With more than 1.3 billion citizens, India is the largest democracy in the world and the fastest growing global economy at nearly 7.5%. It is also one of the most complex business environments for foreign companies to navigate.

Strategy teams will produce power points touting the endless opportunities yet business people need only spend a few days to have experienced the broad spectrum of unending challenges that are unique to India.

India's huge consumer market attracts interest from every global company in the world. The highly educated work force has propelled India to a world class IT and IT services provider with over 8 million people employed, the Pharma industry is now the 3rd largest producer in the world by volume, surprisingly India is the largest exporter of milk in the world, and they even export over 25,000 tractors annually to the US!

DBS clients most often ask for advice and insight on India and China. In 2015 we published a Treasurers Guide to China and this document follows that model with insights on how to build a competitively advantaged business in India. DBS employs 78 analysts across 8 industries in Asia, providing insights and advice on topics ranging from monetary policy, to equity analysis, to geopolitical insights and risk assessment. For more information, visit us at dbsresearch.com.

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1. Introduction

India is a country that is as hard to understand as it is to ignore. You cannot ignore the second most populous country in the world with over 1.3 billion people that occupies an area of more than 1.2 million square miles and has a gross domestic product of $2.264 trillion dollars.[1] In purely business terms India demands attention because of its large workforce and their potential as customers.

Understanding India is another matter. India has been an independent country since 1947 and currently has 29 states, 7 union territories, 22 official languages and many dialects. Home to legendary bureaucracies and a historically sclerotic judicial system there are rules, procedures and appeals processes for virtually every business activity. Many of these are unclear to those who are not specialists in the topic which adds to the time and expense of operating in the country. All of this makes sweeping generalizations about India both inaccurate and inappropriate.

Reinforcing this overall message about the challenges in India is the World Bank's "Doing Business Report 2018" that ranked India 100th out of 190 countries surveyed in terms of ease of doing business. Remarkably, this outcome is a 30 place improvement over the 2017 score. The improvement reflects tough decisions by the central government but the still low ranking is due to poor marks for areas such as starting a business, dealing with construction permits, registering property, trading across borders and enforcing contracts.

The currency of India is the Rupee (INR, locally Rs) which is issued and regulated by the Reserve Bank of India (RBI) Issue Department. The INR is a restricted currency which limits the ability of all entities, particularly those outside of India to trade in INR and engage in more than the simplest derivative transactions. The use of the INR between parties outside of India is not permitted. From a treasury management standpoint, the INR can be used relatively freely within India but cannot figure in regional treasury management schemes or multicurrency liquidity management structures due to regulatory constraints.

1 2016, Source: World Bank

In order to succeed in India an understanding of how to effectively incorporate cultural knowledge is essential and two particularly critical aspects should be noted. First, India is a country where relationships matter a great deal and this makes them an important part of the business cycle. Second, businesses are unusually hierarchical, an executive issues instructions and they are followed to the letter. Both characteristics make it important to have relationships near the top of an organization to get things done.

The corporate treasurer of a firm doing business in India has no choice but to come to grips with all that it takes to be successful in India. Some multinationals have successfully established shared service centers in cities such as Bangalore, Hyderabad and Chennai due to the availability low cost talent. For most businesses there are often additional steps in the process of doing business in India and these are the subject of this guide. The first step is to accept that operations in India will be structured and operate differently than anywhere else. While many treasury techniques such as cash sweeping can be performed within the country it is virtually impossible to integrate treasury operations in India with regional or global treasury structures such as participating in a global multilateral netting arrangement. This does not make Indian treasuries unsophisticated or inefficient, it makes them different.

The next steps involve developing an accurate financial footprint of current and planned operations in India and an understanding of what is permitted and recognized best treasury practice. With this information it is then possible to develop and implement an effective treasury strategy.

This guide can be read as an integrated document or on a sectional basis for detail on a particular topic. The first section, Business Models in India is essential reading for those entering India for the first time as it deals with the types of company organizations that are possible in India, as well as the injection of capital, protection of Intellectual Property and the implications of the business models for corporate treasury.

Further sections cover the banking environment including bank account types and options along with the payment and clearing systems used by corporates and individuals. There is a separate section on digitization, a trend that has already begun to transform the financial sector. This guide is written from the perspective of the corporate treasurer and as such also includes sections on liquidity management, regulation and treasury technology.

Following the summary there are a number of appendices including useful websites, a glossary of terms and key tables likely to be of use to the corporate treasurer.

2. Business Models in India

There are a number of different ways that businesses can operate in India ranging from simple direct sales companies to a fully incorporated local entity. Each has different implications for treasury operations. India has become much more open with regard to Foreign Direct Investment (FDI) and there are only eleven business sectors now where FDI is not automatic. This compares to an earlier environment where there were only fifteen business sectors where FDI was permitted.

Many companies incorporate in India as wholly owned subsidiaries of the foreign parent while an emerging trend is to form a Limited Liability Partnership (LLP). Both of these options make the repatriation of surplus funds more tax efficient once the local entity begins to turn a profit and accumulate cash. Multinational companies choosing to form a company in India typically operate as private companies or joint ventures. Private companies permit the parent to manage treasury operations while joint ventures with a local partner can have treasuries managed by the partner under policies consistent with the multinational's parent.

Forming a company in India starts with the Registrar of Companies (ROC) in the state/union where the company will maintain its registered office. This involves approval of the company name, payment of fees and submission of documents. Once the ROC receives the required documentation and fees, it will issue a certificate of incorporation and the private company can begin conducting business. Public companies must go through additional steps with the ROC before receiving a "certificate of commencement of business" which allows the public company to begin conducting its business.

The US International Trade Administration in a 2017 website post notes that India is a challenging major economy with respect to the protection and enforcement of intellectual property rights (www.export.gov**). The country is listed on the Priority Watch List of the US Trade Representative's Special 301 report for 2017 (**https://ustr.gov/about-us/policy-offices/press-office/press-releases/2017/april/ustr-releases-2017-special-301-report**). The message is very clear for companies with valuable IP that operate or plan to operate in India: be very careful and don't assume you are covered by laws in your country or international agreements. To survive, companies should develop an overall IP strategy, learn the local rules and actual practices in India and hire local resources to assist with the protection of IP.**

3. Banking Environment

The RBI is the central monetary authority of the country responsible for monetary stability, the operation of the currency and credit system and supporting growth to national advantage. The bank was established in 1935 and was privately owned until post-independence nationalization in 1949. Headquartered in Mumbai the RBI is fully owned by the Government of India which appoints the bank's central board of directors.

The RBI has considerable reach in the Indian economy. While investments can be made in India without approvals, the RBI has the authority for approving the entry of foreign companies and regulating the banking sector. A relatively recent addition to the RBI's—and other state entity—responsibilities includes financial inclusion. It is common for corporate treasurers in collaboration with their local Indian bankers to seek formal or informal guidance from the RBI before embarking on any major treasury activity.

Public-sector banks, of which there are 26, dominate India's banking sector collectively operating tens of thousands of branches. Four of India's five largest banks are majority controlled by the government (State Bank of India, Bank of Baroda, Punjab National Bank and Bank of India). The fifth is privately owned ICICI Bank. There are also 25 private sector banks, 43 foreign banks, 56 regional rural banks, 1,589 urban cooperative banks and 98,550 rural cooperative banks, with further financial support from cooperative credit institutions. Small Finance Banks and Payments Banks serve certain niches in the consumer and small business space.[2]

From a treasury operations standpoint the foreign banks are important to the treasurer as they include global and regional leaders in cash and treasury management. Many are also able to partner with local banks to assist in leveraging domestic networks and making tax payments. That said local public and private banks have substantial branch networks that can be useful even in concert with the increased level of digitization within the country. Further, they have deep deposit and investment books that can be useful to the treasurer.

2 Source: Treasury Prism

There are three basic types of bank accounts available to businesses operating in India with various:

- Current accounts
- Savings accounts
- Term accounts

Interest is not paid on current accounts and the minimum tenor for an interest earning deposit is seven days. A number of banks offer variations of a rolling deposit where funds on deposit past seven days are automatically returned to the current account and can then be re-deposited as required. This does not provide full interest compensation on surplus funds but, when combined with available overdraft finance allows companies to maintain nearly full use of their short-term cash while minimizing penalties. Longer term, cash can also be invested in mutual funds, but these are less liquid.

Term accounts and savings accounts do permit interest compensation at rates determined by the bank where they are held.

Residents and resident companies are permitted to open foreign currency and INR accounts within India although foreign currency accounts held by Indian companies in India and outside the country are subject to conditions from the RBI such as limits on the amount of funding they can receive from India and the need to close the accounts when business operations are wound up. Non-residents (as defined under Foreign Exchange Management Act, 1999) can open INR accounts in India, subject to conditions prescribed by the RBI.

4. Payment and Clearing Systems

Cash and cheques have been the traditional forms of payment in India for decades, but this is beginning to change. Government requirements for financial inclusion supported by the RBI have created a number of innovative digital payment systems that are quick and inexpensive. Banks and other financial institutions have been given considerable incentive to modernize and have done so.

Despite the wide availability of digital solutions paper-based tools are still being used in India reflecting business familiarity with historic methods and customs. Also contributing are the facts that there is still the opportunity to earn a return on cheque float and the cost of issuing cheques is virtually nil. Consumers often prefer to pay in cash while businesses often pay each other with cheques.

With many new payment options now available, the use of cheques in India while still substantial is declining with 5-year trends for cheque volume and value down by 11 percent and 20 percent respectively. Efficiencies have been delivered as cheque clearing through the image-based Check Truncation System (CTS) fully replaced previous paper-based processes in 2014.

This makes the India payment environment a diverse one with cash and cheques still in widespread use side by side with phone-based payment systems, an ACH network and RTGS settlement between banks. The implication for corporate treasury is that legacy businesses are likely to use a fair number of payment channels to conduct their business while newer businesses can potentially operate in a fully electronic environment. This section describes many of the key participants and systems that comprise payment and clearing systems in India.

The National Payments Corporation of India (NPCI) was established by the RBI in 2008 to coordinate retail payments in India. It is owned by a consortium of banks and has successfully developed RuPay, a highly accessible domestic card network that competes with, and reduces the need for foreign card networks along with Bharat QR, a mobile payment product linking a QR code to a digital wallet. The NPCI has also developed the Unified Payments Interface (UPI) as part of an initiative to move India away from the use of cash toward digital alternatives.

The UPI is a national real-time low value payment system regulated by the RBI that instantly transfers funds between accounts held with different banks on a mobile platform. The system differs from conventional mobile wallets in that it withdraws and deposits money with participating banks from its own accounts. This enables security, speed, finality and 24/7/365 operation.

In addition, the NPCI also offers:

- BHIM which is an app that permits paying and receiving money from businesses or individuals based off a mobile phone number that includes a number of product extensions derived from the original.
- *99# which is a limited functionality payment system that can be used by virtually anyone in India with a mobile phone. It is not applicable to corporate cash management but demonstrates India's focus on financial inclusion and digitization which in turn drive corporate cash management solutions. Other inclusion systems include AEPS (Aadhaar Enabled Payment System) and BHIM Aadhar.

Business-focused solutions from the NPCI include:

- NACH, a batch oriented electronic RTNS settlement system that consolidates many earlier electronic clearing systems and is similar to ACH in the US.
- CTS, which is the truncation, or cheque image clearing system for India that improves the efficiency of the cheque clearing cycle and reduces the liquidity requirements for banks.

Additional core business-focused payment and settlement solutions include:

- IMPS (Immediate Payment Service) which is an electronic alternative in some cases to NEFT and RTGS but does have an INR cap of 200,000 per transaction. It is multichannel and operates 24x7x365.
- NEFT is a national all-value payment system offered through some RBI member banks, it is a batch system.
- RTGS is the immediate high value payment system offered by the RBI.

Foreign currency payments from India for the import of goods and services require supporting documents. Compliance can be painful where the bank requires the physical submission of the supporting documents prior to remitting the funds offshore. This is an area where leading banks have been able to differentiate themselves by offering their clients the ability to submit the supporting documents electronically.

Further specifics about payment and clearing systems are contained in the following table:

System	Description	Details
RTGS	India's national real-time gross settlement (RTGS) system	• Used for high-value and urgent INR-denominated interbank transfers (greater than INR 200,000). • Operated by the RBI. • Effects final settlement of net balances originating from other clearing houses. • Settles transactions in near real time on gross or offset basis from participant banks accounts with the RBI.
CTS	Cheque Truncation System	• System developed and operated by NPCI that enables electronic image processing of cheques and stops the flow of physical cheques issued by drawers. • Cheque clearing houses dealt with on a grid-based system and split into three regions—North, Southeast and West. This allows for same-day settlement of cheques drawn within same jurisdiction. Cheques drawn on banks outside of these jurisdictions can take three days to three weeks to settle. • Physical cheques are converted to images—truncated—which are then processed in regional clearing houses. • Two types of clearing sessions are held daily—presentation clearing from 3:00 to 7:30 pm and return clearing from 11:30 am to 2:00 pm • After closure of the clearing window, final net settlement between the drawee banks is done via RTGS across participant banks' accounts with the RBI.
NACH	National Automated Clearing Services	• NACH is a net settlement system operated by the RBI. • It is used for repetitive and non-urgent batch electronic credit and transactions up to INR 10,000,000 in value. • Divided into NACH-Credit and NACH-Debit subsystems with settlement done on T+0 via RTGS across participant banks' accounts with the RBI.
NEFT	National Electronic Funds Transfer	• NEFT is used for low-value, one-off electronic payments and is a deferred net settlement system operated by the RBI. • Uses Structured Financial Messaging System (SFMS) to process transactions with payments effected in batches processed every 30 minutes on T+0. • Final settlement is effected through NG-RTGS across participant banks' accounts with the RBI.

System	Description	Details
BBPS	Bharat Bill Payment System	• BBPS is used by consumers to settle bills and is similar to now defunct GIRO systems. • Payments are settled on T+0 with final settlement through NG-RTGS across participant banks' accounts with RBI. • It is a very new system with more than 10 bank participants and 30 billers. • BBPS supports transactions through cards, wallets, UPI, IMPS and Net Banking.
UPI	Unified Payments Interface	• The UPI is a real-time electronic system used for both payment and collections and operated by NPCI. There is a transaction size limit of Rs 100,000. • There are currently 110 participant banks. • Available 24/7, 365 days a year. • Facilitates fund transfers using multiple payment identifiers like Virtual Payment Address (VPA) or combination of account number and Indian Financial System Code (IFSC) or a combination of Mobile Money Identifier (MMID) and mobile number or Aadhar number. • Introduced the concept of Payment Service Providers (PSP) to enable banks to offer mobile applications to non-customers to participate in UPI. • Final settlement done via NG–RTGS across participant banks' accounts with RBI.
IMPS	Immediate Payment Service	• A real-time electronic interbank payment and collection system operated by the NPCI. • It facilitates funds transfer using multiple payment identifiers including a combination of account number and IFSC or a combination of MMID and mobile number/Aadhar number. • It is available 24/7/365 and final settlement is effected through NG-RTGS across participant banks' accounts with the RBI. The maximum transaction size through IMPS is Rs 200,000

Many of these payment systems are modified and combined into hybrid applications that are commonly used in corporate cash management. Pre-Signed Cheques (PSC) are an example. PSCs are effectively a cheque-based direct debit system used by companies in a variety of industries—automotive and pharmaceutical are two examples—that have a large network of distributors who will be paying the central company on a regular basis. PSCs have a clear working capital benefit but also simplify accounts receivable through automated reconciliation. Post Dated Cheques (PDC) are another cash management tool that are identical in function to a direct debit.

A multinational technology conglomerate with eight manufacturing facilities in India had traditionally operated in a decentralized manner. Customers delivered cheques to factory locations, local accounting teams used cheques for disbursements on a location by location basis and reconciliation of the large number of bank accounts was manual and inefficient. Capturing efficiencies was the company's primary goal and they turned to DBS for a comprehensive solution. The bank coordinated a move from paper-based collections and disbursements to electronic solutions while providing a migration strategy that included a cheque pick-up arrangement from plant locations by partner banks and a comprehensive reporting mechanism that streamlined the handling and tracking of cheques. The end-state solution made use of virtual accounts to reduce reconciliation and tracking activities for collections along with operating accounts and common internet banking set ups for each plant site to standardize the payment process and ensure centralized monitoring of cash flows and funding requirements. The resulting solution was practical to implement and provided tangible benefits at every step along the way.

5. Working Capital and Liquidity Management

The regulatory environment in India is strict and many common cash management tools, such as notional pooling, are not permitted. This makes the centralization of cash management or the concentration of funds a challenging exercise.

On the collections side while rapid collection of funds through electronic channels is theoretically possible there is still some reliance on paper. Thus, a nationwide collection system is likely to involve a large number of correspondent banks upstreaming funds to the desired location. This works surprisingly quickly and efficiently. In some cases, third parties working on behalf of a bank will be housed within a client company processing the collections and applying the funds. Functionally this is similar to a lockbox in the US.

On the payments side large multinationals often set up payment factories handling centralized payments issuance. Smaller MNCs also use payment factories but outsource the operation of the factory to larger third-party providers. At the lower end of company size there is the option to have payment factory functionality handled by the client company's bank.

Conventional banks play a large role in this area with their ability to take deposits and lend funds. Combined with RBI restrictions on intercompany activities this leaves the banks as a viable choice for financing working capital or other uses.

Notional pooling is not permitted but, subject to a number of restrictions, physical pooling can be achieved. Tax and legal expertise are necessary to ensure that provisions linked to deemed dividends, arm's length interest rates and clear documentation are adhered to and a review of the company directors and officers is completed to ensure that this structure is not a prohibited related party transaction.

Working capital solutions that incorporate tools such as overdraft facilities, accounts receivable purchases and supply chain financing are highly regulated and are dependent on local collection and disbursement practices. Other working capital tools such as leasing and dealer financing are available depending upon a bank's solution offering. While solutions are possible they are best designed using local expertise.

The central messages with respect to working capital and liquidity management are that clarity of objectives, persistence with your financial partners and close consultation with local experts will help achieve the optimal permitted solution.

6. Regulatory

General Government Actions

The relative difficulty of doing business in India has been improved by recent government actions. Two of the most significant are:

- Indirect tax reform as a result of the approval and ratification of bills that introduced the Goods and Services Tax (GST) in July 2017
- Approval of the Insolvency and Bankruptcy Code (IBC) in 2016 and subsequent amendments in 2017 and 2018

The implementation of the Goods and Services Tax (GST) was a historical move as it replaced a large number of taxes levied at both central and state levels into a single destination-based tax. This tax is similar to those in place in Australia, New Zealand, Canada, Singapore and Malaysia. The benefits targeted by this initiative in India include a reduction in the overall tax burden, the elimination of the cascading impacts of previous modes of taxation and the creation of a common national market that will help to make Indian goods more competitive in both international and domestic markets. GST also creates uniformity in laws, rates of tax and procedures across states, an outcome that simplifies the system of taxation.

The General Data Protection Regulation (GDPR) came into force on Mary 25, 2018. While issued by the European Union this regulation explicitly protects EU citizens but impacts entities anywhere that maintain data on EU citizens. India, with its large outsourcing companies is heavily impacted by GDPR. GDPR is thus a large net cost to India but thorough compliance is beneficial to companies outsourcing to India as their vendors now meet or exceed the toughest privacy restrictions in the world.

Specifics of the GST include:

- It is a destination-based tax with imports subject to tax and inter-state sales taxed according to the state of destination.
- The GST combines taxes levied by the states and central government and allocates portions to the correct authority which considerably simplifies the complexity of paying tax.
- There are only four tax rates (5%, 12%, 18% and 28%) that are defined by the category of goods or services.
- A GST Council has been established to make decisions on rates, thresholds, exemptions and other features and is empowered to address compliance challenges.

The Insolvency and Bankruptcy Code (IBC) is another important reform that addresses the non-performing asset crisis in India. This new code forces banks and financial institutions to deal with non-performing assets by shifting from the concept of "debtor in possession" to "creditor in control". Along with timely court intervention the code has created a level playing field between bankers and borrowers.

The new code has generated a number of challenges for corporates and banks:

- Stressed and distressed corporates need accurate cash flow forecasts to identify mismatches of inflows and commitments. Should a potential default be looming that would trigger the IBC, effective turnaround plans should be developed well in advance.
- Bankers need to upgrade underwriting standards, realistically calculate how much assets are worth and monitor how funds are used or misused. Banks also need to be prepared to stop promoters from gaming the system.

Financial Regulations

The financial sector in general, and the INR in particular are tightly regulated by the RBI. Transfers into India in any currency should include a country-specific routing code, the IFSC (Indian Financial System Code). The IFSC is an eleven digit alpha-numeric code that uniquely specifies the bank and branch participating in the NEFT, functionally similar to an IBAN. Where the IFSC is unknown or otherwise unavailable the BIC is required and the exact branch location is highly recommended. Transfers should also include a written description of the purpose of the payment in the remittance information. In addition, one of several dozen purpose payment codes, a four digit code beginning with a P must also be used.

The Foreign Exchange Management Act (FEMA) of 1999 came into force on June 1, 2000. Its purpose was to consolidate and amend laws relating to FX to facilitate external trade and payments and promote the development of the foreign exchange market in India. The Act extends to the whole of India and also apply applies to all branches, offices and agencies outside India owned or controlled by a person resident in India.

Several sections of the Act are relevant to the corporate treasurer. Section 3 requires that all FX dealings take place through a person authorized by the RBI while Section 4 restricts Indian residents from holding FX outside India except under specified conditions. Essentially this limits consumer transactions to the use of the INR.

Section 6 requires that capital account transactions can take place in foreign currency subject to rules issued by the RBI and Section 7 requires exports to provide complete declarations as to the full value of any exports. This basically imposes strict filters and documentation on movements of money into and out of India.

Sections 10 and 12 deal with the responsibilities of the persons authorized in section 3 while Sections 13 and 15 deal with penalties and enforcement of the Act. Along with further compliance sections the net message is to proceed carefully within the regulatory guard rails and resist the temptation to engage in any sophisticated financial engineering.

Cryptocurrencies have been popular in India as in the rest of the world but the RBI has taken a dim view of the concept. In addition to strong words—"Bitcoin is a Ponzi scheme"—the RBI is also using its regulatory authority to restrict access of currency exchanges to the banking system. In July 2018 the RBI required banks and other entities that it regulates to close all accounts associated with or settling virtual currencies.

7. Digitization

Digitization is a popular buzzword in the FinTech era and describes the movement of processes from paper to an array of digital tools. It's particularly popular in India and reflects political and industry initiatives to transform the Indian economy and make it more efficient. The transformation started from a base of remarkable atomization and sclerosis. In the not too distant past:

- An estimated 98% of consumer transactions were made with cash by individuals lacking bank accounts.
- The economy was dominated by informal firms, primarily those with fewer than 10 workers, with formal firms comprising less than 1% of all firms doing business in India.
- Some data suggested that the informal sector employed nearly 93% of India's labor force but produce just 57% of the country's GDP.
- Explaining some of the political push is the fact that informal economic activity is not captured in official government data, not regulated and most importantly, not taxed.

Recent regulatory changes make it clear that the government understands the need for change. Equally, any comprehensive plan for business development and reform needs to include the adoption of digital technology to encourage formalization of businesses by easing the challenges of doing business in India.

Biometrics are helping to reshape India's national identity policies, ensure security, facilitate tax compliance and deliver social services. Conceived in 2009 and rolled out in 2016 the Unique Identification Authority of India (UIDAI) created a 12 digit number, termed Aadhaar, to all residents of India. It is the world's largest biometric identifier program as it is linked to fingerprints, iris scans and certain demographic data. The RBI has required that Aadhaar-based biometric authentication methods be used for electronic payment transactions.

To this end, the Indian government launched the Digital India initiative in 2015. Whether it was because of this initiative or the November 2016 demonetization which unilaterally reduced the amount of cash in circulation, digitization is happening. Specifically:

- The disruption caused by demonetization increased both the speed and urgency of measures that encourage the digitization of transactions and the sharing of information.
- The digital payments infrastructure and electronic payment services described earlier in this paper emerged rapidly following demonetization with particular growth in mobile B2B payments.

The issuance of replacement currency in the second quarter of 2017 slowed the use of digital payments but digitization in payments and other areas appears to be unstoppable. Examples include:

- Millions of Indian citizens who lacked credit cards or bank accounts have entered the financial system with mobile payments, including payments made from basic feature phones.
- Paytm, a company that counts Ant Financial and Softbank as backers has seen acceptance by a growing number of small merchants which resulted in a doubling of its wallet user base in 2017 and triggering the launch of India's mobile-first payments bank.
- The Reserve Bank of India has triggered the migration to an Aadhaar-based biometric authentication method for electronic payments transactions.
- Businesses are increasingly using ACH payments and choosing to direct payments through the SWIFT India platform.

On November 8, 2016 the Indian government announced that certain INR 500 and INR 1,000 banknotes would become invalid at midnight on the day of the announcement. Referred to as demonetization, the stated aim of the action was to curtail the informal economy and cut down on illicit and counterfeit cash. Holders of the affected notes were required to exchange them at banks for a new series of notes in INR 500 and INR 2,000 denominations. In what was effectively a measure of the importance of cash to the Indian economy stock indices fell by hundreds of basis points and severe shortages of the new notes limited economic activity. By August of 2017 99% of the invalid currency had been deposited in banks.

Digital platforms and portals are being embraced by both government and businesses:

- The government has simplified formal registration, payment and reporting requirements through the development and rollout of the eBiz portal, the expenditure information network (EIN), the Goods and Services Tax Network (GSTN) and Import and Export databases.
- Businesses have launched digital platforms to better serve clients by eliminating cumbersome and costly paper-based front-end processes.

In spite of a strong financial imperative, one process area where digitization is not happening at nearly the same speed is trade finance. India lags on many key trade finance metrics, including turn-around time, operating costs, reliance on physical documentation and the requirements for liaison with multiple stakeholders on disparate systems. These limitations prevent transparency, increase the cost of compliance and limit trading volumes which in turn limit the speed and efficiency of trade finance. Overcoming these barriers has proven complex but progress is being made and digitization efforts continue to make headway:

- The RBI has been driving digital initiatives to stimulate trade such as the Trade Receivables Discounting System (TReDS).
- The SWIFT India channel currently enables the use of fully electronic trade finance instruments, including letters of credit, guarantees and standbys.
- A trade finance network Finacle Trade Connect, was launched in the second quarter of 2018 by seven banks to pilot a blockchain technology-based solution to address trade finance process requirements of banks.
- Banks, corporates and fintechs are collaborating in efforts to build a digital trade ecosystem where systems are interoperable in order to facilitate the sharing of data.

Adopting new technologies is inherently risky but governments and businesses around the world—and in India—have decided that the pain and cost are worth the benefits. Digital innovation is becoming the new world order and India is on the way in traversing its own journey.

8. Treasury Technology

Treasurers understand the business process and cost benefit of digitization and have been technology consumers since the days of standalone computers and time sharing. Treasury technology in India is receiving powerful pushes from general treasury technology trends such as applications and APIs, the need to adapt to India's unique approach to digitization and the influx of money into India as a result of liberalization.

There are four major actors in the technology environment:

1. Central government and other state entities
2. Financial institutions
3. Corporate users
4. Technology vendor community

At the government level, aside from the major push to digitization through financial inclusion initiatives and national identity schemes there are the emergence of platforms such as those offered by the NPCI which are largely payment focused. Banks offer the traditional range of portals and mobile banking and are putting significant efforts into connectivity.

While the SWIFT that most treasurers are familiar with is used for cross-border purposes SWIFT India is a local operation founded to help build secure and standard messaging to digitize financial transactions within India. As with conventional SWIFT, plans are in place to make corporates part of the SWIFT India network, providing them with operational efficiencies and access to trade platforms.

Corporates have a number of technology choices in addition to those offered by banks. They include the use of custom technology and custom TMS solutions that enhance visibility over cash which can become a part of a cash repatriation solution. That said these newer more innovative systems address

An electronics distributor with operations in 38 cities had an unwieldy and complex collections process involving high volumes, multiple sales channels, a few banks and large numbers of transaction rejections and repairs, all of which made the process costly and time-intensive to operate. DBS constructed a one bank solution that eliminated redundancies, streamlined processes, consolidated support and enhanced visibility. The solution included the use of virtual accounts combined with customized reporting and the ability to process efficient electronic collections. Collections were further improved with the implementation of a dedicated cheque pick-up facility, bank support to enable a combined current dated cheques (CDCs) and post-dated cheques (PDCs) solution and an innovative report writing system to deliver daily customized reports.

the acknowledged need for enhanced control over working capital and end-to-end integration between ERPs and bank systems. Interest in bank agnostic solutions continue as well as one way to help companies from feeling trapped with proprietary bank platforms.

Given the ongoing digitization of internal processes corporates expect similar digital options for interactions with their banks. In this they are disappointed as in addition to savings from cost, time and risk reduction they are also looking for technology solutions that are:

- Sector and industry specific
- Capable of offering end-to-end customer interaction
- Able to deliver analytics that leverage banking use cases and enable cross-sell
- Secure

Within the vendor community there are a number of ERP offerings that address the needs of small to medium sized company needs. These include SAP and SAP Business One for SMEs, Netsuite, Oracle, Sage, Infor, Epicor, IFS, Tally.ERP 9, Marg ERP9+, CAMS-Exact, MMI Xpert, Astral Manufacturing, Medico Sales & Distribution, Ray Tech Manufacturing, StrategicERP, LOGIC Enterprise, Ramco, Microsoft Dynamics NAV and RPNext. Of this large group Tally.ERP 9 with over 11,000 users in India is probably the most popular.

In terms of the conventional TMS there is something of a void in the market as the global leaders and local players offer solutions that meet some but not all of treasury's needs. Kyriba is building a network of clients and support staff in country but is aggressively focused on connectivity. Outside of corporate they have received awards for their cloud-based payments module for banks. FIS has its sights on the hundreds of millions of underbanked Indians and launched a Financial Inclusion Lab in 2015 to work with the Indian government, banks, entrepreneurs, and nonprofit groups.

Local player IBSFINtech offers financial products and software designed to effectively manage FX, treasury and trade finance through its Treasury Risk Management and Trade Finance Solutions. Pelican, a local and global player offers Payment Factory, sanctions filters and payment fraud detection.

With all that noted spreadsheets are still used widely with corporate treasuries very much dependent upon Microsoft Excel.

Even with the many technology options available, outsiders often recommend an approach that would have treasurers adopting a hybrid system that centralizes risk management and decentralizes cash management. This would likely require the integration of global platforms with customized local solutions in order to satisfy all business and regulatory requirements. Efficient performance will be possible when treasurers select the "right" mix of technology products from among the staggering number of treasury technology products available in the market.

9. Summary

This guide has covered the traditional treasury management topics of banking, payments, treasury technology and foreign exchange. Experienced treasurers will note that while each of these functional areas is different in India than in other major economies such as Europe, the US and Japan these differences are ones of degree. There are high value and low value payment channels, ERPs and other tools. This guide has also covered less traditional topics such as digitization and the regulatory environment.

These topics add required context to the traditional areas and serve to better explain why things are the way they are now and offer a roadmap to where treasury might be in three to five years.

India can't be ignored and it can't be conquered. Treasurers must have a clear understanding of their business objectives and the treasury environment in India. From this, with assistance from local partners and staff can come the treasury strategy that will be most effective for their company.

India is not "just like" another country only with a larger population and different currency. Developing a treasury solution is not easy and not quick. But it is possible.

10. Appendices

Glossary of Acronyms

Aadhaar	Unique 12 digit identification number for Indian citizens
AEPS	Aaahaar Enabled Payment System
BIC	Bank Identifier Code
BHIM	Bharat Interface for Money
CLB	Company Law Board
Crore	10,000,000 or 100 lakhs
DIC	District Industry Centre
FDI	Foreign Direct Investment
FEDAI	Foreign Exchange Dealers' Association of India
FEMA	Foreign Exchange Management Act
FIPB	Foreign Investment Promotion Board
GOI	Government of India
GST	Goods and Services Tax
IBA	India Banks Association
IBAN	International Bank Account Number
ICICI	Industrial Credit and Investment Corporation of India
IFCI	Industrial Finance Corporation of India
IDBI	Industrial Development Bank of India
IFSC	Indian Financial System Code
IMPS	Immediate Payment Service
INR	ISO code for India Rupee
Lakh	100,000
MMID	Mobile Money Identifier
NACH	National Automated Clearing House
NEFT	National Electronic Funds Transfer
NG-RTGS	Next Generation RTGS
NPCI	National Payments Corporation of India
NRI	Non Resident Indian
PDC	Post Dated Cheque
PSC	Pre Signed Cheque
RBI	Reserve Bank of India
ROC	Registrar of Companies
SFC	State Financial Corporation
SIA	Secretariat of Industrial Assistance
SIDC	State Industrial Development Corporation
SSI	Small Scale Industries
SSIDC	Small Scale Industrial Development Corporation
SWIFT India	SWIFT India Domestic Services Pvt Ltd
UIDAI	Unique Identification Authority of India
UPI	Unified Payments Interface

Key English Language Websites

CLB	http://clb.gov.in/
FEDAI	http://www.fedai.org.in/
IBA	http://www.iba.org.in/
ICICI	https://www.icicibank.com/
IDBI	https://www.idbi.com/index.asp
IFCI	http://financialservices.gov.in/banking-divisions/Financial-Institutions-and-others/Industrial-Finance-Corporation-of-India-(IFCI)
NPCI	https://www.npci.org.in/
RBI	https://www.rbi.org.in/
ROC	http://www.mca.gov.in/MinistryV2/registrarofcompanies.html
SWIFT India	https://www.swiftindia.org.in/
UIDAI	https://www.uidai.gov.in/

Foreign Banks in India

List of foreign banks in India as on January 31, 2018

Bank	Nationality	Number of Branches
AB Bank Ltd.	Bangladesh	1
Abu Dhabi Commercial Bank Ltd.	UAE	2
American Express Banking Corporation	USA	1
Australia and New Zealand Banking Group Ltd.	Australia	3
Bank of America	USA	4
Bank of Bahrain & Kuwait BSC	Bahrain	4
Bank of Ceylon	Sri Lanka	1
Bank of Nova Scotia	Canada	3
Barclays Bank Plc	United Kingdom	6
BNP Paribas	France	8
Citibank N.A.	USA	35
Cooperatieve Rabobank U.A.	Netherlands	1
Credit Agricole Corporate & Investment Bank	France	5
Credit Suisse A.G	Switzerland	1
CTBC Bank Co., Ltd.	Taiwan	2
DBS Bank Ltd.	Singapore	12
Deutsche Bank	Germany	17
Doha Bank	Qatar	3
Emirates Bank NBD	UAE	1
First Abu Dhabi Bank PJSC	UAE	1
FirstRand Bank Ltd	South Africa	1
HSBC Ltd	Hong Kong	26
Industrial & Commercial Bank of China Ltd.	China	1

Bank	Nationality	Number of Branches
Industrial Bank of Korea	South Korea	1
J.P. Morgan Chase Bank N.A.	USA	4
JSC VTB Bank	Russia	1
KEB Hana Bank	South Korea	1
Krung Thai Bank Public Co. Ltd.	Thailand	1
Mashreq Bank PSC	UAE	1
Mizuho Bank Ltd.	Japan	5
National Australia Bank	Australia	1
PT Bank Maybank Indonesia TBK	Indonesia	1
Qatar National Bank	Qatar	1
Sberbank	Russia	1
SBM Bank(Mauritius) Ltd	Mauritius	4
Shinhan Bank	South Korea	6
Societe Generale	France	4
Sonali Bank Ltd.	Bangladesh	2
Standard Chartered Bank	United Kingdom	100
Sumitomo Mitsui Banking Corporation	Japan	2
The Bank of Tokyo- Mitsubishi UFJ, Ltd.	Japan	5
The Royal Bank of Scotland plc	United Kingdom	1
United Oversea Bank Ltd	Singapore	1
Westpac Banking Corporation	Australia	1
Woori Bank	South Korea	3