Picking Winners

Why Upgrade Your Paper Based System?

Overview

Any Warehouse Management System (WMS) will improve warehouse operations as they bring logical sequences to the warehouse operation. This includes simple paper based systems however it is estimated that 40-60% of warehouse operational costs are absorbed by the picking process. Because of this picking is the primary area of the operation targeted for cost reduction. Poorly enabled paper based picking systems are a major cause of wastage as they are inevitably slower, and generate high error rates in terms of mis-picks.

45% of errors incurred by users of paper based systems are caused by operators that omit items that are in stock. This can be caused by batch processes where inventory information is not updated in real time; or by poor quality inventory information generated by the paper system due to keying in errors; or by lack of operator discipline.

30% of errors are due to the operator picking the wrong item. 90% of these mistakes arise because the operator is at the wrong location or because multiple items have become co-mingled in the same pick location. The operator can also mis-read the information on the pick note or pick bin.

23% of errors are due to a miscount of quantity which happens when the operator makes a mistake when counting: Operations that handle large quantities of stock items are prone to this type of error particularly where customer orders and branch orders are fulfilled by the same distribution centre.

2% of errors are due to paperwork error or due to poor pick list formatting; or faded printer ink on the pick list; or poor warehouse lighting.

Picking Rates

Processes can be improved if Warehouse Management Systems that support RF, Voice or Pick to Light are used. Studies have shown that the following general picking and accuracy rates can be expected for RF, Voice and Pick to Light.

Technology	Expected Pick Rate	Accuracy
RF	50-190 lines per hour	99.3% - 99.5%
Voice	175-275 lines per hour	99.7% - 99.97%
Pick to Light	110-350 lines per hour	99.5% - 99.7%

Nevertheless picking rates can be slowed by the following factors, which will need to be factored out during the process design stage.

RF – Picking rates will be slowed if heavy handheld units are used with every pick task rather than using a back of the hand scanning unit or if there are excessive scanning requirements (e.g. location and item and put-to carton ID label). Missing bar codes and having to manually enter data will limit efficiency.

Voice - Voice picking rates will be reduced if the operator has to conduct too much dialogue with each transaction, if the check digits at the bin location are too long, if data capture is required, or if poor slotting is in place.

Pick to Light - Productivity can be negatively affected by having the operator pick and pack concurrently or having the operator work on more than 2 cartons or totes. If too many shipping cartons are staged on the conveyor system then this can really slow people down as well.

Costs

Typically RF is the cheapest of the three technologies, while the hardware for a voice system will cost approximately 70%-120% more than an RF system. Pick to Light systems can be expected to cost between 40% - 80% more than an equivalent voice system.

Cost comparisons should be subject to an analysis which ensures that the best picking methods are deployed. Suppliers should submit an ROI case and pinpoint the nature and source of the cost savings that are expected.

Is Multimode the way forward?

Technologies may be used in combination. For example voice systems may direct the operative to the appropriate bin location, while using an RF scanner to confirm the correct bin location, while the voice systems advises the quantity to be picked. Warehouse Management Systems are available that have the capabilities of operating multimodes. The most important thing to remember is that the WMS selected is the most suited to the business operational requirements.

Source – An independent report by Marc Wulfraat the President of **MWPVL** International Inc.
Distribution Technologies Compared.