

Example of Business Operational Efficiency Improvement at Food Supermarkets through Implementation of USCOS

Kiyoshi Takahashi Megumi Hirai
Tomoaki Kaneko

Improvements to the efficiency of business operations have been actively considered in the supermarket industry, which has long been suffering from sluggish business. A case example that focuses on improving the efficiency of operational tasks relating to the proceeds, cash management and use of funds, will be introduced.

Cash related tasks at ordinary supermarkets involve preparing change in order to start sales operations, verifying the proceeds when the cash register operators are replaced, sorting change from the proceeds and preparing money for change at each cash register. These respective tasks take up a considerable amount of time, particularly at stores where many cash registers are in use.

With regards to the management of cash clerical staff in charge of managing cash tally the cash on hand either manually or by using a tallying machine when operators are replaced at cash registers or at the end of each business day. When the amount of actual cash on hand calculated through such means is compared with the logical cash on hand according to the POS register records, it is not unusual to find that the amounts do not match.

In the current fund management system an excessive amount of change is needed to ensure that there will be no shortage of funds for change given to customers, which means large fees must be paid to the banks and security companies to whom the transport of cash is requested.

This paper will introduce a case example in which these issues were resolved through the implementation of cash deposits and dispensing machines, "USCOS (Universal Service & Cash Order System)", at the location of a client (food supermarket), as well as comments by the client after the implementation of the system.

Background of considerations by client for system

The food supermarket (client) that implemented the system is comprised of approximately 30 stores, each of which has a daily proceeds of approximately JY3 million, with an average of about six to seven cash register units.

This supermarket was using change distribution and proceeds collection services of a bank through a security company without special equipment, such as a proceeds tallying machine, by managing everything manually.

Issues existed that the client required to be solved:

- Reduce the load on cash tallying operational tasks.

- Reduce the load on change preparation operational tasks.
- Efficiently manage operating funds.

Oki Electric distributes USCOS to food supermarkets with the cooperation of security companies providing cash management services in the distribution industry. A proposal for improving operational efficiency and operating funds, formulated based on the understanding of the circumstances relating to the food supermarket, was made by a sales person at the security company that provides secured transport services to the food supermarket introduced here. Upon receiving the said proposal the client decided to participate in a trial run of the USCOS implementation at one of their stores to evaluate the effects, before distributing the system to other affiliated stores.

Outline of USCOS

USCOS is equipment installed in distribution outlets for the purpose of managing cash in stores, such as the proceeds and change.

(1) Main functions

- Its function is to dispense the change preparation funds, such as notes and coins, in cash registers.
- Once the cash from individual cash registers is received the cash depositing function manages the funds for the proceeds and change separately.
- The cash recycling function efficiently operates and collects the cash.

(2) Features of USCOS

• Improving efficiency of operational tasks

The tallying of change for each cash register is no longer necessary.

Separating the proceeds from the change is no longer necessary.

The installation and operation of a diverse range of equipment combined for cash management that requires complex operations are no longer necessary.

• Improving efficiency of management

The management of operational records for disbursement and deposits at individual cash registers as well as for each operator is possible (used when verifying calculation errors).

Depositing the proceeds and disbursing change can be performed even when managers are not readily available.

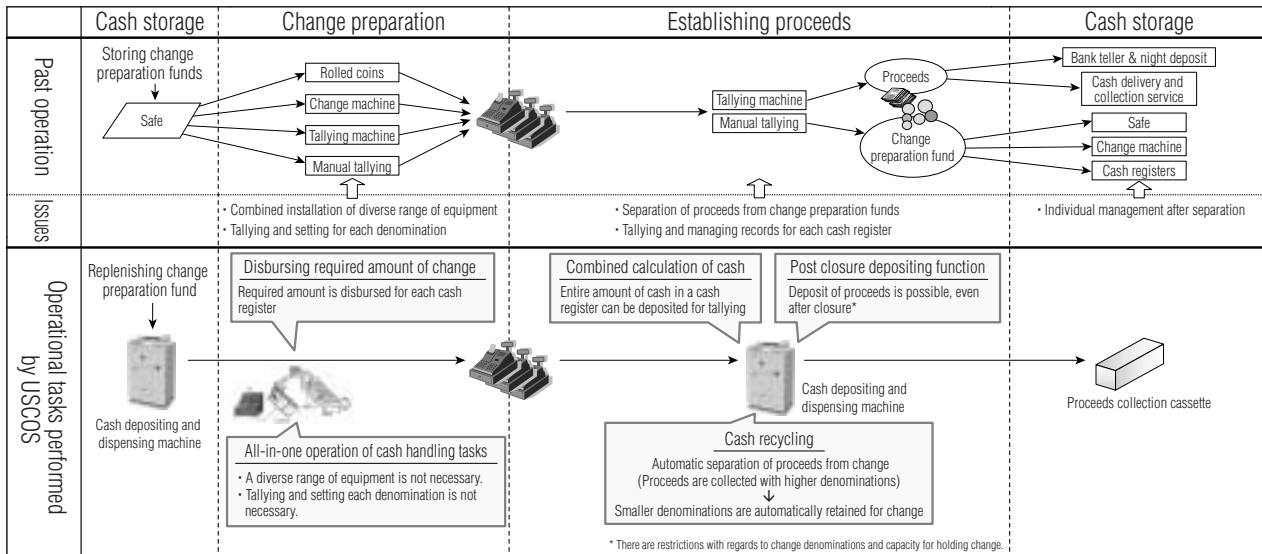


Fig. 1 Improving operational efficiency with USCOS

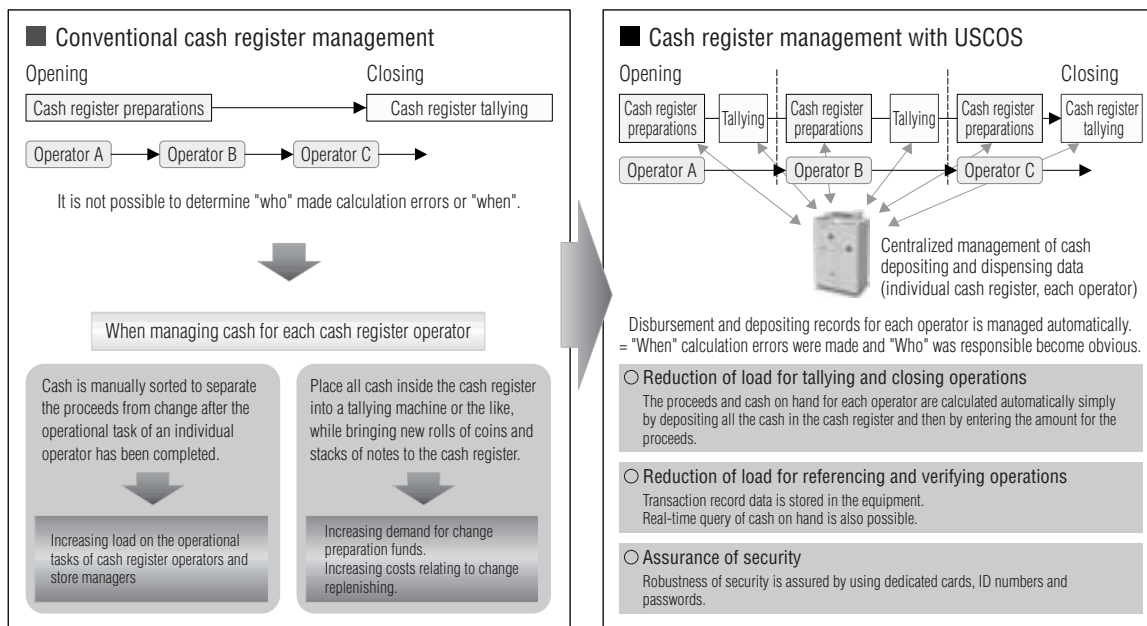


Fig. 2 Improving efficiency for management of cash registers

- Improving efficiency of fund operations**
 Limiting the amount of change that is prepared in excessive amounts.
 Reducing the frequency of obtaining change and the related handling fees.

Differences in the flows of past operations and operations with the implementation of USCOS are shown in **Figure 1**.

Complicated manual labor, as well as time and effort relating to machine operations in the past are reduced using USCOS to process the entire string of cash related operations from tallying, separating, storing, recording, etc., as shown above.

The management flows for conventional cash register management and cash register management with USCOS are shown in **Figure 2**.

(3) General view of USCOS

A general view and descriptions of individual components of USCOS are shown in **Figure 3**.

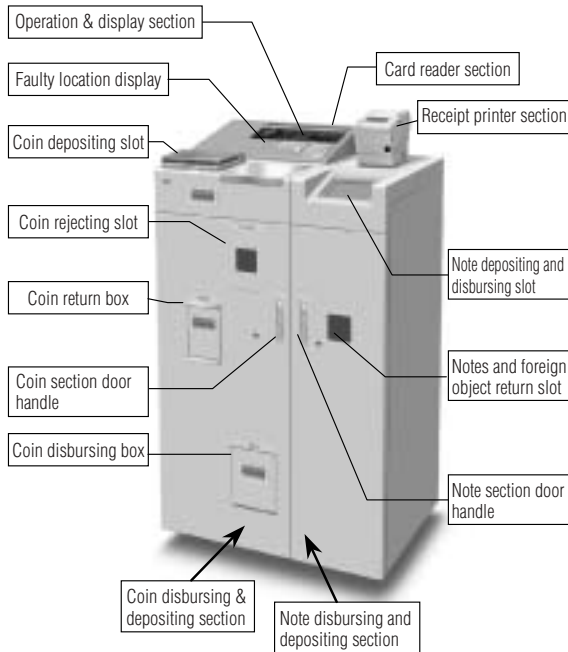


Fig. 3 Overview of USCOS

Comments of client following implementation

(1) Implementation effects

The following items, which were in the past been considered issues for the client, have been resolved through the implementation of USCOS.

① Reduction of load on cash tallying operational tasks.

It was possible to dramatically reduce the time required to tally cash and efficiently calculate errors because the system maintains the change disbursement amount for each cash register, since the proceeds and change are automatically separated simply by putting all of the cash in a cash register when the sales operations of an operator is finished and the management of calculation errors is also available as a feature.

② Reduction of load on change preparation operational tasks.

By registering the amount of change required for each cash register in USCOS, in terms of individual denominations, the cash register operators are able to disburse the funds for change. It is no longer necessary for a person in charge of accounting to distribute the necessary amount of funds for each cash register before the beginning of each business day, thereby facilitating a smoother operation.

③ Efficient management of operating funds.

The proceeds are stored in a collection cassette, with only the largest denominations taken, after simply placing all the cash from the cash register into USCOS. Furthermore, since the funds disbursed as change stored

in the change storage can be used again for the next disbursement, a dramatic reduction in the amount of change for the preparation funds is realized, thereby reducing the expenses relating to the secured transport of funds from banks to stores.

Furthermore, since USCOS is also able to provide change, there is no longer any need for a person in charge of accounting to be present, thereby realizing both a reduction in time required to make change and an improvement in the operational efficiency of persons in charge of accounting.

(2) Results of response by client to survey

A survey was conducted on the clerical staff as well as the cash register operators actually using USCOS, ten days after the use of the system started. In spite of the fact that the system had not been used for a long time we received the following favorable evaluations.

- ① Tallying errors: 90% of respondents replied that the incident of tallying errors declined.
- ② Time required for disbursing and depositing funds: All replied that there had been reduction in the times.
- ③ Operability (depositing and disbursing operations, etc.): Easy to use: More than 80% of the respondents replied that operability was good.

Furthermore, the following comments were also received in the free inscription section of the survey:

[Clerical staff: Persons in charge of providing change and tallying]

- Due to the automation of the change procedure work in the safe room was reduced.
- Attending to the exchange of cash register drawers now only requires the verification of vouchers (gift certificates) and it is hard to imagine the amount of time that it had taken in the past.

[Cash register operator]

- We are able to go home earlier now.
- Closing the cash registers became a much smoother task to carry out.
- The rolls are easier to handle when a lot of coins are involved.
- The amount of notes for deposit at a time is not enough. We would like to see the amount increased.
- Responses to malfunctions are difficult to carry out.

Expandability of USCOS

Although our client is using USCOS as a stand-alone system at the present time, from our interviews it became clear that there is a need, as described below, to convert the system:

- ① When many cash registers are involved, it would be more convenient to install multiple USCOS units and disperse funds as well as deposits using available USCOS units. When doing so we would also like to see the management of the cash registers maintained by all of these USCOS as a unit.

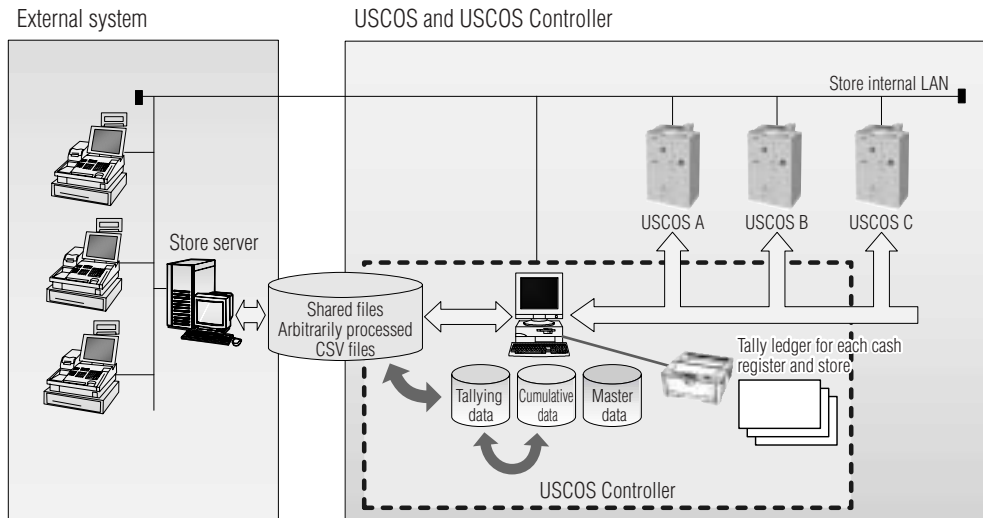


Fig. 4 USCOS expansion system configuration

- ② If there are many USCOS units they would be spaced far apart making it very difficult to go around to do the closure work. Furthermore, we would like to see the fund disbursements and deposit data from the past, as well as collection records available for review on personal computers.
- ③ It is not possible to find out the appropriate timing for replenishing change without operating the USCOS.
- ④ We would like to have a POS management server linked up with the system.

The USCOS Controller is the package software for function expansion developed as a solution for such requests.

(1) USCOS Controller functions

- ① Controls multiple USCOS units and makes it possible to centrally manage data (even if fund disbursements and deposits are performed at different USCOS units, correct separations will be performed).
- ② Displays and prints closure (tallying) data of USCOS for individual dates, as well as collection records.
- ③ Links up data with external systems.
- ④ Verifies the amount of change currently stored in each USCOS unit.
- ⑤ Outputs in specified conditions and as arbitrary CSV files the fund deposit and disbursement operation data of USCOS.
- ⑥ Requests batch closure of all USCOS units.

(2) System configuration

Customer requests relating to tally processing are achieved with the extended system, which makes it possible to centrally manage the data of several USCOS units on a computer by using the USCOS Controller and enabling a link up with external systems. The system configuration of such a system is shown in **Figure 4**.

Conclusion

A case example at a food supermarket of an implemented USCOS (cash depositing and disbursing machine) for distribution related industries, as well as a portion of examples illustrating our responses to requests from the client that surfaced during meetings, were introduced in this paper.

We will continue striving to provide systems that are easy to use and improve efficiency for our customers in the future.

Furthermore, by enhancing our collaboration with other channels, such as security companies, we would like to promote our proposals widely to markets that deal with cash, including distribution related industries.

Authors

Kiyoshi Takahashi: System Solutions Company, Travel & Transportation Div., Marketing & Sales Dept.-3, Marketing & Sales Team-4.

Megumi Hirai: System Solutions Company, Travel & Transportation Div., SE Dept.-2, Team-4.

Tomoaki Kaneko: System Solutions Company, Travel & Transportation Div., SE Dept.-2.