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CELENT MODEL BANK 2015

PART 4: CASE STUDIES OF LEGACY AND ECOSYSTEM
TRANSFORMATION IN BANKING

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CASE STUDIES IN LEGACY AND ECOSYSTEM TRANSFORMATION

DISCOVER FINANCIAL SERVICES: END-TO-END TRANSFORMATION

Discover Financial Services (NYSE: DFS) is a direct banking and payment services company with one of the most recognized brands in US financial services. Since its inception in 1986, the company has become one of the largest card issuers in the United States.

The company issues the Discover card, America's cash rewards pioneer, and offers private student loans, personal loans, home loans, checking and savings accounts, certificates of deposit, and money market accounts through its direct banking business. It operates the Discover Network, with millions of merchant and cash access locations; PULSE, one of the nation's leading ATM/debit networks; and Diners Club International, a global payments network with acceptance in more than 185 countries and territories.

Discover Financial Services (DFS) was founded as the retail financial services arm of Sears, the large diversified retail and financial services organization. Over the succeeding 30 years, DFS has grown to become the 33rd largest bank holding company in the United States, with total assets of \$80.6 billion (as of September 2014). This growth is a significant achievement in itself, considering that DFS operates a single branch in Delaware and instead relies completely on self-service and digital channels to service its existing customers and attract new clients.

Launched to allow Sears to expand its footprint into retail banking services, the Discover Card was issued by Greenwood Trust Company (GTC), a Delaware-chartered bank founded in 1911 and acquired by Sears in 1985. Over the past 30 years, DFS has been an innovator in creating customer-friendly services, including the first credit card offering cash back bonus rewards (initially 2% of all purchases, now up to 5%) and a merchant fee schedule significantly lower than competitors Visa and MasterCard. In 1989, DFS signed its millionth merchant, and Sears spun-off DFS and its parent Morgan Stanley in 1993. By 2000, the company reached the 50 million cardholder mark.

Table 1: Discover Financial Services

THROUGH 9/30/2014	DISCOVER
YEAR FOUNDED	1985
COMPANY SIZE	\$80.6 billion (assets)
HQ LOCATION	Riverwoods, IL
BRANCH COVERAGE	Direct bank (1 physical branch)
BRANCH TECHNOLOGY ENVIRONMENT	Internally developed
CORE SYSTEMS	Hybrid (vendor and internally developed)
SELF-SERVICE CHANNEL SYSTEMS	Internally developed

Source: Discover Financial Services

In 2000, GTC changed its name to Discover Bank, and in 2004, DFS began to market its card-issuance services to other banks and broaden its overall payment strategy. The following year, DFS acquired the PULSE EFT processing debit/ATM network, extending DFS's merchant acquiring business and enabling the launch in 2006 of Discover Debit card, DFS's new signature debit card product.

DFS spun off from Morgan Stanley in 2007 and began life as an independent publicly traded company. The second spin-off served as DFS's catalyst for a number of growth initiatives in personal lending, student loans, and direct-to-consumer deposits. As a direct bank, DFS does not rely on branches for sales and service, but rather focuses on its ability to deliver innovative technology and digital expertise through its various self-service and digital channels, including Interactive Voice Response (IVR) systems, ATMs, web, mobile, and call centers.

Online savings accounts were launched in 2009 and grew to \$1 billion in deposits within a year, and Cashback Checking was introduced in 2013. Meantime, DFS grew its student lending through a series of acquisitions in 2010 and 2011 and the launch of a new graduate school lending program in 2012. Home loans were launched in 2012, and home equity loans were launched in 2013.

Through these various programs, DFS grew its loan portfolio to \$70.0 billion by year-end 2014 while increasing its payments processing volume to \$83.0 billion. While traditional card-based loans continue to make up 80% of DFS's loan portfolio, direct consumer lending grew to \$14 billion in assets, while consumer deposits stood at \$29 billion. Non-card consumer lending led loan portfolio growth with 19.5% year-on-year growth.

Opportunity

For its initial 20 years of existence, DFS was essentially a monoline credit card issuer and merchant acquirer, and as such, its IT systems footprint was mostly focused on card processing. With an aggressive rollout of new banking products and services beginning in 2007, DFS's back office processing environment began morphing into a series of applications supporting specific products. Some of these systems were developed in-house, while others were procured through outsourcing partners.

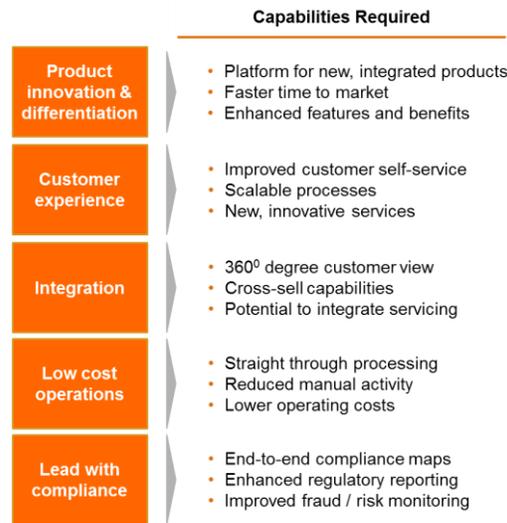
Given DFS's lack of physical branches, market differentiation is predicated on its ability to offer a seamless customer experience across self-service channels like IVR and ATM, digital channels like internet and mobile, and the direct customer support offered by DFS's call center group.

By 2011, DFS's IT environment supporting direct banking grew to more than 100 discrete IT services, of which more than 75 required point-to-point integration. These services included core services to support DFS's eight deposit and loan product families, important ancillary services like print services, check fulfillment, customer verification, and anti-money laundering services, additional applications like call center and customer relationship management (CRM) systems to support customer service, and finally services to support accounting, regulatory reporting, and compliance.

The importance of the call center as the backstop of DFS's customer experience put significant pressure on the call center support systems used by the firm's customer service agents. Over 20 different and disjointed applications were previously utilized to support customer servicing for all banking products. The legacy user interfaces required customer service agents to open multiple windows in order to access the various details of the client's deposits, loans, and other elements of the client relationship. Some of these windows presented a modern user interface, others a bit more than green-screen, and none of these windows were integrated with each other.

Facing the need to support the future growth in DFS’s product portfolio during the 2010s, the firm’s IT leadership embarked on an ambitious program to modernize its banking platform, eliminate the silos that supported DFS’s growing product offerings, and create the foundation for an enhanced omnichannel customer experience that would promote service satisfaction while unlocking new cross-sell opportunities for DFS (Figure 1).

Figure 1: Requirements for New Banking Platform



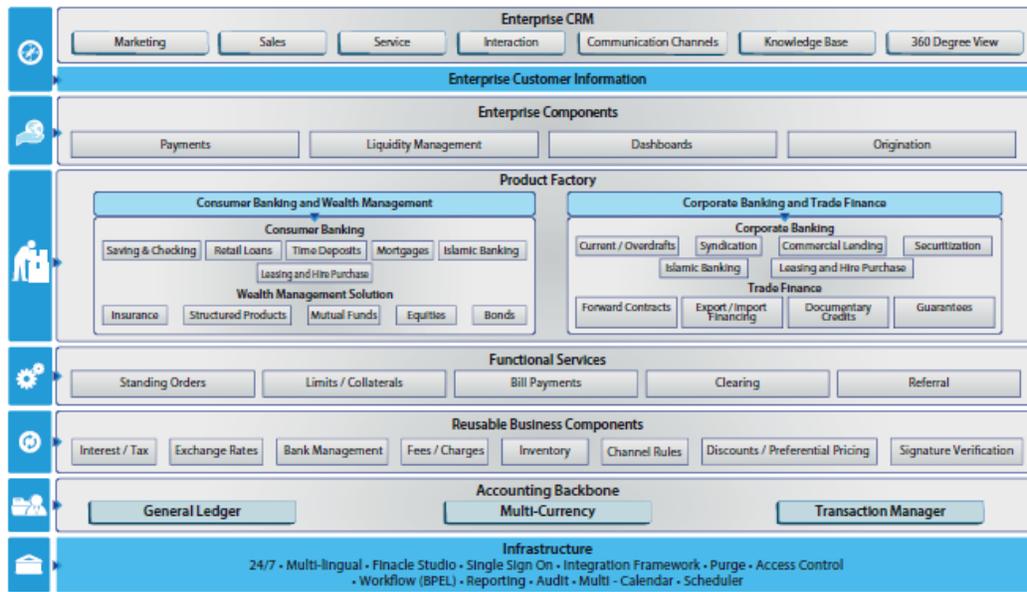
Source: Discover Financial Services

Solution

In 2011, DFS embarked on a banking platform transformation, a five-year overhaul of its entire banking technology ecosystem aimed at upgrading its capabilities, simplifying the linkages between its front office and back office systems, and creating a new platform to promote greater agility in developing and deploying new products and services. The foundation of this project was to consolidate disparate systems to a few strategic platforms, bring all mission-critical back office applications in-house, and retain outsourcing arrangements only for discrete point solutions like check printing and anti-money laundering (AML).

After an extensive search for a technology solution, DFS selected the Finacle universal banking solution from Infosys, the global IT services company based in Bangalore, India. Finacle was originally built in 1994 as Bancs 2000, was rearchitected in 2000, and underwent another major rebuild in 2008. The current version of Finacle is 10.6, and its modern system architecture includes support for real-time processing, full service-oriented architecture (SOA), and straight-through processing. Finacle’s solution architecture is shown in Figure 2.

Figure 2: Finacle Core Banking Solution Architecture



Source: Infosys

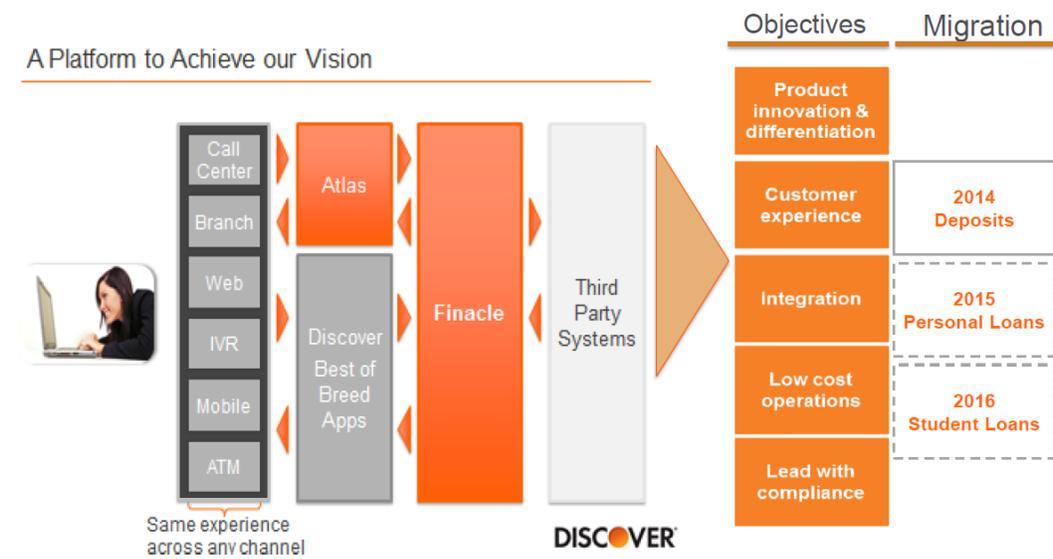
Additionally, the Infosys solution selected by DFS includes Finacle Studio, a development environment that allows DFS to create new product and service offerings as well as new customer service workflow tools utilizing Finacle’s library of prebuilt banking components (the “Product Factory”).

While Finacle offers native CRM capabilities, DFS opted to build its own enterprise call center system called Atlas to serve its unique needs. Atlas was architected from scratch in Java to power an innovative dual-monitor setup in the call center. This approach provides agents a relationship view of the customer on one screen while allowing the agent to carry out account inquiries and to initiate transactions on the second screen.

Finacle is the centerpiece of DFS’s banking platform strategy and will over time support all banking products excluding the credit and debit card processing platforms. The new platform was architected as an integrated solution hub with banking third party applications and services all plugging in, allowing for the elimination of the many point-to-point interfaces that previously existed between DFS’s systems and their third party providers.

Given the all-encompassing nature of this ecosystem transformation and its impact on the overall DFS organization, the firm wisely opted not to attempt a “Big Bang” approach and instead decided on a phased implementation schedule (Figure 3). The conversion to the new Finacle deposit module took place in May 2014, and loan servicing will take place in two additional phases, with personal loans to be converted in 2015 and student loans in 2016.

Figure 3: Project Overview



Source: Discover Financial Services

Since DFS represented Infosys’s first enterprise core banking installation system in North America, there were a number of challenges to be overcome in the development and testing of Finacle. Key issues included the localization of Finacle to reflect DFS’s banking requirements, the addition of federal and state-based banking requirements (DFS operates in all 50 states), and the introduction of new reporting functionality to support DFS’s regulatory compliance obligations.

The implementation of this new banking platform required the mobilization of a project team numbering more than 2,000 product managers, systems architects, developers, consultants, IT strategists, systems integrators, interface/web designers, and legal and compliance staff. Significant on-site and offshore development support was provided by both Infosys and Capgemini, and Big 4 accounting firms contributed advice regarding compliance requirements.

Even with 2,000 personnel on hand, the workload generated by this project was staggering, with 3,000 discrete business requirements to address, 130,000 system parameters to set, and 25,000 test cases to write and run. Prior to the final conversion of the deposits business, DFS and Infosys organized 12 simulated migrations, 5 disaster recovery readiness tests, and 3 rounds of regression testing.

To cope with the resulting project management complexity, DFS adopted a “one team” approach to integrate the contributions of individual project personnel. This approach leveraged co-located functional teams staffed with individuals drawn from the business, technology, and partners and was core to the project’s success. Steering the project forward was a multi-layer governance structure that included program level, management level, and executive level groups that met on a regular basis to assess progress and remediate issues as needed.

Results

In addition to providing DFS with a real-time processing platform that allows for the tighter integration of transaction data across self-service and digital channels, the implementation of Finacle is expected to create significant value across the enterprise.

From an operations perspective, the replacement of a number of separate product silos by a single deposit and loan servicing system is expected to yield dramatic operational efficiencies. DFS estimates that through the elimination of half of DFS's manual back office processes, the introduction of real-time automation in compliance, and the consolidation of account processing to a single platform, they will realize a 65% decrease in its servicing cost per account compared with current costs.

In addition, the use of Finacle Studio and Finacle's product factory to create new products and product enhancements is expected to improve DFS's agility in product management and facilitate the introduction of innovative new services like Rewards Checking. Based on this newfound agility, the firm expects new account openings to more than double by the time the final phases of the project are completed in 2017.

Finally, the development of DFS's Atlas customer care system has already had a dramatic impact on the quality of service in its call center operation. The integration of numerous customer data elements into a single cohesive view of the relationship is the driver of DFS's "We Treat You Like You Treat You" standard of customized client care, and through the dual-screen CRM portal, most common customer requests now require 40% fewer clicks.

In the case of account origination, Atlas's seamless integration of data has allowed a new account to be opened in 6 or fewer steps, compared with the previous 20 steps. The introduction of Atlas in DFS's call centers has driven an improvement in agent productivity beyond DFS's original expectations, reducing call center wait times and average call handling times.

Summary

To DFS, this banking ecosystem transformation was not merely an exercise in improving operational efficiency — although account servicing costs are expected to drop by 65%. Nor was it an exercise in reducing complexity — although the number of interfaces that customer service agents must learn will be reduced from over 20 to 1.

Rather, the inspiration for this project was to transform the ability of DFS to deliver innovative real-time services, to introduce agility in creating new products and services that are natively supported by DFS's back office systems, and to put technology in the hands of its customer service organization that will lead to best-in-class customer care.

With thousands of business requirements being supported by thousands of project personnel, an ambitious five-year project plan, and a significant investment in software and resources, it is clear that DFS has recognized that technology is not merely an operational detail of banking, a box to be ticked.

This banking platform transformation represents DFS's belief that the use of modern and flexible technology is the fabric from which innovation and world-class service is sewn, and for this reason DFS is recognized as a 2015 Celent Model Bank.

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