Effect Of Productivity In Input Optimisation— MICR Technology

GOYAL M.K.*

Paper Industry is passing through a difficult period. While some mills are unable to achieve break even production capacity, many are finding it difficult to sell the goods produced. Thus the higher productivity in terms of saleable goods, assured market and higher return on unit volume could possibly save the industry from the present situation. While special varieties of papers can be manufactured which have better sales realisation, MICR paper is one of them.

In general industries in our country are plagued with financial problem. Small or big traders and businessmen are also feelling the pinch of it. Money transactions by way of cheque has become an eyesore for the reason of time involved in its clearance. No business house desires to accept the payment by cheque in particularly if it is an outstation cheque due to time involved. The Ministry of Commerce have been aware of the problem and have thus introduced MICR technology for faster clearance of cheques. There are various types of clearance such as—

1. The cheque deposited is drawn on an account maintained at the very branch. Here remittance is very fast as only book adjustment takes place.

2. Cheque is drawn on an account maintained at one of the other branch of the same bank. Here the cheque is sent to paying branch for disposal and adjustment of fund takes place through inter branch account. This involves also minimal time.

3. The most voluminous clearance in terms of numbers and amount falls in category of cheque drawn on other bank's branch, that too outstation - Here the clearing houses come into the picture. In our country, Reserve Bank of India and State Bank of India handle such clearance. There are over 600 clearing houses in the country. There are further about 50,000 branches of commercial banks who participate through this clearing house. Further over one million cheques are processed each day. This gives the indication of volume of work that has to be handled each day. As the procedure stands, the outstation cheques are sent to the paying branch with appropriate covering letter. After going through lot of procedural formalities the paying branch on receipt of cheques advises by post if it is to be paid. Inter bank adjustment follows simultaneously. Due to high volume of work, the entire process takes from a few weeks to several weeks.

The processing of cheque in western countries is carried out with the help of computer. There are two types of system followed —

(a) MICR (Magnetic ink character recognition)

(b) OCR (Optical character recognition)

MICR : This technology was developed way back in 1959 in United States and have been in usage by American Banks since then. In this technology bottom of the cheque or draft, 5/8" width band is kept clear for writing relevant information which could be read by computer. These information contain cheque number, bank number, branch number, zone number, account and amount. Altogether space for 44 character is kept for these informations. The printing at this space is done with ink which contains iron oxide. The letter type that is used is known as FONT. When the cheque passes through computer, it is subjected to electrical field. The MICR printer character gets

*Sales Manager Swil Limited Calcutta

magnetised and generate a specific way form for each number and thus help computer to identify the particular numbers. The computer on this basis sorts out the cheque bank-wise, city-wise and branch-wise etc. The speed of such sorting can be about 3000 cheques per minute. One can appreciate that humanly speed of such sorting is much lesser The advantage of MICR process is that as it reads only ink containing iron oxide, colour of cheque form, writing by ordinary ink, rubber stamping or moderate folding does not effect the process. However, acute folding is to be avoided as it causes jamming of computer machine.

OCR TECHNOLOGY : Optical character recognition technology is of recent origin. In this process the information in the read band area is recognised by measuring the brightness of paper at each points in the specified area. It is close to reading by human eyes. Its limitation is that it is affected by background of cover, over writing or folding.

It is understood that in our country, MICR technology shall suit the best.

SPECIFICATION OF MICR PAPER :

As per Reserve Bank of India, following are the specifications of paper.

Particulars	Specification of RBI
Basis weight	96 GSM ± 5%
Thickness	110 ± 10 micron
Smoothness	Garley 50cc Min—35 Topside not greater than 160 Wire side 160.
Stiffness Teber	Cross direction 1.2 (minimum) Machine direction 3.0 (minimum)
Porosity	
Gurlet second per 100 mm.	25 per minute.
Tear elemendarf	Cross direction 80 (minimum) Machine direction 80 (minimum

It is understood that with little changes in the furnish etc., the above grade of paper can be manufactured by good number of mills. The very favourable point is that the paper weight is 96 GSM which ensures smooth running of machine.

Size of cheques : There are two sizes adopted for cheques such as CURRENT and SAVINGS bank. These are as under.

Current : 8″ x 3⅔″ (203 x 93 mm)

Savings : 6½″ x 2¾″ (165 x 70 mm.)

Apart from above it is desired that the cheque paper should be smooth for high degree of rigidity and the most important is that 5/8″ at the bottom of the cheque should be free from any impression of printing. In this area the printing of the magnetic ink character is carried out.

For safety purpose in our country the watermark is required in each cheques. So far it was easy to design the dandy roll keeping in consideration that the two watermarks were close enough to fall within the body of the cheque when cut. Now the specific condition that 5/8″ band at the bottom of the cheque should be clear of any impression makes the designing of dandy roll a tricky proposition. For designing the dandy, following points need to be highlighted.

(a) The paper is supplied in reel form to Security Press.

(b) For example, for current account the reel width is 505 mm.

(c) The length for the cheque is cut in the machine direction.

(d) In 505 mm. width one can take out 5 cheques from the width of the sheet i.e. 93 mm x 5 = 465 mm.

505 – 465 = 40 mm.

The 40 mm. additional in each sheet is provided as a printing margin for the printer.

(e) The watermark design should have height of maximum 10–15 mm. and preferably be in a straight line form.

(f) The gap between the two watermark around the dandy is kept less than 50% of the length of the

cheque to ensure that each cheque will have minimum one full watermark. This placement ensures that while cutting the cheque length–wise in the machine direction, each cheque will have one watermark. However, the most difficult part is to get the cheque with watermark 5/8" away from the bottom line

SHRINKAGE : So far while designing normal watermark dandy, a common shrinkage figure has been taken throughout the width of the machine. However, detailed studies have revealed that shrinkage of paper is higher at the edges while lowest at the centre. Thus, before manufacturing MICR paper, the paper machine has to use a dandy, may be with some assorted watermarks fixed at regular interval throughout its width and measure the distance on dandy and compare it with distance of paper to arrive at shrinkage. Once this exercise has been done, the watermark on the dandy can be placed so as when the cheques are cut, each cheque will have watermark at the desired point - reference slide.

(g) While designing a dandy, a guide for reference of watermark and cutting of sheet is provided on the body of the dandy roll.

Many paper mills have highlighted that to start with while manufacturing MICR paper they lose initial production and also some times as the sheet width does not fit in with their deckle, they lose further certain amount of production. However, the cost analysis indicates that while the production could be less by 7-8%, the sales realisation is much higher. Imagin, MICR papers are sold at a price above or around Rs. 25,000/- per tonne of paper. The way number of banks and branches are expanding in the country, the requirement of paper is going to be very very high. It would be interesting to note that in the year 1969 there were 8262 commercial banks operating, in the year 1975, 18730 banks, in the year 1980, 32420 and it is expected that in the year 1986 around 50000 commercial banks branches are in operation. With the growth of industry, banking has to expand and so the MICR paper. Why not you catch up with the demand of the market and supply this special grade of paper at a fascinating price ?

Ref. Publications of R.B I.