
MegaTelco and the Churn Problem

Natalie Ferman leaned back in her chair as the executives sparred across the table. A binder of reports lay open between them, charts splashed in red ink. MegaTelco, the country's largest mobile carrier, had called her in because too many customers were walking away the moment their contracts expired. Once a scholar, now a consultant, Natalie was known for building decision systems to tackle messy business problems.

For years, contracts had been MegaTelco's safety net. Customers signed on for 12 or 24 months, paying monthly for service and often financing their devices along the way. Leaving early meant hefty penalties. But once the contract ended, they were free — free to stay, renew, or switch. And lately, far too many were switching.

Dana Cho from Marketing tapped the binder for emphasis, her voice urgent. "Twenty-seven percent. That's how many of our postpaid customers walked within three months of contract expiry. We finally have a plan to stop the bleeding: a \$200 renewal credit for anyone who signs a new one-year deal. But Frank—" she shot a look across the table "—the budget you gave us only covers a fraction of accounts. If we want results, we need more."

Frank Keller from Finance leaned back, lips curling into something between a smirk and a frown. "So your plan is to shower \$200 checks around like confetti?"

"To customers at risk of leaving. Better than losing them all to competitors."

"What about sinking millions into lines that barely pay that much in revenue? Some business just isn't worth saving."

"You're missing the big picture, Frank. Families, households, accounts — they think as a whole. Lose one line, you risk losing them all."

Frank shook his head. "I get that. But the KPIs and budgets break it down by contract. Each line has its own revenue, its own margin. Saving unprofitable lines drags us down."

Natalie didn't intervene. She just opened her notebook and began to jot in her tight handwriting: *budget... value... action*. A pause, then another heading: *decision logic*. And below it, a small question mark: *prediction?*

A faint smile tugged at her lips. *This is less a debate than two monologues colliding*, she thought. *Dana speaks in customers, Frank in lines. Parallel truths that never quite touch*. She tapped her pen once, amused. *If only I billed by the minute, like they bill their customers*. She bent her head and marked another word, crisp and deliberate: *instance*.

This case study was written by Carlos Fernández-Loría for class discussion, not to illustrate correct or incorrect management practices.

The room suddenly settled into a tense silence. Eyes drifted toward her, waiting. Natalie kept writing, as if she hadn't noticed. She'd told them already: *Pretend I'm not here. I want to hear it from you first.*

Dana broke the pause. She folded her arms, voice edged with resolve. "Our customers are already telling us what's happening. Two months before their contracts are up, some are already calling for better deals. They name competitors outright. If we don't meet them halfway, they'll walk. And it's not just my opinion—Customer Experience surveys show cost as the top complaint."

Frank didn't budge. "Price is always the scapegoat. Customers complain about it whether they're leaving or not. Not every contract that skips renewal is gone. Plenty keep paying month-to-month. Plenty renew without a dollar of incentive. The ones who've been with us for years usually stick around anyway, whether because they love the service or just don't want the hassle of switching. If we start handing out two hundred bucks up front, we'll waste a fortune on people who either stay on their own or aren't worth keeping. Maybe the smarter move is to see who renews first and only offer the credit to those who don't."

Natalie underlined the word *prediction*, twice.

That was when Luis Ortega, the rookie on the analytics team, leaned forward, almost tripping over his own eagerness.

"We don't have to wait and see who renews. I can predict who's going to leave."

Dana turned toward him, one brow raised. "Predict? How?"

"With a predictive model. Usage patterns nosedive for churners before their contracts expire—fewer minutes, less data, the works. It's all in the numbers. We can throw this into a random forest, maybe gradient boosting. Or even neural nets. With enough features, the model will find the patterns."

His words tumbled out in a rush, and when he stopped, his eyes flicked to Natalie, hoping for a nod.

Dana gave a polite nod of her own, but her eyes slid past him almost at once. She clearly hadn't followed the string of terms and turned to Natalie instead, an unspoken cue: *Translate this into something useful.*

Natalie let the silence stretch. She moved her pen again and wrote a single word in the margin—*leakage*—then underlined it. *Maybe not foresight at all*, she thought. *Just hindsight wearing a mask.*

Frank's laugh cracked the quiet. "Fancy statistics to guess who might leave. Wonderful. But which ones are worth two hundred bucks? No model tells us that."

Luis shrank in his chair, the spark draining from his face.

Natalie hesitated. Normally she'd wait, let the debate run its course. She'd told them as much. But this time she closed her notebook and turned to the rookie.

“Alright, Luis. Show me what you’ve got. But before we argue recipes, let’s check the pantry, shall we? What tables are we working with?”

His eyes lit up. “Yes—of course.” He fumbled through his binder, pulled out a packet, and slid it across the table. “Contract histories, account records, usage patterns, billing, service calls... all the main tables in MegaTelco’s database.”

Across the cover page of the packet, it read *Exhibit A*.

Natalie set her hand on it. “I can work with this.”

Luis sat back, trying to hide his grin. Dana leaned forward, seizing the moment now that Natalie had broken her silence.

“The renewal credit idea is new. We’ve never tried it before, but leadership wants it live this quarter. We need a solution, fast. If that means a model, fine. But can it actually work with this tight budget? What do you think?”

Frank gave a thin smile. “If you want more budget, you’ll need to show me how much money this model is supposed to make. Otherwise it’s just a gamble dressed up in math. Two years ago, our rival locked down the iPhone exclusive and customers stampeded out the door. That was the spark. A year ago, we were told the answer was to bring in the iPhone ourselves. It cost a fortune—and people are still leaving. So forgive me if I’m not convinced a model is the magic fix.”

Natalie walked to the whiteboard. She uncapped a marker but didn’t write.

“A model isn’t a magic fix,” she said calmly. “It can be part of the solution—but only part. Success really depends on how we define the problem.”

She paused, then added with a faint smile, “It’s been said that the formulation of the problem is often more essential than the solution. The solution may be only a matter of mathematical or experimental skill.”¹

She set the marker down. “So—let’s start by framing the problem, shall we?”

¹ Quote by Albert Einstein.

Exhibit A – MegaTelco’s Data (Simplified for Discussion)

Note: Here are some entities that might matter for the churn problem. Each table lists only a few of the available columns. This is not exhaustive; other data sources exist and could easily be requested if you believe they are important.

A1. Accounts (billing entity)

account_id	Unique ID for the account (e.g., A-551102).
customer_id	Primary person responsible for the account.
num_lines	Number of phone lines on the account.
credit_bucket	Simple credit rating (A/B/C/D).
region	Geographic market (e.g., Northeast).
autopay_flag	Whether the account uses automatic payments.
activation_date	When the account started.
current_balance_due	Amount currently owed.

A2. Lines (individual phone numbers)

line_id	Unique ID for each line (e.g., SIM/phone number).
account_id	The account this line belongs to.
customer_id	The person this line is registered to.
plan_type	The plan for this line (e.g., Unlimited, XL 10GB).
activation_date	When the line was first activated.
contract_flag	Whether the line currently has a contract.
status_code	Current status: active, suspended for non-payment, cancelled by customer, cancelled by MegaTelco.
termination_date	If cancelled, the date the line was cancelled.

A3. Contracts (service agreements for each line)

contract_id	Unique ID for the contract.
line_id	The line the contract covers.
start_date	When the contract began.
end_date	When the contract ends.
term_months	Length of the contract (e.g., 24 months).
monthly_fee	Monthly charges for the service plan (main revenue stream).
device_fee	Monthly payment for financing the phone (loan repayment).
auto_renew_flag	Whether the customer is currently enrolled for auto-renewal.
status_code	Current status: ongoing, terminated, expired, renewed.

A4. Usage (monthly activity per line)

line_id	The line the usage belongs to.
usage_month	Month of activity.
voice_minutes	Number of call minutes.
data_mb	Amount of data used.
sms_count	Number of text messages.
overage_fees	Extra charges for exceeding plan limits.