

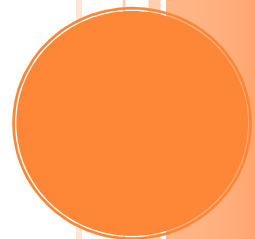
# ACHIEVING REAL WORLD BENEFITS WITH WIRELESS HANDHELD POINT OF SALE SYSTEMS

*The current state of mobility solutions in the US  
restaurant market*

This white paper discusses the history of wireless handheld POS systems in the hospitality industry, highlights the common barriers to adoption, discusses contemporary keys to success and shares a cross section of successful customer experiences with mobile POS. The information is designed to aid US restaurant operators and chain executives evaluate the state of the offerings and the critical success factors for implementing handheld POS.

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## INTRODUCTION

While the use of handheld POS devices in restaurants is widespread in Europe and Australia, it remains limited to early adopting operators and chain pilots in the US. This is ironic as the emergence of early handheld POS in US restaurants dates back over 20 years.

With rising food and labor costs and increased competition many restaurants, are expressing an interest in handhelds for improving service, cost savings, efficiency and increased revenue. These are similar economic drivers that spread adoption of the technology in Europe and Australia.

This white paper discusses the history of handheld POS systems in the hospitality industry, highlights the common barriers to adoption, discusses contemporary keys to success and shares a cross section of successful customer experiences with handheld POS. The information is designed to aid US restaurant operators and chain executives evaluate the state of the offerings and the critical success factors for implementing handheld POS.

## DEFINITION OF HANDHELD POS SYSTEM

There are three major functional areas that are typically included in restaurant handheld POS functionality. These three areas can sometimes be implemented independently or in combinations with each other depending upon the nature of the restaurant and the key operational benefits which are being sought. The three key areas include:

**Line busting and pre-orders** – This functionality is typically required and deployed in QSR restaurants with counter service or drive through operations. The functionality is appropriate for high volume environments where additional staff is deployed to handle an increase in customer volume during peak times throughout the day.

**Order Management** – This functionality is focused on table service and automates the traditional pen and paper process for taking guests orders. Most table service restaurants use a very inefficient process where the server records the order on paper and then enters the order on a stationary POS terminal. The advantage of mobile order management is that it can speed the orders to the kitchen, ensure accuracy of the orders entered, provide the

server with additional information while interacting with the guest and significantly increase the efficiency and flexibility of the order process.

Pay at the Table – US restaurants are amongst the few remaining places where a consumer gives up control of their credit card in order to complete a credit transaction. With increased focus on security, pay at the table functionality has become an area of concern for restaurant operators. Pay at the table allows the server to accept a credit card payment without the credit card leaving the sight of the guest.

## BACKGROUND ON HANDHELD POS

Early handheld POS systems from innovative small companies such as Valedec, Orderman and Pokky first appeared in the mid-1980's and early 1990's to bring ordering tableside and automate the paper order pad process. Due to the nature of the mobile technology these were often larger devices with keypads used to enter PLU numbers with infra-red or low frequency RF radios to transmit order information to a base station. While considered cumbersome and bulky by today's standards, these systems were successfully deployed in numerous European and some US restaurants where more technically savvy or committed operators worked with the system and achieved pioneering results.

This led to subsequent products in the late 1990's and early 2000's where larger POS providers ported their own software or utilized specialty software from companies like Ameranth to run on the next generation PDA's from Dell, Compaq, HP and Symbol Technologies. These devices were usually based upon Wi-Fi technology and tended to be sleeker and more flexible than prior handhelds, but had ease of use, reliability and other performance deficiencies that prevented broader adoption within the hospitality industry.

With the current generation of mobile solutions, there has been two different approaches to developing applications for mobile and handheld POS solutions. One approach is to make the stationary POS application mobile and the second is to start with the server and automate the pen and paper process. The challenge with making the existing POS application mobile is reducing the traditional POS display down to a screen 1/4 or less the size. The benefit of just shrinking the size of the screen is reduced training to get servers migrated from touch screen POS to handheld POS. However, the challenges include a more crowded and difficult to read user interface and limited handheld POS functionality by using a stationary POS interface as the model. The priority of a stationary POS and a mobile POS are very different. While both attempt to be efficient, one is designed to be used away from a guest and one is designed to be used when interacting with the guest.

A more effective method is to start from the perspective of the server and automated the process from the natural interaction between the server and the guest. While this sometimes results in a different menu process on the handheld POS versus the stationary POS, it can be a more natural feel to the server and help to minimize the impact of technology when interacting with the guest.

In an era of advanced smart phones and other digital devices, it is no surprise that today's hospitality market sees increasingly appealing options for handheld POS from a variety of suppliers. These include mobile terminal manufacturers such as Motorola and payment

terminal providers such as Verifone for pay at the table as well as established international specialty handheld providers. The opportunity to achieve real benefits has never been better for US restaurants facing the challenge of driving increased efficiencies from their stores. However for US restaurant owners and chain executives planning a mobility project, it remains prudent to understand the past reasons why handheld systems have previously failed.

## BARRIERS TO ADOPTION

**Technology:** As is true with most technology (e.g. “portable” PC’s, cell phones, video cameras), early examples tended to be bulky, expensive and difficult to use by later standards. This was certainly true with handheld POS. While some examples were better than others, many suffered from a combination of bulk and weight, susceptibility to wear and tear, being difficult to learn and use, and poor wireless performance and/or battery life that inhibited wide-scale adoption.

It is also important to consider environmental factors that are unique to table service restaurants. Unlike warehouses and many retail venues, table service restaurants typically contain enclosed spaces; RF interference emitting kitchen equipment such as microwaves; liquids, glass, steel and large groups of people that act to shield higher frequency radio waves; and on occasion long shifts for mobile workers whose work flow and work pattern prohibit the ability to dock a handheld for charging.

Outside the US, specialty handheld vendors found ways to innovatively overcome environmental challenges in the restaurants. However these solutions tended to be regional in nature and generally unavailable in the US. Within the US, POS vendors typically utilized handhelds that were developed for other markets in hospitality with mixed results.

**Cost:** Combined with the technology limitations was an expensive price point for the mobile handheld devices and wireless networking. What resulted was a premium for a solution that was difficult to justify or often-times unproven and offered potentially modest benefits. In other international markets, where labor costs were higher and resources were scarce, the ROI tended to drive adoption of mobile solutions to much higher levels than in the US.

**Staff Acceptance:** The largest factors related to staff acceptance were resistance to change and frustration with poorly performing technology. The challenge of learning a new, cumbersome and sometimes complicated system naturally induced resistance from many servers. Added to this was a growing frustration from the servers for intermittent or short-range wireless connectivity, poor battery life and additional maintenance tasks.

**There have historically been five main reasons why handheld POS has not been more widely adopted in the US:**

- 1. Technology**
- 2. Cost**
- 3. Staff Acceptance**
- 4. Guest Reaction Concerns**
- 5. Lack of Awareness**

After several busy periods where the server increasingly disliked the handhelds, managers usually noticed service levels declining. Owners feared a lasting impact on their guests and damage to their restaurant's reputation. Many times, handhelds projects were aborted before significant benefits were realized. Resistance to change was a common situation worldwide. However, the penetration of handheld POS in Europe and Australia indicates that some geographies were more successful in managing the user acceptance than others. We believe that servers will embrace effective handheld technology and managers can overcome staff resistance to change through traditional change management techniques common with all technology deployments.

**Guest Reaction Concerns:** Technology limitations and staff acceptance led to real concerns about handheld technology inhibiting the personal connection and service between the server and guest. In situations where poorly performing and difficult to use systems were in the hands of unhappy staff, such concerns were valid. The guest experience is the key factor many restaurant operators are focused upon. The form factor and functionality of handheld POS has evolved where proficient servers can interact with guests in a way that improves accuracy, speeds service and increases their availability to the point where guests are unaware that their order was taken on a handheld POS.

**Lack of Awareness:** After a cycle of early hype followed by setbacks from the operational challenges, several specialty handheld POS companies exited the business and many POS solution providers shied away from promoting handhelds. The result was hospitality solution providers waiting for market demand to increase rather than taking the lead with innovative solutions. A few POS software companies continued to invest in handheld POS and would demonstrate it upon request, but little was done to proactively market it. Hence in the US, there historically has remained a perception that the promise of handheld POS came and departed.

Due to increased pressure within the industry including rising operating costs and increased competition for consumer spending, restaurant operators are revisiting handheld POS in their venues. Today, with more affordable and better technology as well as a growing number of success stories, leading restaurant operators are considering handheld and mobile technology as part of their growth strategy.

## KEYS TO SUCCESS

**Technology:** Early versions of technology products, including handheld restaurant POS, appealed mainly to enthusiasts and early adopters looking to experiment with the way of the future and achieve the promise of the technology early. Handheld computers and mobile technology clearly fit into this category, with contemporary examples having made dramatic strides over early examples.

However there are subtle differences that impact cost, security and reliability that must be considered. Widely available Windows-based handheld devices offer functionality yet rely upon Wi-Fi technology for mission critical applications such as restaurant ordering and pay at the table. While Wi-Fi technology can be viable in a restaurant environment, mission critical applications require additional access points, network security and power management techniques. Specialty restaurant ordering systems that use lower frequency RF, provide advantages in terms of range, battery life and network security. The disadvantage is that the RF network cannot be shared with guests as “free Wi-Fi” hotspots.

**Training:** Developed over the past 20 years is a better understanding of change management as a critical element of deploying new technology in companies large and small. It is important to identify “change agents” within the organization and get them involved early by showing them the benefits of the technology and providing management support. Successful operators with handheld POS systems made this an important part of the process.

Best of all, operators and chain executives moving towards handheld POS in the future have two significant advantages over their European and Australian predecessors. First, servers today are more technically savvy than those during the last 20 years and more comfortably with handheld technology due to adoption of smart phones, MP3 Players, and digital photography. Second, with the tipping culture more prevalent in the US, handheld POS systems offer a significant motivation for servers with the prospect to earn greater income through improved guest service levels.

All of this points to the need for effective training and management support. Given how critical staff adoption is to the success of the project, it is critical therefore that those providing training are experienced with both the technology and the restaurant operations. It is also critical that management act in a way that is both supportive of the learning and firm with the accountability for commitment and eventual results.

**Staffing:** Automating the ordering process yields limited results if other steps in the food preparation and delivery process are not also optimized. With regards to staffing, speeding the order transmission to the bar and kitchen is a benefit but being available to guests to improve service and suggestively sell is reduced if the server must also solely run food to their tables. Operators that benefit the most from handheld POS employ both runners and servers or other forms of team coverage that allow servers to go from table to table instead of back and forth to a remote, stationary POS. The key issue is to measure travel paths and

**The following keys to success are related to the above traditional barriers to adoption and expanded to include what has been learned from more contemporary successes. These are:**

- 1. Technology**
- 2. Training**
- 3. Staffing**
- 4. Kitchen Operations**
- 5. Implementation**

reduce footsteps within the restaurant to ensure that the staff movement is the most efficient possible.

Such changes create multiple benefits including increasing average spend per cover and table turns, lowering labor costs and increasing the effective capacity of a restaurant's front office operations. Secondly it also signals management's level of commitment to the new method of operations whereby changes are directionally permanent thereby diminishing the belief from any resistant servers that they do not have to buy into handhelds and management might let them off the hook.

**Kitchen Operations:** When front of house operations improve, other bottlenecks in the food preparation and delivery process are exposed. Layout of prep lines, kitchen workflow and kitchen and bar staffing should be examined in conjunction with the implementation of handheld POS. Many US restaurant chains seeking greater efficiency have recently embarked on such kitchen optimization projects already and stand to gain greater, immediate benefits from handheld POS than others.

**Implementation:** Lastly, the period from going live until servers and managers achieve a comfort level and proficiency with handheld POS is critical to achieving long term success. Technology advances, staff familiarity the technology and solid training all contribute. However the implementation process and learning period require careful planning and execution.

Venues with successful handheld POS implementations considered ways to minimize server anxiety and speed training. Going live during off seasons and slow nights, informing customers of the new system implementation designed to ultimately improve service, doubling up servers so one watches over the shoulder and acts as a quality control while learning, seating fewer guests and bringing chefs out as expeditors to validate proper order fulfillment are just a few innovative ways for management to demonstrate that servers' learning curves are accounted for. Ongoing encouragement and patience also helps and in some cases, eliminating a staff member that permanently resists the change are all considerations towards making the implementation successful.

## KEY ISSUES TO MAXIMIZE ROI

Handheld POS and mobile systems are quickly becoming critical components of a successful restaurant operation because of the productivity gains and the improvement in the guest experience. These systems typically have a very attractive return on investment due to the relatively modest acquisition cost and the very effective gains in productivity and expense management.

The key components of the ROI for most restaurant operations are the increased covers, the additional increase check size and the reduction in labor costs. These components can provide an ROI within a few months of the deployment of the new system. There are also significant soft benefits such as improvements with the guest experience that contribute to the benefits of the system. As noted earlier, many restaurant operations feel that the improvement in the guest experience is the key factor for the use of mobile and handheld systems.

**Increased Covers** – The productivity gains available with the use of mobile technology provide the ability to turn tables more quickly during peak periods without the guest being rushed through the meal. The productivity gains typically yield an increase in covers between 5-10%.

**Increased Check Size** – Increased spend and improvements in an average check are realized in a number of ways throughout the interaction with the guest including prompting and reminding the server for upselling options, providing the server with a better awareness of menu choices, and the ability to add appetizers and desserts to a meal.

**Guest Experience** – The guest experience is made up of many components throughout the interaction and the meal. A great meal can turn into a frustrating experience if the guest is looking for a server to place an order or to pay for the check. Many guests feel hostage at the end of the meal if the check is not readily available or if they are waiting for the finished credit card transaction. Also, with the growing concern over credit card security, the experience can turn negative when the server leaves with the credit card at the end of the meal. All of these factors can be addressed with the use of handheld POS technology.

## ACTUAL CUSTOMER FINDINGS

The following examples are from restaurants that have successfully implemented handheld POS. The owners, managers and servers quoted provide their perspectives on achieving real benefits from handhelds in restaurants.

**Jonah’s Seafood House:** based in East Peoria, Illinois, Jonah’s Seafood House is an established and well-known venue located on the Mississippi River. The restaurant opened its doors in 1986 and houses an oyster bar, café and upscale restaurant on 3 levels. Jonah’s is a large venue that seats 420, sees 530 daily covers on average that each spent \$21. Within 2 months of upgrading a 7 year old POS system for a handheld based system, the restaurant increased table turns to every 75 minutes (from every 90 minutes), increased average check size per cover nearly 15% and reduced front house staff by four employees .

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“We have seen an increase in customer service, as our servers have the ability to answer questions pertaining to our products table side. Also our regular’s, who were at first apprehensive of the technology tableside, now expect tableside payment and are disappointed if their credit card leaves their sight” notes general manager Todd Waldschmidt.

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**Han’s:** headquartered in West Australia, Han’s is a 14-unit chain of Asian noodle venues often located in higher volume locations near cinemas and downtown businesses. The first

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“... With the TriniTEQ solution, our turnover of customers and sales increased by almost 100 per cent,” stated Ian.

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restaurant opened in 1985 and these busy venues each have up to 1,500 patrons visiting on a given day. Says owner Ian Han, “We have a strong relationship with major shopping complexes and cinemas in Western Australia and it’s important to the relationship that we’re able to provide movie-goers and shoppers with good food and quick

service. The majority of customers who come into the cafés only have a set amount of time to eat a meal before they go to a movie or have to be somewhere else, so a quick turnover is essential. With the TriniTEQ solution, our turnover of customers and sales increased by almost 100 per cent,” stated Ian. “This is simply because we have been able to reduce the amount of time in taking the order, getting it through to the kitchen and then having the food delivered to the customers”

**21st Amendment:** based in San Francisco, CA, 21st Amendment is a popular craft brewery and pub operator located near AT&T Park. The restaurant opened in 2001, seats 138, and during baseball season, becomes packed before and after home games where an outside beer garden in the adjacent alley helps capture the increased business. Within 6 months of upgrading to a handheld based system, the brewery restaurant achieved impressive

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“We realized that a handheld system would take time and planning to implement properly.

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results. Says Lloyd Knight, general manager of 21st Amendment “We realized that a handheld system would take time and planning to implement properly. We went live in the baseball off season and intentionally doubled up on server while reducing table availability during the first few days. As servers become more confident, the results became apparent. Versus our previous, touch screen only system, we found that for every fourth cover, we sold an extra beer.”

**BaVo:** based in downtown Oakland, CA, BaVo is a family run Vietnamese restaurant featuring a busy lunch and dinner trade on weekdays. The restaurant opened its doors in 1994 and seats 150. 145 daily covers on average that each spent \$15 with much of this concentrated between 11:30AM to 1:30PM. Within 3 months of adding handhelds, the restaurant noticed an improvement in the business.

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“Our servers are able to stay on the floor more and maximize their time with customers. Customers are more satisfied with the service and tipping more to the servers.” said general manager Loan Vo.

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**Hanalei Dolphin:** located on the north shore of Kauai in Hawaii, Hanalei Dolphin is a popular venue for both locals and tourists. Current owner, Douglas Allen, recently bought out his partner and is planning a handheld POS installation late 2008 after a new server highly recommended the WaiterPAD handheld after successfully using it at a nearby sushi restaurant. “One of my new servers had used WaiterPAD at another restaurant in Kauai and noted that it would be perfect for this large riverside patio. He explained that with WaiterPAD, servers would be more productive as they would no longer have to walk 200 feet to enter orders or accept payments” noted Douglas when talking about how he started his decision to switch to the WaiterPAD POS System.

## CONCLUSION

Just as economy factors drive US restaurant owners to explore ways to maintain or increase revenue and lower costs, technological advances now increase the appeal of handheld POS. However with any emerging technologies, it is important to consider the past barriers to the

adoption of the technology and identify the keys to successful implementation as determined by restaurants in the US and around the world.