let P=price, D=demand, R=revenue=D\*P, a=b=constants. Then, assume D=a-b\*P.  For single price, max R=a2/(4b) when P=a/(2b).  For double price, max R= a2/(3b) when P1=a/(1.5b) and P2=a/(3b), P1>P2.  Continue while supported where Rn=aP1+b[ (i=2,n)PiPi-1 – (i=1,n)Pi2 ] |

***Supply Chain Management: Price Differentiation***

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| |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | ***Price, P*** |  | |  | | ***D=a–b\*P*** | | | | | ***a/b*** |  | |  | |  | | | | |  |  | |  | | |  |  | | ***P1*** |  |  | |  | | |  |  | |  |  | |  | | |  |  | | ***0*** |  |  | |  | | |  |  | |  |  | |  | | |  |  | | ***0*** | | |  | |  | ***a Demand, D*** | | |   Let Demand be a function of Price. D=a–b\*P  Then, Revenue is Price\*Demand. R=P\*D = P(a–b\*P)  I. Optimal P where R = a\*P–b\*P2  R/P = a–2bP = 0. Solving yields, P=a/(2b) with R=a2/(4b)  Reducing yields, P=(1/2)(a/b) with R=(a/4)(a/b)  II. Optimal P1 and P2 where R = P1(a–bP1) + P2b(P1–P2).  R/P1 = a – 2bP1 + bP2 = 0 🡪 P1=(a+bP2)/(2b)  R/P2 = bP1 – 2bP2 = 0 🡪 P1=2P2  Solving yields, P1=a/(1.5b) and P2=a/(3b) with R=a2/(3b)  Reducing yields, P1=(2/3)(a/b) and P2=(1/3)(a/b) with R=(a/3)(a/b)  III. Generalizing, Let n=number of prices where n>1.  Then, R = P1(a–bP1) + b i=2,n [ Pi ( Pi–1 – Pi ) ]  R/P1 = a – 2bP1 + bP2 = 0  R/Pi = Pi–1 = 2Pi ; for i=2,n  Reducing yields, Pn=a/(3\*2n-2\*b), and Pi–1=2Pi ; for i=2,n  with R = 2a2/(27b)[ 5 – 8/22n ] = a2 [ 10 – 2(–2n+4) ] / (27b )  . . . |

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|  | **Revenue management.** Integrate pricing, inventory, and demand.  Example: Airline industry.  Market segmentation, booking control, network management. | | |  |
|  | **Type of Traveler** | **Leisure travelers** | **Business travelers** |  |
|  | Sensitivity to Price | High | Low |  |
|  | Sensitivity to Trip Duration | Low | High |  |
|  | Need for Flexibility | Low | High |  |
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|  | **Smart pricing.** Differential pricing and Dynamic pricing. | |  |
|  | **Differential pricing** = f(market price sensitivity)  Group pricing = f(customers)  Channel pricing = f(channels)  Regional pricing = f(regions)  Time-based differentiation = f(time)  Product versioning = f(product design)  Coupons and rebates = f(processes) | **Dynamic pricing** = f(time)  Conditions for dynamic pricing:  Production capacity less than demand  Increase demand uncertainty  Increase demand seasonality  Short planning horizon  Low profit margins |  |
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|  | **Internet.** Impact of the internet on smart pricing.  Menu cost. Ease of retailers to change pricing.  Lower buyer search price. Ease of customer search increasing retailer competition.  Visibility. Increase coordination throughout the supply chain.  Customer segmentation. Create customer profiles.  Testing. Test and adjust strategies in real time. |  |
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