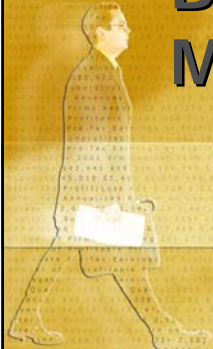


Banking & Mathematics



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Banking & Mathematics


BEHIND THE SCENES- OPERATIONAL INTEGRITY/GROWTH

1. Cash Balancing/Proofing transactions
2. Audit/Reconciling General Ledger Accounts
3. Bank Investments/Funds Management

FRONT LINE- MEETING NEEDS/BUILDING RELATIONSHIPS


1. The value of Protection
2. How the customer can Save Money
3. How the customer can Make Money
4. The value of Convenience
5. How much it will cost the customer to Borrow (Get) Money

Behind The Scenes Calculations



- 1. Cash Balancing/Proofing**
Credits-Debits=0
Common Errors: Transposition/Double Entries
- 2. Audit/Reconciling General Ledger Accounts**
Beginning Balance +Deposits-Withdrawals=Ending Cash
Other Variables: Outstanding Items/Charge Backs, etc.
- 3. Bank Investments/Funds Management**
Calculate the Net Interest Spread
(% Interest earned on loans) – (% Interest Paid on Deposits) =
% Net Interest (This Spread used in determining Rates)

Front Line – Meeting Needs Calculations



- 1. Protection**
Safe Deposit Box
x-y=cost of saving your Jewelry
X=replacement value
Y=safe deposit rent
- 2. Save Money**
Bill Pay
Your customer pays 15 bills a month, and has forgotten to mail a credit card bill two times in the last year, causing \$58.00 in late fees
 $(15 \times .39)12 + \$58.00 = \128.20
PLUS- Cost of hard checks= \$10.00
Hard Cost = **\$138.20**
Annual Fee for Bill Pay=**\$119.40**
PLUS Cost of Security (ID theft/Postal Fraud) and keeping Good Credit Ratings= Priceless

Front Line – Meeting Needs Calculations

3. Make Money

Earning Interest on 6 month CD
 $\text{Principal (deposit amount)} * \text{Annual Percentage Yield (APY)} / 365 (\# \text{ of days in a year}) * 180 (\# \text{ of days of CD}) = \$ \text{ of interest earned}$
 For example: $(\$50,000.00 * 4.25\%) / 365 * 180 = \1047.95

4. Convenience

Online Banking/Drive through/longer hours- Difficult to "calculate"...must listen to customer and estimate value - **WORD PROBLEMS!!**



5. Get Money

Paying Interest on a Simple Interest 12 month single payment Loan

$\text{Principal (loan amount)} * \text{Annual Percentage Rate (APR)} = \$ \text{ of interest paid}$
 For Example $\$100.00 * 10\% \text{APR} = \10

In addition, the Lender/Banker, must use various calculations to determine if collateral is sufficient, if the customer has the capacity to repay, etc.

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The Bank must use **MATHEMATICS behind the scenes** (Operations/funds Management) to maintain operational integrity and to compute how to invest/grow the bank's assets and shareholder's/owner's profit.

On **the front line** a successful Bank/Banker must be able to calculate the value of the benefits of their products to begin, grow and retain...

RELATIONSHIPS !

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