

The Miracle of Scanning:

I remember back, in the very late 1980's, the advent of bar code scanning and how it impacted my customer's businesses and, in turn, our business.

The very idea that an optical scanner could decipher a series of vertical black lines, of varying thickness and spacing between the lines, and find product information in a computer was mind blowing. The bar codes were termed universal product codes or UPC's and for each and every product in the world there was soon to be a unique bar code identifying that product.

This would allow a retailer or business to simply scan the UPC and the pricing information, etc. would be tallied for a customer's transactions. No longer were cashiers counted on to read a price tag or label, enter it, along with department keys, etc. They simply scanned and listened for the beep.

A computer stored the pricing information, along with the tax status, department, item description, etc and sent that information to the register which kept tally and track of items purchased. At the end, the cashier entered the amount and type of tender and the system calculated the change, if any, and gave the customer a highly detailed receipt of the transaction.

Stores were now better able to track inventory and shrink because up to the minute data was available for each and every item sold, live. You could actually track sales by individual items or groups of items to determine price efficiency and volume. You could get a better handle on reordering product.

No longer were individual cans of green beans priced out with a price gun. The price was stored in the system and a single shelf tag showed the customer the price. The time to stock shelves was cut in half. Checkout times were improved. The likelihood of cashier sweet hearting friends and family was virtually eliminated. Keypunch error was eliminated.

The systems were extremely proprietary and expensive to start, but they sold like crazy. The return on investment from inventory control, data mining, pricing error and labor savings made it virtually a no brainer.

Today, almost 30 years later, we all take this technology for granted. As a matter of fact it is so widely accepted that we routinely check ourselves out from time to time at self-service lanes using this very same technology. This technology even allows us to enjoy special perks and pricing unique to us and other "frequent shoppers."

At one time, the public was skeptical of scanning and stores had scanning guarantees. These guarantees were solid, with many stores going as far as to give a product away if the shelf tag

price and the price charged to the customer were different. Today we don't think twice, nor should we. It was much more likely in the olden days for a cashier to punch in a wrong price or a stocking clerk to put an incorrect price into a pricing gun, than it is for a scanner to malfunction. That is how good they work.

But do you know how the items that are sold for a price per pound or by count and are weighed and price tags printed from scales work? If ham is \$1.00 per pound and one customer buys half a pound and the other buys a whole pound, how does the system know how much to charge?

Well the system doesn't do any fancy calculations, I will tell you that. They aren't weighing the product in the deli and then weighing it again at check out.

Actually the price is imbedded into the UPC code.

If you buy meat, cheese, produce, etc. at the grocery store and it is weighed and priced on a scale in the department, the scale does all the math, calculates the price and not only, prints the price on the label, but puts the price into the bar code so the front end can read it.

What happens is all random weight or scalable items use UPC System number 2. The bar code printed on the label begins with the number 2, the next digit is a check digit which is followed by the price and then a look up number for the scanning system to identify the product and put the correct description on the receipt and determine if it is taxable, food stamp-able, etc. . There is no price stored in the scanning system. It is in the label.

In the beginning scale technology was such that each scale was capable of printing a single UPC number and description. For example, the meat department label would say meat and have the price calculated by the scale. For each transaction the operator would put in the unique price per pound for the product being weighed and the scale would calculate the price for the package. Perhaps each department would have their own UPC code or a fancy store might have multiple scales to differentiate between product types within a department.

Today for every product they sell a store will have multiple product codes, descriptions, pricing, tare weights, shelf lives etc in every scale. The UPC code printed by the scale corresponds to the information stored in the scanning system. Some departments in some stores will have thousands of items stored within their scales and front end systems.

It truly is amazing. It is a data revolution. The stores or chains of stores with the best data often have the best financial performance.