ITC INFOTECH

Business-friendly Solutions

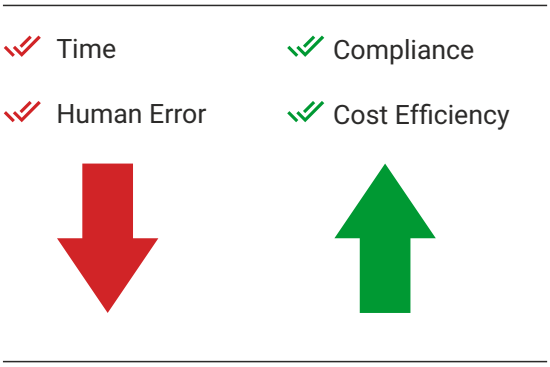
Adopting a Component Based Approach for Treasury Product Implementation

Executive Summary

Treasury management today has become an ever-evolving function with treasurers having to work with an increasingly complex business landscape to ensure that everything is kept on track. As businesses become increasingly global in their activities, factors such as liquidity and cash management, foreign exchange (FX) volatility, constantly changing compliance regulations and market restrictions have made the treasurer's job extremely layered. In view of these factors, maintaining efficient treasury management is no easy task. Automating treasury functions by adopting a Treasury Management System (TMS) helps streamline treasury operations.

A Treasury Management System (TMS) is a software application that automates the repetitive steps needed to manage a company's cash flow and the related finance obligations. A TMS can either be implemented in-house or purchased as SaaS from a third-party provider. A prime example of automated treasury management is Algorithmic Trading or Automated Trading that has been in use for several decades. In automated trading, traders and investors can set rules for trade entry and exit along with money management in automated trading systems which execute and monitor trades without any human intervention. Research shows that roughly 75% of shares traded on U.S. stock exchanges come from automatic trading systems.

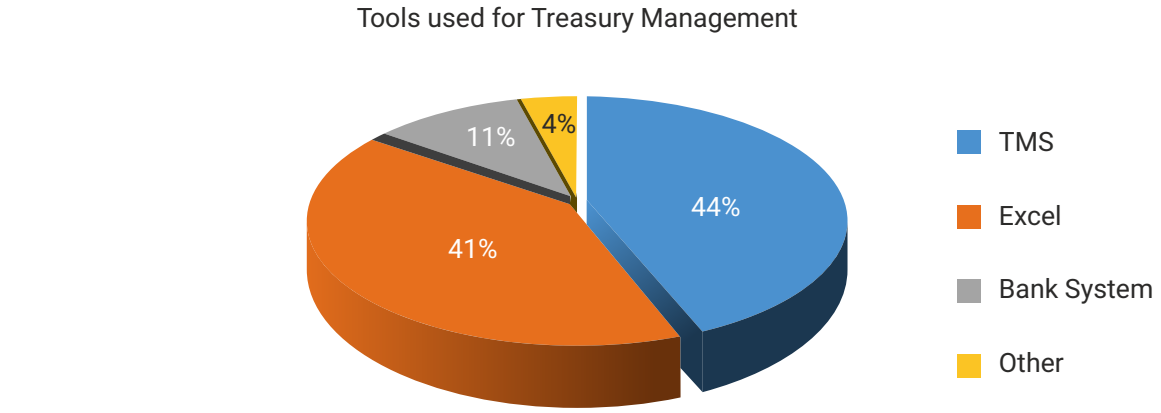
Primarily, a TMS consists of hardware, software and real-time data for cash positions, interest rates, payables, receivables and foreign exchange rates. By their very nature, treasuries are complex entities, often requiring automated help in order to achieve operational efficiency. There are many advantages to adopting automated treasury technology in business. Some of the primary benefits include reduction in time and human error, better compliance and cost efficiency.



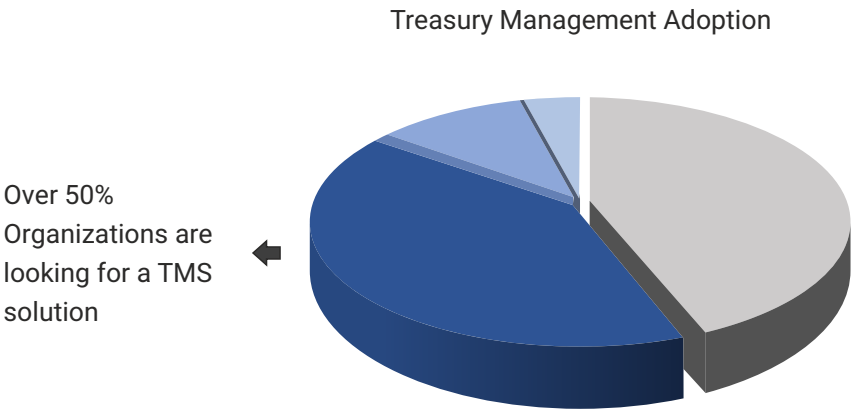
In order to tap into these benefits, even relatively smaller banks, finance companies and corporates are turning to TMS to achieve treasury automation. Implementation of TMS involves a systematically structured approach to effectively integrate a software based service or component into the workflow of an existing organizational structure. Organizations today are looking at commercial off-the-shelf products (COTS) as a viable option to supplement, enhance, or replace proprietary TMS systems. Using COTS product for treasury product implementation promises cost efficiency and improved functionality, as compared to the development and maintenance of proprietary information technology applications. However, failure to successfully implement the components of COTS continues to result in projects that are delivered late or over-budget. Hence, in order to ensure effective implementation of a treasury product project, a strategic implementation roadmap is imperative.

Introduction to Treasury Management

A steady shift in the strategic importance of treasury management in organizations has impacted the way they are built and managed. They are constantly expected to keep pace with increased demands and play a more strategic role in business. With a global change in compliance norms and regulatory mandates seeking financial transparency, an increasing number of organizations are making a significant change in their treasury function. One such change includes adopting automated treasury models such as a Treasury Management System. As per recent statistics, about 44% of global organizations have implemented TMS, while the rest still handle treasury processes with Excel, internal bank systems, and other tools.



However, over 50% of the companies are looking for a TMS solution as they don't already have one.



The Intricacies of the Treasury Management System

In spite of evolving technology surrounding treasury management, TMS has remained the preferred solution for driving the automation of treasury functions, starting from the processing and integration with other systems to the harmonization of enterprise technology. While it's easy to think that for organizations using an ERP solution TMS is not required since both the tools fulfill similar roles, it is not the case. The primary difference between the two lies in specificity. While modern ERP solutions are capable of handling many treasury functions and provide access to banking links, they remain a generic "single system" tool to back-office functions. On the other hand, TMS is capable of offering high-level risk management analytics, complex product coverage, and compliance with federal finance standards. These make the TMS's approach to treasury processes specific and focused on delivering the most efficient treasury function. However, in order to reduce the need for customization in future, TMS solutions must be chosen based on the current as well as the forecasted business requirements of an organization.

Types of TMS

There are two types of basic TMS solutions - local or installed systems and cloud-hosted or SaaS systems.

Local systems, also known as an 'installed' TMS, are those which are developed in-house or installed post purchase, on the business' own servers. Because the software as well as the data is all managed internally, installed TMS's provide the maximum amount of control over the features and security protocol. However, the entire onus of managing the system falls on the organization itself, requiring a skilled IT team or top-end third-party support to be hired.

On the other hand, the software-as-a-service (SaaS) cloud-based systems offer a number of benefits such as speedy implementation and deployment, high availability and built-in provider security. Although the system is not exclusively managed by the organization and its employees in turn resulting in reduced control, it is a preferred option. The primary reason behind this is that cloud-based systems are cheaper and offer hassle-free operation.

Benefits of using TMS

Reduced Operation Time

Since TMS automates all the processes which traditionally are manual in nature, the overall time required to carry out complex operations is less. The traditional treasury management process involves manually entering every transaction along with revenue data details. This is a lot of time wasted that treasurers could instead invest in more important, strategic tasks. Processes such as variance analysis and advanced cash flow forecasting take far less time than usual when done through a TMS.

Human Error is Avoided

With mounting pressure on treasury departments to keep abreast of changing regulations while also ensuring reporting excellence, there is no room to deal with the consequences of manual error. Hence, one way to eliminate manual treasury management is to automate it with the help of a TMS. A TMS eliminates the need for spreadsheets and manual processes, in turn mitigating the risk of manual data entry.

Better Compliance

Due to the aforementioned risk associated with manual treasury management, compliance also suffers. Compliance infringements can cause much harm resulting in heavy fines and penalties, and worse still, in harming the reputation of the company. Additionally, manual processes can be tampered with, deliberately entering incorrect data with fraudulent intent. Adopting an automated solution such as a TMS eliminate this risk.

Adopting a Component Model for TMS - What does it entail?

Component-based development (CBD) is an important topic in software engineering, with benefits such as increased reuse, reduced time to market, and, hence, reduced software production cost. The cornerstone of a CBD technology is its underlying software component model, which defines components and their composition mechanisms.

A component, in the parlance of a Treasury product implementation, can be defined as a relatively independent part of a product implementation and is characterized by its functionality and the interfaces it offers.

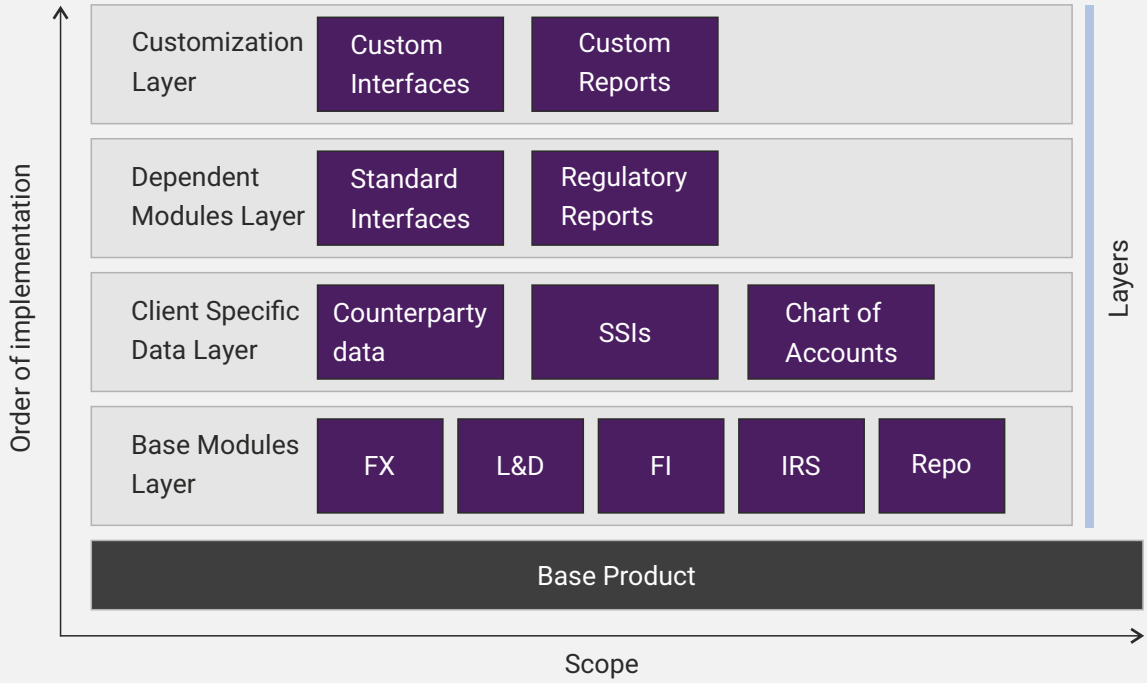
A **Component Model for treasury implementation** is a layered entity organized in a specific hierarchy. The hierarchy consists of the functional components, their prerequisites and interdependence, and the way they collaborate with each other to deliver the required functionality. It describes Functional Components, Interfaces, Customizations, Packaging and Deployment etc. The application of a Component Model to a Treasury product implementation can help achieve the benefits of Component-based development (CBD) like reduced time to market and reduced implementation costs.

Visualizing the Components in a Treasury Model Implementation

The components in CBD are segregated into four layers, the Base Module, Client Specific Data, the Dependent Modules and Customizations. When the treasury product is implemented , a Base Product is a prerequisite. All the other components essentially sit on top of this base product. The description of each component in a treasury implementation, its prerequisites and inter-dependencies are as shown.

Components	Description	Pre-requisites and inter dependence
Base Modules	• Foreign Excchange • Money Market • Fixed Income • Individual derivative instruments Each of the modules e.g.Money Market, can be further broken down into smaller modules like loans, deposits, Repo, Reverse Repo etc,	Relatively independent and are self-sufficient
Client Specific Data	Counterparty Data, SSIs, Chart of accounts, Calendars etc.,	These components sit on top of the Base Modules
Dependent Modules	Standard Interfaced, Standard Reports, Regulatory Reports	Need Base Modules and client specific Data already setup in order to function meaningfully
Customizations	Functional Customisation, Custom reports, Custom Interfaces	Need Base Modules and client specific data already setup to function meaningfully

Shown below is the graphical representation of a Component Based Model for Treasury Product Implementation, in which the four layers can be seen sitting on top of the base product.

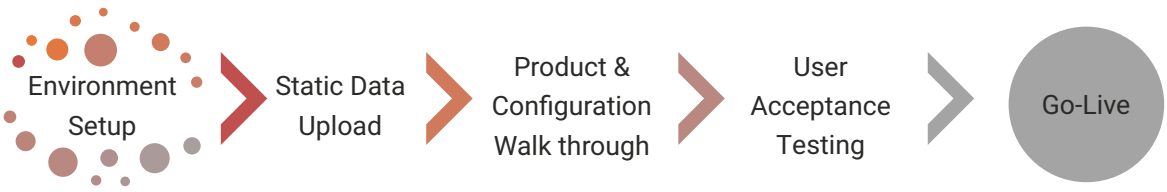


The application of a Component Model to a Treasury product implementation can help achieve the benefits of Component Based Development (CBD) such as a reduction in time to market and reduced implementation costs.

Key Features of Adopting CBD for Treasury Management

In order to ensure that the CBD for treasury management implementation is effective, the following pointers should be kept in mind:

- Ensure that each base module is:
- Pre-configured with standard parameters and workflows - This includes assessing the critical needs of a treasury department, creating each component using universally accepted industry standards and a thorough validation to ensure that all the components work smoothly in a standalone mode as well as when they work in tandem with other components. This significantly reduces the effort and timeline for the implementation of base modules.
- Self-sufficient and deployable independently - For this to happen, each base module should include product configurations (parameters, workflows etc.) and static/standing data required by the module.
- Implemented as Phase 1 of the project and the rest of the requirements which need additional configuration and customization should be pushed to Phase 2. This approach of implementing the base modules functionality in phase 1 of the project would serve following purposes.
    - Can be moved to production relatively early with standard functionality.
    - Provides great opportunities for an iterative and incremental approach of rolling out functionalities gradually.
    - Hels identify the next set of critical functionalities as part of phase 1 - This gives users a chance to get familiar with the base modules and identify the delta 'must have' functionality that should be included in Phase 2. This puts a check on the budget of implementation project and especially helps Tier 2-5 Banks where budget is a constraint.
    - Ensure that the modification to the base modules should be minimal. The standard configuration may not satisfy all the functional requirements. However, it is not a good idea to make extensive modifications to the standard configurations as it negates much of the productivity increase obtained from the Component Model.
- The configuration phase should focus only on the client specific data which mandatorily requires setting up data provided by the client. This should be done using data upload tools and should avoid any manual data entry in order to improve efficiency of the implementation.



- The Component Based Model Implementation should adhere to the following approach:
- Each component in the Component Model needs to be documented clearly, accurately and independent of other modules.
- The diagramming and documentation of each component should include the processes, inputs and outputs from the component. This documentation should supplement the product documentation from the product vendor and should be used in conjunction with the product documentation. This would avoid duplication of documentation from the product implementation teams.
- Representative test scenarios are an effective way to showcase the pre-configured system. User training should be done after the system is loaded with client specific data and is ready for User Acceptance testing. This will provide users with the complete view of the system and would enable them to identify additional configuration and customization requirements.

Conclusion

This model is best suited for Banks where going Big Bang (read implementation of all the product functionalities) is not a preferred option. This might be due to various reasons such as constraints on budget, non-availability of skilled resources or simply not seeing the value from the complete implementation. In this approach, Banks can prioritize their treasury requirements and can only opt for critical components. Thus this approach provides an affordable and efficient Treasury solution that optimizes returns by focusing on standard best practices on a limited relevant scope as opposed to the prolonged conventional approach. The component based approach for treasury product implementation proves to be an affordable and efficient treasury solution. More recently, most of the TMS vendors are contemplating moving with their Treasury to a cloud platform. The willingness of the banks to go for a cloud based solution can further optimize the cost of Treasury product implementation.

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Author Profile

Deodatta is a General Manager at ITC Infotech and leads the Treasury and Capital Markets team. He has 23 years of experience in treasury and core banking implementations and has worked across all geographies. He has led complex treasury transformation engagements and helped in fine tuning the strategic roadmap of the organizations. As part of this journey, he has explored various methods of streamlining product implementations and optimizing implementation cost and time line.

Treasury and Capital Markets team at ITC Infotech provides implementation services for multiple industry leading treasury applications. The team has developed several tools and templates to improve reusability and process efficiency.

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