

GUIDE TO....

BEST PRACTICE IN OUTSOURCING ATM TESTING



Reducing cost and improving quality through
effective ATM test outsourcing

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Introduction

Outsourcing has long been a topic of discussion among the banking sector, which has fallen in and out of favour with the approach in recent years. However, the current financial environment has put it firmly back on the agenda. In particular, as banks look to maximise budgets and create efficiencies in terms of staff utilisation, attention is turning to how to reduce cost in commodity functions and exploring ways to streamline processes.

Bank's previous experiences of outsourcing projects have had varying degrees of success and it is the lessons learnt from these experiences that will likely place them in a stronger, more confident position in 2008 and beyond.

The typical outsourcing partner is considered to be one operating from India, or with an extensive Indian presence, enabling a bank to lower costs through offshoring their commodity functions. Often previous attempts to outsource did not deliver, resulting in banks ultimately taking the operations back inhouse. It could be argued that much of the reason for this lies in how expectations and the overall outsourcing agreements were managed by both parties. As a result of these experiences banks' relationships with these partners has and continues to evolve.

The role of outsourcing in the ATM environment

In terms of bank's ATM networks, there are a number of different areas where outsourcing might play a role. One is in outsourcing the ATM network itself to an external provider. Another is the outsourcing of the testing of the entire network, including both software and hardware, to ensure maximum uptime. While this latter area is seen as a commodity function, it has become increasingly complex as a result of the developments in ATM technology in recent years.

ATM testing has evolved considerably with the move away from the OS/2 operating system and the adoption of MS Windows and XFS (eXtensions for Financial Services) open standards. In the case of proprietary standards, the role

between the two key players, the ATM vendor and the host vendor, was clearly defined. As such, when a problem was encountered responsibility was easily allocated to the appropriate vendor.

In the OS/2 environment, the system and the ATM applications, such as NDC from NCR and Diebold's 912, rarely changed. Therefore, testing was largely limited to the verification of the configuration file that was sent to the ATM before downloading it and to ensuring the successful integration between the two components.

Because of this set up, banks rarely executed full regression tests. However, in the open standards and multi-vendor environment that most banks operate with today, the requirements have changed considerably. Much of this is due to the fact that Windows is a changing environment and introduces new components into the ATM far more frequently than OS/2. In addition, with the XFS standards enabling banks to deploy multiple vendor applications and achieve greater innovation at the ATM, banks must now consider the interaction between a far greater number of parties.

In the current landscape, testing of the ATM network must encompass the entire software stack and nodes in the transaction chain. This includes interactions with the host system that drives the ATM, interactions with the card (EMV in the case of non-US banks), and the national interchange networks and international card schemes. With the volume of testing increasing, banks must rethink their approach to the issue, taking into account the numerous factors including technology, cost and expertise.

This guide draws upon the real-life experiences of banks that have adopted outsourcing as part of their ATM testing. It is intended to provide a set of best practices to assist banks in effectively outsourcing testing procedures to offshore partners while also sourcing and maintaining their own internal systems.

Trends in outsourcing ATM testing

In 2008 there are numerous banks across both Europe and US that are seeking to outsource their ATM testing, normally as part of a wider outsourcing strategy.

Reasons to outsource

A prime motivation for this trend is clearly cost reduction. Setting up a dedicated internal resource to manage the entire testing process would present banks with a number of challenges, including spiralling headcount costs as the complexity of ATM systems continues to increase. By outsourcing the function to a centre of expertise, banks can overcome these hurdles while retaining overall control of the function. And, while many outsourcing providers may not yet have the full capabilities in the ATM testing arena, with the right technology and training they can quickly become valuable partners. The issue of cost is also being driven in part by external parties, where shareholders and financial analysts expect banks to outsource non-core functions as a way to keep budgets under control.

A further consideration is speed to market, particularly in terms of resolving faults. With the appropriate combination of resources and technology, banks can increase the quality of the overall deliverable, which foremost in the case of ATM testing is network availability. The ATM remains a bank's single biggest customer touchpoint and as such failed customer interactions as a result of downtime can have a significant impact on brand perception and loyalty. With the support of outsourcing partners and the appropriate testing technology, banks can ensure faults along the ATM supply chain are rapidly identified and resolved. In addition, banks can ensure that new products and services at

the ATM are quickly tested and rolled out to customers. By doing this they can continue to drive innovation and maximise the potential of the ATM.

Establishing a knowledge base

However, to make any outsourcing project a success, banks must be sure they retain control of the entire process and this requires building up a pool of internal knowledge. As banks realise the increasing complexity of ATM testing, the temptation might be to outsource the entire process without fully understanding the problems or indeed the correct measures they need to put in place to solve them.

Before embarking on an outsourcing project, banks must consider the scope of their existing knowledge and ascertain whether it is sufficient to cover the breadth of ATM testing. The reason for this is that most outsourcing providers will not have in-depth domain expertise and will instead require the bank to guide them through the process. If the bank is not clear of its own objectives and the scope of the work, it will likely lose control of the project and face challenges when it comes to steering the outsourcing partner.

While the testing of ATM transactions remains a commodity function, it still requires deep and specialist knowledge to manage it effectively. Therefore, it is vital for banks to invest in their own onshore technical resources and knowledge before planning and executing the outsourcing project. Failure to do so could result in outsourcing providers under-delivering and projects creeping beyond the agreed scope.

The key players

In the case of ATM transaction testing outsourcing, the major India-based consultancies are leading the charge and a few of these players have already begun to develop specialist knowledge around ATM systems. While the majority of their resources lie offshore, many will also have a presence in the US and Europe.

As ATM testing is considered a commodity service offering, these outsourcing providers face the challenge of achieving a real competitive advantage. One way in which they are looking to obtain differentiation is through building up their expertise and capabilities in the technology space. By adopting this 'reverse outsourcing' approach, they can add additional value to the banks that require and operate with a variety of ATM applications, including ATM testing software.

A second category of provider is Western consultancies that have developed large offshore capabilities over the last two decades and as a result can offer well-established offshore services. However, more recently, a third category is beginning to emerge which could provide substantial added value to the banks. These are the specialist onshore test consultancies in regions such as the UK that have developed substantial expertise in the sector. While offshore providers will manage the testing process, these onshore companies are working with banks on a far more strategic level, helping them to understand the problem, implement appropriate solutions and manage the outsourcing process.



The lessons learnt so far

For this trend towards outsourcing to be a success, banks must consider and learn from similar ventures in the past and ensure any mistakes are not repeated.

Establishing expertise and ownership

The first and arguably most crucial factor in ATM testing outsourcing is specialist knowledge of ATM systems. This applies to both the banks and the outsourcing partner. In the case of the banks, they must have a clear picture of what they are outsourcing, including both the software and hardware considerations. For the outsourcing partner, the role extends beyond providing resources in order to carry out the work. They must be in a position to add value through providing domain expertise and clearly understanding the complexities of customer transaction processing, including the host systems, EMV cards and the XFS open standards.

Having established a comprehensive understanding of the testing issue, banks must be sure to retain ownership of the problem. Previous failures in outsourcing can often be put down to ill-defined and poorly managed projects, so in making them succeed banks should clearly define the scope of the testing process and manage it appropriately. This can be achieved in part by developing their own testing methodology to ensure they have complete control of the intellectual property and to provide a common framework for the project.

Deploying automated testing applications

One way in which banks are managing this element is through deploying automated test software. While outsourcing is a route to achieving significant cost advantages, it will not necessarily on its own provide the required time advantages in terms of testing the ATM network. To achieve this, and to gain further cost benefits, banks should look to deploy an automated test tool set for use both internally and by the outsourcing partner. As well as allowing banks to define the overall test strategy, it will also provide a solid framework for the execution and reporting of the project. Without this type of measure in

place, banks are in danger of losing sight of the problem, and therefore the project, and simply transferring the function to the outsourcing partner without retaining any control or understanding of the testing process.

Effective communications

With any outsourcing project, much of the success is dependent on the management of the relationship between the partners. Where projects might have failed in the past, communications between the two have normally played a key role. As a first step, there needs to be clearly defined roles on site from both parties so that the stakeholder management can ultimately be kept onshore on the bank's premises. In addition to identifying a project owner at the bank, there must be a representative from the outsourcing partner onsite at all times throughout the project. This set-up will lead to greater control of the overall process and more streamlined communications, enabling both the bank and the outsourcing partner to establish a clear dialogue. Should deadlines be missed or the scope of the project change, the bank's project co-ordinator will be in a stronger position to rectify the situation and ensure the goals are being met.

In line with this, banks must ensure there is an optimised internal communications structure with buy-in from all relevant areas. Alongside the project leads, both parties must agree and be clear on who the main points of interface will be and who ultimately has ownership of the project on each side. This will include defining escalation procedures should issues arise so that they can be quickly resolved.

Cultural considerations

A further consideration around communication is the more sensitive issue of language. By its very nature, offshoring projects will likely require different cultures to work closely together and, therefore, all parties need to be aware of the cultural differences to ensure there is a consistent and mutual understanding. While one approach of management might work internally for a UK or US-based bank, it may not be the most appropriate

when dealing with an offshore partner.

However, it is important to note that effective communications should not require the over-management of the partner. By clearly defining the goals from the outset and having effective procedures in place for reporting, banks can avoid the need to invest too heavily in the ongoing implementation of the project. This is where tight service level agreements are essential to enable both parties to take ownership of the appropriate elements of the process and flag issues in advance of them escalating out of control. With these in place - alongside an automated test harness that is used by the bank and the outsourcing partner - both parties can reduce any ambiguity and risk, and improve overall communications.

The software licencing pitfalls

Through this effective management of the outsourcing partner, banks can also avoid potential dangers in terms of their licence agreements with vendors. Where banks deploy third party test automation tools, it is vital they have clearly defined parameters within which all parties must operate. In particular, the bank must retain control of the software and ensure it does not become de-coupled into a proprietary framework. Past projects have seen outsourcing partners make changes to vendor software, such as with the reporting mechanisms, which render any future updates to the testing application difficult to implement. As a result, the banks would have lost control of the system and jeopardised future work. When working with test automation tools, banks should set out the parameters for how they will be utilised so as not to interfere with future upgrade paths. This requires the bank to put in place the appropriate NDAs for all third party software products so as to respect the intellectual property of the applications they have under licence and help define the relationship they have with the outsourcing partner.

To get the most from an outsourcing relationship, banks also need to consider a number of different stakeholders. In the case of ATM testing, the process will require involvement from a vast array of sectors, both within the bank and externally. This includes the host provider, the ATM software provider, the network infrastructure and the card issuance teams. As such, all parties must fully buy in to the project from the outset and any licencing agreements and NDAs need to be put in place upfront. In the case of third party software, in addition to considerations around development work as discussed previously, the bank should take into account whether copies of software will be taken offshore. If so, they will need to allow for this within the agreements and confirm that the outsourcing provider has been given the necessary training to work with the application.

Many of the problems with previous outsourcing ventures have been around the management of internal politics. By paying close attention to this area, banks can ensure the project deliverables are agreed with all parties, the relevant stakeholders buy in to the objectives and the outsourcing partner has access to the resources they require in order to deliver what is expected of them.

Controlling the hardware costs

A final consideration is the cost of the hardware involved in the testing process. Banks will need to test every combination of XFS service provider (SP) and ATM software that they deploy across their networks, which requires considerable investment in ATM hardware on which to perform these tests. When outsourcing this function, the costs can escalate considerably. Instead, banks can utilise automated test applications that recreate this virtual ATM hardware environment, regardless of which supplier's application is loaded. The virtual ATMs can be built and maintained centrally and distributed to the outsourcing partner to ensure consistency across the testing process.



The key principles of outsourcing ATM testing

As banks once again place outsourcing on their list of priorities for 2008 and beyond, it is clear that a set of best practices must be put in place to ensure all parties have clearly defined roles and that the projects deliver. Based on the lessons from previous projects, Level Four has identified ten key principles:

1. Outsource what you know

This is possibly the single biggest factor in the success of outsourcing ATM testing. Banks must have the internal expertise of the area before they enlist the support of external partners. Ultimately, outsourcing providers will only deliver within the remit they have been set. Therefore, without this expertise, banks will be at a disadvantage when it comes to setting the scope of the project and managing the implementation. The project team should include a project champion who has in-depth knowledge of the overall technology landscape as well as testing strategy professionals to clearly define the project goals. To support them further, banks might also enlist specialist external testing consultancies to expand their knowledge and help map out the strategic objectives of the project.

2. Retain control of the development process

While outsourcing can add considerable value in ATM testing, there are certain parts of the process which do not lend themselves well to this approach. The relationship between the banks and their ATM software providers is one such area. It is essential for banks to keep control of this process and of the software itself so as to maintain control. Errors found by the outsourcing partner should be communicated back to the bank, and not directly to the ATM software vendor. Where ATM software is being accessed by the outsourcing provider, they must put in place clear NDAs to cover usage of the software in this way.

3. Maintain control of the overall project

Before outsourcing the project, banks must clearly define the high level testing strategies. With this in

place, they will be in a stronger position to control the implementation of the overall project and manage the relationship with the outsourcing partner. To define the strategy, banks must have the knowledge of the technology landscape and of the principles of ATM testing, which may require the support of external test strategy consultants. With this framework in place, banks should articulate this to the outsourcing partner and set clear guidelines for the ongoing delivery of the project.

4. Deploy test automation to get the best of both worlds

Banks can define the overall test strategy and test scripts using a common application that is designed specifically for end-to-end ATM transaction testing. This means that both parties can more easily follow the same guidelines and processes, creating an efficient working relationship. By doing this, banks can retain overall control while also benefitting from the cost reduction associated with outsourcing. The application will provide one common methodology for setting the strategy as well as executing the project and reporting on progress.

5. Execute automated tests

ATM transaction testing will inevitably require an element of manual testing. However, banks must look to streamline the process by introducing automation into the process wherever applicable. Using an ATM testing application, banks or their outsource partners can quickly carry out automated tests across a virtual ATM hardware environment to identify potential software faults. Having identified the problems at an early stage, they can then focus resources on conducting the final manual checks. By using this approach, the bank can avoid spending valuable resources on the entire testing process, and rapidly identify and rectify any faults. Evidence has shown that test automation can reduce testing times by more than 80%. Coupled with the cost benefits of using outsourced testing services – this is a powerful combination.

This principle should also be considered alongside the communications process with the outsourcing partner. Where the partner identifies a fault during the testing cycle, there must be agreed procedures for them to report this back to the bank for it to be resolved.

6. Adhere to enterprise-wide testing principles

Increasingly, banks are looking for an enterprise-wide testing solution that adheres to the broader methodology across the organisation. As such, ATM testing must be considered outside of the silo. Point solutions such as ATM application testing software can interface with the enterprise-wide testing repository and, in doing so, banks can benefit from linking the applications with common best practices.

7. Establish clear reporting procedures

Proper reporting procedures throughout the lifecycle of a project are key to making sure the deliverables are being met and that each party is successfully fulfilling their role. Banks should establish which parties are responsible for which tasks from the outset and put in place a clear chain of communication. This will include a hierarchy of responsibilities so that problems can be quickly escalated and resolved, and project developments communicated throughout the team. In addition, stakeholder management must be established onsite at the bank, with a representative from the outsourcing partner always present to work closely with the internal project team. Using an enterprise test repository solution with an on-line interface from the test automation tool can provide real-time management information on test effectiveness and defect levels regardless of the location where the tests are actually run.

8. Deploy multiple third party vendors and consultancies

In implementing successful outsourcing strategies, banks should look to work with multiple vendors in complementary areas across multiple projects, extending beyond the ATM. In doing this, they can encourage and maintain price competition and service quality. However, once again this must link back to the overall communication strategy for the project. To ensure each party is working towards a common goal, there should be clear guidelines for working together, including specific remits that avoid conflict, and clear channels of reporting and management.

9. Ensure appropriate knowledge transfer

Outsourcing is a two-way process. Knowledge will be expanded on both sides as the project progresses and it is essential that both parties remain up to date with any developments. As such, banks should ensure there is an ongoing transfer of knowledge so that there is continuity throughout the project. This is particularly important to help manage the inevitable staff changes at either the bank or the outsourcing partner and avoid unnecessary delays and disruptions to the work.

10. Ensure intellectual property is protected

The testing process involves deploying software from a number of different vendors. This will include the ATM system itself, the automated testing software and any ancillary applications. When managing these, banks should be mindful of their licensing agreements with vendors and take responsibility for ensuring the outsourcing partners adhere to them when working with the applications. By setting these principles in place upfront, the bank can avoid any disputes around licensing issues with their partners, and retain control of the relationship with the vendors and of the software itself.



Conclusion

As the focus on cost efficiencies looks set to continue, outsourcing clearly has a significant role to play in helping banks manage their operations effectively. Banks also have the advantage of being able to learn from previous successes and failures, ensuring they put in place the correct principles and procedures.

If managed well, there can be enormous benefits from outsourcing, particularly in the ATM testing environment. However, banks need to be sure they conduct adequate preparation and fully understand the issue before enlisting the support of offshoring partners. With the right internal expertise and third party technology, they will be in a strong position to get the most from the project. By deploying automated testing software, banks can obtain all the benefits of outsourcing while also retaining vital control of the entire process.

Ultimately, outsourcing is most effective when run as a close partnership. As such, it is important to select the right provider to work with based on their history, proven credentials and industry knowledge. And with some offshoring companies also looking to acquire technology expertise, banks will be able to obtain even more value from their partnerships in the future. In addition, by deploying multiple vendors across the ATM environment, banks can continue to drive competition and maximise performance.

With the benefit of hindsight, outsourcing over the next few years promises to deliver real value for banks, helping them to realise the full potential of their ATM channels and deliver further product innovation and improved customer service within strict budget constraints.





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