HSBC's Guide to Cash, Supply Chain and Treasury Management in Asia-Pacific 2015

Connectivity Edition

HSBC

Foreword

HSBC's Guide to Cash, Supply Chain and Treasury Management in Asia-Pacific 2015: Connectivity Edition

Welcome to the latest edition of HSBC's Guide to Cash, Supply Chain and Treasury Management in Asia-Pacific, which aims to provide you with a range of valuable insights and informed opinions from some of the region's leading banking and business professionals. This edition explores how the ever increasing levels of connectivity between banking applications, systems, platforms and personal devices impacts the role of the corporate treasurer and what smart companies are doing in order to ensure data security in today's mobile world.

In recent years, the world has experienced a paradigm shift in the way we use technology, and today we enjoy unprecedented levels of convenience and interconnectivity between devices, systems and platforms. Not only has this completely redefined the workplace; it has also irrevocably changed the face of how companies do business, and empowered the finance function to a level of sophistication never seen before. We discuss how the changing face of the digital landscape has affected corporate treasury services.

While technology has changed the way in which we work today, mobile technology has had perhaps the greatest impact in terms of breaking down office boundaries and creating a borderless office environment. But given the sensitive nature of the treasury function, some companies have been reluctant to adopt mobile technology, voicing understandable concerns over data protection and the prevention of a security breach. We dispel some of the common myths surrounding mobile applications, demonstrating how a well-designed secure application with a multi-layered security approach can significantly reduce security concerns and risk.

And finally, Singapore has long been regarded as a regional hub, thanks in part to its strategic location along the Strait of Malacca and its pool of professional talent from around the region. However, the government is now looking to transform the country into a Smart Nation, dedicated to harnessing technologies, networks and data to create a competitive edge and increase productivity. We explore the initiatives launched by the Monetary Authority of Singapore in support of this objective and how corporate treasurers can benefit from this.

I would like to conclude by thanking the various clients, colleagues and external experts whose editorial contributions have brought such knowledge and expertise to these articles. With their support, I have every confidence that you will find this guide both interesting and insightful. We look forward to sharing our next update with you.

Kee Joo Wong
Head of Global Payments and Cash Management, Asia-Pacific, HSBC

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The digitisation of the financial services industry

The financial services industry has long been at the forefront of the digital revolution. ***HSBC's Group Head of Innovation, Christophe Chazot****, examines the ways in which the digital landscape has changed over the years and the impact this has on treasury services.*

For more than 30 years, the financial services industry has been a front-runner when it comes to technology. From automation and electronic user devices such as ATMs to online banking and electronic payments, the sector has stayed ahead of the digital curve, benefitting both consumers and corporates alike. As a result, the world of business banking has become much more streamlined and efficient, putting control firmly in the hands of the corporate treasurer.

Two key factors have influenced this shift, namely the development of the Internet and a dramatic reduction in the cost of technology. Since the widespread adoption of the World Wide Web back in the 1990s, the cost, speed and efficiency of global communication has witnessed an astronomical improvement, and we continue to see new developments every day. The simple email of the initial digital age was only the first step and companies now communicate through a myriad of channels, from computer-to-computer Application Program Interfaces (APIs) to video conferencing and online meetings, in real time and in a more cost efficient manner.

Now, in today's more advanced second digital age, mobile technologies and the development of data science have introduced unprecedented levels of connectivity between personal devices and banking applications, systems and platforms, changing society profoundly and consequently the companies that power the economy.

The combination of these new technologies has had a significant impact on company infrastructure, most notably through fast-emerging connected solutions such as cloud computing. In today's modern world, the mainframe virtualisation of the 1970s has been replaced by powerful shared server infrastructures that revolutionise back office and IT functionality, allowing companies to share hardware and software in order to achieve economies of scale.

There are three fundamental service models that help drive this today:

- Infrastructure as a Service (IaaS), which provides virtual computing resources including servers, storage and networking over the Internet;
- Platform as a Service (PaaS), which allows corporates to roll out applications, tools and internal services through the cloud; and
- Software as a Service (SaaS), which enables companies to rent the usage of critical software solutions through the cloud.

Today a vast percentage of all software solutions are developed in the cloud, changing the face of the financial services industry for good by providing a host of benefits and solutions to companies of all sizes[1].

The impact of connected technology on the corporate treasury

When it comes to the corporate treasury department, the onset of digital and mobile technology has many key benefits. In its most basic form, documents are now easily transferrable so there is no need for physical hard copies that need to be carried around, copied or faxed.

Today, smartphones and tablets offer much the same functionality and accessibility as the average office PC, making mobile technology extremely convenient and extremely connected to the workplace. This is turn reduces the typical constraints implied by the office working environment, allowing corporate treasurers and finance executives to complete transactions on the move from anywhere at any time. This frees up time to focus on innovation and improving efficiencies elsewhere in the department.

And once treasury executives actually reach the office, these new technological advancements continue to make the function more effective and efficient. The majority of devices and systems are now connected, enabling the finance team to produce more accurate accounting reports, improve internal transparency, access financing solutions and mitigate risk. And the fact that data can now be cut into smaller, more digestible pieces and undergo in-depth analysis is making the corporate world increasingly knowledgeable and intelligent about their businesses.

Finally, the connectivity between corporate and banking systems has also reshaped the cash management landscape. Not only can the finance department now source cost savings across company expenditure online and utilise virtual corporate cards, they can also negotiate deals, issue electronic invoices, make transfers, accept cashless payments and mitigate the risks associated with currency volatility in real time. Companies can also refinance their account receivables seamlessly, improving liquidity management and freeing up working capital in the process, thereby improving organisational profitability and customer service standards.

Rightly, as a result of this greater corporate dependency on digital technology, justifiable concerns are being raised about cyber security, especially with regards to connected devices and the number of points of entry. However, the financial services industry has been working to overcome these challenges for some time now and security has always been a primary objective for the world's leading institutions. Both corporations and banks benefit strongly from cooperation in this area and increasingly the alignment of their interests forms an effective defence against cyber-attacks.

The financial services industry of the future

As the world moves towards an increasingly digital age, the added convenience and interconnectivity between devices, systems and platforms is empowering the finance function to a level of sophistication never seen before. In recent years, the treasury has become a control centre where accurate decisions and actions are taken in real time, reducing the risk of errors and delay, and bringing all the intelligence necessary for the right decisions to be made.

As such, it is essential that corporate treasurers choose a banking partner that provides the tools and connectivity that will enable them to fully leverage the developments of the digital revolution.

[1] "Cloud vs. On-Premise Deployment, 2008-2014", http://www.softwareadvice.com/buyerview/deployment-preference-report-2014/

Singapore's growth as an innovation centre

Long regarded as a critical hub for the corporate treasurer, Singapore is fast emerging as one of the leading innovation centres in Asia. ***Mark Evans, Global Innovation Lead, Payments and Cash Management with HSBC,*** *explains what we can expect to see from the Lion City in the future.*

For many years now, Singapore has been widely regarded as a critical hub for companies that wish to establish a presence in the region, emerging as a serious contender against the better known geographies of Hong Kong and China. However, the Singapore Government is now shifting gears, taking the unprecedented step of launching an initiative that will actively transform the city state into a connected city – an innovation hub that is revered around the world as a Smart Nation.

Launched under the guidance of Prime Minister Lee Hsien Loong, the Smart Nation programme aims to harness information and communication technologies, networks and data to increase connectivity, competiveness and productivity, improving the welfare of Singaporean citizens in the process. As such, the government is working to put in place the necessary infrastructure, policies, ecosystem and capabilities that will help achieve this goal, while also turning to the corporate world to help build and create new connected solutions, systems and platforms at the same time. As such, Singapore looks set to emerge as Asia's latest innovation centre.

Support from the Monetary Authority of Singapore
Given the long-term goals of the government, it comes as little surprise that the Monetary Authority of Singapore (MAS) is keen to show support for the Smart Nation programme. The MAS recognises that countries, businesses, and people who know how to use technology and innovate will have a keen competitive advantage, and they have identified five imperatives they believe will influence the future[1]. As such, many leading treasurers are exploring these imperatives to ensure their companies are in a position to move ahead of the competition as the dawn of the Smart Nation arrives.

The five imperatives identified by the MAS are as follows:

Digital and mobile payments – The world is fast becoming a cashless society with an increasing number of consumers and companies now making payments online or through their mobile phones, which clearly impacts the way in which consumers, businesses, corporates and banks pay for goods and services and manage accounts receivables.

Authentication and biometrics – Authentication is critical to life in the digital age, however user IDs and passwords are easy to compromise. As such, solid advancements are being made in the field of biometric authentication methods such as fingerprint, voice and iris recognition, which will be more secure and efficient than traditional means.

[1] "A Smart Financial Centre" - Keynote Address by Mr Ravi Menon, Managing Director, Monetary Authority of Singapore, at Global Technology Law Conference 2015 on 29 Jun 2015

Block chains and distributed ledgers – Commonly associated with Bitcoin, the technology behind the crypto-currency has attracted much attention as a faster and potentially cheaper method of making payments than conventional bank transfers. The use of block chain and distributed ledger technology is likely to have a significant impact in the future.

Cloud and Software as a Service – This technology has begun to revolutionise the back office and IT functions in recent years. New entrants are using cloud technology to enter the market quickly, which has enabled companies to grow rapidly and quickly achieve economies of scale and efficiency, especially in the Financial Technology (FinTech) industry and start-up space.

Big data – Today's market is overwhelmed with data that is analysed to reveal patterns and trends that drive business growth. However, with so much data available, knowing what to look at and seeing the bigger picture can be challenging. Technologies are now available to harness the value of the vast amounts of data we are now generating.

The MAS is dedicated to creating a regulatory environment that supports these five imperatives, and as such they have established the Financial Sector Technology and Innovation Scheme (FSTI), which provides financial support to help progress in these areas. They are open to sponsor or co-fund banks, corporates and even start-ups that make progress in one of the following areas:

1. Creation of innovation centres where companies can come together to collaborate and innovate on new products and services;

2. Institution-level projects that encourage the development of innovative solutions that promote growth, efficiency, or competitiveness; and

3. Industry-wide projects that support the development of the necessary technology infrastructure required to deliver new, integrated services.

Key benefits to corporates in Singapore

Singapore's continued development as an innovation centre will play a significant role in helping companies build their bottom line, not only on the ground in the city state but also further afield. The Lion City already enjoys a unique position as a leading trade and supply chain hub, regional treasury centre, and a global financial centre, and its proximity to the rapidly emerging ASEAN markets makes it an excellent location from which to build a regional base. Companies that participate in the FSTI will have a chance to incubate new solutions for the many emerging economies that surround Singapore, acting as a "forward base" for delivering solutions into the ASEAN region.

Companies that are legitimately making advancements in one of the three priority areas for the MAS may qualify for a grant to help them develop new technology. And if this is the case, it is essential that corporates begin to explore how they can arm themselves with the right tools and knowledge in order to demonstrate a culture of innovation in order to capitalise on what is clearly a significant initiative for the government of Singapore. As such, it will be critical that they choose a banking partner that can help them in terms of collaborating with other institutions and benchmarking against competitors for both talent and resources.

At the end of the day, the benefits of the Smart Nation programme will only be realised in the months to come. However, smart companies are already partnering with leading financial institutions in order to demonstrate their support for the government's dedication to driving innovation in the FinTech industry.

Mobile security concerns for the modern corporate treasurer

In an increasingly connected world, technological advancements have impacted almost every facet of our working lives, ushering in the concept of the mobile office and changing the way companies operate forever. With these innovations a number of key concerns have also been raised over how secure these connected solutions really are. ***Siva Ram, HSBC's Senior Global Program Manager for Security and Fraud****, discusses some of the security concerns over corporate banking and what can be done to alleviate them.*

The corporate world has changed significantly in the last decade, due in large to vast improvements in technology and connectivity across a host of different mobile devices, platforms and software solutions. This has resulted not only in a significant shift in consumer behaviour but also challenged the confines of the conventional workplace and how companies do business today. As a result, the boundaries between work and life have been blurred, and today almost everyone completes office tasks on their mobile devices.

Despite these advancements, the adoption of mobile technology by corporate treasury departments has been slower than in other sectors. However an increasing number of finance professionals are now taking advantage of an increasingly connected world by using their mobile device outside the workplace to manage corporate banking transactions, improve their accounts payables process and free up time to focus on other tasks. That said, the needs of the treasury department differ substantially from the average consumer, and as such a corporate mobile banking applications (apps) must offer greater control and visibility without compromising on security or allowing sensitive data to be intercepted.

When the topic of mobile banking arises, corporate treasurers typically have some concerns and should be aware of the following issues:

Corporate data on mobile devices

More corporates are now embracing Bring Your Own Device (BYOD) policies, which allow employees to use their personal mobile devices for official purposes. This has the added advantage of reducing the number of devices the organisation needs to manage, while at the same time lessening the amount of time they need to spend training employees on technology.

One of the greatest worries for the corporate treasurer is the protection of corporate data, which might be accessed from personal mobile devices that are used to connect to company systems. Unless they are sufficiently protected, data stored on smartphones or tablets could be accessed by other applications or whoever uses the device, which becomes more of a problem when people use their own personal phones for official banking operations.

Mobile banking apps should try not to store any sensitive data on mobile devices, however if they do, the data must be encrypted using strong cryptography.

Mobile malware

Another concern is malware, which is a malicious software program that has been specifically designed to gain access to a computer or a device and perform unauthorised operations without the user's knowledge. Malware is growing in prevalence and sophistication every day, and an increasing number of malicious programs are now targeting financial apps in an attempt to steal credentials and data, which can be used in further attacks designed to misappropriate money.

Recently we have seen a significant increase in the number of sites that serve malware through apps that are designed to look like the original website. In most cases, the original apps are reverse engineered and modified to include malicious code.

In order to limit the spread of malware, Apple and Android encourage users only to visit designated stores. However, a surprisingly large number of people adjust their settings to allow downloads from other sites, destroying the security features of the handset.

Protecting sensitive data on the device with strong cryptography will ensure that malware cannot make any sense of the data, strengthening the security of corporate data.

Secure connections to banking sites

Some mobile banking apps fail to establish secure connections between the device and the site, leaving users vulnerable to attack. Most sites use HTTPS (note the "S" at the end indicating a secure connection) to transmit sensitive data, which ensures that the data transmitted between the mobile app and banking site cannot be intercepted or modified. However, some sites use obsolete cryptographic algorithms and protocols such as Secure Socket Layer (SSL), which has several vulnerabilities. SSL has now been replaced with Transport Layer Security (TLS), and it is important that corporates implement the newer, more secure technology in order to protect their customers.

Another common issue is the failure to validate the identity of the site to which the application is connecting. The identity of sites is established using digital certificates, however some apps have been known to only check for the presence of a certificate, rather than verifying that it actually belongs to the site. This means that any website can present a certificate, resulting in a connection being established with fraudulent sites.

Mobile banking apps should use strong cryptographic protocols and ensure that they validate the identity of the site they are connecting to.

Ensuring authenticated access to banking apps

One of the most common ways for corporates to lose data is actually through the loss of a device, which is a significant problem. If banking apps do not properly authenticate identity before allowing access to functionality and data, a stolen device can result in serious financial and reputational losses for both the bank and the corporate.

As such, banking apps require a higher level of authentication than consumer applications in order to ensure that the right person is logging in, and for sensitive applications such as these, multi-factor authentication is critical. These authentication schemes are based on:

1. What you know;
2. What you have; and
3. Who you are.

Passwords fall under the “what you know” factor, while secure One Time Password (OTP) devices generate passcodes that expire very rapidly and fall under the “what you have” factor. On the other hand, biometrics that utilise a fingerprint, voice or retina scan are “who you are” authenticators. A well-designed banking mobile app will use at least two of these three factors to authenticate identity, otherwise known as Two Factor Authentication (2FA). This prevents the unauthorised person(s) from accessing the app or the data.

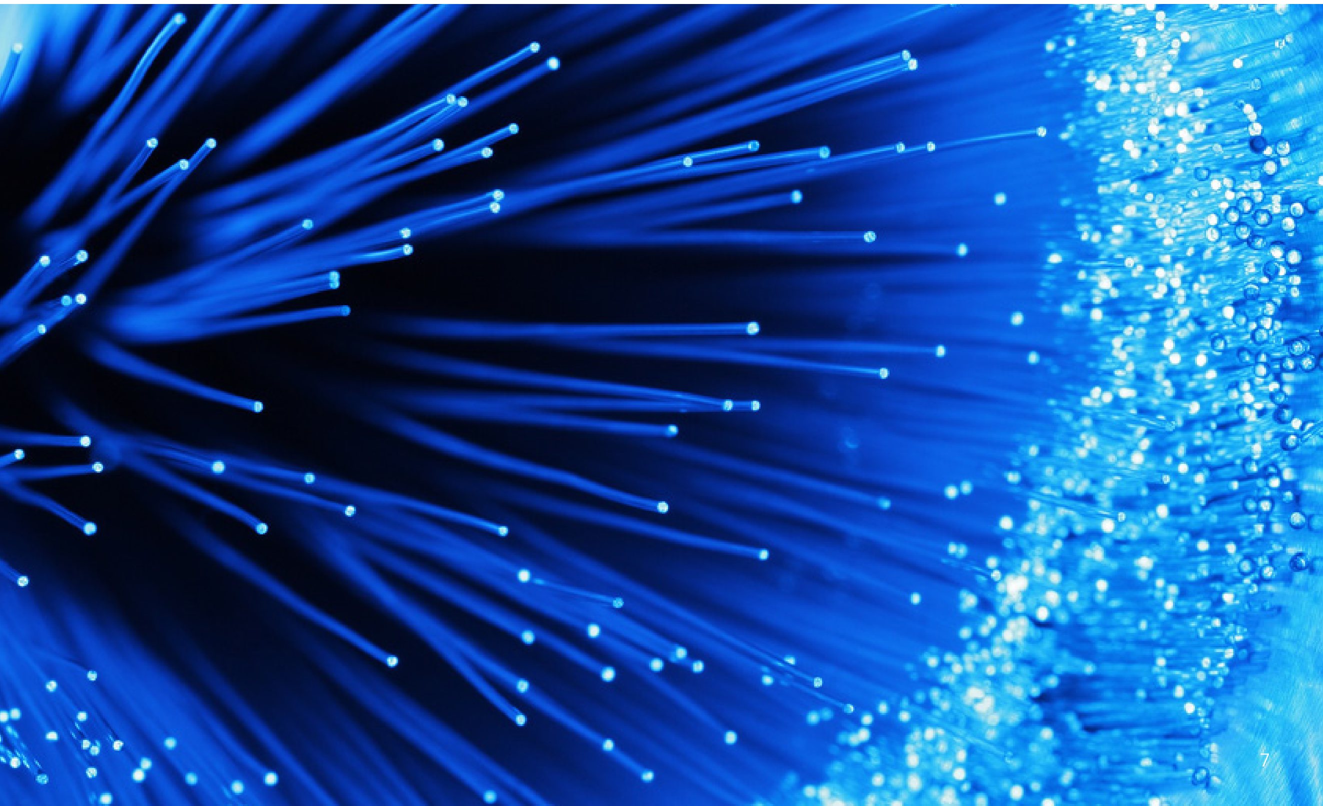
When it comes to payment systems or other sensitive operations, many regulators require 2FA, digital signatures, or the ability to lock out whoever is trying to access to app after a specified number of invalid attempts, for example. Failure to comply with these specifications can result in a loss of the license required for the bank to operate the app. In some markets banking regulations are not so strict, so it is critical that the company choose a banking partner that has adopted stringent identity authentication protocols that are globally consistent if they are to properly protect their data.

The weakest link

But in reality, computers and apps will do what they are programmed to do, and the weakest link in the chain is usually the human element. As such, in addition to the above mentioned critical security mechanisms, there is one other factor the corporate treasurer must consider when choosing a mobile banking partner: a dedication to the ongoing education of employees. Secure mobile usage habits should be constantly reiterated and reinforced because security is everyone’s responsibility, not just that of the corporate risk or security team.

Conclusion

At the end of the day, the first line of defence for any organisation is awareness and execution, and making sure companies are informed of the latest risks to hit the market will go a long way to allaying the fears of the average corporate treasurer. Using well designed secure applications, a multi-layered security approach and end-user education of secure practices will reduce security concerns and risk substantially, increasing the use of mobile banking and connected solutions by corporates.



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