TEFEN MANAGEMENT CONSULTING

Achieving Growth Support through Technological Ecosystem

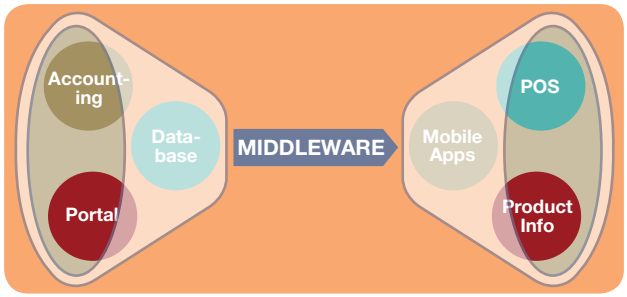
By Aaron Sachs

The retail grocery and quick service restaurant industries have not experienced any remarkable changes over the last couple of decades. Technological innovation is also not the first thing that comes to mind when thinking about your local market or favorite lunch spot. However, given the availability of targeted and affordable software and hardware solutions, technology is now being leveraged to provide a foundation for small and mid-size retail chains to grow more rapidly by offering a differentiated customer experience. Using middleware, a technology ecosystem can be custom developed to fit the needs of a growing retail chain. Technology ecosystems are uniquely designed to fit the requirements of a particular organization and can be as broad or targeted as needed. The following article shows us a specific case in which technology is being used to support growth and innovation within the retail space.

The company running the natural and organic grocery stores and restaurant locations was being funded by a Private Equity firm, specialized in distressed and undervalued assets. At the time of the project, the firm had holdings in a variety of industries, including bio-pharma, manufacturing, retail food, transportation & logistics, printing and television production. The food retailer's strategy for its grocery stores and restaurants was to consolidate the various misaligned brand names and business processes into one unified organization with a single headquarters and set of aligned business practices. Tefen's task was to assist with consolidating and re-generating business processes within the Operations and Finance functions, in addition to supporting the aggressive growth targets the firm sought to achieve by implementing a new technology eco-system. The project was coordinated directly with the food retailer's leadership team while keeping the goals of all three parties (PE firm, restaurant & grocery management, and Tefen USA) aligned.

The organization highlighted in this article owns and operates approximately 40 natural and organic grocery stores and restaurants, specializing in naturally grown foods, certified organics, plus freshly prepared and specialty foods. They are committed to providing communities with a unique grocery concept: superior service at affordable prices. The company employs approximately 3,000 employees throughout their locations, including the support office. This technology innovation project was led by the company's Chief Information Officer with close involvement from the VPs of Operations, Finance and Merchandising.

As specified in the company's mission statement, a customer's experience is the most important factor in their organization's success. To fulfill this mission, a number of innovative technological solutions were chosen to enhance the customer experience, requiring a well-tested foundation of support and back-end technology in order to function properly. Since no individual provider was able to meet all the needs of the organization, middleware was chosen to link a variety of software solutions strategically selected to meet a variety of business requirements.



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Managing Vendor Relations

The core of any retail organization is to sell a product or service while optimizing vendor relationships. Each location maintains between 10 and 25 thousand SKUs (number of different products, a.k.a. stock keeping units), presenting a unique challenge for the buying team. Some regions of the organization may procure 80% of their SKUs from 2 to 5 large distributors while others are only able to procure 40% of their SKUs from these distributors. A company's vendor community may include hundreds or thousands of individual vendors, particularly in today's marketplace in which organizations have locations across several regions. Managing a good relationship with each of these vendors can prove to be tedious work, requiring a number of dedicated employees. Therefore, the development of a solution to automate this business process is a top priority. Through a vendor portal, the data entry work needed to set up and maintain a vendor can be performed by the vendors themselves, saving valuable in-house resources.

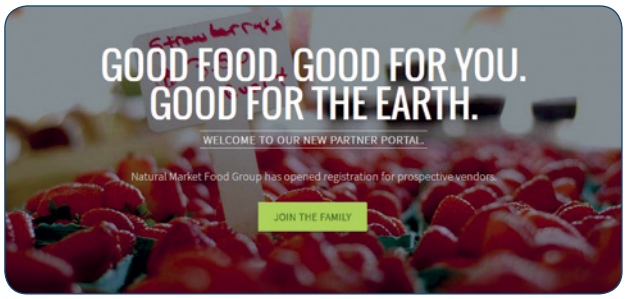
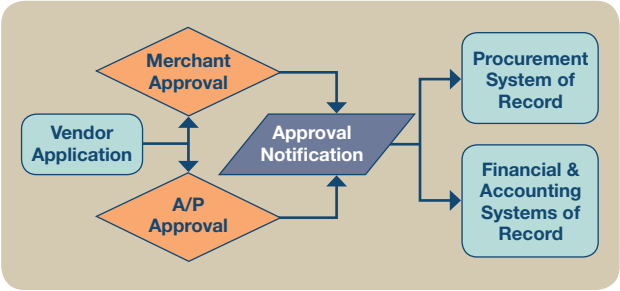


Figure 1: Web-based partner portal

An intelligent portal can go way beyond simple setup and maintenance tasks. For example, vendor setup forms can be designed to incorporate specific company needs, such as payment terms. In this case, rather than having internal accounts payable teams negotiating better payment terms with vendors, the portal can require vendors wanting to do business with the company to accept certain terms and conditions. Once a vendor applies for approval, various checks can be automatically performed with results sent to appropriate parties within the organization. Approved vendors are then bucketed together and distributed to various platforms, supporting business functions such as accounts payable and replenishment.



Portals can be leveraged even further to support item setup and maintenance. An accurate database of items is crucial to the success of a retail organization with automated business processes.

The architecture of a retail organization's database plays a major role in the range of advanced functionalities a company is able to implement. Ensuring that item data is structured in the best way to support all business processes, while keeping the database as simple as possible, is a challenge often underestimated. Initial data architecture requires input from all stakeholders to ensure completeness once the database has been designed. A well-designed database allows organizations to support the automation of key retail business processes, such as reactive menus & shelf tags, automatic re-ordering & replenishment, product information kiosks, etc.

Once the organization's processes have been designed and approved by all stakeholders, information that is unique to the vendor can be requested directly from the vendor via the portal, to simplify and facilitate data entry. Giving vendors this power, however, increases the chance that data will be submitted in an inconsistent manner. To achieve a clean database, the portal design must promote standardization of information submitted to the organization. Fields can be restricted by character length, alpha v. numeric, etc… all to make the transition smoother for vendors using the portal for the first time. As with the vendor setup process, the item submission process should also be intelligent. Rejecting items that don't necessarily "fit" with pre-defined criteria may be a good solution to keep a clean item database. For example, in a grocery setting, each category (meat, deli, natural living, etc...) has desired margins to be achieved. By calculating the gross margin of an item upon submission, items that don't fit with the desired margin of the category can be flagged and category buyers will be notified when potentially non-profitable items have been submitted.

In addition to an intelligent item submission process, industry data providers should be leveraged to homogenize data, ensuring a clean database. In the grocery retail sector, there are several data providers available who can supply the required information to the organizations. Depending on the agreement with the provider, databases managed by providers can be queried and relevant information can then be brought into the portal to supplement the data submitted by vendors.

Putting the Data to Work

After a database has been constructed by the vendor community and internal stakeholders, the organization can begin to leverage the data collected and the associated

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architecture. For grocery retail companies, this data is the foundation of all procurement processes. In its simplest form, grocery procurement begins with a vendor or distributor receiving a purchase order and making a delivery of that purchase order. The store location receives the shipment, and the store and/or support office processes the invoice associated to the purchase order. Though the process seems to be straightforward, severe complexities in the procurement process exist every day, so designing technology to support these processes can drastically improve the organization's efficiency and control mechanisms.

When engineering efficient processes for an organization, it is best to begin with the ordering process. Though difficult to attain and maintain, perpetual inventory can reduce the number of employees needed for monitoring inventory levels and allow those resources to dedicate their time to other value-adding activities, such as friendly customer service. If inventory levels are out of sync, the entire ordering process is affected. For example, if a SKU ordered and received by the ordering system is rejected on delivery due to spoilage but not recorded as rejected, the "in-stock quantity" of the item may appear higher than it actually is. Cycle counts and "hole" mitigation[1] practices can prove to be useful tools for constantly monitoring the accuracy of inventory levels. These methods also require store associates to spend more time directly on the floor, handling the product. Sales team presence on the store floor is comforting for customers and allows store associates to provide unique product knowledge to the customer.

Equipping store associates with the tools to manage inventory is essential to obtain the buy-in of associates and adapt more quickly to new business processes. Mobile scan guns, loaded with the same platform as the POS, allow associates to manage the ordering and receiving processes, plus inventory throughout the store. Items which do not have shelf tags can be scanned and sent to the printer via a mobile scan gun. Shelf "holes" can be investigated to see if an order has been placed or not. Overall, store associates greatly appreciate the mobility and advanced functionality of today's mobile scanning devices.

Figure 2: Handheld scanning hardware/software

[1] Refers to the practice of walking the aisles and checking any shelf where facings are not met. In a perfect world, inventory would never fall below the number of facings and a "hole" in the shelf should raise a flag that inventory levels may be off.

Comprehensive inventory management give stores the luxury of auto-generated purchase orders. Though perceived with a slight suspicion by more traditionally minded employees, the use of automation quickly proves itself, by achieving reliable inventory levels, on-time ordering and reduced stock-outs. It is important to note that grocery ordering cannot and should never be completely automated. There will always be a need for manual ordering and order adjustments; systems should not be trusted blindly to maintain a store's inventory, and the tacit knowledge possessed by staff should not be ignored.

The next logical step in the procurement process is to build up the process for receiving goods. An automated procurement process is only possible if stores enforce a rule ensuring that they can only receive a product if that item has an associated purchase order. Purchase orders and purchase order numbers are necessary for traceability and automation of the procurement process. By implementing a purchasing system with purchase order numbers, users can pull the purchase order up on a hand-held receiving gun at the back of the store. If the purchase order is not known, an item belonging to the shipment can be scanned and all purchase orders including that item are brought up on the hand-held device. Depending on when the purchase order was released, a user can generally recognize which purchase order is intended to arrive that day. With the hand-held device, a user can adjust the quantity received (over or short), and populate inventory stock positions with the delivered amounts. Users can utilize the hand-held device, or the receiving platform, to issue reports on the fill rate of vendors, monitor vendor performance according to this metric, and track accounts payable (even generating invoices/credits if necessary).

Supporting the Front-End with the Back-End

Once back-end software processes have been implemented, front-end software and hardware are ready to be installed and trained. The key to the success of retail locations are the employees who represent the brand and project the image strategically chosen by company leadership. It is important to implement operational processes that are well accepted and understood by employees so as to avoid resistance and loss of control. Point-of-sale (POS) terminals implemented should be intuitive, quick to learn and with a touch screen. By utilizing tablet computers, cashiers and other store associates quickly understand how to navigate the technology, due to their prior experience with the devices. Through good training and continuous device utilization, users are soon able to ring up customers with various complexities[2].

[2] Such as items that do not scan (items with PLUs – price look-up codes, such as fruits, vegetables, food by weight, etc.), government sponsored food programs, a variety of payment methods, promotions and discounts, etc…)

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Most POS systems now have a cashier reconciliation already built into the software. This is a standard feature given every retail organization partakes in this process. However, one major decision, which the retailer needed to make, was the method by which to reconcile their cash registers at the end of a cashier's shift. The two most common methods in the industry are cashier accountability and lane accountability. End-of-day reconciliations are vital to the success of the store, but are not a common task for front-end employees. Cashiers are employed by the store to process transactions and convey a friendly and supportive brand image. However, it is frequently the case, especially at retail locations with many SKUs, that items cannot be scanned or scan incorrectly at the register. The POS system implemented in the grocery store prompts users to enter the item's information and collect the details of all items which were not found. The prompt is user-friendly and easily trained. The additional time required for store associates to enter the information of a missing item is negligible and generally accepted by the customer. When prices are missing, it is important that cashiers have been empowered with the ability to honor the customer's request. While giving away an item for free is not ideal (as is the case in some US states), it is often a better option than having a customer leave with a bad shopping experience. With so many choices of where to shop, a bad impression of a retail location could result in a loss of a potentially valuable customer.

Enhancing the Customer Experience with Technology

Retailer's continually strive to provide the most enjoyable and seamless shopping experience possible for the customer. To do this, technology can differentiate a retailer from the competition and make the customer experience something unique and memorable. This starts with giving customers a voice. While feedback kiosks are not a novel idea, the kiosks implemented in the grocery stores are sleek tablet devices which are extremely customer-friendly and easy to use. Due to the wide increase in tablet computers, customers are already familiar with the technology and still intrigued by their use. Collecting store feedback at these kiosks is a free way for stores to capture the sentiment of its customer base and improve the customer experience.

As previously mentioned, the POS system for cashiers is tablet-based and user-friendly. In addition to a tablet POS facing the cashier, another tablet device faces outwards, toward the customer. Customers can watch each item ring up and confirm the price; they can see which items are on promotion and which discounts are being applied and finally, they can pay with a card reader linked to the tablet computer and sign the receipt digitally using their finger on the touch screen. Customers again grasp the technology very quickly and appreciate the slick and modern design. They are no longer corralled into the legacy checkout lanes seen at traditional grocery stores.

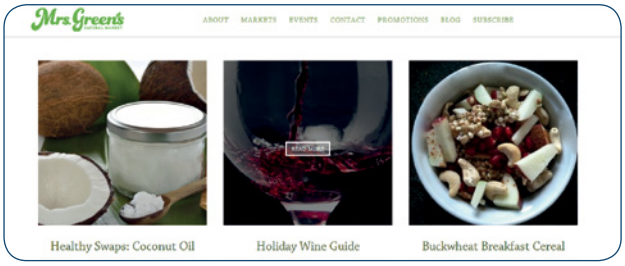

Figure 3: Web-based marketing content

Technology in the grocery store is not limited to the physical 'front-end' of the store. Scanners are placed throughout the store for easy price checks. If an item is missing its shelf tag or the tag is not clear, customers can simply bring their items to one of the many scanners placed throughout the store and check the prices themselves. This transparency takes some of the decision-making out of the buying process, ultimately leading to increased sales. In the produce section, for example, special weighted scales can be installed to increase the customer's knowledge of the items being sold. Item origins are becoming more and more important to grocery shoppers who want to know whether the produce they are buying is organic and hormone-free. The scales installed in the produce section not only act as a price look-up tool and a scale but, depending on the content collected by the retailer, can also display unique product information, such as country of origin, farm of origin, nutritional information, recipes, fun facts, farmer bios, etc. The options for selecting which content will be shown to the customer are endless, provided the necessary information has been collected, stored in a content management database, and integrated with front-end store technology.

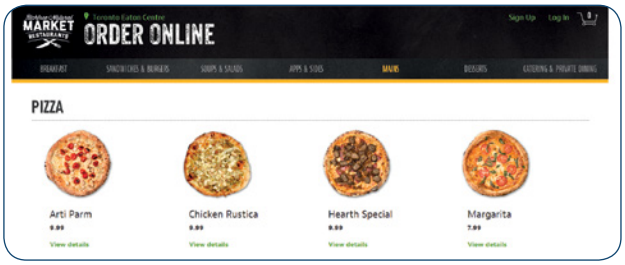

Figure 4: Online ordering platform

Content can be leveraged in other places outside the store itself. Product features on the company's website offer an intriguing marketing tool for customers and may lead to more consumers choosing that retailer for their food purchasing. In the grocery and restaurant environments, a website can also be used as an online ordering tool. Customers can place their orders online and pick up their

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items on-site. Online ordering is not limited to PCs and laptops but can also be developed for all mobile devices. Online ordering platforms allow stores to distribute customers beyond the physical location, leading to a less crowded checkout as well as increased sales. This is particularly important in quick-service restaurants where customers don't want to wait in long lines for their food. By ordering on their mobile apps and computers before arriving to the location, customers can avoid the long lines and pick up their order in a more relaxed manner.

Figure 5: Free standing self-order kiosk

Dispersion of touchpoints within a physical location is equally useful for increasing efficiency. In-store kiosks and interactive walls are fun and unique ways to collect customer orders at various points, other than the stations themselves. Kiosks provide a similar experience to customers as online ordering would, but are accessible through large LED touch screen monitors placed throughout the store. The interactive wall combines several LED touch screen monitors into one touch screen wall which customers can play games on, research product information, and place orders. All orders placed outside of the stations themselves are routed through a specially designed kiosk distribution systems (KDS). This system consolidates all orders into a single hub and then divides them according to the station that an item belongs to. This "hub & spoke" system is efficient and ensures that the customer's order is being routed to the appropriate station without the need for additional employees to distribute and communicate the order.

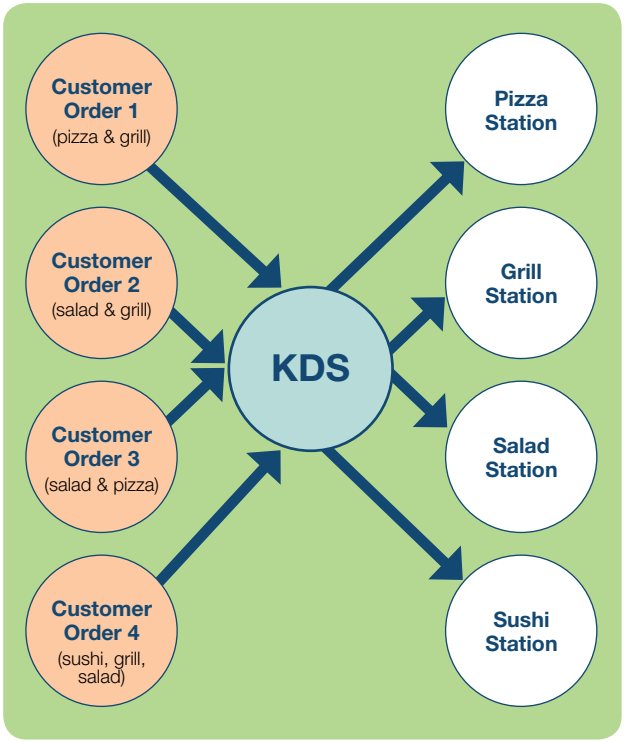

Figure 6: "Hub & spoke" KDS system

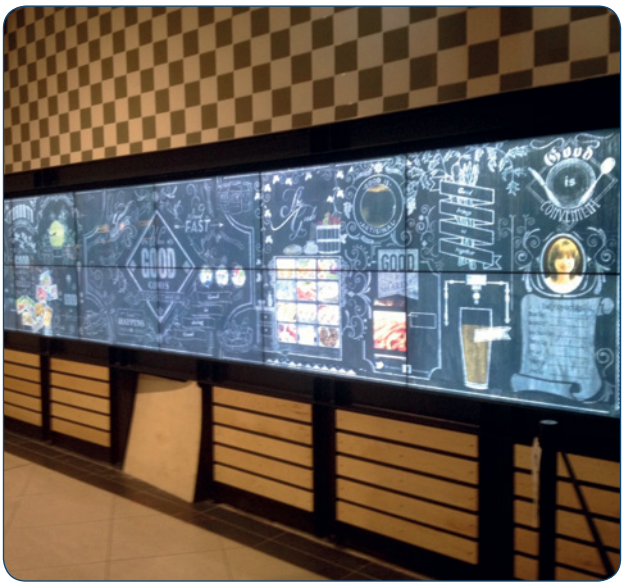

Figure 7: Interactive content wall featuring ordering capabilities

Interactive and fun technology makes the customer experience memorable, increases the chances they will return, and creates a "buzz" about the space which will attract more customers. Restaurants can take this further by implementing technology for targeted groups of customers. Two potential groups that can be targeted by restaurants are families and groups of co-workers. Technology can be implemented to enhance the experience of both these groups and can even target both groups at once.

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For families with young kids, keeping children interested and active (an eternal task of any parent) will lead to the family staying in the space longer and eventually spending more on products for their families. In the restaurant locations, gaming companies were contracted to develop unique games targeted at kids and families who frequent the restaurant. These companies were given the freedom to re-imagine the delivery of the games to the end-user. In one of the restaurant areas, projectors display interactive video games right onto the floor and tables, enabling kids to interact with the space in a novel way. The game projections are large enough to require that children move significantly to participate in the game. This keeps kids active in a safe manner and gives them an activity to take part in, which in turn gives their parents peace of mind.

Figure 8: Kid-friendly gaming

For groups of co-workers, the mobile application developed has a unique feature which allows groups to pay together on one user's account. The app is designed to enable invitations to be sent to friends, co-workers, and family members, who can then all link their devices. Customers bring their devices to the stations when placing their orders and instead of paying for each order at the station, they are asked to scan the QR code on their device. The items ordered are consolidated on the account of the customer responsible for payment. Customers can then freely and easily add items to the bill. The customer responsible for the bill can pay directly through the app, or, if a participant in the program, can allow the app to charge their linked credit card when they leave the store[3].

Figure 9: Screen shot of mobile ordering app

Why Implement all this Technology?

Though it may seem excessive to implement such a wide-array of technology in such a complex web of integration, customers these days have more options than ever with regard to where they shop and eat. Therefore, providing them with a unique and more importantly, effortless experience will keep them coming back and generating the much sought after "buzz", or word of mouth marketing, that all retailers are ultimately hoping for.

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[3] The app knows when the customer has left the location through a geo-fence installed around the space.

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