



## **Case Study**

### **Business Process Discovery with *Comprehend***

### **Financial Services Sector**

OpenConnect Systems Incorporated  
2711 LBJ Freeway Suite 700  
Dallas, Texas 75234  
Phone: 972-484-5200  
FAX: 972-484-6100  
<http://www.oc.com>

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## **1. Summary**

This case study describes an OpenConnect business process improvement engagement that was executed at a world leading financial services institution. The engagement was with their retail banking division, which was seeking targeted initiatives to reduce costs and improve customer satisfaction within call center, back office and self-service operations. The bank has over 600 individual processes and over 5,000 employees involved in these specific areas.

OpenConnect's business process intelligence and analytics solution, *Comprehend*, found business process improvement opportunities with an improvement value of more than \$9MM per year during an initial (one-month) proof of value engagement by analyzing core processes across back office and call center operations. Over a three year rollout the projected yield at net, is \$52MM in benefits.

## **2. Goals**

The goal of the effort was to identify ways to reduce costs, and increase revenue across the retail operations. Costs were driven based on resource requirements to provide the retail services across both front office (call center) and back office processing. Cost reduction could come from one of two areas: improve the speed (productivity) of service; or improve the quality of service, and thus reduce failure demand. Revenue increases are driven directly through improvements in customer retention.

### **2.1. Speed**

Small improvements to the time taken to execute services, either in back-office processing or in the call center, produce large savings in staffing costs. As such, this organization had a large staff of trained business process improvement professionals that had executed many studies of the operations looking for improvements.

The challenge they faced, however, was that most of these studies required manual data collection. This created two issues: first, worker behavior changes under observation, and second, manual data collection is expensive.

### **2.2. Quality**

Quality in a retail service organization is difficult to precisely define, and for this organization, impossible to measure. Anecdotal evidence suggested that they were facing severe quality issues; however, they had no way to measure quality on a consistent basis.

### **2.3. Revenue (Customer Churn)**

Customer churn is always a top issue. There is always a large cost to customer acquisition, and the main revenue driver was the profit driven from each account. Tracking customer satisfaction through survey was the best proxy to predicting customer churn for this organization. However, examining customer churn, and trying to identify specific causes or leading indicators was extremely difficult on an ad-hoc manual analysis basis.

### 3. Approach

The approach taken was to start with a limited proof of value, a *discoverNow*. The goal of this proof of value was to prove that *Comprehend* could discover the root cause of business process inefficiencies and produce quantifiable benefits as a result of improving speed, quality or revenue.

The *discoverNow* engagement was embedded into a Business Process Improvement department of this bank responsible for the complete Retail Services Organization. Six processes were targeted for the *discoverNow*.

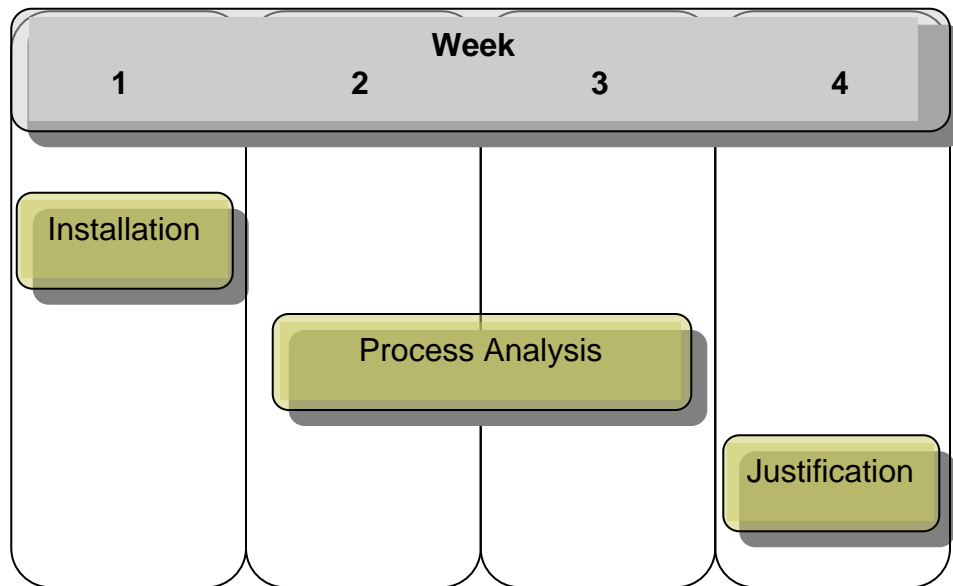
There was a dedicated project manager and analyst of the bank for the whole engagement. OpenConnect provided the following personnel:

- Project Manager
- *Comprehend* Technical Architect
- *Comprehend* Analyst

The bank provided business SME's for the Direct Banking and Back Office applications to support the daily analysis work of the whole project team.

#### 3.1. Project Methodology

The following simplified project plan was applied to the *discoverNow* engagement.



- **Week 1: Installation**
  - Installation of *Comprehend* software component
  - Definition of process metrics and analytics
  - Aggregation of collected session data and basic analytics
- **Week 2 + 3: Process Analysis**
  - Deep analytics on collected sessions
  - Meeting with Business SME's to verify analytics results
  - Document Process Improvement opportunities

- **Week 4: Justification**
  - Verification of Process Improvement opportunities with Business SME's
  - Evaluation of cost of Process Improvement with Business and IT areas
  - Creation of final results document and business case
  - Final results presentation to Executive Management

### **3.2. Analysis Approach**

During the *discoverNow* engagement, *Comprehend* collected and analyzed user activity for one week. The following Analytics phase of this engagement was supported by daily meetings with Business SME's of these applications to verify and evaluate analytics results on a daily basis.

On a weekly basis the steering committee, including Process Owners and Business Sponsors of this engagement, reviewed and evaluated the analytics results.

The final presentation was prepared and conducted by the customer's project manager to ensure an objective presentation of the engagement results to the Executive Management.

### **3.3. Technical Environment**

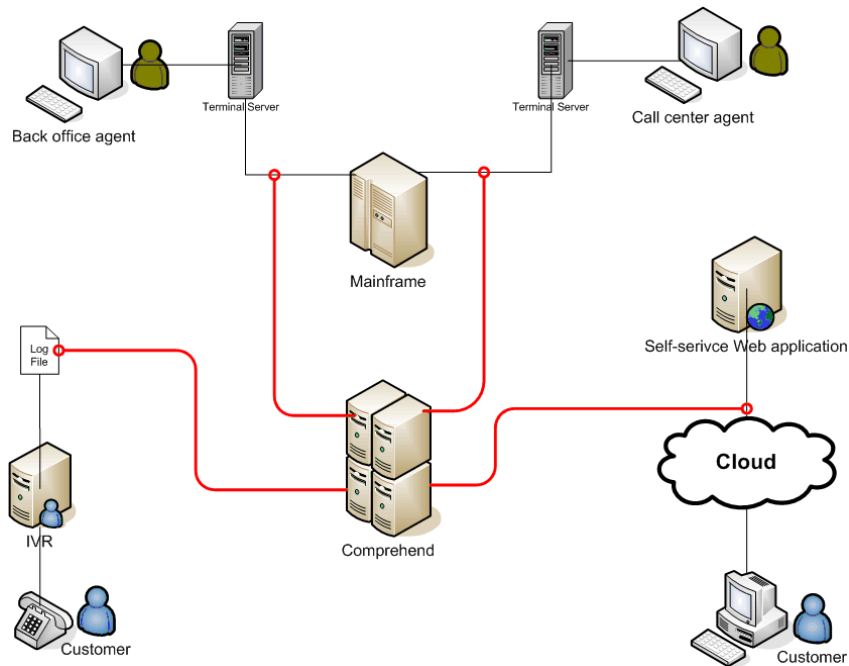
Installation of *Comprehend* consisted of configuring two span ports:

1. a span port on the TCP/IP connection to collect all TCP/IP traffic between the call center and back office processors and the servers used for the applications supporting their respective business processes
2. a span port to collect all HTTP traffic between the customer using the self-service web application and the web server.

*Comprehend* was installed on an appropriate set of hardware, and configured to pick up the network traffic from the span ports. Additionally, the log files created by the IVR system were imported into the Process Intelligence Cluster to enable analysis on customer behavior using the IVR system.

The entire installation and initial configuration took 4 hours.

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*Comprehend* Analytics Cluster was then used to configure the set of application screens used to support the ½ dozen processes both in back office and the call center. This configuration and validation for the processes took the rest of the first week.

The Process Intelligence Cluster was used to analyze the business processes to explore process variations. This analysis of the processes was an iterative analysis through the course of the second week.

## 4. Example Results

*Comprehend* Process Intelligence Cluster provides an interactive analytical workflow that allows for the discovery of root causes of process variations. Through the analysis of the ½ dozen processes, a set of specific issues were uncovered. *Comprehend* provided the insights into the issues and root causes, as well as the metrics quantifying the value of addressing each issue.

### 4.1. Speed

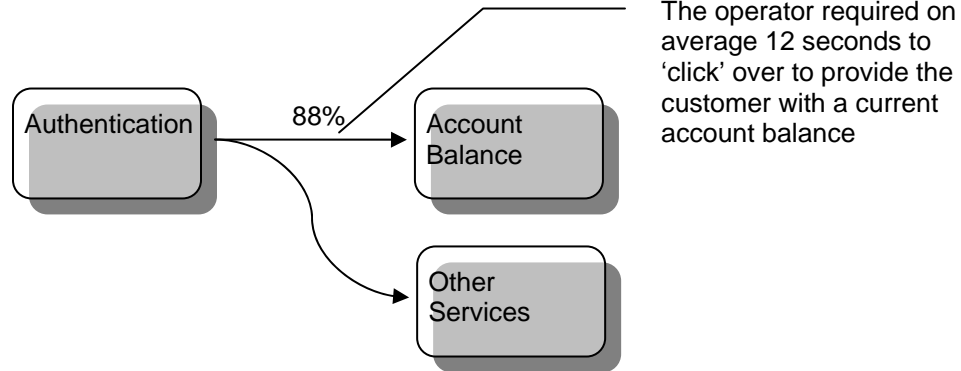
Speed improvements were specifically targeted at finding productivity improvements in the back office and call center operations. By examining the day to day processes of the agents in these environments, root causes that could lead to an average of a 20% improvement in productivity were discovered across the ½ dozen processes.

#### 4.1.1. Account Balance Link

Customer service agents were examined to understand a number of behavior patterns. A great deal of focus was placed on understanding the link between different service requests placed on the agents, including handoffs, process variations and typical call structures.

While the overall process of a call in general is structured solely based on the customers' requests, the process is always initiated with an authentication of the

customer. Upon examining the process, immediately an interesting finding was made: 88% of all customer calls proceeded directly from authentication to a current account balance. The call center system required several 'clicks' for the agent to pull up a current account balance for the customer which required on average 12 seconds.

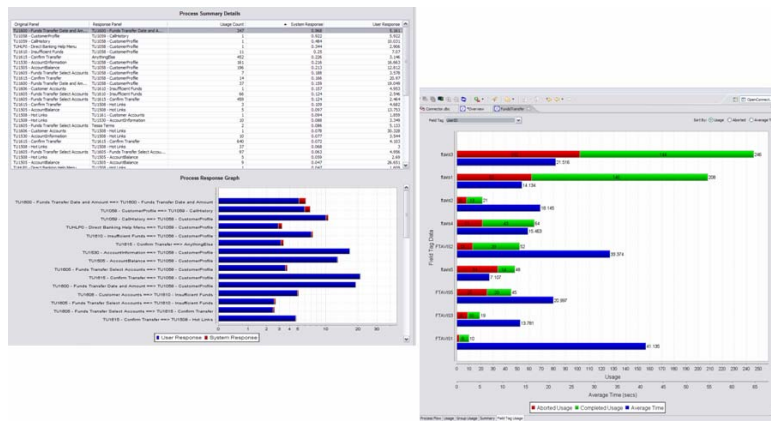


**Benefit**

Working with the application team supporting the call center application, a detailed ROI was constructed based on the costs (application change, agent re-training, etc.) as well as the opportunity (*Comprehend* provided data on the frequency, and time required). The result was a measurable improvement in call times by immediately providing account balance at the end of the authentication process. The result was an overall 8% decrease in call time, which provided significant staffing reductions in the call center.

**4.1.2. Agent Improvement**

*Comprehend* provided detailed by Agent by Service productivity data. This allowed for the analysis of Agent performance at a level of detail that was previously impossible. This analysis looked at the average time to process service requests by Agent. The results of this analysis found two immediate areas for improvement:



1. One set of agents had acceptable productivity on the majority of the services they provided, however, were found struggling on several services. For these agents, a targeted training program was put in place, where with the identification

through *Comprehend*, the agents were pulled out of the line, and provided a short targeted training session on the specific services of issue.

2. Another set of agents were found to have lower than acceptable productivity over the entire range of services offered. These agents were placed into a broader employee improvement program that included evaluation to overall fit with the job function.

Implementing the targeted agent improvement program resulted in an overall reduction in average call time of 10%, creating a significant reduction in agent staffing and resulting cost reduction.

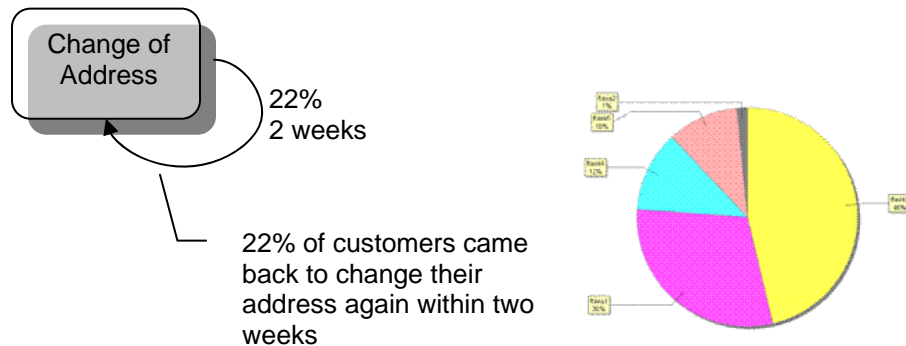
## 4.2. Quality

Quality was defined on a per-service basis, but generally represented the goal of first contact resolution. While conceptually simple, creating a metric for quality was beyond the capability for this client. For example, consider measuring first contact resolution of a change of address request. The request could be originated via a letter/fax sent into back office operations. However, the customer, seeing either no results or erroneous results, may subsequently repeat the attempt via any channel, back-office again or a self-service or call center channel.

### 4.2.1. Change of Address

The change of address service was offered via every channel, and the concern for quality was that the scenario where the customer perceived the service to have been rendered and over the course of time realizes that the address change was not performed correctly.

*Comprehend* captured every change of address event across all channels, and provided the analysis of those events where the same customer had executed a change of address request within two weeks.



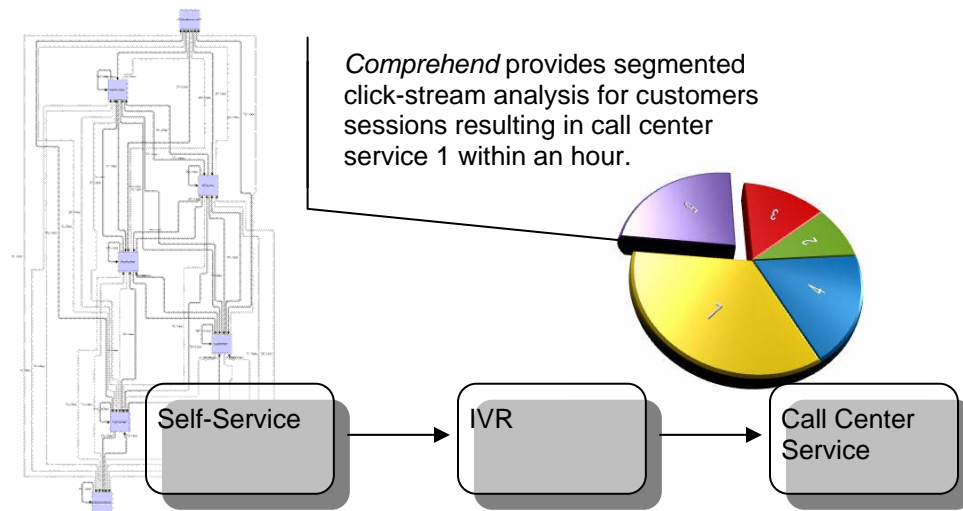
*Comprehend* indicated that first contact resolution for change of address was 78%, providing the metric for the first time. More importantly, *Comprehend* provided the analysis of the underlying events to gain insights into the root causes of the change of address failure. By examining the events related to the failed change of address requests it was discovered that 5-line addresses were disproportionately represented. Drilling deeper into the process, it was found entry of 5-line addresses into the underlying systems was a confusing, poorly documented activity.

By simply adding some better documentation to the systems and brief training to the operations staff, quality was improved over 10% resulting in a 6% reduction in change of address work, and a measurable improvement in customer satisfaction.

#### 4.2.2. Self-Service Site Improvement

With over one million unique customer logins to their self-service site a day, this organization knew through survey that 60% of their over 100,000 calls a day were from customers that were attempting self-service before their call. Having 60,000 customers a day failing on self-service was not only keeping customer service agents busy, but also impacting customer satisfaction. Surveys showed that every failure led to a 10% or better drop in customer satisfaction.

*Comprehend* connected the dots between the customers' web experience, the ensuing voice recognition session and call center service to provide invaluable insights into what the customers were really trying to accomplish on the self-service site. *Comprehend* provided the detail on the exact services that customers, who were just on the web, requested of the call center. This analysis provided them a segmented view of the web experience for just those customers that requested a specific service from the call center after being on the web. A detailed analysis of the click stream behavior of this segment revealed significant improvements to the online experience to improve the first contact resolution rate.



Within the first month of analysis, several significant challenge areas were identified, and improvements were designed and tested, resulting in a 5% reduction in the calls for those services originating from online customers.

### 4.3. Revenue

Revenue improvement was examined from two perspectives, first customer churn, and second cross-sell opportunities. Customer attrition reduction provides not only revenue increases (due to continued account profitability), but also cost savings when considering the cost of customer acquisition. Marketing additional account services through cross-sell opportunities provides an obvious revenue lift of additional services.

#### 4.3.1. Leading Indicator of Churn

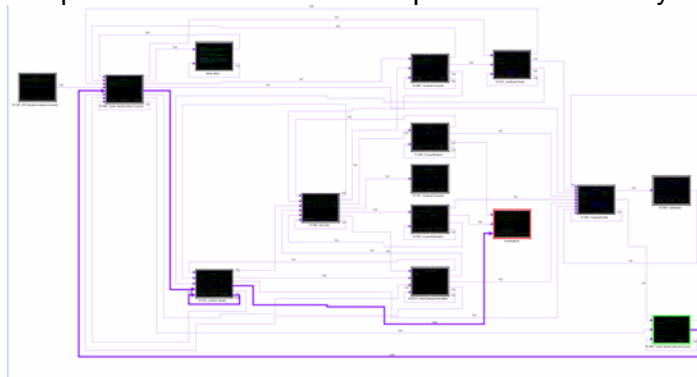
Through the course of the analysis, the effects of improved speed and quality were expected to have a measurable improvement in customer satisfaction, and thus a carry-on affect on customer churn. However, a more direct analysis of customer churn was also provided to discern patterns of customer behavior preceding the closing of the account.

*Comprehend* provided the ability to filter customer activity across channels to only look at the interactions of customers that had closed their accounts. By comparing process deviations between the closed account customers and the general population, interesting observations on precursors to account closing were discovered. For example, one such perhaps obvious observation was that customers that ran their account to a zero balance for a billing cycle tended to close their accounts when calling in subsequently. In this case, customers that met this condition were routed immediately to a customer retention specialist instead of the general agent pool.

The results of this analysis provided several observations that led to a measurable reduction in customer churn, resulting in a net 3% decrease in closed accounts.

#### 4.3.2. Cross-Sell

Agents were all trained and measured on cross-selling to appropriate target groups of callers. *Comprehend* provided the details on the process followed by successful agents.



Best practice was discerned from an analysis of the process details for the best performing agents. This, combined with the a training and improvement program for agents not following the best-practice policy, resulted in a measurable 4% improvement in cross-sell affectivity.

## 5. Justification and Rollout

With over 9,000 individual processes across the organization, the implementation of *Comprehend* followed a roll-out program. This roll-out program involved a series of

projects to leverage the technology against specific sets of processes based on an identification of which processes might leverage the best returns.

This provided a roll-out plan where there were immediate returns for the analysis of these processes, and an ongoing extension of the analysis into new process areas and a continued acceleration of the benefit as the scope of deployment grew.

### ***5.1. Extending the value proposition***

To justify the overall program, the results of this analysis in terms of quantified process improvements were used to compute an estimated average return based on an ongoing program of process analysis and improvement. Based on data on process volumes for the other processes in the organization, and a conservative estimate on average improvement based on the realized improvements from this exercise, a time-series of the value realization and process analysis effort was constructed.

This analysis provided the expected returns and costs associated with the overall program, and justified the expenses required to initiate the overall effort.