



# The 2021 Smart Decision Guide™ to Restaurant Management and POS Systems

How leading restaurants are utilizing next-generation technologies  
to adapt to the new normal — and prepare for a brighter future



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# Introduction

The 2019 edition of this Smart Decision Guide painted a decidedly rosy picture of the state of the restaurant industry. “Plenty of people are dining out these days,” it jubilantly proclaimed, “buoyed by steady wage growth, high consumer confidence and low unemployment levels.” While same-store sales performance in some categories was reported to be largely flat, with restaurant owners and operators under pressure to improve financial performance, the industry as a whole was enjoying its ninth consecutive year of sales and revenue growth. In short, there was ample reason to celebrate and the future was looking brighter than ever.

What a difference a couple years can make. Since the coronavirus pandemic began sweeping the world, restaurants have lost more revenue and jobs than any other industry. Abrupt closures, limited reopenings and waves of rollbacks along with inconsistent public health guidance and changes in government-mandated orders have been the hallmarks of the industry in the time of Covid-19. Add to this seismic shift from business-as-usual to the “new normal” a deep concern amongst many consumers about dining out at all, even with strict regulations in place requiring disinfectants, social distancing and a host of other safety precautions.

Pushed to the brink of financial ruin and struggling to remain afloat, restaurant owners and operators have improvised and innovated unlike ever before. They have devised creative adaptations on menus, business hours, points of service, delivery options and takeout models. They have also upgraded their technology capabilities, implementing guest-facing mobile apps and other advanced solutions, including next-generation restaurant management and POS systems.

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# Introduction

These advanced solutions have become increasingly sophisticated in recent years, with an ever-expanding array of integrated features and functionality.

Importantly, the benefits of the various enhanced platform capabilities have been shown to translate into positive financial outcomes for restaurant owners and operators in terms of both cost reduction and revenue growth. In fact, according to market research conducted by Starfleet Research just prior to the onset of the pandemic, in Q1 2020, 86 percent of full-service restaurants, and 73 percent of quick service and fast casual restaurants, reported that they had achieved “significant” or “dramatic” improvement in revenue performance after deploying a next-generation restaurant management and POS system.

If there is a silver lining to be found in recent events, it is that the pandemic has accelerated digital transformation in the restaurant industry. While many restaurant owners and operators were already becoming increasingly focused on technology-enabled business initiatives — implementing solutions to, for example, streamline operations, control food costs, optimize staffing, automate inventory management, speed table turns and improve data-driven forecasting and analysis — the immediate aftermath of the crisis kicked technology innovation and adoption into high gear. As a result, many restaurants have been able to weather the storm better than they might have been able to do otherwise. Moreover, they are now positioned to achieve greater success in a post-pandemic future.

This Smart Decision Guide offers a roadmap for utilizing next-generation restaurant management and POS systems to adapt to the new normal — and prepare for a brighter future. Rather than attempt to navigate the continued uncertainties of the current environment, it takes a long view of the emerging trends and technology advances shaping the evolution of restaurant operations. It includes insights for evaluating solutions, practical guidance for making the right selection and pointers for maximizing the value of investments over time.

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## Chapter 1

# Topic Overview and Key Concepts





# Chapter 1: Topic Overview

While this edition of this Smart Decision Guide is being written during a period of unprecedented challenges — and widespread financial despair — across the restaurant industry, encouraging signs point to an eventual return to restaurant-going normalcy, perhaps by the end of 2021. The grim reality of the pandemic, however, as everyone is acutely aware, is that vast numbers of restaurants, as well as bars, cafés, nightclubs and other eateries, will not survive to see that day. Six months after the first shutdown in the United States, one in six restaurants had already permanently closed. As new waves of the virus surged in subsequent months, thousands of additional restaurants faced financial ruin.

Full-service restaurants have been amongst the hardest hit, for obvious reasons. Indoor dine-in service requires a critical volume of traffic just to break even let alone to operate profitably. In many cases, this means packing in multiple waves of guests every night of the week, particularly on weekends, with tables packed together to maximize capacity. It's a business model that works marginally well when skies are blue. In times of restricted on-premise dining and social distancing, however, when restaurants are prevented by law from operating at more than half their maximum capacity, the business model becomes untenable.

Interestingly, most of the technologies that helped restaurants sustain operations as well as possible during such challenging times are the same ones that restaurants were eagerly putting in place before the pandemic upended the industry. These technologies range from mobile apps that allow guests to order and pay via smart phones to workforce management solutions that optimize staff scheduling to inventory management software that helps mitigate food waste.

Most of the technologies that helped restaurants sustain operations during such challenging times are the same ones they were eagerly putting in place before the pandemic upended the industry.



# Chapter 1: Topic Overview

The rapid growth in restaurant technology during the early months of the pandemic was largely fueled by the sudden need to minimize guest interactions with servers and other staff due to safety concerns related to coronavirus transmission.

Contactless digital platforms, including self-order kiosks, that enable diners to view a restaurant's full menu, place orders and complete payment online quickly shifted from being a nice-to-have capability to being a must-have capability. Kitchen automation, including "robot chefs" that operate in assembly-line setups, also gained traction. These technologies promised to not only lower costs and increase efficiency but also help ensure a hygienic food preparation environment that could reduce guests' anxiety about the possible spread of infection from human touch.

The proliferation of guest-facing mobile apps, often in conjunction with scannable QR codes placed on menus or tables, transformed the dining experience from one that involves high-touch service to one that is mainly self-service. In the process, guests have gained greater visibility and control over the end-to-end restaurant experience. Some apps allow guests to pre-order and pre-pay for meals for a more expedient on-premise dining experience. Some apps allow them to track meal progress in real time, from preparation to delivery. Some systems incorporate geofencing and other location capabilities. An alert is sent to the kitchen when a guest is a certain distance away so that the order is ready when they arrive.

Improving the odds of restaurant success has always meant keeping a close eye on operating costs (mainly, food and labor; combined, these typically account for roughly 75 percent of total costs) and working diligently to reduce these costs, without sacrificing service or food quality. Staff scheduling and labor optimization are important pieces of the cost-cutting puzzle and growing focus of technology investment. Robust data mining, analytical modeling, business intelligence and performance reporting tools have also emerged as core components of restaurant success. These tools provide all the information and insights needed to make smart business decisions.

Contactless digital platforms that enable diners to view a restaurant's full menu, place orders and complete payment online has quickly shifted from being a nice-to-have capability to being a must-have capability.



# Chapter 1: Topic Overview

A next-generation restaurant management and POS system delivers myriad benefits (many of which are highlighted below). Many of these benefits stem from seamless integration with online ordering and payment solutions, guest-facing apps, kiosks, display hardware and multiple other modules and tools, such as those related to inventory management, workforce management and accounting management, as well as outside payment processors or payroll services. Another key benefit is mobile enablement, utilizing smart phones and tablets for ordering and paying, which proved to be essential in a world that requires social distancing and touchless guest interactions and transactions. Other benefits stem from the fact that a next-generation system is cloud-based, providing faster speed, greater scalability and increased agility. In most cases, a cloud system also offers lower setup and maintenance costs than legacy on-premise hosting models.



- Reduce costs
- Increase revenue
- Increase profitability



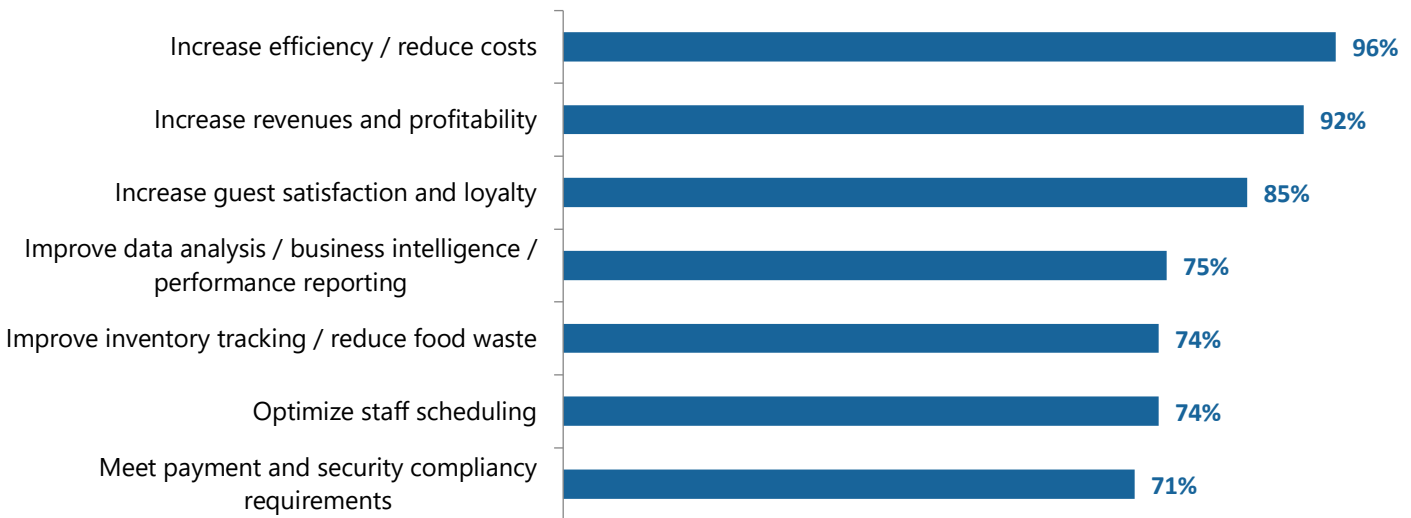
- Reduce food order placement time
- Reduce guest wait time
- Reduce payment processing time
- Increase table turn rates
- Improve staff productivity



- Ensure guest safety through touchless interactions
- Improve guest satisfaction and loyalty
- Improve staff management and inventory controls
- Generate business insights
- Meet payment compliancy
- Reduce food waste

## Research Data Point

What are the biggest benefits one can expect to gain with the right restaurant POS system?





# Chapter 1: Topic Overview

Most seasoned restaurant owners and operators are well-versed in the technology-related advances that are transforming their industry. The following descriptions serve as a reminder of just a few key concepts to keep in mind when considering the advantages of a next-generation restaurant management and POS system.

**Personalization capabilities.** Today the stakes are higher than ever when it comes to improving the quality of the guest experience. Personalization is part of that equation. Advanced technologies enable restaurants to interact with guests in increasingly relevant and personalized ways. Leveraging mountains of POS and other data, restaurants can deliver personal touches at scale to every guest, across any location, who has a history with the restaurant. Staff can seat guests according to their known table preferences. They can offer food recommendations based on their personal profile, including the record of their allergies and other stated dietary restrictions. And so on. Personalization doesn't just mean requesting the same server with whom a guest previously enjoyed a positive dining experience and who may already know their food, drink and table preferences. Technology can also deliver personalized guest experiences without the need for any human interaction — a primary focus for restaurants in the time of coronavirus. AI-powered digital platforms, for example, can create personalized menus based on a guests' past orders, settings and loyalty information. A vast array of new solutions, from AI-powered chatbots to facial recognition technologies, are also taking aim at making personalization a reality, interacting with guests not only in a restaurant setting but also in their home or car. With so many consumers now using social media to research a new restaurant and compare options before making a reservation or even placing an online order, it seems only a matter of time before they will also use virtual reality goggles or other devices to immerse themselves in the restaurant's décor and ambiance. While no technology can replace a maitre d' or server with years of experience and relationships with regular diners, technology can help enhance the quality of the guest experience in new and creative ways.

Technology can deliver personalized guest experiences without the need for any human interaction — a primary focus for restaurants in the time of coronavirus.



# Chapter 1: Topic Overview

**Mobile ordering capabilities.** Order placement via mobile apps and tablets removes some of the common barriers to guest satisfaction and loyalty — especially in light of safety concerns during the Covid-19 public health crisis, by helping to limit social interaction and reduce the wait times that guests frequently endured in the past. The same holds true when it comes to placing orders with servers during on-premise dining. Taking orders tableside via a mobile device increases service speed and order accuracy, which is especially important to guests who may already be nervous simply sitting in an indoor restaurant dining room. There is a quantum leap in efficiencies that table-service restaurants gain when sending orders from a tablet directly to the kitchen printer or display rather than from a stationary terminal, especially in cases where the nearest stationary terminal may be located a considerable distance from where guests are seated. Servers would otherwise not only need to cover that distance countless times during their shifts, but, in many cases, thread their way through a maze of obstacles to place a food or drink order. Bottlenecks are par for the course, unfortunately, as servers line up in queue behind a terminal. When processing gift cards, rewards points redemption, etc., the queues tend to become even longer. With tablets, servers no longer need to travel back and forth like yo-yos between Point A, where guests are located, and Point B, where a terminal is located and then often wait in line for an indeterminable amount of time. Instead, they can send orders to the kitchen quickly and easily from any location. The technology leads to a fundamental shift in how servers spend their time. Suddenly, the job of serving guests becomes less focused on taking orders and entering that information and more focused on duties more likely to improve service quality and enhance the overall guest experience.

There is a quantum leap in efficiencies that table-service restaurants gain when sending orders from a tablet directly to the kitchen printer or display rather than from a stationary terminal.



# Chapter 1: Topic Overview

**Mobile payment capabilities.** While mobile wallets and tap-and-pay cards have been around for a number of years now, mobile payment capabilities have taken on heightened importance during the Covid-19 pandemic, given the need to minimize human contact, limit the use of cash and plastic credits cards and deploy contactless payment methods, instead. Prior to the pandemic, the main impetus for upgrading payment technology capabilities was EMV compliance, which is needed for processing chip card transactions (compliance provides better fraud detection and also accommodates guest preferences around EMV payment options). Another driver was revenue. According to studies, implementing POS mobility increases the average check size 10 to 15 percent, on average. Importantly, POS mobility can also enable a restaurant to turn tables considerably faster than before. In certain situations, that can make a big difference in the amount of money coming in the door during the busiest times of the day. In addition to upgrading their systems to accept EMV payment processing capabilities and meet new compliance requirements, many restaurant owners and operators are purchasing hardware that can accommodate NFC payments for mobile. In response to the pandemic, guests increasingly prefer to use their own smart phones with the restaurant's POS system. They want to be able to pay their bills with an e-wallet app rather than with a debit or credit card. EMV payment processing tends to result in a suboptimal guest experience because it takes more effort and results in a significantly longer wait time than mobile payment processing (given the need for the technology to rewrite the security transaction of the card). In fact, EMV transactions where the guest inserts a credit or debit card into the POS device typically take upwards of 15 seconds to complete. In some restaurant categories (e.g., drive-thru windows in fast-food chains, where the key performance metrics are tied to number of cars per hour and customer service times), that latency can be hard to stomach. In contrast, NFC payments typically require only a few seconds to complete. Restaurants using next-generation POS systems can now generally accept both payment methods.

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# Chapter 1: Topic Overview

**Technology and data integration capabilities.** When it comes to the role of restaurant management and POS systems in improving operations, financial performance and the guest experience, technology interoperability and data integration is the name of the game. Integration allows guests to order from their own mobile device or from a server standing in front of them. Integration allows restaurants to make menu changes on their own platforms (fixed POS, mobile POS, guest-facing contactless menus) as well as on third-party platforms, all in one fell swoop. Integration allows any number of different data-driven functions to work together seamlessly. Consider the inventory management function. An automated inventory management solution integrated into a POS system allows restaurants to virtually eliminate the risk of human error, including miscalculations in over- or under-ordering of ingredients, as well as save on labor costs related to manual inventory management. Integration into supplier databases allows for real-time visibility into food costs, resulting in smarter purchase decisions (in terms of ingredient substitution, for example), more informed vendor negotiations and better insights into how fluctuating prices impact the bottom line and overall profitability. In a hotel or resort location, the restaurant POS system may need to integrate with the hotel property management system. Large, complex restaurants and chains may need to integrate applications across multiple locations, which advanced solutions generally allow. The POS system also needs to integrate with third-party CRM, marketing and guest loyalty and rewards management solutions, allowing restaurant operators to gain a deeper understanding of guest preferences and deliver more personalized messages and offers as well as tailored services, such as seating and food and beverage options. The ability to customize communications based on purchases, frequency, dayparts, preferences, etc., depends on the ability to connect, interface and seamlessly share data. According to the research, 92 percent of restaurant operators “agree” or “strongly agree” that technology platform interoperability and data integration is a key driver of restaurant success.

Integration allows guests to order from their own mobile device or from a server standing in front of them. Integration allows restaurants to make menu changes on their own platforms as well as on third-party platforms.



# Chapter 1: Topic Overview

**Employee management capabilities.** Restaurant owners and operators have long used software programs to hire, onboard, train and manage employees. Today workforce management capabilities, some of which are tailored to the needs of different restaurant categories, are becoming integrated as a core component of next-generation restaurant management and POS systems. As a result, restaurant owners and operators can schedule employees for optimal cost effectiveness, manage payroll, and centrally orchestrate virtually all other employee management tasks without the need to purchase separate, standalone programs or modules. At the same time, restaurant staff-facing interfaces allow employees to access their work schedules, request time off, trade shifts, and even set alerts about when they need to work, all from their smartphones. This level of control can go a long way toward increasing employee satisfaction. Beyond making it easy to perform basic tasks like tracking employee hours and submitting payroll directly from the system, some advanced systems have financial management features designed to optimize labor utilization. These features can be extremely valuable in that they enable restaurant operators to automatically schedule shift assignments in a way that achieves the optimal labor-to-cost ratio when plotted against predicted sales, minimizing overhead costs and improving revenue and profitability. Using data-driven sales forecasting that utilizes historic data and labor planning tools, managers can also plan for the volume of business that is expected on a daily and hourly basis to determine staffing needs. They can determine relative server productivity and schedule shifts accordingly. The financial benefits are easy to measure and can have a dramatic impact on the bottom line. According to recent studies, these solutions typically reduce labor costs by 4 to 5 percent. It's no surprise, then, that restaurant owners and operators are embracing the technology to not only optimize employee scheduling, which took on heightened importance during the waves of shutdowns and continuous changes in operating hours, traffic and capacity, but also to track staff attendance and monitor performance.

Restaurant owners and operators can schedule employees for optimal cost effectiveness, manage payroll, and centrally orchestrate virtually all other employee management tasks.



# Chapter 1: Topic Overview

**Inventory management capabilities.** The COVID-19 pandemic brought the critical importance of food inventory management into even sharper focus. Restaurants that were able to keep their doors open during this period and maintain some level of business continuity had to become hyper-efficient in all aspects of their operations. For them, every dollar counted. Throughout the crisis, and as they continued to struggle to recover from the unprecedented financial fallout, the pressure to minimize food waste had never been greater. Indeed, food waste is the enemy of restaurant success. According to industry estimates, restaurants lose an average of one dollar (even more for high-end restaurants) on every meal order on account of preventable food loss, mainly due to poor inventory management. More than 10 percent of food goes to waste in fast food restaurants, with full-service restaurants faring only slightly better, because of poor inventory management. By meticulously controlling both the quantity and flow of inventory, restaurants can reduce the cost of food waste, often by double-digit percentage points. Next-generation inventory management tools enable restaurant owners and operators to compare the variances between physical inventory and POS data at a granular level. The best of these tools allow restaurants to track quantitatively how even the smallest adjustments to menus and recipes flow down to ingredient usage. The technology makes it possible to monitor inventory levels and ingredient depletion in real time. Ultimately, the tools make it easy to identify instances of preventable food waste due to spoilage, over-portioning, theft or for other reasons that, if properly addressed, can be readily mitigated or altogether avoided. Until recently, the idea of being able to automatically manage inventory in a dynamic, fast-paced restaurant environment with a high degree of precision would have been little more than a pipedream. Now, with data-driven technologies that have rapidly evolved in recent years, restaurants can control food costs and optimize inventory levels in ways not previously possible or even fathomed.

The best of these tools allow restaurants to track quantitatively how even the smallest adjustments to menus and recipes flow down to ingredient usage.





# Chapter 1: Topic Overview

**Performance reporting and data analysis capabilities.** With next-generation restaurant management and POS systems, owners and operators have the ability to collect, integrate and analyze data from multiple sources, including POS transactions, loyalty programs and guest-facing apps, to better understand their guests at both an individual and aggregate level, to interact with them more effectively and to identify opportunities for business improvement. Performance reporting and data analysis tools can look at staff performance, menu item profitability and any number of other aspects of the business to generate actionable insights. Which servers are the most productive? Which are the least productive? Which types of guests are the most valuable? Which are the least valuable? Which dishes are the most popular? Which dishes are the least popular? Which are the most profitable? Which are the least profitable? Automated menu analysis can reveal the popularity and profitability of dishes and can help guide future selection of menu items and prices. It can help determine whether it makes economic sense to sell certain low-margin dishes with high demand and/or to remove from the menu certain dishes that are less popular but generate more profit. In the past, mining data to extract meaningful insights tended to be an onerous and time-consuming proposition. Many next-generation restaurant management and POS systems, by contrast, have built-in capabilities that make it possible to readily generate all types of actionable insights, oftentimes on an ad hoc basis. This gives restaurant operators the ability to make more informed decisions about all aspects of the business. Some systems can even be used to predict financial outcomes based on such factors as dining-out trends and seasonal dish popularity. In some cases, alerts can be set based on predefined triggers that notify managers when inventory is running low and needs to be restocked, for example, or when high-cost or high-risk food items like liquor are going out the door unaccounted for, indicating the possibility of theft. In the end, data reporting and analysis tools can be key to staying ahead of the competition and driving continuous performance improvement.

Next-generation restaurant management and POS systems have built-in capabilities that make it possible to readily generate all types of actionable insights.



# Chapter 1: Topic Overview

**Restaurant accounting capabilities.** An integrated restaurant accounting solution automates virtually all accounting-related functions, dramatically reducing the day-to-day workload of a restaurant's accounting department. At the same time, it enables accountants to focus their attention on strategic tasks that lower costs and increase revenue. Instead of spending inordinate amounts of time tracking down spreadsheets and consolidating and reconciling numbers that may be strewn across multiple technologies, multiple data silos, and even multiple physical locations, accountants can engage in higher-value activities such as negotiations with vendors that translate into significant cost savings and increased profitability. With an advanced restaurant accounting system, all authorized users have access to the same set of numbers from a single centralized data repository. This unified view of financial information reduces errors and improves data integrity by orders of magnitude. It also reduces the amount of time required to complete basic accounting requirements. According to research, it takes nearly twice as long, on average, for a restaurant to close its books with generic accounting software compared to an advanced restaurant accounting solution. Also, upwards of 80 percent of restaurant businesses fail to maintain an updated financial budget for each store. With next-generation accounting capabilities, it becomes easy to budget for multiple restaurant locations at the same time, automatically pulling data from food inventory, staffing and other cost centers. An integrated accounting solution may not be the "sexiest" restaurant technology component, but the ability to streamline financial aspects like inventory, accounts payable and menu engineering, and optimize various back office operations, can make a world of difference in driving positive financial outcomes. Having such a powerful capability in place obviously benefitted restaurant owners and operators who with the onset of the pandemic suddenly found themselves under enormous pressure to identify, track and scrutinize every dollar being spent and move swiftly and decisively to cut operating costs wherever possible.

The ability to streamline financial aspects like inventory, accounts payable and menu engineering, and optimize various back office operations, can make a world of difference.



## Chapter 2

# Buying Considerations and Evaluation Checklist





# Chapter 2: Buying Considerations

Charles Darwin surmised that it is not necessarily the strongest or smartest who survive. Rather, survivors tend to succeed by being flexible and by being able to adapt quickly to new environments. Here the keyword is: *agility*. The Covid-19 pandemic put Darwin's theory to the test in the context of restaurant readiness. The restaurants that were able to move swiftly to reduce operating costs — recalibrating optimal inventory and staffing levels, for example — and shift to a pickup-and-delivery-only business model were generally those with a flexible, mobile-enabled technology infrastructure already in place.

There were many good reasons to upgrade to a next-generation restaurant management and POS system before the pandemic. Today, there are even more reasons. In fact, it has been said that the pandemic sounded the death knell on legacy restaurant technologies while giving a big boost to next-generation technologies that were lying dormant due to innate inertia in adoption.

The hallmarks of these technologies, aside from agility, mobility and customizability, are user-friendly interfaces, advanced features and functionality and fully integrated platform capabilities. Taken together, these capabilities can enable everything from menu management, mobile ordering and payment processing, invoice handling and inventory and workforce management to more accurate and comprehensive budgeting, forecasting and performance reporting and data-driven business intelligence. Some solutions include such capabilities as digital gift card management, which proved to be a big value-add for some restaurants that struggled to keep the lights on.

There were many good reasons to upgrade to a next-generation restaurant management and POS system before the pandemic. Today, there are even more reasons.



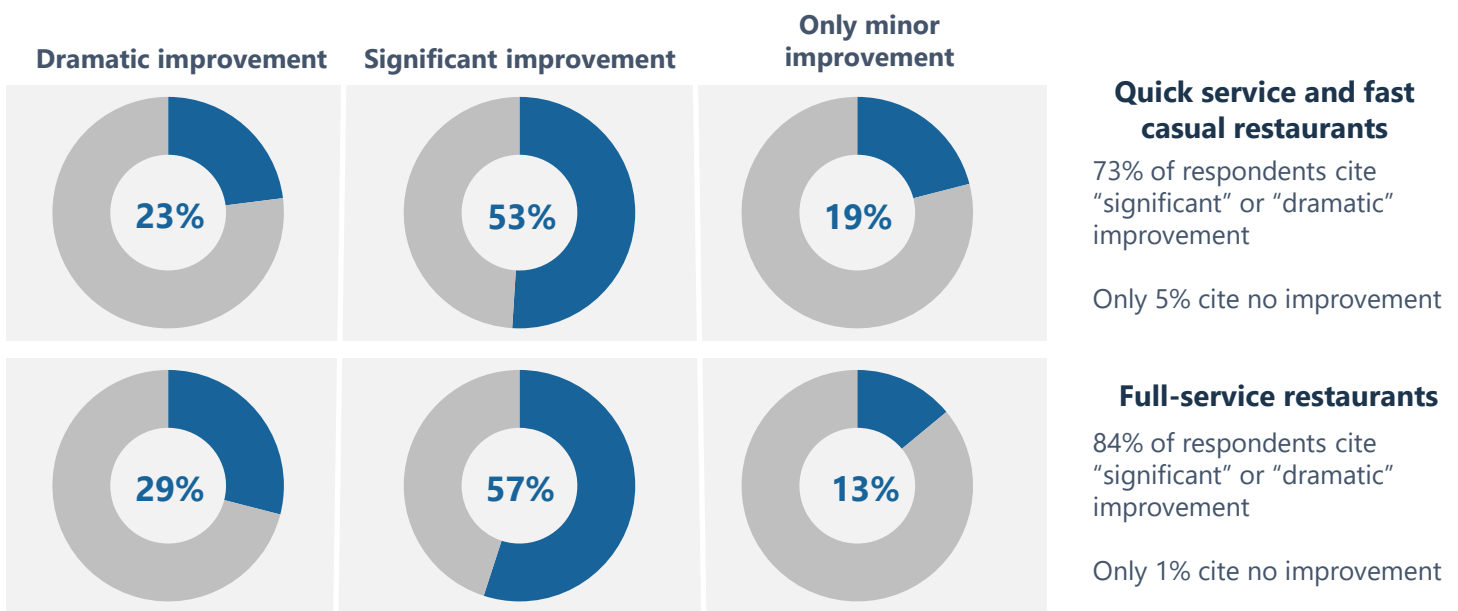
# Chapter 2: Buying Considerations

Adjusting to the “new normal” means not only making the health and safety of guests and staff a top priority, but also running leaner operations while working to improve the quality of the guest experience, whether dining in or taking out, on an ongoing basis. These efforts are supported and enabled by a next-generation restaurant management and POS system.

When it comes to selecting a system that best fits the needs of the restaurant, the buying considerations are likely to vary, depending on multiple factors. With new software releases boasting an ever-growing plethora of valuable features and functionality, combined with mobile-enabled interfaces that allow for anywhere, anytime access, most of the leading restaurant management and POS systems are impressive by any measure, which isn't to say the systems are identical. On the contrary, different systems have different platform capabilities and competitive strengths — and, in many cases, are designed for different restaurant categories and environments.

## Research Data Point

**“To what extent has upgrading your restaurant management and POS system (within the past 3 years) enabled your business to improve overall performance and financial results?”**



# Chapter 2: Buying Considerations

So, how can restaurant owners and operators determine which restaurant management and POS system best fits their needs and would be most likely to deliver the benefits they seek, with minimum hassle and expense? There are many factors to weigh, some of them carrying more weight than others.

The following are some of the considerations that are applicable across the board for decision makers to keep in mind.

**Operational efficiencies.** The extent to which a next-generation restaurant management and POS system would likely improve operational efficiencies is of paramount importance in the “new normal.” Would the new solution streamline day-to-day processes? Would it reduce the amount of time spent on redundant and/or time-consuming tasks? Would it help cut costs in other areas, such as food waste and idle staff? Reducing overhead and increasing margins by even a few percentage points can sometimes mean the difference between success and failure for a restaurant, especially when operating with limited resources and capacity. With mobile POS, fewer mistakes are made because servers can more easily verify or correct orders, adding modifiers, extras, and special requests, before they are placed. Also, servers have immediate access to menu details, enabling them provide guests with accurate dish information, including ingredients, on the spot and without having to check with the kitchen. In all cases, the added latency of ten, fifteen or twenty minutes before an order can be entered into the system no longer exists. The entire process is streamlined. Food orders hit the kitchen almost immediately after they are placed. In some categories (e.g., drive-thru windows in fast-food chains where performance metrics are tied to number of cars per hour), mobile payment processing was seen as the key to improved operational efficiency. Given the crippling effect of the Covid-19 pandemic, it has fast become a strategic imperative.

Reducing overhead and increasing margins by even a few percentage points can sometimes mean the difference between success and failure for a restaurant, especially when operating with limited resources and capacity.



# Chapter 2: Buying Considerations

**Advanced features and functionality.** Even before the Covid-19 pandemic upended the industry, more than three-quarters (79 percent) of restaurant owners and operators cited the benefits of POS mobility as the top reason to upgrade their technology capabilities. While tablets, which put full POS terminal functionality in the palms of servers' hands, had already become nearly ubiquitous in certain restaurant categories, technology capabilities with less obvious benefits than the untethering of POS terminals also now rank as important buying considerations. Features that automate routine tasks — enabling check-splitting by item or number of guests, for example, or providing preset tip percentage options — have become increasingly viewed as must-haves by restaurant owners and operators. Most systems now include built-in distribution and server payout calculators, making it easy to split tips at the close of business. Most systems can also send guests receipts electronically via email or text message, making it easy for restaurants to invite guests to join their loyalty and rewards program. Some solutions offer interactive reservations tools that allow guests to not only reserve a date and time, but also their preferred table, server or section. Some systems include inventory control features, in some cases with dynamic menu monitoring for automatically counting down menu items, and even ingredients, that may be in short supply.

Features that automate routine tasks have become increasingly viewed as must-haves by restaurant owners and operators.

**Customization, flexibility and usability.** Because every restaurant has its own distinct wants, needs and preferences as well as its own personality, some degree of customization may be desired with a restaurant management and POS system. That can mean reconfiguring and reformatting the look and feel of some screens. It can mean integrating with third-party software modules and/or hardware components, such as existing kiosk or kitchen video display, that may already be in place. It can mean creating nonstandard reports. The degree to which a system allows customization can rank as a critical buying consideration.





# Chapter 2: Buying Considerations

**In-depth performance reporting.** Restaurant owners and operators need to be able to analyze all aspects of their business, from menu item profitability and table seating configuration to server productivity. They need to be able to make ad hoc queries using relevant data sets, over any time period, to get the answers they need. What does the revenue forecast look like? How can we improve it? How are diners finding our property? What channels are they using to book reservations? How well are we managing our labor and inventory costs? By systematically mining and analyzing the gigabytes of data related to guests, inventory, menus, employees, suppliers and various aspects of the business, restaurant owners and operators can generate all kinds of actionable insights. Some systems include trigger notification features – for example: “Alert me when voids are greater than 10 percent of sales.” Every owner and operator needs to track basic financial metrics. But how many restaurants track such metrics as average table turn rates, occupancy rates, guest spending or other metrics that impact revenue? Today analytical modeling and advanced performance reporting tools are being integrated as a core component of next-generation solutions. On the financial accounting side, all information and reports, including the general ledger, accounts payable/receivable statements, bank reconciliations, budgets and forecasts, should also be readily available. Users should be able drill down into using standardized templates or create their own customized dashboards based on their specific business needs and data parameters. They should be able to conduct ad-hoc queries regarding, for example, different locations’ accounting, inventory, banking, daily sales, labor analytics, food costs, and recipes to identify potential problem areas and opportunities for improvement. They should be able import sales mix data directly from the POS system, making it possible, for example, to take a rigorous economic approach to recipe engineering to make informed menu updates. The best of these solutions also aggregate labor data from the POS system, allowing it to be easily exported or pushed directly to an integrated payroll processing provider.

Analytical modeling and advanced performance reporting tools are being integrated as a core component of next-generation solutions.



# Chapter 2: Buying Considerations

**Ease of use.** All restaurant management and POS interfaces, both mobile and terminal, should be highly intuitive. Screens should be laid out in a logical and easy-to-understand format, whether the function relates to processes like placing orders and processing payments, or whether the function relates to any of the back-office functions, such as accounting, staff scheduling, inventory tracking and menu management. Some systems have graphical layouts for tracking table status. Others have quick-feature icons that can enable faster order placement by dividing the menu into sections, styles, types of dishes and drinks, etc. Ease of use applies to both staff interfaces and, perhaps even more importantly, guest interfaces, especially with the rapid escalation of self-service ordering and payment processing.

**Setup, support and training.** Purchasing a new restaurant management and POS system means entering into a potentially long-term relationship with a technology solution provider. Buyers would be well-advised to select a company that offers a high level of customer support, from implementation to addressing any day-to-day operational issues that may arise. Most reputable solution providers will facilitate the setup process as well as oversee any required customization — helping, for example, to optimize the system according to the restaurant’s physical floor plan. Some will even test network speed and data backup processes. In addition to ensuring the availability of reliable support, preferably 24/7, buyers should ensure that employees will be able to receive the training they need to use the new system effectively. That means walking them through features and settings and showing them how to troubleshoot potential problems they may encounter down the road. Some solution providers offer comprehensive digital learning programs, which make it easy to get new employees working effectively right away. Online training also eliminates the need to hire an expert or have employees spend their time getting others up to speed.

Buyers would be well-advised to select a company that offers a high level of customer support, from implementation to addressing any day-to-day operational issues that may arise.



# Chapter 2: Evaluation Checklist

This Evaluation Checklist offers a framework for conducting an apples-to-apples comparison of restaurant management and POS systems using the buying considerations outlined previously. Other key considerations can be added based on individual buyer priorities. Relative weightings can be assigned on a scale of 1 (“This buying consideration has no bearing on our purchase decision”) to 10 (“This buying consideration is a very important factor in our purchase decision”).

Buying Consideration	Weighting	Vendor 1	Vendor 2	Vendor 3
1. Ordering capabilities				
2. Payment and security capabilities				
3. Terminal mobility (tablets, stationary, both)				
4. Performance reporting and analytics				
5. Type of hosting (cloud, on-premise, hybrid)				
6. Technology / data integration capabilities				
7. Multi-location management capabilities				
8. Customizability / user experience				
9. Setup, training and support				
10. Usability / reputation / client satisfaction				
11. Costs and expected ROI				
12. Overall features and functionality				
a. Marketing, guest loyalty management				
b. Inventory management				
c. Employee / labor management				
d. Cash drawer management				
e. Table, seating management				
f. Integrated accounting capabilities				
f. Other _____				
<b>Overall Rankings</b>	N/A			



## Chapter 3

# Must-Ask Questions





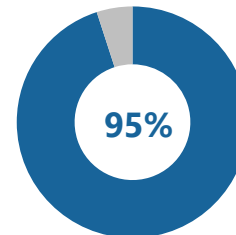
# Chapter 3: Must-Ask Questions

The Covid-19 pandemic wreaked havoc on the restaurant industry. At the same time, it served as a stark reminder that the world is in a constant state of change and uncertainty. Restaurant owners and operators need to do their best to be prepared for business disruptions and navigate uncertain territory the best they can. In part, that means implementing a robust and agile technology foundation in the form of a next-generation restaurant management and POS system.

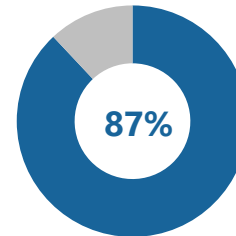
When it comes to any technology investment, restaurant owners and operators have two main objectives. The first one is to streamline operations. Here the goal is to increase staff productivity, improve process efficiency and reduce waste, resulting in cost savings. The second is to enhance the quality of the guest experience, leading to increased satisfaction, loyalty, advocacy (including favorable reviews on Yelp and other popular ratings sites) and, ultimately, increased revenue growth. When asking questions of solution providers, it may be a good idea to keep these two objectives in mind.

## Research Data Point

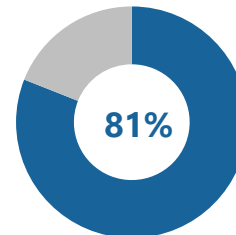
**Percentages of restaurant operators who view each of the following success factors as “important” or “very important.”**



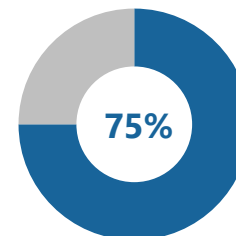
Accommodating guests' ordering, payment and other preferences



Driving increased operational efficiency, including staff productivity, and reducing food waste



Capturing, integrating and analyzing POS and other sources of data to generate actionable insights



Executing targeted marketing promotions and loyalty and rewards programs using guest profile data



# Chapter 3: Must-Ask Questions

Just as the buying considerations related to the purchase of a next-generation restaurant management and POS system vary to some degree depending on the needs of the restaurant, so, too, are the “must-ask questions,” especially those concerning specific features and functionality, bound to depend on a restaurant’s situation and priorities. The following are just a few of the questions that should be universal to all prospective buyers and which they may wish to explore with solution providers during the research and evaluation process.

**Does the solution offer flexibility in functionality, including data access and performance reporting?** Next-generation restaurant management and POS systems generally offer an unprecedented level of management control. To take full advantage, however, restaurant owners and operators may have certain software configuration and customization needs and may want to confirm that any solution providers under consideration can meet these needs. With respect to staff scheduling, for example, some managers may prefer to modify or create their own scheduling templates, if that option were to exist with a particular solution. Or, as another example, they may have a certain way of wanting to input menu modifiers. Most systems come equipped with a large number — in some cases, dozens — of standard dashboards and reports around operational and financial areas like sales and revenue, labor and inventory control that should meet most operators’ day-to-day performance management and analysis needs. That said, not all POS data queries and reporting requirements can necessarily be anticipated in advance or be addressed with out-of-the-box dashboards. For that reason, buyers would be well advised to find out to what extent customized reporting is possible and, also, what is involved in the process of filtering and sorting data according to a specified set of parameters. Tip: Confirm that the solution is flexible in terms of key areas of functionality, including custom report generation, and verify the solution provider’s claims, if possible, by speaking with existing customers.

Restaurant owners and operators may have certain software configuration and customization needs and may want to confirm that any solution providers under consideration can meet these needs.



# Chapter 3: Must-Ask Questions

**What type of customer support is offered?** Buyers should have clear expectations when it comes to customer support and problem resolution as well as the training that may be needed to get servers and other staff up to speed on the new solution. Does the solution provider (or a certified subcontractor) offer an online or, better yet, in-person training program? Is it equipped to offer online troubleshooting and diagnostic processes and tools should technical issues arise? Are local, in-person service and support services on hand should there be an issue that can't be handled remotely? Knowing that problems will get resolved fully, and in a timely manner, is critical for a restaurant that needs to run with minimal interruption and in which an issue with meal ordering, or even a 30-second lag in payment processing, may be enough to erode the guest experience. More serious technology malfunctions or outages can, of course, have a very negative affect on revenue performance. Decision makers need to understand what to expect should they ever get into a situation that requires immediate attention.

**What is the total cost of ownership? Are there any "hidden expenses?"** While hardware and software costs run the gamut, as do the requirements of different restaurant operators, next-generation restaurant management and POS systems on the whole tend to be considerably less expensive and require less up-front investment than their predecessors. There are many reasons for the shift to increased affordability, including the fact that installation is generally less complex and hardware is generally less expensive compared to, say, a decade ago. That is especially true for mobile POS / tablet-only restaurant operations. With a fast-growing number of systems, the POS data is stored entirely in the cloud, reducing (or, likely, even eliminating) the need for on-premise servers. Incidentally, most cloud-based POS systems also use a subscription "pay as you go" model, which generally means no long-term contracts and no upfront capital investment for the software. Cloud solutions are generally built to scale as the volume of business increases, so the costs are almost always in coordination with the size of the

Cloud solutions are generally built to scale as the volume of business increases, so the costs are almost always in coordination with the size of the restaurant's current operations and needs.



# Chapter 3: Must-Ask Questions

restaurant's current needs. This may be an important consideration, especially for smaller operations with a limited budget. In all cases, it is important to confirm which software features and modules, including future upgrades — as well as which hardware components, if any — are included in the base (recurring) price that is quoted so as to avoid any unpleasant surprises down the road.

**What return on investment (ROI) can be expected?** For most restaurants, particularly during the pandemic, the return on investment can be measured in terms of cost reduction, which is largely a function of increased staff productivity and improved resource utilization. It can also be measured in terms of revenue growth. This is largely a function of improved guest satisfaction and, in some cases, faster table turn times — and again, in certain venues, the ability to reach and serve a larger number of guests simultaneously. Additional selling points include the ability to improve financial performance with advanced inventory and labor management tools and better performance reporting capabilities. When it comes to projecting ROI, the first question to ask is: To what extent would the new restaurant management and POS system likely improve organizational and process efficiency across day-to-day functions, including those related to guests, employees and inventory? To what extent would the new system likely improve sales, revenue and profitability — by, for example, increasing table turnover rates and the number of guests that can be served simultaneously? Another key factor to consider in terms of ROI pertains to reduction in losses, including not only food waste but also losses related to data entry errors and technology integration costs with third-party hardware and software. An even more important consideration when it comes to making the business case for this technology investment is the extent to which the new system would be likely to enhance the overall quality of the guest experience, resulting in a greater number of loyal customers and a higher volume and intensity of positive reviews, including word-of-mouth recommendations. As any restaurant operator can attest, there is direct correlation between favorable guest reviews and positive financial outcomes.

For most restaurants, particularly during the pandemic, the return on investment can be measured in terms of cost reduction, which is largely a function of increased staff productivity and improved resource utilization.





# Chapter 3: Must-Ask Questions

**What is the solution provider's track record of success?** As with the purchase of any business technology solution, reputation and customer satisfaction are important factors in the decision-making process. Nobody wants to purchase and implement a restaurant management and POS solution that falls short of expectations due to known shortcomings in stability, reliability or promised benefits. No input may be more important to the buying decision than that which can be gleaned from existing solution provider customers, preferably restaurants that share some commonalities in terms of size, typography, category and existing technology infrastructure and requirements. A solution provider or consultant may be willing to provide one or more customer references. Some customers, particularly those operating in non-competitive markets, may be willing to share their experiences and perhaps even disclose results in terms of percentage increases the solution has helped enable them to achieve in terms of cost savings or, perhaps even more importantly, improvement in guest satisfaction metrics such as Yelp rating. Client testimonials and success stories can also be valuable sources of information.

Nobody wants to purchase and implement a restaurant management and POS solution that falls short of expectations due to known shortcomings in stability, reliability or promised benefits.



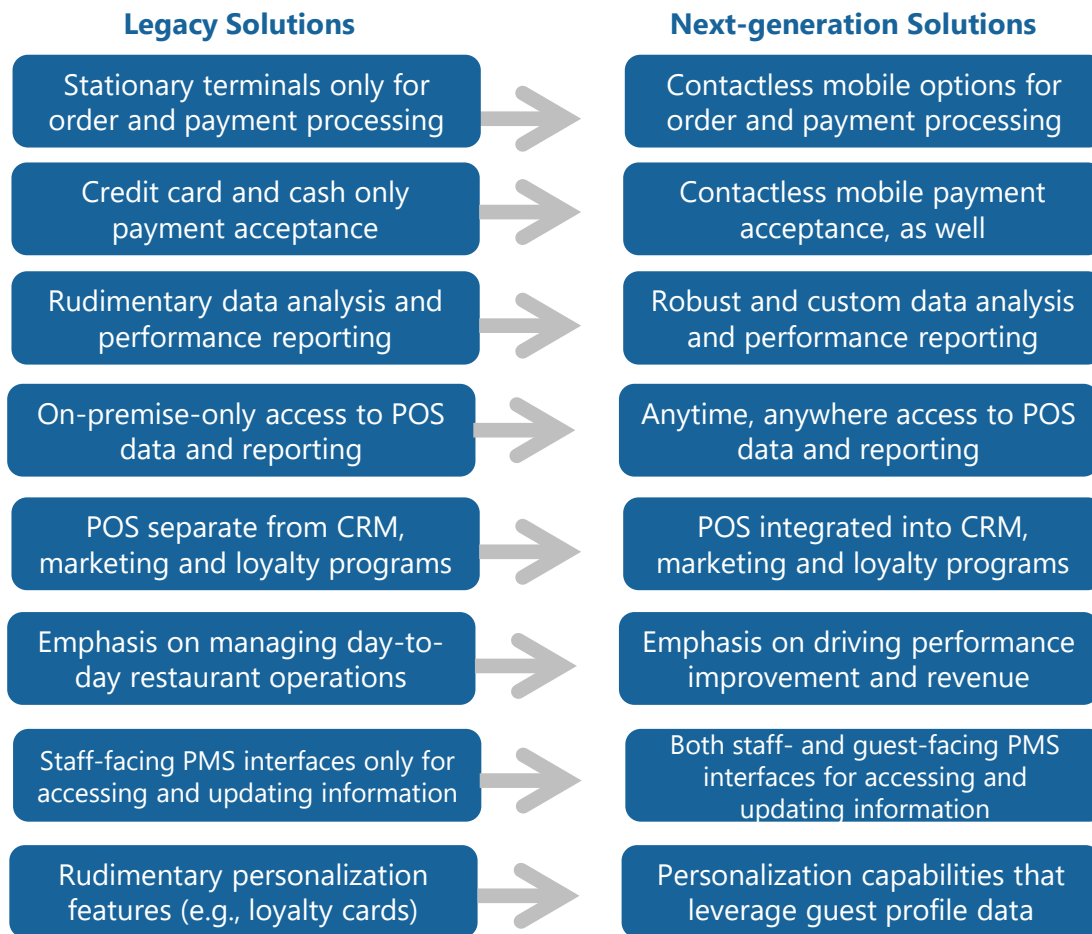
## Chapter 4

# Roadmap and Recommendations



# Chapter 4: Roadmap

Keeping their doors open and maintaining some level of business continuity has been no easy task for most restaurant owners and operators during the Covid-19 pandemic. It has required that they become hyper-efficient in all aspects of their operations. While the crisis has accelerated technology innovation and the proliferation of mobile apps, in particular, the trend toward self-service and digitization had been gathering steam for some time as had the integration of features and functionality into an end-to-end system. This Roadmap Diagram illustrates the evolution of restaurant technology from legacy solutions to next-generation solutions.





# Chapter 4: Recommendations

The Covid-19 pandemic has forced most restaurant owners and operators to rethink, redesign and reimagine their businesses. Finding ways to reduce, if not eliminate, face-to-face interactions would seem to be antithetical to the very notion of *hospitality*. Yet at a time when human interactions are intentionally limited — with the smiles of servers and other staff covered with face masks — restaurants have embraced technology to create new guest touchpoints. To some degree, a mobile contactless guest ordering and payment solution should replicate and compliment that experience. The initial recommendation, then, is to take full advantage of POS mobility not only with servers but also with respect to guest-facing apps.

The following are a few recommendations for buyers to keep in mind.

**Take full advantage of POS mobility.** With the evolution of POS mobility, restaurants have the opportunity to migrate servers from being food-order-taking-and-delivery-automatons to becoming full-fledged brand ambassadors. POS mobility gives them the tools and capacity to provide high-touch, personalized service and build enduring relationships with guests. Table-side order placement and payment processing via tablets are obviously not appropriate for many types of dining establishments. But for many restaurants, removing some of the common barriers to guest satisfaction – e.g., lack of server attention and unacceptably long wait times across multiple points of interaction and transaction – invariably results in more repeat visits and higher revenue. In fact, restaurants that have implemented POS mobility are reportedly seeing a 10 to 15 percent increase in average check size. Look for a partner who not only offers multiple options for payment acceptance but also one that offers the highest level of payment processing security. Look at transaction processing certifications and make sure the solution provider has a track record of success with data protection. Most data breach incidents are reported and made publicly available.

At a time when human interactions are intentionally limited — with the smiles of servers and other staff covered with face masks — restaurants have embraced technology to create new guest touchpoints.





# Chapter 4: Recommendations

**“Know thyself.”** Every restaurant has its own set of requirements and priorities in terms of features and functionality. A multi-location restaurant operation, for example, will probably want to purchase a system that features multi-restaurant management capabilities — with single sign-on and/or enterprise level configuration and reporting, for example, and unified data analysis and performance reporting. Buyers should try to gain a clear understanding of their own requirements and priorities early on and weigh them accordingly (see the Evaluation Checklist in Chapter 2).

**Focus on reducing food waste.** While some amount of food waste is inevitable in the restaurant industry, that amount can be reduced dramatically with the deployment of next-generation, data-driven technologies. Unfortunately, many restaurant owners and operators have yet to implement these technologies. Inventory management systems that use POS data to automatically monitor food and drink stock levels, supplier purchase orders and ingredient prices to increase margins is only one type of technology for reducing food waste. Menu design and implementation solutions can help restaurants lower their total food inventory levels by upwards of 25 percent. Other technologies include smart scales that measure food waste across chains and smart temperature control storage units that extend the longevity of refrigerated and frozen foods (and also reduce energy consumption). One AI-powered solution works by taking photos of food being thrown away in the kitchen and then using the images to train staff to recognize what ingredients are being discarded. In the past, the art and science of making projections and placing supplier orders was generally based on nothing more than seasonal variances, the popularity of different dishes and planned menu specials. Restaurant owners and operators tended to rely on a cursory sense of existing stock levels and their own intuition regarding future demand for various ingredients. They often over-ordered supplies based on gut feel — “just to be on the safe side.” This approach may cause only marginal loss in the short-term. Over time, however, it becomes a recipe for disaster.

A multi-location restaurant operation will probably want to purchase a system that features multi-restaurant management capabilities.



## Chapter 5

# Roadmap and Recommendations



# Chapter 5: Inside Voices

Restaurant owners and operators with first-hand experience with next-generation restaurant management and POS systems often have a lot to say about the topic. Following are a few perspectives that first appeared in *Restaurant Technology News*, a Starfleet Media publication and the hospitality industry's premier source of information and insights related to technology innovation.

The restaurant industry was more or less forced to enter the digital age once the coronavirus pandemic took hold of the world. Like Cheba Hut, many brands that had relied on repeat customers and traditional forms of marketing instead sought out improved ways of reaching consumers using digital technology. For Cheba Hut, it meant we had to best understand what our customers needed from us in order to remain loyal in spite of the current economic uncertainty, and that meant a redesigned online-ordering app with added benefits in the form of a loyalty program.

Seth Larsen, Chief Relationship Officer at Cheba Hut

Covid-19 has taken 5 to 6 years of technology growth and squashed it into 6 months.... Technology is going to help build top line, save margin and change our industry (from ghost kitchens being able to reach more clients via 3rd party delivery apps, fewer people needed to operate, to changing dining options (think Beyond Meat and Impossible Burger).

Jonathan Chu, Owner, The Independence and Lanea

Modern Market has seamlessly integrated in-store digital, contactless ordering. This comes as an evolution of our proprietary curbside ordering capabilities built as a result of the pandemic. Tableside ordering enables our guests to place orders from the table using their phone by scanning a QR code. They do not need to go up to a register, provide personal information or even download an app to order; and the menu is still fully customizable and easy to use.

Anthony Pigliacampo, Co-Founder and Co-CEO, Modern Market Eatery

The impact of the pandemic brings to light a lot of the shifts we've been seeing in the industry for years toward convenience, loyalty and digital ordering. For those of us that make it, I believe the health crisis will have accelerated the popularity of off-premise dining across the board. It will be increasingly important to have technology in place that can support restaurant businesses through times of crisis, and as an industry, we will need to continue to adapt.

Micha Magid, Co-founder, Mighty Quinn's





# Chapter 5: Outside Voices

Following are a few additional perspectives from industry observers with insights into next-generation hospitality solutions. These perspectives also first appeared in *Restaurant Technology News*, a Starfleet Media publication and the hospitality industry's premier source of information and insights related to technology innovation.

Look at the data on your POS. Have you noticed a trend in past years, or even the past couple months, of the most popular dining times happening earlier in the evening? Answering positively here will help to inform staffing and pacing adjustments.

Larry Mogelonsky, Principal of  
Hotel Mogel Consulting Limited

Tech applications can help improve customer service, security, and restaurant processes. With facial or fingerprint recognition, a restaurant could curate a menu for you as soon as you walk in the door. You could walk out the door without ever pulling out your credit card because the restaurant POS system recognizes your face. You could order without ever talking to a person.

Jori Hamilton, independent  
restaurant industry analyst

As operators look to deliver a dining experience that appeals to guests, taking care and attention to their tech preferences and health and safety requirements, one of the best ways to build strong guest relationships is by utilizing data to personalize dining experiences – whether for take-out or dine in.

YouGov PLC, "Restaurant  
Reckoning: Dynamic Diner Report"

There was a high level of resignation about the inevitability of QSRs incorporating robots during our group interviews. This finding is similar to the acceptability of routine societal change. Participants felt that the incorporation of robotic technology is a question of *when*, rather than a question of *if*.

Dina Marie Zemke, associate professor, Miller  
College of Business at Ball State University

Waste is inevitable in the restaurant industry, but through technology, it can be reduced significantly. One way in which restaurants are doing this is by implementing more advanced equipment. This includes technology such as smart scales to measure and register food waste across chains, which can help individual kitchens realize how much is actually wasted.

Shannon Bergstrom, LEED-  
accredited, TRUE waste advisor.





## Chapter 5

# Research Notes and Underwriters



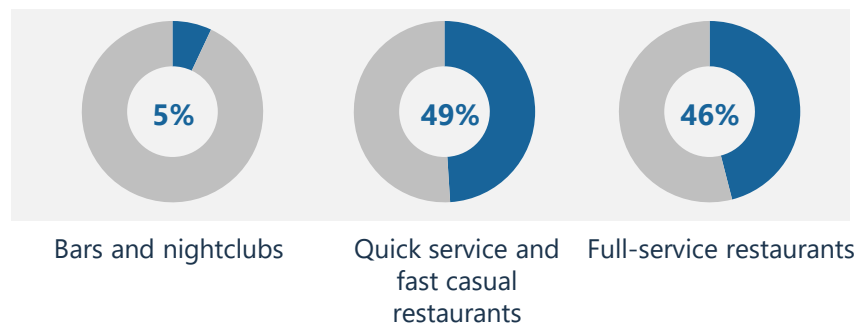
# Appendix: Research Notes

In Q1 2020, prior to the emergence of the Covid-19 pandemic, Starfleet Research conducted an online survey, consisting of both multiple choice and open text questions, to capture the perspectives of industry practitioners with first-hand experience with restaurant management and POS systems. Some of the research findings are highlighted in this publication. Following is some basic information about the 288 qualified survey respondents who participated.

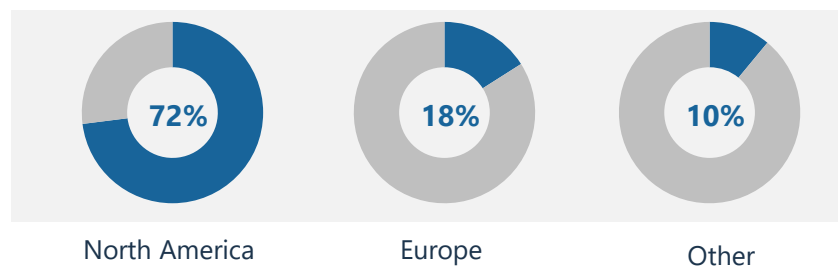
## Job level / role of survey respondents



## Size / category of survey respondents' restaurant employers



## Geographic location of survey respondents



# Appendix: Underwriter

## ORACLE Hospitality

Oracle Hospitality brings more than 40 years of experience in providing technology solutions to independent hoteliers, global and regional chains, gaming, and cruise lines. Our hardware, software, and services enable customers to act on rich data insights that deliver personalized guest experiences, maximize profitability and encourage loyalty. Cloud-based, mobile-enabled, with open APIs, Oracle's OPERA Cloud property management and distribution, Symphony point-of-sale, and reporting and analytics solutions accelerate innovation, lower IT cost and maximize operating efficiency. Our Hospitality Resource Center features an array of information to navigate challenges and seize opportunities in an altered marketplace.

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