

## **Check Deposit Challenges Using Scanners Without MICR Readers**

Accepting and processing a check deposit that has been captured by a cell phone camera or flatbed scanner connected to the internet via a user's computer challenges the basic assumptions of traditional check image capture and processing. These devices do not have MICR hardware reading capability and the users of these devices are no longer trained operators. This article discusses the challenges associated with these types of check image capture devices and processes.

The check picture-taking process is now in the hands of consumers and small businesses. These users are not experts in capturing quality check images with the mobile phone and desktop scanning devices. This results in several quality challenges with the captured check images, including issues with warping, focus, illumination, contrast and skew. To enhance the user experience the mobile check deposit system needs to be able to cope with these quality issues while still capturing accurate MICR information and generating quality Check 21 compliant TIFF images for the check image exchange process.

The main challenge is locating and accurately reading the MICR line. The software system needs to first be able to locate the check image, adjusting for orientation, warping and skew, and then quickly and accurately optically read the MICR line from the check image. The capture of an accurate MICR line is a significant indication that the software has captured a good check image and can continue to accept the deposit transaction.

The image processing and optical read process must handle the conditions of poor focus and contrast common to mobile captured check images. For the case of cell phone camera captured images, the system also needs to be able to determine the resolution of the images to be able to produce the compliant TIFF check images for exchange standards. Producing quality check images out of this process will also lead to good CAR/LAR recognition accuracy that will be another indication that the quality of the deposit is good and can be accepted.

Performing additional Image Quality Assurance steps ensures that resulting images have expected contrast levels and proper check size dimensions, which increases the confidence of a good check deposit capture and transaction.

For the best user experience, the check deposit system needs to process and accept the deposit in only a few seconds. If the system requires too many retakes or rescans, the user will become discouraged and not use the system.

Using these types of mobile and desktop scanners also increases the risk of users accidentally or intentionally depositing the same item more than once. To minimize this risk, check deposit service providers should implement a duplicate check deposit detection system that monitors deposits across multiple channels (e.g. Mobile, RDC, branch, ATM, mailroom).

In evaluating MICR-OCR software engines for a remote capture system it is important to also measure the substitution rates (such as reading a “5” as a “3”). Many MICR-OCR software products might seem to give a high read rate when capturing a MICR line but potentially they are mis-recognizing many characters that can lead to downstream rejections and returns--for example, if the check image is assigned to the wrong account or financial institution.

In comparing various MICR OCR products, the tester should tune the MICR OCR engines to generate the same accept level (no rejected characters) and then compare the substitution rate.

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