1-800-ANICARD

This case is intended as a basis for class discussion.

In early 1991, American/Northeast-Interstate Bank Corporation decided to take direct control of all its mail and telephone service operations, most notably in its credit card division. Like many small and moderate-sized players in the fiercely competitive credit card business, ANI had previously subcontracted its billing and servicing operations through a clearing house. But the credit card division had become an increasingly important component of the ANI retail strategy; to move into the big leagues, ANI decided it would have to assume full control of its operations.

Growth and The Eighties

ANI entered the credit card business in the late-60's boom by mailing unsolicited card applications to its customers. The potential payback on investment was unclear at the time. ANI's main rationale in launching the new venture was strengthening ties with customers. The more bank services a customer used, the less likely that customer was to move to another financial institution. So initially ANI focused its marketing on its deposit and loan customers, primarily through direct mail and in-branch applications. Like many entrants to the credit card business at that time, ANI discovered that start-up expenses and loan losses could be substantial. The payoff would come only later.

From the doldrums of the 1970s, the credit card business moved into the dramatic changes of the 1980s. ANI, like most of its competitors, introduced annual fees. Interest rates surged and asset yields on credit cards soared above 20%, higher than the yield on traditional wholesale lending. High yields attracted large nonbank issuers, such as Sears, General Electric, and J. C. Penney. As the business became more lucrative, banks took on greater risks, making greater use of direct-mail solicitations of non-customers with unknown credit history. Write-offs rose but so did profits.

ANI's advertising— *"ANIcard VISA, for anything you want"*—reflected what looked like a new national addiction. There were 129 million credit cards in circulation in 1980, 289 million by 1990. Card purchases grew by 15% per year. The average household charged $885 per year in the early eighties; that number was up to $3,753 by the end of the decade. The total credit card debt grew from $50 billion to $172 billion. Moreover, the proportion of purchases charged to general-purpose cards like VISA and MasterCard—the kind offered by ANI—rose from under a half to more than 75%.

Service and The Nineties

The end of the decade, like its beginning, brought a change in the character of the industry. A general economic slowdown combined with a saturation of the credit card market: by 1990, three out of four households had at least one general-purpose card. In the early 1980s, direct-mail solicitation response rates ranged from 5% to 8% and acquisition costs per account were $15 to $20. By the end of the decade, typical response rates were one or two percent and the cost per new account could reach $100. Even as new sales slowed, outstanding balances continued to rise, albeit it a slower rate. Since ANI derives 80% of revenue from charging interest and only 20% from annual fees, increasing balances meant increasing importance of the credit card division.

Still, with new sales growing no faster than about 7%, ANI and its competitors could no longer count on increases in volume for profitably. In the nineties, success in the industry would come from service. Several factors pointed to the service imperative:

- The credit card business is strangely insensitive to price. Consumers are willing to hold cards with interest rates substantially higher than those offered by other issuers. Indeed, credit card customers seem primarily motivated by the range of services an issuer can offer—services like travel insurance, replacement warranties for products purchased with a credit card, emergency credit, and, not least, error-free billing and responsiveness to complaints.

- Profitability in credit cards comes mainly from mature accounts, making it essential to keep good customers. Credit losses can approach 10% in the two to three years it takes a direct-mail account to mature. Accordingly, an issuer seeking to sell a portfolio of mature accounts can charge a hefty premium. By keeping its best customers through quality service, ANI would increase its profitability and the value of its portfolio.

- Increasingly, competition in the credit card business comes from outside the banking industry; ten of the largest twenty issuers are non-banks. These companies can have a competitive advantage in that they are free of many regulatory costs. In addition, they can often tap into existing relationships with customers, as AT&T did in issuing its Universal card.

By taking direct control of billing and operator services, ANI would be able to test-market card-related products to carefully selected customers, to follow individual accounts for a variety of spending patterns, and to monitor more closely the level of service provided to customers. As ANI's outstanding credit card balance grew to over $3 billion, economies of scale made direct control feasible.

The Offered Load

One of the first challenges faced by ANI was sizing its telephone operator pool. Several factors made this a complicated problem. First, ANI had in the past received service reports from Telemax Operator Services, the company that handled its customer support. As its credit card business had grown, ANI had upgraded its contract with Telemax to maintain service, but no precise service objectives had ever been defined. In particular, no serious comparison with competitors had been undertaken; ANI had largely relied on Telemax's experience. To plan an in-house operator pool, ANI would have to set strategic, but economic, service goals.

A second complication was the absence of a simple way to translate multiple service objectives into a number of telephone lines and operators. The bank could target, say, average time waiting for an operator, the maximum wait, or the fraction of calls receiving an immediate pick-up. But it was not clear which goals could be economically attained, or whether they were even consistent. ANI contracted a telemarketing consultant to help set objectives.

A final difficulty in sizing the operator pool was that there were many scenarios to consider. Working with the telemarketing consultant, ANI divided the problem along two dimensions: time scale and customer class. The relevant time scales were as follows.

> *Seasonal.* Credit card purchases are substantially higher in July, August, and December than in other months. Demands on operator services rise accordingly in these periods. Purchases drop off markedly in January, but billing disputes and no-payments actually rise, making January a high call volume month as well.
>
> *Weekly.* Call rates throughout the week follow a pattern. The days Monday through Thursday are the highest volume days, and average call rates are essentially the same across this four-day period. Friday is generally the slowest day of the week. Saturday and Sunday have average call rates higher than Friday but lower than the other days. Saturday and Sunday callers include customers who go through their bills on weekends and many travel-related inquiries, losses and emergencies.
>
> *Daily.* Weekday call patterns follow the usual business day cycle. Rates climb throughout the morning, dip in the middle of the day, climb again in the afternoon and taper off in the evening; see Figure 1. There are few late-night calls but they are considered important because they include a higher proportion of emergencies. Weekends follow a different pattern, peaking only once, in the late afternoon.

For operational purposes, customers were divided into two classes, Standard and Premium, depending on whether they held regular cards or gold cards. Service objectives would also be set for emergency calls, but since there was no way to know if an incoming call was

an emergency, this aspect of the problem was left out of the initial planning phase. (The option of offering a separate telephone number for emergencies was rejected as impractical.)

As part of its contract with ANI, Telemax had adjusted the service it provided depending on the season, the day of the week, and the time of day. Telemax has a large pool of operators, each of which can answer calls for several different clients. Different 800 numbers for different clients reach the same operator pool; as a call is routed to a particular operator, a message appears on the operator's screen, such as *Good Morning, ANI Credit Card Services. How may I help you?* Upon answering the incoming call, the operator reads the message on the screen. By standardizing billing formats, Telemax was able to provide services for several different credit card issuers with the same operators. This also gave Telemax the flexibility to vary the number of operators serving each client.

As it moved out on its own, ANI would lose some of this flexibility. It would be harder to schedule different numbers of operators at different times. Seasonal variations would mean hiring seasonal employees.

For the initial planning phase, it was decided to concentrate on capacity planning for weekday peaks, outside of the vacation and holiday periods. Evening, weekend, and special season schedules would eventually be planned around a basic weekday schedule. Logs from Telemax showed that the peak sustained average call rate was 2.63 calls per minute.

At virtually all times, roughly 80% of calls were for Standard service, 20% for Premium service. To classify calls, three broad categories were adopted: Application/Non-Customer, Disputed Charge, and Miscellaneous Inquiry. The first category included all calls from individuals not currently holding an ANI credit card. Most, though not all of these were telephone applications or requests for application forms. This category covered roughly 10% of calls; its average call duration was 1.5 minutes. The second category included all customers calling to assert that a specific charge on their bill was not made by them. Fifty percent of calls fell in this category; its average call duration was 6 minutes. All other calls—including lost cards, lost bills, and balance inquiries—were put in the last category and gave an average call duration of 4 minutes. Within each category, the standard deviation of call duration was found to be close to the mean. This high degree of variability was attributed to network congestion in accessing the customer database and to the occasional need to contact a supervisor.

In developing service objectives, ANI and its consultant identified three key attributes: Average Delay, Immediate Pick-Up Rate, and Excessive Delay Rate. The Average Delay was the duration from the instant a call arrived to the instant it was answered by an operator. This measure did not reflect the delays of frustrated customers who hung up before their call was answered. It was hoped that delays would be sufficiently short that this effect would be negligible, though the issue clearly warranted further study.

The Immediate Pick-Up Rate was the fraction of calls that would arrive to find an idle operator and would thus be answered without delay. Customers were believed to resent any time spent on hold, so a high Immediate Pick-Up Rate was considered valuable in building good will, perhaps more important than the average wait. Conversely, occasional long delays were considered extremely harmful to good will: a single bad experience could mean the loss of a customer. The Excessive Delay Rate was the fraction of calls whose delay exceeded a nominal threshhold value. Initially, the threshhold was set at three minutes. Few

	Standard	Premium
Avg. Delay	1.5 min	0.25 min
IPU Rate	40%	90%
ED Rate	15%	1%

Table 1: Initial service objectives for Standard and Premium customers

customers should ever have to wait more than three minutes for an operator. Objectives for the three service criteria were tentatively set as indicated in Table 1.

Telecommunications Options

ANI had decided to locate its operator services in Columbus, Ohio, and had received a system proposal from TesLink, a regional business communications company. The TesLink proposal included several options. Under one option, switching of incoming calls would take place at a nearby TesLink office; this would reduce the number of phone lines required. Under a more expensive alternative, a switch would be installed at the ANI office, making it possible to connect an essentially unlimited number of operators, and to keep up to fifty calls on hold at any given time. This capacity was more than enough to meet ANI's current needs, but the internal switch would give ANI room to grow and would facilitate subsequent data communications links. ANI thus planned to elect the more expensive option.

Another decision concerned the handling of Standard and Premium customers. The most economical option pooled all operators and calls, using a single 800 number for all customers. But to be competitive, ANI believed it had to provide distinctive service for its gold card customers, so this option was rejected. A second option routed all customers to an electronic message asking them to press "0" or "1" to indicate if they were regular or gold card customers. The call would then be routed accordingly. This had obvious enforcement problems: Should a Premium operator refuse to handle a call from a regular-card customer? What if the caller had simply made a mistake? In addition, not all callers used touchtone phones, and recorded messages were not considered conducive to building good will.

The only viable option, then, was to use separate telephone numbers for the two classes of customers: 1-800-ANI-CARD and 1-800-ANI-GOLD. Standard customers calling the second number could reasonably be instructed to call the first, making it possible to reserve operators for Premium customers. This complicated the capacity planning problem since now two capacities needed to be set, the number of operators of each type.

The TesLink proposal included a further option that would maximize the level of service for Premium customers at any given operator capacity. The option was called Dynamic Routing and the idea was this: If separate pools of operators were reserved for each class of customer, then it was just possible that occasionally the Premium pool would be busier than the Standard pool. In such circumstances it would be better to route a Premium call to the Standard pool than to the Premium pool. A message on the operator's computer screen could easily alert the Standard operator that the incoming call was actually from a Premium customer.

Dynamic Routing implemented this redirection. At each incoming call on the GOLD

line, the TesLink switch would compute the following index for the two operator pools:

$$\frac{\text{no. calls in process or on hold}}{\text{no. operators in pool}}.$$

The call would then be routed to the pool with the smaller index. If the two pools were sensibly sized, then the index would usually be smaller for the Premium pool. But in the event of a burst of Premium callers, a high level of service could be maintained by redirecting overflow to the Standard operators.

Dynamic Routing was a new feature in the TesLink switch and the TesLink engineers could not say conclusively what improvement it would bring. ANI could use the service for free for the first six months of operations and then decide whether to purchase it.

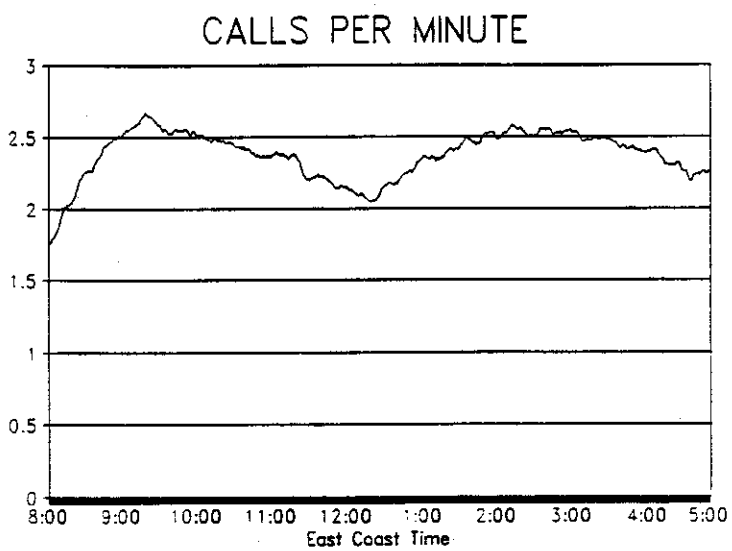


Figure 1