Customer Acquisition Dynamics

“Getting Started with STELLA and iThink” Workshop
International System Dynamics Conference
July 27, 2006

Presented by:
Joanne Egner
Karim Chichakly
Peter Lacey
Customer Model 1
(Reinforcing Loop)

Customers(t) = Customers(t - dt) + (Customer_Recruitment) * dt
INIT Customers = 100

INFLOWS:
Customer_Recruitment = Marketing_Spend*Productivity
Marketing_Spend = Revenue*Marketing_Spend_Fraction
Marketing_Spend_Fraction = 0.08
Productivity = 0.05
Revenue = Customers*Revenue_per_Customer
Revenue_per_Customer = 50
Customer Model 2
(Reinforcing Loop with Balancing Loop)

Customers(t) = Customers(t - dt) + (Customer__Recruitment) * dt
INIT Customers = 100

INFLOWS:
Customer__Recruitment = Marketing_Spend*Productivity
Potential__Customers(t) = Potential__Customers(t - dt) + (- Customer__Recruitment) * dt
INIT Potential__Customers = 900

OUTFLOWS:
Customer__Recruitment = Marketing_Spend*Productivity
Marketing_Spend = Revenue*Marketing_Spend_Fraction
Marketing_Spend_Fraction = 0.08
Productivity = 0.05
Revenue = Customers*Revenue_per_Customer
Revenue_per_Customer = 50
Customer Model 3
(Introducing a Market Saturation Effect)

Customers(t) = Customers(t - dt) + (Customer__Recruitment) * dt
INIT Customers = 100

INFLOWS:
Customer__Recruitment = Marketing_Spend*Productivity
Potential__Customers(t) = Potential__Customers(t - dt) + (- Customer__Recruitment) * dt
INIT Potential__Customers = 900

OUTFLOWS:
Customer__Recruitment = Marketing_Spend*Productivity
Effect_on__Productivity = Potential__Customers/INIT(Potential__Customers)
Marketing_Spend = Revenue*Marketing_Spend_Fraction
Marketing_Spend_Fraction = 0.08
Productivity = 0.05*Effect_on__Productivity
Revenue = Customers*Revenue_per_Customer
Revenue_per_Customer = 50
Customer Model 4

(Introducing another loop - Customer Loss)

Customers(t) = Customers(t - dt) + (Customer__Recruitment - Customer_Loss) * dt
INIT Customers = 100

INFLOWS:
Customer__Recruitment = Marketing_Spend*Productivity

OUTFLOWS:
Customer_Loss = Customers*Ave_Customer_Loss

Lost__Customers(t) = Lost__Customers(t - dt) + (Customer_Loss) * dt
INIT Lost__Customers = 0

INFLOWS:
Customer_Loss = Customers*Ave_Customer_Loss

Potential__Customers(t) = Potential__Customers(t - dt) + (- Customer__Recruitment) * dt
INIT Potential__Customers = 900

OUTFLOWS:
Customer__Recruitment = Marketing_Spend*Productivity
Ave_Customer_Loss = 0.05
Effect_on__Productivity = Potential__Customers/INIT(Potential__Customers)
Marketing_Spend = Revenue*Marketing_Spend_Fraction
Marketing_Spend_Fraction = 0.08
Productivity = 0.05*Effect_on__Productivity
Revenue = Customers*Revenue_per_Customer
Revenue_per_Customer = 50