The Benefits of Optimized Cash Supply-Chain Management

An integrated solution optimizing all aspects of a bank’s cash supply-chain can achieve significant and measurable cost savings and increase efficiencies throughout the ATM-, branch- and CIT-network.

Treasury departments of financial institutions often view the management of physical cash as an unavoidable but necessary part of their business – and usually not as core to their business activities. Yet, on the other hand, cash is perceived as sensitive and in most cases cannot be outsourced completely. At the same time, even after many years of ongoing payment innovations, cash is by far still the most dominant payment type -- and despite the alternatives, circulation of cash still keeps increasing.

So the business case is clear: Cash is costly, needs to be accounted for within the bank’s internal processes and systems and will not be replaced in the foreseeable future. Putting things together, only a consistent automation of the processes around cash with a true optimization solution for the entire cash supply-chain can sustainably reduce costs and permanently increase process efficiencies.

Automating cash-forecasting and replenishment-planning complexity far exceeds the possibilities of spreadsheets, which are often used as the first in-house “tools”. Subsequent internal IT development efforts usually fail to reach the optimization performance of state-of-the-art solutions and therefore leave substantial money on the table. What’s more, they are usually not highly automated, involve many manual processing steps and are hard to maintain over time.

Putting the pieces together, decision makers should early on consider to invest in a professional software solution, because with the right software partner, the full ROI can often be achieved within 6 to 12 months and substantial savings will continuously be delivered long before an in-house project could even begin to deliver value.

Service levels, planning complexities and increasing costs

Access to cash around the clock, cash deposits into bank accounts or the use of cash recycling ATMs close to retail locations are regarded as standard banking services in our modern world. The high level of customer convenience presents banks and service providers with a great challenge: ATMs that can supply or receive any required amount of cash in any denomination at any time are the result of complex planning by banks and their service providers. Cash stocks must be
monitored across different stages, replenishing ATMs or recyclers and optimally levelling branches must be controlled. And the amount of cash required daily is by no means constant, but is influenced by many factors. This makes adaptive forecasting and planning of cash stocks by denominations a complex science rather than an art.

Due to required logistics and increased recycling automation, the cost and complexities of cash handling are constantly increasing. Both, visible costs (the CIT bill at the end of the month) as well as hidden costs (such as personnel and interest expenses) put pressure on effective automation.

**Economic situations influence the ‘flavor’ of the savings**

Because of central bank decisions, different cost scenarios exist. These days, large economic areas such as the Euro-zone or the Dollar-zone are characterized by very low interest rates. Other areas, such as emerging economies still exhibit high interest rates. In general, central bank rates are reflected by inter-banking rates, which are commonly used for the evaluation of cash holding costs by the bank’s treasury.

Against a popular misconception, it is important to realize that in both scenarios, low or high interests, the potential cost savings are significant: In high-interest-phases, they arise from reducing cash inventories (with possibly a modest increase of transportation costs). In low-interest phases, reduction of logistics- and handling costs by optimal “just-in-time” deliveries are ruling the savings. Even if those savings may be a bit lower, they are still quite significant.

In a dynamic world, a strong cash management solution plays out one of its strengths: With dynamic algorithms that automatically adapt to current cost parameters over the years, the overall costs are always pushed to the possible minimum, no matter how the scenario develops.

**Relevant solution characteristics**

To achieve on-target planning, software solutions with advanced forecasting and planning algorithms are the key factor. True cash-supply-chain solutions can significantly reduce logistics costs for cash, unleash internal resources, reduce cash inventories tied up in ATMs, branches and vaults – and automatically compute cash levels so as to minimize the overall costs for cash handling – automatically accounting for all cost types even as cost parameters vary over time.

And solutions exist in the marketplace that take a broad view of the entire cash supply-chain optimization, leading to a high degree of automation across all logistics stages, “just-in-time” deliveries of cash to the destination, equally available for management of branch needs and independent of specific ATM-types or vendors.
They can even protect against possible bankruptcy by the service partners, provided they allow for track&trace of cash shipments that were ordered by the bank and the funds collected from the central bank or cash center by the CIT in an integrated way.

**How to choose the right solution?**

Aside from the importance of high quality forecasting and fully-automated planning algorithms, only an integrated cash cycle solution provides the bank, its cash management team and its service partners with the ability to integrate and optimize all workflows across the supply-chain in one central solution.

Even if not all aspects can be targeted right from the beginning, it is advisable for decision makers to be visionary and consider the entire picture to be handled eventually, all processes which eventually will be affected along the cash supply chain.

An integrated cash management solution will be able to provide the following core functionalities:

- **Demand forecasting and Replenishment-Planning:** Daily cash stocks for ATMs and branches are forecasted and orders are provided by automatic recommendations for replenishments and return shipments. All this happens at the denomination level, because cash does not equal cash – it matters a lot to customers what “size” of cash they receive. Efficient solutions forecast the demand by taking into account special parameters like weekends, holidays, paydays, seasonality, shipments-timings – necessarily separating denominations and flow-directions within their internal data structures.

- **Branch synchronization:** Decision makers have to consider workflows and contracts with their service partners. For example, if the cash-in-transit provider charges separate prices for a stop and a cash replenishment operation (which it wisely does if travel times matter), the solution needs to optimize the overall costs – often leading to several cash points being replenished with one service stop at the branch. All this of course needs to be possible without being overly limited to a static service patterns. In branches where bank employees service ATMs taking funds from the overall branch delivery, synchronized cash orders for all cash points become indispensable.

- **Cash Ordering & Tracking:** Once individual cash point replenishments have been approved, the cash ordering process needs to be propagated upward in the supply chain through vaults and cash centers to the central bank. A cash management solution should provide the tools to intelligently manage the vault orders and facilitate the electronic ordering processes (e.g. through electronic central bank protocols like CashEDi, Interop etc.). To consistently track cash across the supply chain, it needs to provide order tracking to document the ownership of cash movements. Consider that it is far from standard practice for banks to document where their millions of shipments are moving in times
where every internet purchase can be tracked, even if its value does not justify it. This way, in case of insolvency of a CIT, the bank can prove their claims on cash ownership.

- Tour Planning: To round off the business case, the solution additionally should offer integrated tour planning, by combining algorithms for cash planning and tour allocation. The integration of delivery processes reduces personnel efforts for tour disposition and improves delivery timeliness. But most importantly, predictive planning with advanced algorithms achieves balancing of vehicles and team utilization – which in turn reduces both costs and capacity bottlenecks, thereby avoiding expensive overtime. Existing capacities can be utilized to the maximum, thereby running the whole supply-chain at maximum efficiency.

For a supplier evaluation, it is of importance also to consider the „time-to-value“ of the project. An accurate assessment of the specialization of the vendor is therefore recommended. Sometimes, considerably higher than the cost of the IT-project can be the opportunity cost through project delays and therefore the delays in saving. Therefore, a careful assessment of the vendor’s specialization to the domain is advisable. During the supplier evaluation, focus should be placed on a relevant demonstration of technical expertise, proximity of the implementation team to the customer as well as international references.

Summary

Without the use of commercial software solutions, cash planning still remains a predominantly manual task. As a result, the cash stocks in some ATMs are often too high, while levels at other locations are too low. Overall, high costs arise due to excess cash stocks, frequent transport and, in particular, expensive rush service operations. An integrated and optimized cash supply-chain solution can free up resources; reduce cash inventories tied up in ATMs and branches and significantly save interest and transportation costs while freeing up personnel resources.

About planfocus

planfocus® software GmbH, headquartered in Munich/Germany, is the technology leader for solutions to optimize the cash supply chain. A daily value of over 250 million euros in cash replenishments are executed based on the planfocus® software suite, CPTO® (Cash Point and Transport Optimizer). planfocus® means next generation cash management and return on investment within a very short time!

Since its founding in 2004, planfocus® has developed to become an international leader in the field of optimized cash supply chain management. planfocus® is widely known for its technical expertise, reliability and competence in supply chain optimization and cash handling systems. CPTO® is a highly configurable, high-
performance solution that includes some of the most advanced forecasting and planning algorithms in the industry, yet remains easy-to-maintain.

The CPTO® solution is one of the most widely used solutions in Europe. In 2012, the solution generated fully automatic cash order volumes exceeding 80 billion euros for ATMs, bank and retail branches. Our references include some of the largest banking data centers, such as Finanz Informatik (Sparkassen Finanzgruppe), FIDUCIA and VOEB-ZVD (Deutsche Postbank) as well as numerous international banking institutions. At planfocus®, we work hard to meet the goals of providing maximum savings and highest quality for our customers.

More information is available at www.planfocus.com