MODERN CASH MANAGEMENT. 5 CHALLENGES FOR CASH MONITORING AND FORECASTING SOFTWARE SOLUTIONS

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INTRODUCTION

Cash management systems in banking and other organizations are developing rapidly over the past several decades, continuously increasing in functionality. Because of the growing demand for quality and additional functionality of solutions, "self-written" programs of credit and financial organizations and cash-services lose credibility. This forces one to choose one of twenty popular products on the market.

However, current trends in the banking sector are becoming a challenge not only for individual artisanal solutions, but also for very successful advanced products. Due to the ever growing customer demands and technological capabilities, CM products continue to progress. However, currently developers of specialized software for cash management mainly focus on creating solutions for the most popular issues and less on the additional functionality.

1 FORECASTING CASH COLLECTION FOR CASH RECYCLING SYSTEMS

"For financial institutions, the cost of handling cash represents a significant part of ATM operating costs. In a CRM, since the cash deposited by the customer is also recycled for withdrawal, the frequency of cash loading and replenishment can be minimized, reducing the number of CIT (Cash-in-transit agency) visits, in turn reducing CIT, cash sorting and cash handling costs.".

– The Financial Express, 2018[1]

Creation of algorithms for forecasting the demand for cash at each point of reception and issuance of funds is not an easy task. Software developers often invite highly qualified scientific staff to assist in the development of their products: for example, the formula for forecasting cash demand Cash Management·iQ was derived by specialists of the Kaunas University of Technology in Lithuania.

The introduction of cash recycling systems (ATMs and safe-recyclers) significantly increased the difficulty of the problem. The possibility of using the funds deposited by customers for subsequent issuance significantly complicated the algorithm of forecasting and proper collection planning.

Therefore, a single device can change its working status several times during one day. For example, an automated cash machine in a large shopping and entertainment center may have insufficient cash reserves at the beginning of the day, which is a significant issue because shoppers want to use cash to pay for coffee, movies or other services. However, a short while later the recycler may become overloaded due to the fact that employees of local outlets use these devices to deposit daily revenue.

Thus, devices become unavailable for significant periods, and proper collection planning becomes a much more difficult task.

2 TRACKING THE FULL LIFE CYCLE OF BANKNOTES AND COINS

Requirements can change even for such a standard function of cash management systems as the delivery of cash from the bank vault to ATMs. To unify the procedure for tracking packaged banknotes and coins, modern specialized solutions use various generally accepted standards. In particular, many European banks use the GS1 standard for marking and reading bar codes.

Such standardization allows building the most efficient infrastructure for ordering, receiving and redirecting funds to end points at the level of relations between the bank's cash centers and the central bank's storehouses. The staff of the bank or cash collection service, equipped with barcode

"Operational risk management includes business contingency and change management procedures. Proper master data and the EDI capability of customer and service suppliers enable to react faster and efficient in case of emergency. Takeover of new service points or a capacity switch between services organizations can be executed flexible and reliable. Multi-vendor management strategies and operational target to uptime of systems and service delivery can be assured".

– GS1 Germany, 2013[2]

readers, perform routine logistics procedures faster and more qualitatively, which reduces the negative impact of the human factor.

In the short term, strengthening the position of standards similar to GS1 should allow real-time tracking of the path of each bundle of banknotes or coins within the cash circulation system of a bank or other organization.

3

IDENTIFICATION AND REJECTION OF WORN OUT BILLS

"Hundreds of millions of banknotes are returned each year because they are old, worn or dirty.".

- Bank of England, 2018[3]

The life cycle of banknotes includes a final destination - transfer to the central bank's storage for recycling. Timely tracking of worn banknotes in the bank, trade network or other organization is also an important task of cash management systems.

Not all suppliers of specialized solutions give this problem due attention, being content with rejecting only the most damaged bills, whose replacement is mandatory. Thus, such

low quality bills can again make their way to the purse of the end customer, which is likely to affect his mood negatively and give second thoughts to visiting a particular branch of the bank or a trade point in the future. Tracking worn-out banknotes in the system avoids such a problem by accumulating banknotes of inadequate quality at the level of regional and central repositories for further transfer to the appropriate central bank subdivision.

INTEGRATED CASH COLLECTION MANAGEMENT

The main driver for using cash management systems is the possibility of directly saving money on the number of CIT trips, whose costs for personnel, transportation and special equipment are very high. Accounting for these costs and optimizing the execution of orders requires specialized software developers to go deep enough into the work of the cash collection services.

Not all cash management systems allow forming optimal routes for collection, efficiently managing cash collection teams. Thus, the actual problems of the specialized delivery services themselves seem to be left without due attention of solution developers.
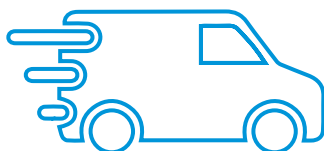
Deployment of an integrated system, which includes routine operations of cash collection services, allows creating a single organic working environment for the bank, outlet and cash delivery service, achieving operational excellence.

Optimization example

5%
Interest rate

$35+
CIT visit cost

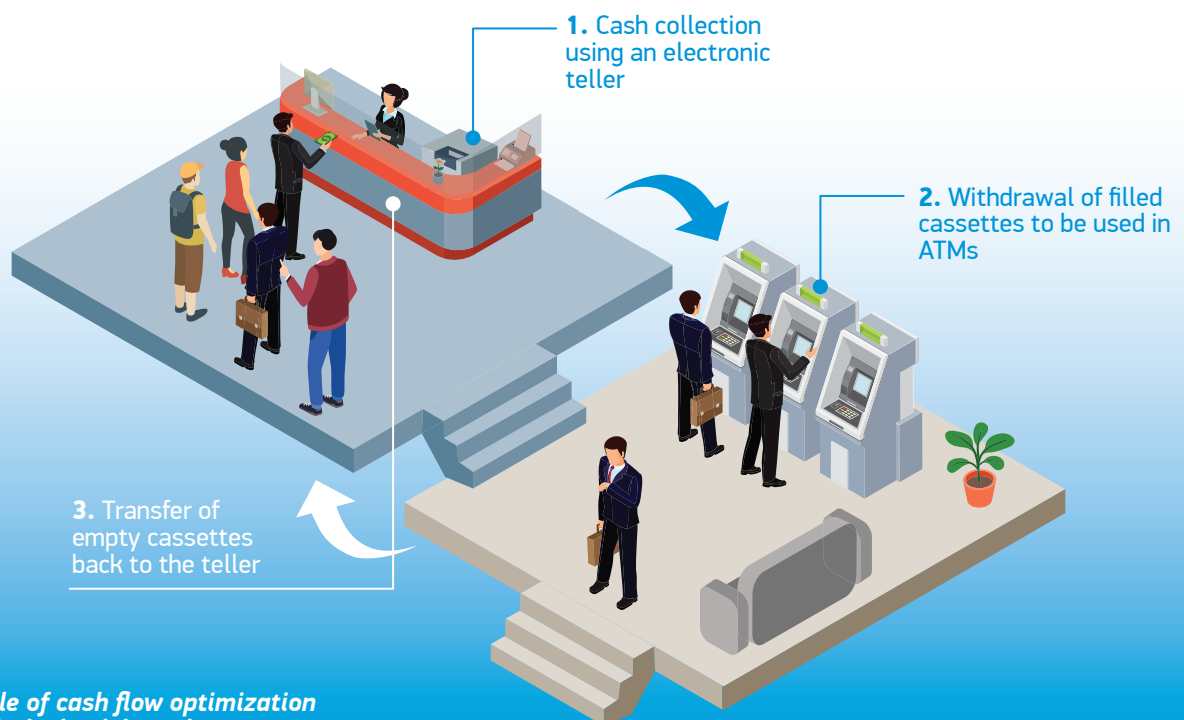**More than $500 000** to save annually for average 500 ATM fleet using Cash Management [4]

5

MANAGEMENT OF CASH TURNOVER AT THE MICRO- AND MACRO-SCALE

The modern approach to cash management implies the organization of small, medium and large cycles of cash circulation within the organization. Specialists identify at least four specific cycles: inside a self-service device (recycler), within a bank branch or retail outlet, between several bank branches or retail outlets, and a cycle, that includes a whole network of self-service devices, bank branches and other points of receipt and withdrawal of cash, as well as a bank vault.

It is believed that the shorter the circulation cycle of cash, the more effectively the organization manages the money used.

One can agree with this with some reservations about the practical use of recycler devices.

Modern cash management systems should manage cash flows within each cycle and provide the analytical data necessary for the development and reorganization of the customer infrastructure (bank branches, fleet of self-service devices, etc.). Ultimately, an important requirement for such intellectual systems, along with the provision of standard operation reporting, is the possibility of conducting a periodic rapid audit of the efficiency of cash flows within the client ecosystem.

1. Cash collection using an electronic teller

2. Withdrawal of filled cassettes to be used in ATMs

3. Transfer of empty cassettes back to the teller

Example of cash flow optimization withinh the bank branch

CONCLUSION

Overall, cash management software solutions deeper and deeper take roots into banking infrastructures. The times, when trivial Cash Point monitoring was more than enough, are gone. Permanent improving and sharpening of software functionality in demand indicates the market leaders. Their products are successfully used for banks and CIT services reducing up to 30% of operational costs.

BS/2 specialists will be glad to tell you more about the Cash Management.iQ product, which allows to effectively manage cash circulation within the infrastructure of banking and other organizations, to forecast the demand for cash at each point of receipt and delivery of funds, as well as to control the progress of collection. Contact the company representatives for detailed information about the capabilities of the software solution and the stages of its implementation.

Daniel Fukson
Business Development Manager
Penkiu kontinentu bankines technologijos (BS/2)
+370 (620) 21152 | daniel.fukson@bs2.lt | swsales@bs2.lt

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