



By Hippo Zourides

The familiar 'zebra stripes' in the back of many consumer goods is a familiar sight to all shoppers. Some of us even turn the can or box for the barcode to face the cashier.

I was fortunate enough to witness the first use of barcodes in the US when I travelled in 1972 to Dayton, Ohio, as part of a South African delegation on a 'look and learn' trip to various supermarket chains in North America.

At the NCR headquarters, we gazed in amazement when our host took a can of peanuts and passed it over some lights. Our attention was then focused on the cash register till that showed the product description, size and price in a mere second.

Later on, I learnt that the Association of American Railroads had started implementing barcodes in their Kartrak system in the 1960's.

The FMCG industry picked up on this and NCR was a pioneer in establishing the barcode system as a 'normal' front end solution for supermarkets.

Barcodes are dying?



Long live the QR code!

The two most important factors influencing this change are:

- More information:** QR codes can store significantly more data than barcodes, enabling manufacturers to provide detailed product information like ingredients, allergens, origin and sustainability details directly to consumers. For example, a consumer will be able to trace a product back to its manufacturing place, such as a piece of meat emanating from a farm and possibly see how the animals are treated or fed, when the product was packaged, by whom, what vitamins and/or allergens it has and a plethora of further information for the final user.
- Consumer engagement:** By scanning a QR code, customers can easily access additional product information, promotions and online content, leading to better customer engagement. The final consumer will be totally involved in the product and the information collated at the point of sale, or online, or through smart phones. In an age of personalised marketing, this will give immense value to the producer.

I was the second retailer in South Africa to implement the NCR barcode system at SPAR Foodhyper, Wilropark, Roodepoort (I was beaten to the post by Knowles SPAR in Pinetown by a couple of months).

Barcodes have since then become a staple in the grocery business with even the simplest spaza shop or convenience store being able to keep track of their detailed sales, product by product.

Well, it appears that the barcode's usability is coming to an end!

In a recent press release by GS1, the global organisation that maintains the barcode standards, it announced their 'Sunrise 2027' initiative. This process is designed to replace the one-dimensional barcode with the multi-faceted QR code, already very familiar to most consumers. The emergence of smart phones has made the use of the QR code even more urgent, as consumers can now accrue many benefits by using both.

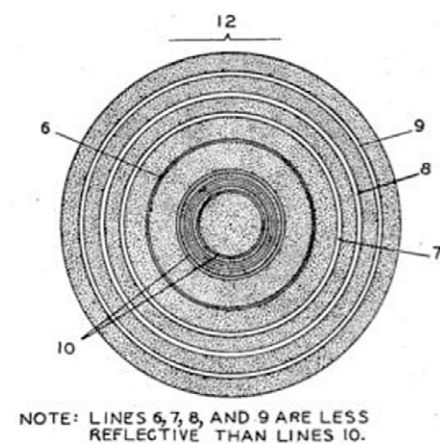


2027 is a mere two years away, so watch out for the packaging designs that will be coming your way with a QR code, but no barcode.

Note to retailers: start talking to your supplier of hardware about the possible software and/or scanning tools that you may require to be ready for this major change. **SR**



Above: Joe Woodland (here) and Bernard Silver filed a patent in 1949, which was granted in 1952. Courtesy of Yale University Press, www.smithsonianmag.com/



INVENTORS:
NORMAN J. WOODLAND
BERNARD SILVER
BY THEIR ATTORNEYS
Howson & Howson

The first barcode, with a design like a bullseye, was invented in 1948 by two Drexel University students named Norman J Woodland and Bernard Silver. They were interested in tackling the problems of the supermarket industry, which sorely needed a better method of inventory management and customer check-out. The pair received a patent in 1952. Long story short, it worked in the lab but was wildly impractical due to the limitations of the technology of the day. <https://corp.trackabout.com/>



Railroads struggled with the tracking of railroad cars across their vast networks, a problem that became worse with the increased growth of systems and movement of rail cars from network to network via interchange. A railroad's car could end up a thousand miles away on another company's tracks. This didn't factor the ever growing fleet of privately owned railroad cars, from companies such as TrailerTrain and Union Tank Car Company, who owned massive fleets of railroad cars, but were not actually railroads. A missing car took time to track down, often requiring workers to walk rail yards looking at cars until it was located.

KarTrak, sometimes KarTrak ACI (Automatic Car Identification) or just ACI was a coloured barcode system designed to automatically identify railcars and other rolling stock. KarTrak was made a requirement in North America in 1967, but technical problems led to the abandonment of the system by around 1977. <https://en.wikipedia.org/wiki/KarTrak>



Left: Detail of a KarTrak code. This barcode is Start 8350199918 Stop 5. <https://en.wikipedia.org>



www.encstore.com/

The invention of the QR code

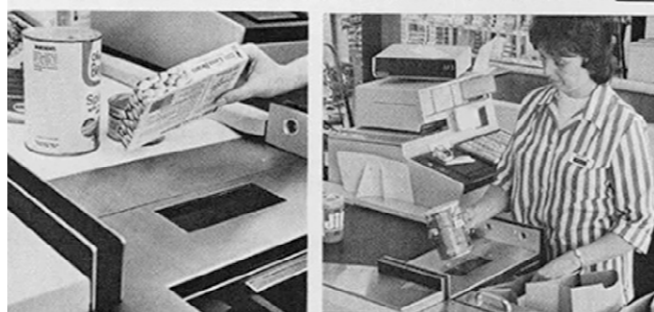
The Japanese automotive company, Denso Wave, was one of many to wrestle with the standard UPC code system. Due to the limited storage capabilities of barcodes, Denso Wave had to apply as many as 10 barcodes on a single product just to properly track and communicate information. Additionally, because barcodes need to be scanned from one direction, they ran into production backups when their scanners couldn't read the barcodes on the variety of shapes and sizes of automotive parts. The company struggled meeting deadlines simply because bar codes slowed production.

In 1994, a Denso Wave employee named Masahiro Hara conjured up the idea of QR codes while playing the game Go, which consists of a 19x19 grid with black and white stones placed throughout. Hara realised a grid system could hold much more information in a single code and could also be read from multiple directions, angles and distances – thus speeding up production times.

Hara and his Denso Wave team successfully made his vision a reality and developed the QR Code (Quick Response Code). Denso Wave made QR code technology freely available to the public, but sold the scanner technology to read them. They foresaw the future of QR codes in other industrial settings, but didn't anticipate its popularity amongst small businesses and ordinary individuals.

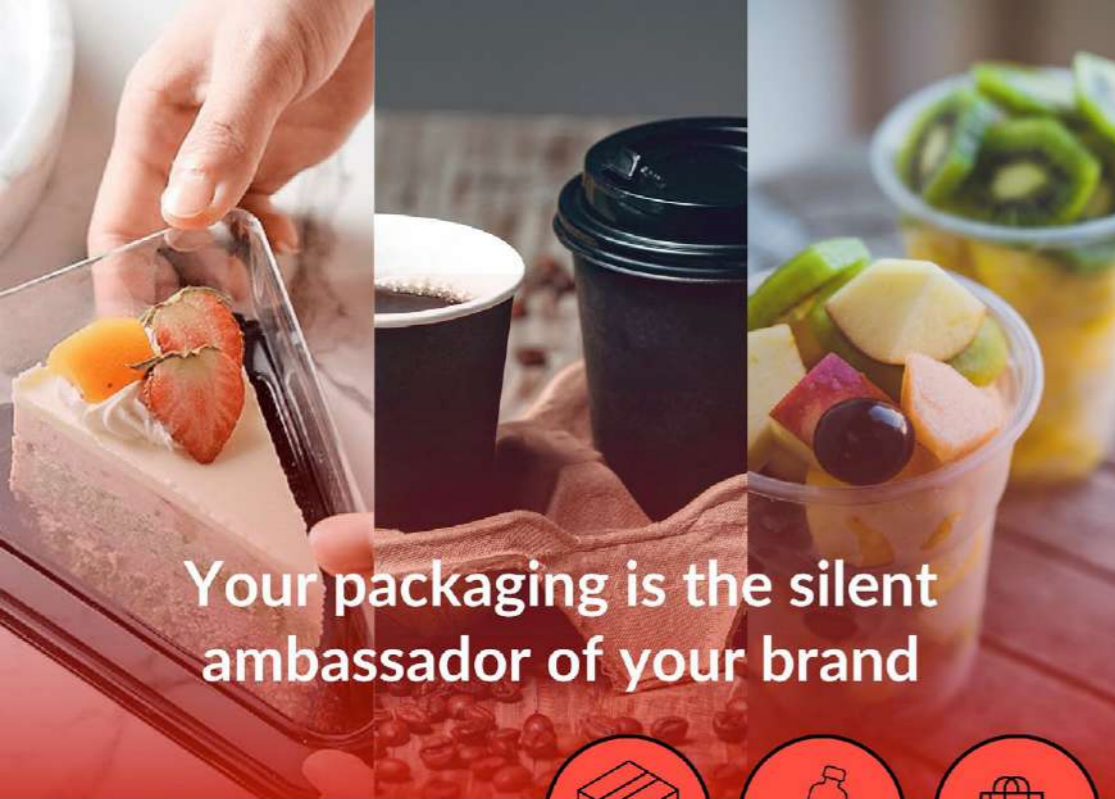
Everything changed when cellphones included cameras, because a camera is the perfect technology for reading QR codes. In 2002, Sharp introduced the first cellphone with a QR scanner and competing cellphone companies followed suit. Eventually, everyone who owned a smartphone possessed a QR scanner in their pocket.

<https://www.microsoft.com/en-us/microsoft-365-life-hacks/privacy-and-safety/brief-history-qr-codes>



NCR 255 scanning system for supermarkets extends computer's power to checkstand. First system installed in U.S. is in Marsh Super Market, Troy, Ohio. Checker passes purchased items over scanning window. Universal Product Code, which appears on package, is read by laser scanner linked to computer. The latter records items and flashes prices on display panel. In supermarket control room, NCR 726 minicomputer controls system and provides detailed operating information for store manager.

Above: The first item marked with the Universal Product Code (UPC) was scanned at the checkout of Troy's Marsh Supermarket. Courtesy of Yale University Press www.smithsonianmag.com/



Your packaging is the silent ambassador of your brand

Let it speak volumes!



Here are the essential factors to consider ...

- **Weigh before you buy:** Weight and material type directly impact quality. Two products may look similar but differ in durability and performance. Always check the specifications.
- **Verify bag sizes and clarity:** Undersized bags hold less than expected, causing inefficiencies. Confirm dimensions to ensure you're getting what you pay for.
- **Microns matter:** Thickness affects durability. Thicker materials last longer, but may cost more upfront. Thinner ones might save money initially, but lead to higher replacement rates.
- **Compare price per metre:** Don't be misled by the roll price alone. Calculating cost per metre gives a clearer picture of value.
- **Fit for purpose:** Using packaging not suited to the job leads to waste and added expenses. Select the right specs from the beginning to avoid unnecessary costs.
- **If it sounds too good to be true, it probably is:** Cheaper options can compromise quality. Always assess what you're really paying for.
- **Think long-term:** The lowest price isn't always the most cost-effective. Durable, efficient packaging provides greater savings over time.

Check Your Spec

Making informed packaging choices

Packaging is more than just a cost – it plays a crucial role in quality, efficiency and product presentation. Choosing the right packaging can enhance performance, reduce waste and ensure you're getting the best value for your business. The Check Your Spec exercise is designed to help you make informed decisions by focusing on key factors that are often overlooked.

Always compare like for like. Just as you wouldn't compare green apples to red apples, don't assume two packaging products are the same. Understanding the specifications can prevent costly mistakes.

By following these guidelines, you'll make smarter packaging choices that benefit your bottom line and operational efficiency. Check Your Spec – because details matter.

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