



Retail Digital Transformation: Trax Perspective

Executive Summary

Trax helps retailers transform digitally by providing the technology and tools to digitize their stores and measure in-store conditions, and making these insights and data available to retail associates. We offer our retail partners multiple methods of outfitting the store with digital technology, each of which has its merits. Our recommended approach is a hybrid of different technologies, depending on the use cases and sections of the store involved.

Image Capture Technologies

Mobile



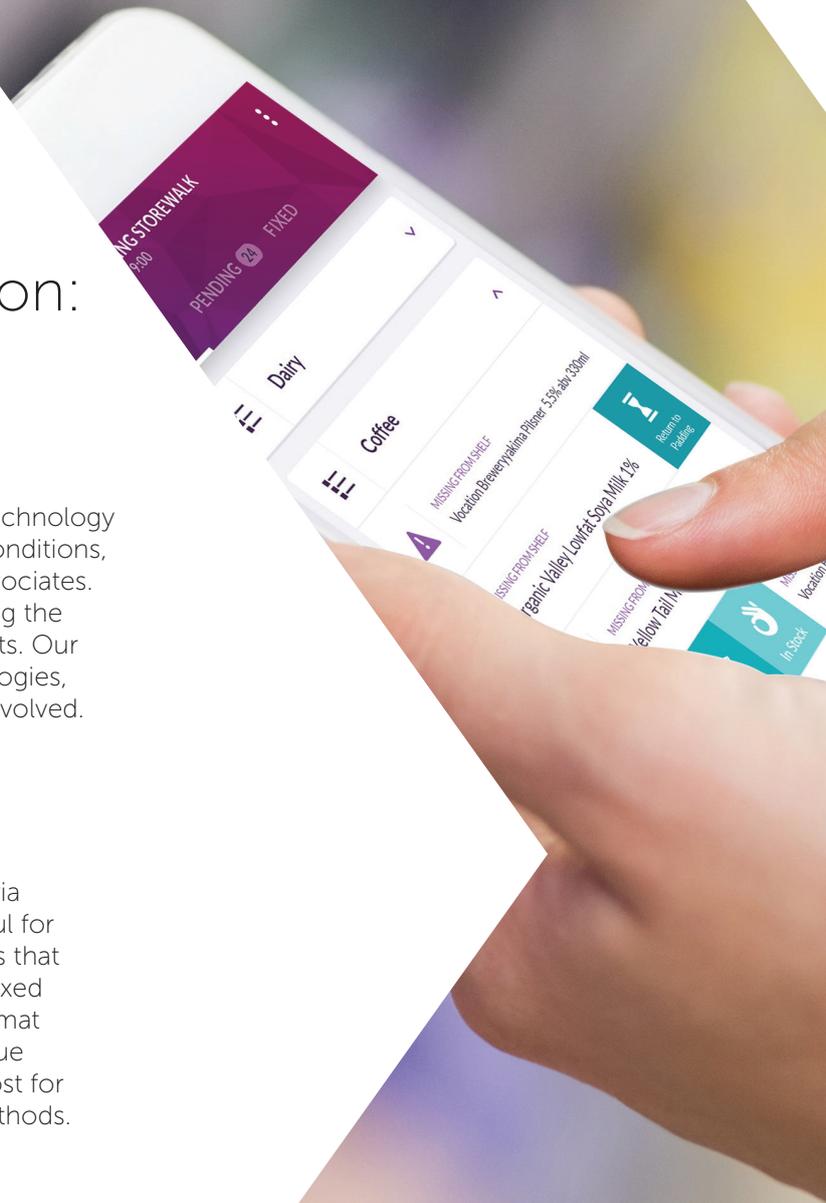
Mobile image capture via store associates is useful for dynamic store locations that are hard to outfit with fixed devices or for small format stores where the revenue may not support the cost for alternate collection methods.

Fixed Cameras (IoT)



Fixed cameras are suitable for a majority of stores (center store and coolers). At Trax, we prefer fixed cameras as they allow us to capture images frequently enough to deliver real-time insights, for example on intra-day shelf replenishment.

For coolers, fixed cameras can be installed on the inside edge of the door to allow images to be captured when the door is open. Coolers present a challenge for mobile and robot technologies as the doors can become clouded with condensation if they were recently opened by a shopper before image capture, effectively blocking the products inside.



Robots



Robots are a good option for stores in which cameras cannot be easily implemented – for instance, non-standard shelving in aisles – or for areas of the store that are highly dynamic. For example, sections of the store with secondary displays that change weekly are a better fit for a robot that can autonomously navigate and capture images of the displays.

So far, response to robots has been mixed; while some retailers consider the presence of a robot in store as a boost to their ‘innovator’ status, others are concerned about the potential threat of robots to human jobs and shopper privacy.

Retailers may choose to use robots only during off-peak hours, which may limit its applicability in some use cases.

Crowdsourcing



Competitive data is an important complement to the data collected in retail stores. Trax’s large pool of shoppers can be activated as a data collection workforce to capture key insights from competitors in areas such as shelf composition, promotional strategy and pricing.

Technology Comparison

	Frequency	Up front cost	Processing cost	Maintenance cost	Flexibility
Mobile					
Fixed Cameras					
Robots					
Crowdsourcing					

Technology Recommendation by Store Area

Store Area	Approach	Rationale
Main Grocery Aisles (FMCG)	<ul style="list-style-type: none"> Fixed Cameras 	<ul style="list-style-type: none"> High frequency capture No shopper interaction Low cost
Perimeter (Fresh foods)	<ul style="list-style-type: none"> Mobile 	<ul style="list-style-type: none"> Produce/meat lends itself best to a flexible capture method with handheld devices
Coolers with Doors	<ul style="list-style-type: none"> Fixed Cameras 	<ul style="list-style-type: none"> High frequency capture Low cost
Dynamic Areas (Main Aisle, Front End)	<ul style="list-style-type: none"> Mobile Robot 	<ul style="list-style-type: none"> Variable placements are best suited to flexible collection method Data frequency not practical
Competitor Stores	<ul style="list-style-type: none"> Crowdsourcing 	<ul style="list-style-type: none"> Access to competitors’ stores
Small Format Stores	<ul style="list-style-type: none"> Mobile Crowdsourcing 	<ul style="list-style-type: none"> Support daily data for slower-moving environments Low cost



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