

OPRE 6398.001 Prescriptive Analytics

Reading 2*

GE Capital, a subsidiary of General Electric Company, is the largest provider of private label consumer credit in the United States. It manages credit card services that totaled over \$12 billion in outstanding consumer credit, which is the amount owed by credit card holders, at the end of 1990. The retailer financial services (RFS) component of GE Capital has more than 300 individual retail customers including, among others, Apple, Montgomery Ward, and Macy's.

In recent years, delinquent account balances have become one of GE Capital's major concerns. During the 1980s, consumer spending surpassed disposable income and consumer installment debt grew to almost 20% of disposable income. In addition, consumer bankruptcies more than doubled in the second half of the decade. As a result, the delinquent balances in RFS approached \$1 billion in 1990. Although \$150 million was spent in collection efforts, \$400 million was written off.

To remedy the situation, RFS developed a probabilistic account flow model and statistically designed programs to generate accurate data on the performance of collection resources, which include mailed letters, taped telephone messages, live phone calls, and legal procedures. Each of these differs in cost and effectiveness. A linear program was then formulated to produce optimal resource allocations that have been implemented across the business. Referred to as PAYMENT, the objective of the LP model is to maximize the net collections over multiple billing periods.

The PAYMENT system has permanently changed the way GE Capital manages delinquent consumer credit. It not only reduced the firm's annual losses by approximately \$37 million, but also greatly improved customer goodwill.

* Adapted from Makuch, W., Dodge, J., Ecker, J., Granfors, D., & Hahn, G. Managing consumer credit delinquency in the US economy: A multi-billion dollar management science application. *Interfaces*, 1992, January-February, 90-109.