Voice-directed warehousing

Voice-directed warehousing (VDW) refers to the use of the voice direction and speech recognition software in warehouses and distribution centers. VDW has been in use since the late 1990s, and its use is expected to increase rapidly over the next five years due to advances in technology and decreasing costs for the voice directed software and for the mobile computers on which it runs.

In a voice directed warehouse, workers wear a headset connected to a small wearable computer, similar in size to a Sony Walkman, which tells the worker where to go and what to do using verbal prompts. Workers confirm their tasks by speaking pre-defined commands and reading confirmation codes printed on locations or products throughout the warehouse. The speech recognition software running on the wearable computer 'understands' the workers' responses.Each operator is given a voice-enabled mobile computer. These devices need not have screens or keypads – operators communicate with the system via headset.

Managers use a warehouse management system (WMS) or management software provided as part of a voice directed warehouse application system to assign work to operators – jobs such as picking, put-away, replenishment, and truck loading. How this assignment process takes place is largely implementation specific. For example, operators might be assigned to pick specific orders or load specific trucks – or they might simply be assigned to picking, and be automatically placed on the highest-priority job.

Voice-directed warehousing is typically used instead of paper- or mobile computer-based systems that require workers to read instructions and scan barcodes or key-enter information to confirm their tasks. By freeing a worker's hands and eyes, voice directed systems typically improve efficiency, accuracy, and safety. Whilst VDW was originally used in picking orders, now all warehouse functions such as goods receiving, put-away, replenishment, shipping, and returns processing can be coordinated by voice systems.

Potential benefits

Implementing voice systems in the warehouse has among its benefits

- Increased picking accuracy
- Increased inventory accuracy
- Increased employee productivity
- Improved safety
- Reduced new worker training time
- Increases job satisfaction for warehouse associates
- Eliminates cost of printing and distributing picking documents
- Growing customer satisfaction

One of the great productivity benefits of voice-based systems is that they allow operators to do two things at once where as other media used in warehouses such as paper or radio frequency terminals tend to require that you surrender the use of at least one hand or you have to stop and read something before proceeding. This productivity benefit tends to be inversely related to the fraction of an operator's day spent walking.

Sample conversation:

Computer: Go to building one. Operator: Ready Computer: Aisle five. Operator: Ready Computer: Bay twenty-seven. Operator: Ready Computer: Pick four cases of double-chocolate almond fudge. Operator: Ready Computer: What are the check-digits? Operator: Four-Five-Three ***Note These might be from the pallet license or location*** **Computer: How much remains?** ***Note*****:** ***Optional count-back – increases accuracy and reduces speed*** **Operator: Seven.**