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R&D Comes to Services: Bank of America’s Pathbreaking Experiment

by Stefan Thomke

New sections to guide you through the article:

- The Idea in Brief
- The Idea at Work
- Exploring Further...
BUSINESS faces a dilemma today: Though our economy depends increasingly on services, innovation processes remain oriented toward products. This isn’t surprising: How do you apply formal R&D to services—where real customers engage in real transactions in real time? And ensure that failed experiments don’t harm your customer relationships and brand? Impossible? No: One large service company—Bank of America—runs formal experiments to create new service concepts for retail banking. Seeking to grow revenue and customer satisfaction, it turned several branches into “laboratories.” At these branches, Innovation & Development (I&D) team members conduct experiments with actual customers during regular business hours—pinpointing innovations for broader rollout.

The program has generated surges of fresh thinking, improved customer satisfaction, attracted new customers, and deepened the company’s understanding of service development. The payoff? A crucial edge over less adventurous competitors.

T O LAUNCH service-innovation experiments, consider Bank of America’s process:

1. Conceive, assess, and prioritize experiment suggestions.

**EXAMPLE:**
Drawing on customer-satisfaction studies and other market research, I&D and branch staff submitted experiment ideas, then prioritized them based on impact on customers and fit with the bank’s strategy and funding requirements. Of 200 ideas, 40 became formal experiments—e.g., testing whether TV monitors reduced teller customers’ perceived wait time.

2. Plan and design. Flesh out selected ideas. Resolve experiment problems without customers before testing in a live environment.

**EXAMPLE:**
The I&D team created a prototype branch where members could rehearse the physical steps involved in an experiment—and correct problems—before implementing the service idea with customers.

3. Implement. Maximize learning by conducting experiments in ways that ensure results’ reliability and accuracy.

**EXAMPLE:**
To temper the effect of noise (variables other than those being tested), the I&D team repeated the same experiment in the same branch and in different branches, and also established a control branch for each experiment. For instance, to test new account-transfer software, it installed the technology at one center but not at another, similar center.

4. Test. We learn best by receiving immediate feedback on our actions’ results. But assessing results’ accuracy takes time. Balance speed with reliability in providing feedback.

**EXAMPLE:**
The I&D team ran each experiment for 90 days before adjusting or discontinuing it based on results. Members believed three months provided enough time to gain reliable measures without unduly delaying modifications. They also made exceptions, revamping one mortgage-loan experiment after 30 days because getting credit approvals was taking too long.

5. Recommend. Decide if experiments warrant broader rollout.

**EXAMPLE:**
Analyzing performance data from test locations and control branches, the bank determined which experiments had enhanced customer satisfaction, revenue generation, and productivity. Then it performed cost-benefit analyses to ascertain whether the performance gain outweighed the expense required to introduce the new process nationally. Of 40 experiments, 20 were recommended for rollout.
R&D Comes to Services

Bank of America’s Pathbreaking Experiments

Service companies have long suffered from haphazard approaches to innovation.
But a leading bank is proving that service development can be as rigorous as product development.

by Stefan Thomke

At the heart of business today lies a dilemma: Our economy is increasingly dependent on services, yet our innovation processes remain oriented toward products. We have well-tested, scientific methods for developing and refining manufactured goods—methods that date back to the industrial laboratories of Thomas Edison—but many of them don't seem applicable to the world of services. Companies looking for breakthroughs in service development tend to fall back on informal and largely haphazard efforts, from brainstorming to trial and error, to innovation teams. Such programs can produce occasional successes, but they offer little opportunity for the kind of systematic learning required to strengthen the consistency and productivity of service development—and innovation in general—over time.

The challenges in applying the discipline of formal R&D processes to services are readily apparent. Because a service is intangible, often existing only in the moment of its delivery to a customer, it is difficult to isolate in a traditional laboratory. And since many services are tailored to individual buyers at the point of purchase, they can't be tested through large samples. As a result, experiments with new services are most useful when they are conducted live—with real customers engaged in real transactions. Live tests magnify the cost of failure, however; an experiment that doesn't work may harm customer relationships and even the brand. Live experiments are also harder to execute and measure. Once you leave a laboratory and enter the hurly-burly of a commercial setting, the whole notion of experimental controls has to be...
The noise can drown out the signal, making it hard to determine whether the variable you’re testing for is the one that actually causes the effect you observe.

Given such challenges, it’s no surprise that most service companies have not established rigorous, ongoing R&D processes. But now there is an important exception to that rule. Over the past three years, Bank of America has been running a series of formal experiments aimed at creating new service concepts for retail banking. The company has turned a set of its branches into, in effect, a laboratory where a corporate research team conducts service experiments with actual customers during regular business hours, measures results precisely and compares them with those of control branches, and pinpoints attractive innovations for broader rollout.

Bank of America’s program is a work in progress—it is in itself an experiment. Refinements have been made at every stage of its development. Some of its elements have proved successful; some haven’t. But through its successes and its failures, the effort has revealed an enormous amount about what a true R&D operation might look like inside a service business.

### The Growth Challenge

The end of the twentieth century was a time of rapid consolidation in the U.S. banking industry, and Bank of America was an eager participant. Through a three-decade M&A effort, culminating in a $60 billion merger with NationsBank in 1998, the bank transformed itself from a regional West Coast operation into one of the country’s largest national banks, operating some 4,500 banking centers in 21 states and serving approximately 27 million households and 2 million businesses. But as the twenty-first century dawned, Bank of America, like other large U.S. banks, faced a new challenge: With the opportunities and its failures, the effort has revealed an enormous amount about what a true R&D operation might look like inside a service business.

The I&D Team quickly realized that it would be very difficult to conduct a diverse array of experiments within the confines of a traditionally designed bank branch. Experiments require frequent changes in practices and processes, which neither the branch employees nor the bank’s relationships techniques that would strengthen the bank’s relationships with branch customers while also achieving a high degree of efficiency in transactions. Recognizing that service innovations should be tested in the field, I&D Team members, together with senior executives, decided to take an unprecedented step in the conservative banking industry: They would create an “innovation market” within the bank’s existing network—a set of branches that would provide, as bank executive and I&D Team leader Amy Brady put it, “a test bed for creative ideas to increase customer satisfaction and grow revenues.” The test market, the team realized, would have to be large enough to support a wide range of experiments but small enough to limit the risks to the business.

The bank settled on Atlanta as the site for its innovation market. Atlanta represented a stable region for the bank—its last major acquisition in the area occurred in 1996—and it was near the national headquarters in Charlotte, North Carolina. The Atlanta branches were also technologically advanced, even equipped with broadband communication lines. Twenty of Bank of America’s 200 branches in Atlanta were initially dedicated to the innovation market, most in wealthier neighborhoods with sophisticated banking customers interested in a wide range of services. (Five more branches were later added to the project.) The managers of each of these branches agreed to work closely with the I&D Team in carrying out the research effort, and they also agreed to provide much of the required funding out of their own budgets in order to get the early benefits of the resulting innovations. Integrating the program into normal operations at the branches was a risky step—experiments, after all, necessarily carry the potential for disruption—but the team saw it as essential. Only by carrying out experiments under realistic conditions—organizationally, operationally, and economically—could the I&D Team ensure the reliability of the results.

### Designing Experiments

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Bank of America created a rigorous five-stage process for conceiving and executing innovation experiments (shown below). Each stage of the process had carefully delineated steps, desired outcomes, success factors, and measures of performance. For a detailed discussion of the process, see "Bank of America (A) and (B)," HBS cases 9-603-022 and 9-603-023.

| 1. Evaluate Ideas | Desired Outcome | Generate innovative ideas from internal and external sources. |
| Assign and Scope | Successful integration of ideas. | Awareness and commitment by bank personnel and management. |
| Complete Design | No overload of experiments at test branches. | Cycle time (by category of experiment). Quality of the experiment’s design. |
| Build Rollout Plan | Successfully implement ideas. | Minimal planning time. Timing and quality of design. |
| Conceive Ideas | Implement Idea | | |
| Assess Ideas | Manage the Market | | |
| Prioritize Ideas | Monitor Performance | | |
| 3. Implement | Review and Approve Recommendation | | |
| Develop Test Plan | Report Results | | |
| Implement Idea | Improve Process | | |
| Prioritize Ideas | Complete Recommendation | | |
| 4. Test | Communicate Recommendation | | |
| Desired Outcome | Objectives | Generate innovative ideas from internal and external sources. |
| Success Factors | Objectives | Successfully implement ideas. |
| Key Measures | Objectives | Create a stable operating environment for testing new concepts and ideas. |
| | | | |
| 5. Recommend | | | |
| Review and Approve Recommendation | | | |
| Communicate Recommendation | | | |
| | | | |
physical facilities were prepared for. So the team decided to reconfigure the 20 Atlanta branches into three alternative models: Five branches were redesigned as “express centers,” efficient, modernistic buildings where consumers could quickly perform routine transactions such as deposits and withdrawals. Five were turned into “financial centers,” spacious, relaxed outlets where customers would have access to the trained staff and advanced technologies required for sophisticated services such as stock trading and portfolio management. The remaining ten branches were configured as “traditional centers,” familiar-looking branches that provided conventional banking services, though often supported by new technologies and redesigned processes.

The group unveiled its first redesigned branch – a financial center – in the posh Buckhead section of Atlanta in the fall of 2000. A customer entering the new center was immediately greeted at the door by a host – an idea borrowed from Wal-Mart and other retail stores. At free-standing kiosks, associates stood ready to help the customer open accounts, set up loans, retrieve copies of old checks, or even buy and sell stocks and mutual funds. An “investment bar” offered personal computers where the customer could do her banking, check her investment portfolio, or just surf the Internet. There were comfortable couches, where she could relax, sip free coffee, and read financial magazines and other investment literature. And if she had to wait for a teller, she could pass the few minutes in line watching television news monitors or electronic stock tickers. What that customer probably wouldn’t have realized was that all of these new services were actually discrete experiments, and her reactions to them were being carefully monitored and measured.

To select and execute the experiments in the test branches, the I&D Team followed a detailed five-step process, as illustrated in the exhibit “A Process for Service Innovation.” The critical first step was coming up with ideas for possible experiments and then assessing and prioritizing them. Ideas were submitted by team members and by branch staff and were often inspired by reviews of past customer-satisfaction studies and other market research. Every potential experiment was entered into an “idea portfolio,” a spreadsheet that described the experiment, the process or problem it addressed, the customer segments it targeted, and its status. The team categorized each experiment as a high, medium, or low priority, based primarily on its projected impact on customers but also taking into account its fit with the bank’s strategy and goals and its funding requirements. In some cases, focus groups were conducted to provide a rough sense of an idea’s likely effect on customers. By May 2002, more than 200 new ideas had been generated, and 40 of them had been launched as formal experiments.

Once an idea was given a green light, the actual experiment had to be designed. The I&D Team wanted to perform as many tests as possible, so it strove to plan each experiment quickly. To aid in this effort, the group created a prototype branch in the bank’s Charlotte headquarters where team members could rehearse the steps involved in an experiment and work out any process problems before going live with customers. The team would, for example, time each activity required in processing a particular transaction. When an experiment required the involvement of a specialist – a mortgage underwriter, say – the team would enlist an actual specialist from the bank’s staff and have him or her perform the required task. By the time an experiment was rolled out in one of the Atlanta branches, most of the kinks had been worked out. The use of the prototype center reflects an important tenet of service experiments: Design and production problems should be worked out off-line, in a lab setting without customers, before the service delivery is tested in a live environment.

Going Live
An experiment is only as good as the learning it produces. Through hundreds of years of experience in the sciences, and decades in commercial product development, researchers have discovered a lot about how to design experiments to maximize learning. We know, for example, that an effective experiment has to isolate the particular factors being investigated; that it must faithfully replicate the real-world situation it’s testing; that it has to be conducted efficiently, at a reasonable cost; and that its results have to be accurately measured and used, in turn, to refine its design. (An overview of the qualities of good experiments is provided in the sidebar “Learning Through Experiments.”) These are always complex challenges, and, as Bank of America found out, many of them become further complicated when experiments are moved out of a laboratory and into a bank branch filled with real employees serving real customers in real time. To its credit, the I&D Team thought carefully about ways to increase the learning produced by its experiments, with a particular focus on enhancing the reliability of the tests’ results and the accuracy of their measurement. As Milton Jones, one of the bank’s group presidents, constantly reminded the team: “At the end of the day, the most critical
Learning Through Experiments

The objective of all experiments is to learn what does and does not work. Experiments should be designed not so much to maximize their odds of success but to maximize the information and insights they produce. The rate at which companies can learn by experimentation will depend on many factors, some of which will be unique to a given company. But there are seven factors that tend to be common to all experiments.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Fidelity</td>
<td>The degree to which a model and its testing conditions represent a final product, process, or service under conditions of actual use.</td>
</tr>
<tr>
<td>Cost</td>
<td>The total cost of designing, building, running, and analyzing an experiment, including expenses for prototypes, laboratory use, and so on.</td>
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<tr>
<td>Iteration time</td>
<td>The time from the initial planning of an experiment to when the analyzed results are available and used for planning another iteration.</td>
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<tr>
<td>Capacity</td>
<td>The number of experiments that can be carried out with some fidelity during a given time period.</td>
</tr>
<tr>
<td>Sequence</td>
<td>The extent to which experiments are run in parallel or series.</td>
</tr>
<tr>
<td>Signal-to-noise ratio</td>
<td>The extent to which the variable of interest is obscured by other variables.</td>
</tr>
<tr>
<td>Type</td>
<td>The degree to which a variable is manipulated, from incremental change to radical change.</td>
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aspect of experimentation and learning is measurement. Measurements will defend you if done right; otherwise they will inhibit you.”

Minimizing the Effect of Noise. Experiments can be distorted when “noise” – variables other than the one being tested – influences results in ways that can’t be controlled or measured. Managing noise is a particular challenge in service experiments conducted in business settings. At the bank branches, for example, extraneous factors like seasonal fluctuations in demand, changing market conditions, staff turnover, or even bad weather could alter customers’ perceptions and behavior, distorting the results of the tests. To temper the effects of noise, the I&D Team made heavy use of two techniques, repetition of trials and experimental controls. Repeating the same experiment in the same branch served to average out noise effects, and repeating the same experiment in different branches helped the team determine which factors were unique to a given branch. Setting up a control branch for each experiment – one with similar characteristics and customer demographics to the branch actually conducting the experiment – enabled the team to further isolate the variable being tested. If the team members wanted to test, say, a new piece of software for making transfers between accounts, they would install the software on the terminals at one express center but not on the terminals at another, similar express center. In this way, any differences in customers’ performance in carrying out a transfer at the two branches could be attributed to the change in the software. The team was able to draw control branches not only from the three different types of branches in the innovation market but also from other branches in Atlanta and in nearby regions.

Achieving High Fidelity. In the development of products, experiments are often, for cost or feasibility reasons, conducted with models or prototypes. This always raises a question of fidelity – How reliable is the model in representing the real world? That question becomes, in some ways, less of a concern in service experiments like Bank of America’s. While real-world testing has the drawback of amplifying noise, it has the advantage of increasing fidelity. But the bank did have to grapple with the cost issue. Achieving high fidelity required substantial investment – in bank remodeling, personnel training, technology, and the like. By requiring that the experiments be funded out of the branches’ operating budgets, the bank imposed fiscal discipline on the program: Branch management would naturally demand that experiments have a high likelihood of providing attractive returns. To attain high fidelity, the bank also had to deal with the so-called Hawthorne effect. A well-documented phenomenon, the Hawthorne effect refers to the way that people who know they are under observation – such as those participating in an experiment – tend to change their behavior and thus distort the results. The I&D Team was aware that such distortion was possible – given the direct and indirect pressure on branch staff to perform well in the experiments – and that it could damage the fidelity of the experiments. Here, too, the careful use of controls helped. By comparing the results of experiments susceptible to the Hawthorne effect to the results achieved by control
branches within the innovation market, the team was able to filter out some of the effect. The team also instituted “washout periods.” Measurements of an experiment’s results did not begin until a week or two after its start, allowing time for any novelty effects to wear off among the staff.

Attaining Rapid Feedback. People learn best when they receive immediate feedback on the results of their actions. (Imagine how hard it would be to learn to play the piano if there were a long delay between striking a key and hearing the note.) But, in many circumstances, it takes time to ensure that results are accurate—giving misleading feedback is even worse than giving no feedback. Finding the right balance between speed and reliability in providing feedback is crucial to effective experimentation. The I&D Team specified that every experiment would run for 90 days (not including the washout period) before it could be adjusted or discontinued based on the results generated. The team believed that three months would provide enough time to gain reliable measures without unduly delaying modifications. In practice, there were some exceptions to this rule. The team revamped, for example, a mortgage loan experiment after just 30 days, primarily because it became clear that it was taking much too long to get credit approvals. The quick revision of this experiment paid off by leading to the launch of a successful new mortgage program.

Once an experiment was completed and measured, a decision had to be made about whether it was a success and warranted a broader rollout. This required a straight-

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In the Transaction Zone

The transaction zone media (TZM) experiment provides a useful example of how Bank of America’s innovation process works. The experiment had its origins in an earlier study in which market researchers “intercepted” some 1,000 customers standing in bank lines and asked them a series of questions. The study revealed that after a person stands in line for about three minutes, a wide gap opens between actual and perceived wait times. A two-minute wait, for example, usually feels like a two-minute wait, but a five-minute wait may feel like a ten-minute wait. Two subsequent focus groups with sales associates and a formal analysis by the Gallup organization provided further corroboration of this effect. When the I&D Team reviewed the data, they realized there might be opportunities to reduce perceived wait times without reducing actual wait times. Psychological studies have revealed, after all, that if you distract a person from a boring chore, time seems to pass much faster. So the team came up with a hypothesis to test: If you entertain people in line by putting television monitors in the “transaction zone”—above the row of tellers in a branch lobby—you will reduce perceived wait times by at least 15%.

Because long waits have a direct impact on customer satisfaction, the team gave the transaction zone media experiment a high priority. In the summer of 2001, the bank installed monitors set to the Atlanta-based news station CNN over the teller booths in one traditional center. Another traditional center serving a similar clientele was used as a control branch. After a week’s washout period, the team began to carefully measure actual and perceived wait times at the two branches. The results were significant, as shown in the chart “Actual Versus Perceived Waiting Time.”

The degree of overestimation of wait times dropped from 32% to 15% at the test branch. During the same period, the control branch actually saw an increase in overestimated wait times, from 15% to 26%.

Although these were encouraging results, the team still had to prove to senior management that the installation of television monitors would ultimately boost the bank’s bottom line. The team knew, from prior studies, that improvements in the bank’s customer-satisfaction index (based on a standard 30-question survey) correlated with increases in future sales. Every one-point improvement in the index added $1.40 in annual revenue per household, mainly through increased customer purchases and retention. So a branch with a customer base of 10,000 households would increase its annual revenues by $28,000 if the index increased by just two points.

The team carried out a statistical analysis of the test branch’s results and projected that the reductions in perceived wait times would translate into a 5.9-point increase in overall banking-center customer satisfaction.

While the benefits were substantial, the team had to consider whether they outweighed the costs of buying and installing the monitors. The team determined that it would cost some $22,000 to upgrade a branch in the Atlanta innovation market but that, for a national rollout, economies of scale would bring the per-branch cost down to about $10,000 per site. Any branch with more than a few thousand households in its customer base would therefore be able to recoup the up-front cost in less than a year. Encouraged by the program’s apparent economic viability, the team recently launched a second phase of the TZM experiment, in which it is measuring the impact of more varied television programming, different sound levels, and even advertising.
forward, two-part analysis. First, performance data from the test locations and the control branches were analyzed to determine whether the experiment had enhanced customer satisfaction, revenue generation, productivity, or any other relevant measure of performance. Second, a cost-benefit analysis was carried out to ascertain whether the performance gain outweighed the expense required to introduce the new process or technology throughout the broader branch network. To date, the program has posted strong results: Of the 40 experiments conducted as of May 2002, 36 were deemed successes, and 20 had been recommended for national rollout. But, as we’ll soon see, this high success rate posed its own challenges for the I&D Team. (For a detailed discussion of one of the bank’s successful experiments, see the sidebar “In the Transaction Zone.”)

Rewards and Challenges
Bank of America has reaped important rewards from its experiments. The initiative has generated an unprecedented surge of creative thinking about branch banking, as manifested not only in the dozens of innovative proposals for service experiments but in the establishment of the three very different models of physical branches. Within the innovation market, customer satisfaction has improved substantially, and the experimental branches have attracted many new customers, some of whom travel considerable distances to do their banking at the new centers. More broadly, many of the experimental processes and technologies are now being adopted throughout the bank’s national branch network, with promising results.

Actual Versus Perceived Waiting Time
Bank of America’s I&D Team asked customers who had waited in line more than five minutes: How long have you been waiting?

**Experimental Site**
Before the implementation of Bank of America’s transaction zone media experiment, customers who waited longer than five minutes significantly overestimated their waiting time (32%). But after the installation of TV monitors in the bank lobby, overestimates for the same customer group dropped to 15%.

**Control Branch**
In this same testing period, no intervention was carried out at the control branch, which had demographics very similar to those of the experimental site. Overestimates at this site actually increased from 15% to 26%.
As important as the business benefits is the enormous amount of learning that the bank has gained. Carrying out experiments in a service setting poses many difficult problems. In grappling with the challenges, the bank has deepened its understanding of the unique dynamics of service innovation. It may not have solved all the problems, but it has gained valuable insights into the process of service development—insights that will likely provide Bank of America with an important edge over its less adventurous competitors.

Let’s look more closely at some of the toughest challenges the bank has faced. First of all, carrying out experiments in a live setting inevitably entails disruptions. Customers may at times be confused by unfamiliar processes, and employees may be distracted as they learn new ways to work. During the early months of the Bank of America program, for example, the I&D Team found that tellers and other staff members had to spend between 30% and 50% of their time in meetings and training sessions related to the experiments. Branches often had to bring in temporary workers to take up the slack, a practice that sometimes introduced problems of its own. Although employees spent less time in training and meetings as they became used to the program, they continued to feel added time pressure throughout the experiments. Any company pursuing a similar experimentation initiative will need to plan staffing requirements and work schedules carefully.

In addition to the new demands on their time, Bank of America employees also faced different and sometimes conflicting incentives, which raised some hard questions about compensation. Sales associates at the branches traditionally earned between 30% and 50% of their total pay from performance bonuses tied to a point system. An associate would earn points for meeting various sales quotas, and the number of points would vary according to, among other things, the products sold, the branch’s customer-satisfaction levels, and local market demographics.

For the first several months of the I&D program, the test branches maintained the conventional incentive scheme. At first, sales associates seemed to relish the additional activities—the involvement in the program made them feel “special” (as a number of them put it), and they made extra efforts to get the experiments up and running. But the time pressures inevitably took their toll on the associates. They soon realized that all the time they had to dedicate to meetings and training reduced their opportunities to earn bonus points. In a number of branches, moreover, associates had to take turns greeting customers as the host—an activity that, again, offered no chances to earn points. Because their monthly sales quotas hadn’t changed, some associates became frustrated with the new arrangement. When acting as the host, for example, some associates would leave their post to help a client open an account (and to gain the associated bonus points) rather than refer the client to another specialist as the experiment’s design dictated. The desire to earn points conflicted with the desire to participate in the experiments.

To address this unanticipated effect of the program, senior management abandoned the traditional bonus system in the test branches in January 2001, switching all associates to fixed incentives based on team performance. Most associates welcomed the change, which amplified their feeling of being special while also under-scoring top management’s commitment to the experimentation process. But, again, not all staff members thrived under the new scheme. Without the lure of points, some associates lost their motivation to sell. Resentment from bank personnel outside the innovation market also intensified as a result of the special compensation program. One bank executive pointed out that “those in the I&D branches now thought they didn’t have to chin to the same level as others.” Doubts about the broader applicability of test-market findings also grew. As Allen Jones, a regional executive, said, “If a test is successful only under fixed-incentive schemes, then we can’t roll it out elsewhere.”

In response to the problems, senior management switched the staff back to the old point-based incentive system after just six months. Not surprisingly, tensions between earning bonus points and assisting in experiments quickly returned. Further, the about-face disheartened some staffers, leading them to question management’s commitment to the program. The bank’s difficulties over determining incentive pay underscore the problems inherent in having employees participate in a corporate innovation initiative while also pursuing their everyday jobs: This is an unavoidable consequence of real-time experimentation. In the long run, the best solution will likely turn out to be a hybrid bonus system, one that includes both individual sales commissions and a fixed, team-based component. But every company will have to go through its own testing period to arrive at the balance that is right for its people and that doesn’t undermine the fidelity of its experiments. It’s important to note, also, that staff turnover in the test branches dropped considerably during the program. The difficulties employees faced paled in comparison to the enthusiasm they felt about participating in the effort.

Another challenge Bank of America struggled with was managing its capacity for experimentation. Any labora-
tory has limits to the number of experiments it can carry out at any time, and if that capacity isn’t carefully planned for, feedback slows and learning diminishes. The bank had to manage capacity both in individual branches – one branch sometimes had as many as 15 active experiments – and across all the branches undertaking experiments. If the capacity of the entire market was not well managed, too many experiments would have to be performed at a single branch, increasing the amount of noise surrounding each one. And if the team were to run out of capacity, it would be forced to do tests sequentially rather than simultaneously, which would delay the process.

Conducting the experiments in a commercial setting added another wrinkle to capacity management. If customers loved a new service, branch managers would naturally demand that it be continued beyond the 90-day trial period. This being the real world, after all, the branches could not simply pull the plug on something customers had grown to relish. But that made it more difficult to start new experiments – the noise from the continuing experiments would begin to obscure the results of the new ones. Scott Arcure, who led the I&D Team’s measurement efforts, admitted, “We often worry about changing too many chemicals in the mix and wonder about which one made it explode. As bankers, we’re not experts at this type of measurement.” The team ultimately decided to bring in a statistics expert to help it sort out the effects of multiple variables.

Finally, there was the issue of failure. In any program of experimentation, the greatest learning comes from the most radical experiments – which also have the highest likelihood of failure. In a laboratory, radical experiments are routinely undertaken with the expectation that they’ll fail but still produce extraordinarily valuable insights, often opening up entirely new frontiers for investigation. In the real world, however, there are inevitably pressures to avoid failures, particularly dramatic ones. First, there’s the fear you’ll alienate customers. Second, there’s the fear you’ll damage the bottom line, or at least shrink your own source of funding. Finally, there’s the fear you’ll alienate top managers, leading them to pull the plug on your program. The I&D Team felt all these pressures. Although it knew the value of radical experiments, it also knew that extravagant failures in a live setting could put its entire effort at risk. As a result, the team tended to take an incrementalist approach, often pursuing experiments that simply validated ideas that were likely to succeed. Although the team’s original plan called for a 30% failure rate, the actual rate in the first year was just 10%. The team turned out to be much less adventurous than it had hoped to be. As Warren Butler, a bank executive and team leader, explained, “We’re trying to sell ourselves to the bank. If we have too many failures, we just won’t be accepted. Currently, we may have failure within concepts, but not failure of the concepts.” In the tradition-bound and risk-averse world of banking, it’s no surprise that the team would end up erring on the side of caution. And the conservatism of some of the experiments should not obscure the radical nature of the overall program. Any service company designing an experimentation program will have to carefully weigh the risks involved against the learning that may be generated.

For hundreds, if not thousands, of years, systematic experimentation has been at the heart of all innovation. Advances in products, the tools that make them, and the value they create for both producers and consumers have emerged through carefully designed and executed experiments. Similar advances in services have lagged because, as we have seen, experimentation in a live setting entails particular challenges. But however daunting they may initially seem, the challenges can be met, as Bank of America’s effort suggests. In just a few years, the bank has achieved important benefits that are having a real impact on its business and its future. By applying the lessons from the bank’s experience to their own businesses, other service companies will be able to make the transition from haphazard to systematic approaches to innovation – from guesswork to true R&D.
ARTICLES


This article focuses on customer perceptions of service quality—a variable that Bank of America tested in some of its experiments. The authors maintain that top-notch service won’t win your customers’ loyalty unless they perceive your offering as high quality.

Consider the following influences on customer perceptions while designing your service experiments: Sequence—people prefer service encounters that improve quickly over time. Duration—people don’t notice time’s passing when they’re mentally engaged or the encounter unfolds in segments. Rationalization—people seek a single cause of bad experiences, believe problems stem from deviations from rituals, and blame individuals unless they feel empowered.

Given these human tendencies, the authors provide suggestions for managing service encounters. For example, last impressions endure longest in customers’ minds—so ensure each encounter ends on a positive note. Get unpleasant experiences (bad news, waiting) over with early. And give customers choices—they’ll feel happier and more comfortable if they believe they have control over an uncomfortable process.


Though applying specific product-development processes to service development is difficult, both forms of innovation can benefit from disciplined, systematic experimentation. In this article, Thomke describes several product-development principles that echo those that Bank of America used in designing its service-innovation experiments.

These principles include: Conduct experiments quickly, to generate the rapid feedback you need to shape ideas. And invite failure rather than stigmatizing it. Early failure can expose important gaps in expertise and knowledge, helping you eliminate unfavorable options and focus on more promising alternatives. (But don’t confuse failure with mistakes—such as badly conducted experiments or repetitions of prior failures.) Finally, exploit early information. When projects fail late in the game, costs (in time and money) mount. Early use of new processes lets you spot and solve problems upstream. Moreover, early, inexpensive experimentation keeps you current with changing customer preferences. You can make changes quickly and easily—avoiding that all-too-typical customer reaction to a finished offering: “That’s exactly what I asked you to develop, but it’s not what I want.”

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