A case study on the Royal Bank of Scotland IT failures

Background

The Royal Bank of Scotland Group plc (RBS Group) is a British banking and insurance holding company, based in Edinburgh, Scotland. The group operates a wide variety of banking brands offering personal and business banking, private banking, insurance and corporate finance throughout its operations located in Europe, North America and Asia. In the UK and Ireland, its main subsidiary companies are The Royal Bank of Scotland (RBS), National Westminster Bank (NatWest), Ulster Bank, Drummonds Bank, and Coutts. The group issues banknotes in Scotland and Northern Ireland. Before the 2008 collapse and the global financial crisis, RBS Group was briefly the largest bank in the world. The Group had a market capitalisation of approximately £20.4 billion as of 4 March 2014.

The Royal Bank of Scotland was set up in the early 1700’s and was one of the first banks to offer overdraft facilities. By 1969, the National Commercial Bank of Scotland merged with the Royal Bank of Scotland forming a new holding company, the National and Commercial Banking Group Ltd. The holding company was renamed The Royal Bank of Scotland Group in 1979.

In early 2000, RBS took over the National Westminster Bank (including the subsidiary Ulster Bank), becoming the second largest banking group in the UK after HSBC. NatWest and the Royal Bank of Scotland became subsidiaries of the holding company. NatWest, as a distinct banking brand, was retained, although many back office functions of the banks were merged.

The objective of the NatWest integration was that with a merged back office, the RBS Group could create and market financial products, which could then be sold under the banner of the different brands in the group. So a NatWest customer would remain with the bank, but everything would be run on Royal Bank systems. This posed an enormous challenge for the bank’s technology teams.

In August 2005, the bank expanded into China, acquiring a 10% stake in the Bank of China for £1.7 billion. The Group was part of a consortium with Belgian bank, Fortis, and Spanish bank, Banco Santander, that acquired Dutch Bank, ABN AMRO, in October 2007.

In 2008, RBS Group was rescued by the UK government which now holds an 81% stake through the UK Financial Investments (UKFI). Between 2008 and mid-2012, as part of cutbacks, over 30,000 back office jobs in the RBS group were made redundant, including a number of IT roles with some of the work outsourced to India (far-shoring). Outsourcing IT roles to India saved the company a considerable amount, as pay in India is up to a fifth lower than the UK. Outsourcing IT services to a distant country is known as the ‘far-shore outsourcing’ whilst transferring services to and adjacent or near country is known as ‘near-shore outsourcing’.

IT problems

In June 2012, a failed software error left some customers unable to access their accounts for days, and cost RBS Group £175 million in compensation. A software update was applied on 19th June 2012 to RBS’s batch software which controls its payment processing system. It later emerged that the update was corrupted by RBS technical staff. Customers’ wages, payments and other transactions were disrupted. Some customers were unable to withdraw cash using ATMs or to see bank account details. Others faced fines for late payment of bills because the RBS system could not process direct debits.
Completions of new home purchases were delayed and some people were stranded abroad. Another account holder was threatened with the discontinuation of their life support machine in a Mexican hospital and one man was held in prison. As a result of the error, RBS and NatWest announced that over 1200 of their busiest branches would extend their hours throughout the week, including the bank’s first Sunday opening, to enable affected customers to access cash. On Monday 25th June, over 1000 branches opened for extended hours, and the number of phone staff was doubled to deal with customer queries.

On 26th June, RBS admitted that some transactions were still affected by the problem. Ulster Bank said on Wednesday 27th June that it did not expect full services to be restored until the start of the following week, but that it hoped that the automatic payments backlog would be cleared by the weekend. On 3rd July, RBS admitted that some RBS and NatWest personal loan borrowers had accidentally been charged twice and newspapers advised RBS customers to check their balances.

Customers of Ulster Bank were still having problems accessing cash on 2nd July and the bank admitted that they did not know when customers would be able to access cash. RBS said on 4th July that the vast majority of Ulster Bank customers would have normal services restored by 16th July 2012. On 5th July, the Ulster Bank CEO, Jim Brown, agreed to waive his annual bonus in response to the crisis.

Customers of all three banks suffered because of the shared IT infrastructure. The extra delay for Ulster Bank customers was a result of the way the computers were set up when the three banks were merged.

The exact reason for the failure is yet to be established by RBS as the report by the regulator remains unpublished. As a result, it is the subject of some debate. What is known is that NatWest’s problems began when RBS updated a key piece of software (CA-7) ahead of the regular nightly run. CA-7 controls the batch processing systems that deal with retail banking transactions. The batch software runs thousands of ‘jobs’ to process transactions from various places, such as ATM withdrawals, bank-to-bank salary payments etc., and finishes by updating the master copy of the account with the definitive balance.

When a software update fails the usual procedure is to back out the upgrade, run the system on the old software, fix the problem with the new software, and reschedule the upgrade. When this happens you might get a temporary disruption, but not one that affects terribly many customers because banks tend to update significant systems on quiet nights. Backing out the upgrade is exactly what the IT staff attempted to do but someone deleted or corrupted critical files holding the schedule for the overnight jobs.

The batch processing system, for more than 10m NatWest and Ulster Bank accounts, did not run correctly for three nights, resulting in millions of transactions not being processed until it did begin running correctly on the Friday. Even when it had been fixed, the batches of transactions had to be re-run in order, beginning with Tuesday, so that no one’s account went wrongly into overdraft. If a batch fails badly then all of the transactions are “rolled back” to the starting point, as if it had never run.

The bank denied that job losses or outsourcing was to blame for the error which it says occurred in the UK. However, it has been alleged that the problem was caused by “an inexperienced operative” in India. In the process of backing out of the upgrade, someone made a huge error, and accidentally erased all the jobs waiting in the queue. In this instance, these ‘jobs’ were the transactions set to go...
through and show up in people's accounts overnight. The information then had to be re-entered into the computer system manually and re-run, creating a massive backlog, because all transactions have to be done in order, so they all had to wait for the data to be re-entered. The computer failure occurred within a few weeks of experienced UK staff being made redundant.

In December 2013, the RBS Group suffered another computer failure which left thousands of customers stranded at checkouts with Christmas shopping, unable to pay their restaurant bill, or without access to online banking for around three hours. This occurred on ‘Cyber Monday’, supposedly the busiest online shopping day of the year. Customers of NatWest, Royal Bank of Scotland and Ulster Bank were unable to access their accounts or use debit and credit cards, and millions found they had negative balances as systems failed to register payments. Although the bank has not revealed what caused this glitch, it has said that it was not related to the 2012 problem nor was it related to the volume of transactions on ‘Cyber Monday’.

Question

RBS had significant IT failures following a period of mergers, staff redundancies and the outsourcing of critical services. Discuss this case study and what RBS can do to mitigate its operational risks.