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“Quick-serves that do not embrace technology are missing both revenue-boosting and cost-cutting opportunities that could put them at a competitive [advantage].”

—QSR magazine

Executive Summary

It's tough to operate a profitable quick service restaurant (QSR) these days. Among the challenges facing operators are a saturation of the QSR market, increased competition from casual-dining restaurants offering more choices for customers, high employee turnover rate, and a recovering economy. The pressure is on existing QSRs to operate more efficiently, attract new customers, and keep them coming back.

With a substantial part of any QSR's revenue coming from the drive-thru, operators are searching for new ways to improve its efficiency. And drive-thru technology plays a key role in this quest. According to a recent article in *QSR* magazine, "Technology, as a whole, now plays an indispensable role in quick-serve. From consumer applications that enhance the diner experience to operational applications that improve the restaurants' day-to-day functioning, experts say quick-serves that do not embrace technology are missing both revenue-boosting and cost-cutting opportunities that could put them at a competitive [advantage]."¹

Optimal drive-thru efficiency depends upon numerous elements of operation, but the most critical components are order accuracy and speed of service. Within the last few years many new technologies have been designed to help QSRs improve these twin components of profitability.

An Industry Empowered by Technology

Although drive-thrus have existed since the late 1920s, until the mid-1970s most QSR customer orders were taken inside the restaurants. However, the last twenty-five years have witnessed an explosion in drive-thru sales, with some of the newer chains reporting as much as 90% of their sales and 80% of their growth coming from the drive-thru. Even the most traditional and established chains were reporting 50-75% of their total revenues from the drive-thru.

To monitor this drive-thru revolution, industry executives mobilized special teams to study both the human factors and the technologies that would give their companies a competitive edge, down to the second. In 1997, *QSR* magazine teamed up with the market research firm Global Growth Group (formerly known as Sparagowski & Associates) to study how the 22 largest chains

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Final Overall Ranking

RANK	RESTAURANT CHAIN	SPEED	ORDER ACCURACY	MENUBOARD APPEARANCE	SPEAKER CLARITY	TOTAL SCORE
1	Chick-fil-A	9.6	10.0	2.3	2.5	24.4
2	Taco Bell	8.0	8.4	0.7	1.2	18.3
3	Wendy's	10.0	3.6	2.0	2.4	18.0
4	Burger King	7.6	6.0	1.7	1.9	17.2
5	El Pollo Loco	5.6	8.0	1.4	1.4	16.4
5	Jack in the Box	4.4	8.8	1.3	1.9	16.4
7	Taco John's	6.0	6.8	1.8	1.7	16.3
8	Arby's	6.8	7.6	0.8	0.9	16.1
9	KFC	7.2	6.4	0.9	1.3	15.8
10	Checkers	8.8	4.0	2.4	0.3	15.5
11	Whataburger	0.8	9.6	2.5	2.2	15.1
12	McDonald's	8.4	2.8	1.6	1.6	14.4
13	Del Taco	3.2	7.2	1.5	2.3	14.2
14	Krystal Burger	9.2	1.2	2.2	0.6	13.2
15	Steak n Shake	0.4	9.2	1.1	2.0	12.7
16	Carl's Jr.	5.2	4.8	0.4	2.1	12.5
17	A&W	4.0	4.4	1.9	1.5	11.8
18	Long John Silver's	4.8	5.6	0.3	0.5	11.2
19	Rally's	6.4	0.8	2.1	0.4	9.7
20	Captain D's	1.6	5.2	1.2	1.0	9.0
21	Dairy Queen	3.6	2.0	0.6	1.1	7.3
22	Church's Chicken	2.4	3.2	0.1	0.1	5.8
23	Popeyes Chicken	2.0	2.4	0.2	0.8	5.4
24	Hardee's	2.8	0.4	1.0	0.7	4.9
25	White Castle	1.2	1.6	0.5	0.2	3.5

OVERALL BEST DRIVE-THRU The overall best drive-thru operation was determined by a composite score, which took into account each restaurant chain's final ranking in each of the four categories. Because of the relative importance of speed and accuracy to the consumer, rankings in each of these two primary categories were heavily weighted. Specifically, these two categories each comprised 40 percent of the final score, while menuboard appearance and speaker clarity each made up 10 percent of the final score.

Twenty-five points were awarded for a first place ranking in each category. Twenty-four points were awarded for a second place ranking, 23 points for third place, etc. One point was awarded to the chain ranked 25th or last in each category. Forty percent of the points given for speed and accuracy are used to compile the final score. Ten percent of the points awarded for menuboard and speaker were likewise used to compile final scores.

2003 QSR Drive-Thru Time Study, Courtesy of QSR magazine

“Wendy’s profits have outpaced the rest of the fast foodies for one key reason: Its drive-thru windows consistently rank among the fastest and most accurate in the industry.”

—USA TODAY

in the United States had performed at the drive-thru during the previous year. This report, the "Drive-Thru Time Study," has since become an annual feature of the magazine, with the number of companies surveyed now standing at 25. Rankings are based on scores in four categories: (1) speed of service; (2) order accuracy; (3) speaker clarity; and (4) menuboard appearance, with speed and accuracy being weighed more heavily (each get 40% of the final score) because of their greater importance. **The latest "Drive-Thru Time Study" confirms what most key players in the QSR industry already knew: speed of service and order accuracy at the drive-thru mean higher revenues for the company as a whole.** "Wendy's profits have outpaced the rest of the fast foodies for one key reason: Its drive-thru windows consistently rank among the fastest and most accurate in the industry." ²

For obvious reasons, the appearance of each year's "Drive-Thru Time Study" has captured the attention of QSR executives, operators, franchisees, managers, stock analysts, and even some customers. Competition is fierce among restaurant chains seeking to climb higher on the list, for both publicity and profitability reasons.

Both speed and accuracy are critical to customer satisfaction and repeat business. Customers with busy lives and tight schedules quickly grow frustrated with every second that a food order is delayed. Even minor slip-ups can cause customers to look for a different place to eat next time.

But how can a QSR achieve the drive-thru speed and order accuracy that will keep it ahead of the competition?

Many theories have addressed this question, but the consensus among experienced QSR operators is that the best operational results are achieved by using a comprehensive approach of technology, people, and process. "The gadgets allow faster, more accurate service, but they have also trained the people — customers and employees — to demand still more from the drive-thru. Because the only way to increase volume is to move more cars, franchisees constantly study and wonder what they can tinker with or even overhaul to make themselves more drive-thru friendly."³

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Reducing service time while preserving accuracy has a direct correlation to improving drive-thru sales. According to McDonald's former CEO Jack Greenberg, "unit sales increase 1% for every 6 seconds saved at the drive-thru."⁴ In the last few years, many QSR operators have installed the latest communication systems, drive-thru timers, surveillance systems, POS systems, and a dozen other high-tech innovations designed to give customers what they want — quick, accurate service. And the QSRs that succeed in satisfying the customer's appetite for value, quality, efficiency, and convenience become the most profitable.

Communication Systems Promote Speed and Accuracy

Since their debut in the early 1980s, drive-thru communication systems have become a key element in QSR operation. The earliest drive-thrus did not change the basic face-to-face interaction between the customer and order-taker, but simply allowed customers to remain in their cars while ordering. The introduction of drive-thru communication systems, however, did change the character of order giving and receiving. These systems allow employees to serve customers more efficiently at every stage of the drive-thru service — from taking the order, to preparing the order and finally delivering the order — in a swift, systematic fashion.

Does newer mean better when it comes to communication systems?

In the decades since their introduction, communication systems have evolved from cabled to wireless to meet the needs of today's fast-paced drive-thrus. The newer generation of wireless communication systems comes equipped with a suite of cutting-edge features. The hands-free capability, for example, allows employees to move around freely and comfortably while performing multiple tasks. According to *QSR* magazine, **"The wireless headset technology has been credited with increasing traffic by as much as fifty cars an hour at some McDonald's stores.** It also is something customers will remember the next time they drive out for lunch."⁵

"Unit sales increase 1% for every 6 seconds saved at the drive-thru."

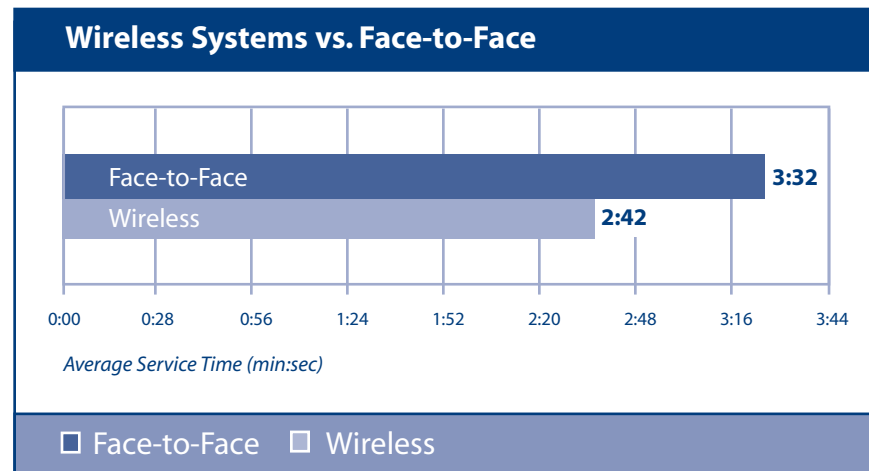
—McDonald's former CEO Jack Greenberg, USA TODAY

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Wireless communication systems can reduce service time by about 24% — or nearly 1 minute per car — resulting in significantly faster service than restaurants using the traditional face-to-face method of ordering.

—2002 Global Growth Group Drive-Thru Communications Study

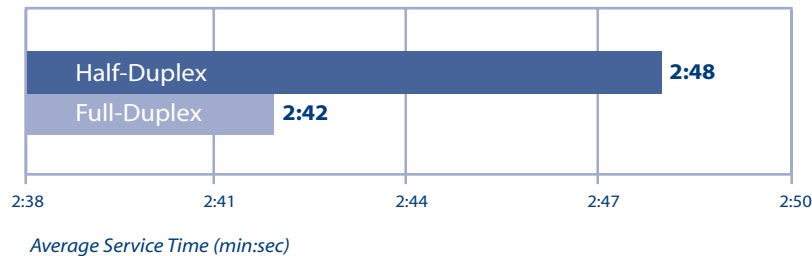
A recent study conducted by Global Growth Group — the "Drive-Thru Communications Study"⁶ — reported that wireless communication systems can reduce service time by about 24% — or nearly 1 minute per car — resulting in significantly faster service than restaurants using the traditional face-to-face method of ordering, which required customers to drive to a service window to place an order.⁷ Wireless systems also increase order accuracy over old-fashioned wired systems. "Wireless technology continues to aid convenience and accuracy at the drive-thru."⁸



The full-duplex feature is another reason to invest in a wireless communication system. The older, half-duplex systems provide choppy communication between the customer and order-taker, similar to that of a walkie-talkie. The full-duplex system, however, allows for smooth, natural conversations, like those on a telephone. Both parties can speak and listen at the same time, thus ensuring that an order is taken accurately the first time. **The "Global Growth Group Drive-Thru Communications Study" also showed that full-duplex communication systems increase speed of service by 6 seconds over half-duplex systems.**

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Full-Duplex vs. Half-Duplex Systems



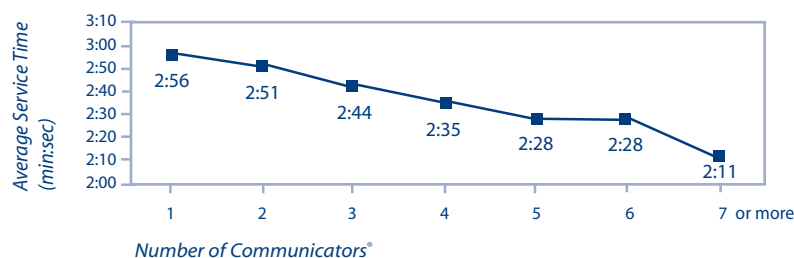
□ Half-Duplex □ Full-Duplex

The more employees who can hear customer orders in real-time and work on them simultaneously, the faster the service will be. It is important, then, from a speed of delivery standpoint, for every employee in the food production line to wear a COMMUNICATOR®. The "Global Growth Group Drive-Thru Communications Study" found that restaurants using 7 or more Communicators® experienced significantly faster service than those using 4 or fewer Communicators®. The Study showed that speed of service could be reduced by up to 24 seconds per vehicle when 7 or more Communicators® were used. Saving 24 seconds per drive-thru customer can significantly impact a restaurant's bottom line. By industry standards, an increase in drive-thru efficiency by 10% bolsters sales at the average QSR by \$54,000 per year.⁹ **According to Brian Baker, Vice-President and General Manager of Global Growth Group, "Franchisees are getting a jump on orders by having more headset units on employees... More employees hearing the order ensures that the system runs smoothly, and the extra equipment cost is justified by higher traffic."**¹⁰

Speed of service could be reduced by up to 24 seconds per vehicle when 7 or more Communicators® were used.

—2002 Global Growth Group Drive-Thru Communications Study

Number of Communicators® vs. Speed of Service



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Restaurants with clear, highly-intelligible communication systems completed drive-thru orders approximately 22 seconds faster than those with unclear communication.

—2002 Global Growth Group Drive-Thru Communications Study

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ClearSound Noise-Reduction Technology

A modern innovation available on newer systems is the built-in noise reduction technology, such as ClearSound from HME. ClearSound processes all sounds present at the drive-thru lane and eliminates extraneous ambient noises such as idling engines, mufflers and nearby traffic. With ClearSound, the order-taker hears only the customer's voice, freed from the unwanted environmental noises than can muddle drive-thru communication. "Wireless communication devices [such] as headsets and new-age audio systems ... improve sound clarity and filter out external noises such as nearby vehicular traffic."¹¹ **Studies have shown that ClearSound can improve order accuracy by 41% and quicken service times by as much as 12 seconds per car.**¹² Some analysts believe that a twelve second improvement in speed can increase a store's revenues by as much as 2% per year.

Drive-Thru Acoustics

QSR operators should also be aware that the acoustical environment of the drive-thru lane can affect the long-term success of their business. A drive-thru located near a busy street, highway or strip mall is likely to have more environmental noise to contend with than one located in a quiet residential neighborhood. **By reducing the amount of noise at the drive-thru lane, operators can take proactive measures to improve sound quality.** Menu boards should be placed at locations which facilitate accurate communication between the customer and order-taker rather than at some random location in the drive-thru.

Another basic though often overlooked acoustical measure is to encourage employees to use drive-thru equipment properly, such as putting the headset microphone in its proper position, thus enabling customers to hear the order-taker more clearly. According to the "Global Growth Group Drive-Thru Communications Study," restaurants with clear, highly-intelligible communication systems completed drive-thru orders approximately 22 seconds faster than those with unclear communication.

Training Employees for Success

Delivering the best drive-thru experience possible is not only about technology but the ability to train and motivate employees to meet your business goals.

How to Optimize Drive-Thru Operations with Profit-Driven Technologies

According to *QSR* magazine, "training and incentives are the building blocks of speedy service."¹³ Operators discovered that using incentive contests in training employees have been very effective in achieving their restaurants' service goals. By selecting and training the best communicator at your restaurant to take orders, for instance, you'll ensure that each customer interaction will be clear, friendly and audible.

Multi-Lane and Multi-Point Order Taking

As research has focused more on utilizing the potential of the drive-thru to increase revenue, some facilities with adequate outdoor space have explored the possibilities of adding a second or even a third drive-thru lane. **Such lanes, positioned either side-by-side or in tandem, not only increase the number of customers who can be served at any one time, but may also prevent the buildup of long lines which can discourage potential customers.**

"Dual drive-thrus are as much about customer perception as they are about creating faster service. Studies show that the longer the drive-thru line, the less likely people are to enter."¹⁴

Certain recent advances in communication systems are designed to accommodate these various drive-thru configurations. Features such as voice prompts not only alert employees when the batteries on their Communicator® are low but also help them keep track of what lane they're working on.

Multi-point order systems with a greater number of wireless Communicators® and wireless point-of-sale components can also enhance speed and expand a restaurant's service capacity.

Setting and Measuring Service Standards with Timers

In an industry where every second counts, the ability of a drive-thru to deliver speed with quality is vital. That's why the need to set, measure and evaluate service standards is critical. Although standards can vary widely across the industry, every successful QSR chain reviews and adjusts its standards regularly. Within the last few years, technology companies have designed timers, displays and software which allow QSR operators to evaluate the speed and performance of drive-thru service.

"Dual drive-thrus are as much about customer perception as they are about creating faster service. Studies show that the longer the drive-thru line, the less likely people are to enter."

— *Franchise Times*

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Average Service Time Ranking

RANK	RESTAURANT CHAIN	AVERAGE TIME IN SECONDS
1	Wendy's	116.22
2	Chick-fil-A	146.38
3	Krystal Burger	149.57
4	Checkers	153.39
5	McDonald's	156.92
6	Taco Bell	159.12
7	Burger King	160.52
8	KFC	172.73
9	Arby's	173.39
10	Rally's	182.84
11	Taco John's	193.21
12	El Pollo Loco	194.93
13	Carl's Jr.	196.93
14	Long John Silver's	198.34
15	Jack in the Box	200.03
16	A&W	202.71
17	Dairy Queen	207.22
18	Del Taco	208.88
19	Hardee's	209.16
20	Church's Chicken	211.16
21	Popeyes Chicken	213.79
22	Captain D's	239.15
23	White Castle	239.91
24	Whataburger	243.79
25	Steak n Shake	288.71
NATIONAL AVERAGE		189.76

SPEED Speed was determined in two different time segments—wait and service time. Wait time was defined as the amount of time from when the vehicle enters the line to when the vehicle stops at the speaker. Service time was determined from when the vehicle stopped at the speaker to when the entire order was received.

The objective of this category was to determine which restaurant chain provided the fastest drive-thru service. Because of the difference in drive-thru volumes among chains, it was necessary to create an equitable arrangement, so as not to penalize the more popular chains, which typically had more vehicles in line. As a result, wait time was not included in the final determination of selecting which chain provided the fastest service. Only the service time was used.

The total service time recorded from each chain divided by the total number of studies completed for that chain determined the final averages for service time. These rankings are listed in the summary results.

2003 QSR Drive-Thru Time Study, Courtesy of QSR magazine

Some QSR chains have used point-of-sale (POS) systems to measure drive-thru service times. Under such a system, the order-taker must manually key in both the start time (when the order is received) and the end time (when the order is delivered). While this method does provide some data on service times, it can be inaccurate and problematic. For example, the data can be manipulated by an employee who waits until the food has been prepared before keying the order into the system or who bumps the order off the system before it is actually delivered to the customer. In either case, the recorded service time appears faster than it actually was.

A more precise measurement of drive-thru service is available by using a speed-of-service timer. This device, when linked to underground vehicle detectors, can automatically track every stage of the drive-thru process, from order point to pick-up window. Not only can managers pinpoint areas for improvement, but the automated nature of the timer makes it practically impossible for employees to manipulate the data. According to the McDonald's newsletter *QSC&V*, "The HME System 30 Timer with the optional R31 dual-color display allows McDonald's managers to track service times and increase operating efficiency."¹⁵

Speed-of-service timers connected to prominent wall-mounted displays give employees the opportunity to compete against the clock and deliver orders within management-set goals. Large timer displays visible to employees help create a greater sense of urgency in completing orders. Dual-color LEDs switch colors from "target achieved" mode (green) to "target exceeded" mode (red). In other words, green means go and red means speed it up. With an active display like this one, managers and crew members can see at a glance how long it takes to serve each drive-thru customer. Incentives and friendly competition among crew members can actually make their jobs more enjoyable and challenging while improving customer satisfaction and increasing sales.

Timer displays can be made visible to customers to demonstrate just how fast the drive-thru process can be, since some customers tend to misjudge the time spent waiting for an order. **By reviewing the timer reports, managers and operators can evaluate employee performance and make the necessary changes.**

"[McDonald's operator Fred Scarcelli's] stores in Brandon, Florida, got their first HME timers in August, and times have dropped thirty to forty seconds per store since the timers have gone in. The result... is a consistent experience for customers."¹⁶

"The HME System 30 Timer with the optional R31 dual-color display allows McDonald's managers to track service times and increase operating efficiency."

—QSC&V

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CLM principal Carlos Morales maintains that "he doesn't have a shrinkage problem but would like to use VisionTech in order to 'look at the total picture of [his] operations,' and not only deter employee theft but also help protect against in-store accident claims."

—*Nation's Restaurant News*

Analyzing Results

Operating multiple restaurants can be difficult, even for the most experienced manager. **Polling systems such as PC30 Software from HME can help multi-unit restaurant operators and managers gather and analyze data on drive-thru performance and diagnose problem areas without expending tremendous amounts of energy and money.** PC30 Software, which interfaces with the System 30 Timer, automatically collects timer data from multiple stores and organizes it in a central database for convenient, remote access.

Keeping an Eye on Business with Surveillance Systems

New digital surveillance technologies are replacing existing analog systems in the QSR industry and offering many new capabilities to assist operators and store managers improve security and operations. A leading example of this is the HME VisionTech digital surveillance system, which provides a live, remote view of stores from as many as sixteen camera shots simultaneously.

At one level, surveillance systems deter theft, especially at sites that are open late at night. But such systems also help operators save time and money spent traveling from one restaurant to another to monitor daily operations. Digital images of all events at multiple QSRs can be recorded and stored for later analysis. Operators can easily retrieve and review information on their own terms, thus potentially saving time and money.

Many operators have also expressed satisfaction with surveillance systems because they not only deter theft but also control shrinkage. CLM principal Carlos Morales maintains that "he doesn't have a shrinkage problem but would like to use VisionTech in order to 'look at the total picture of [his] operations,' and not only deter employee theft but also help protect against in-store accident claims."¹⁷

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Other Technologies for Optimal Operation

In addition to communication systems, timers, and surveillance systems, there are other technologies on the market designed to help QSR operators achieve peak performance by enhancing customer interaction.

Menu Board Design and Placement: The drive-thru menu board sets the tone and pace for the entire QSR experience. Menu boards must be easy-to-read and kept clean to facilitate customers' choices. Pre-order boards giving a preview of menu choices have also been used successfully by many QSRs on the theory that when customers know what they want before they arrive at the order point, the entire ordering process is expedited.

For better communication with customers, menu boards and loudspeakers should be located close together, but with one caveat — speakers and microphones should be housed in a separate post, and not in the menu board itself. Doing so can cause echo, reverberation, and overall poor sound quality. Speaker posts should also be carefully designed and placed closer to the driver's window to obtain the best acoustics.

Message Repeaters: The message repeater plays a pre-recorded message welcoming customers when they arrive at the order point. It can also be used to offer a menu special or to announce safety tips at the children's playground. There are two types of message repeaters — internal and external. As a built-in component of a wireless communication system, the internal message repeater can store up to two messages while the external one can rotate among five different messages. This tool assures that a consistent, easy-to-understand message is delivered to customers at appropriate times. For employees, the message repeater eliminates the tedious task of repetitiously greeting each customer, improves speed of service, and provides a consistent greeting delivery. Field reports indicate that message repeaters can reduce the average service time by as much as six seconds per car.

Order/Price Confirmation Systems: Some QSRs have video displays to provide a visual confirmation of the order which the customer can read from the driver's seat. However, some customers may read slowly or misinterpret what they see. As a result, experts are unsure whether such customer-facing video displays

Field reports indicate that message repeaters can reduce the average service time by as much as six seconds per car.

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Fundamental Steps for Optimizing Drive-Thru Operations

1. Set specific, measurable service goals
2. Use available technologies to increase accuracy and speed
3. Develop quality leaders to train and motivate teams
4. Foster an atmosphere of urgency
5. Create friendly competition among crew members
6. Monitor and measure service performance
7. Provide real-time performance feedback
8. Provide generous recognition for meeting goals
9. Continuously refine and improve all processes
10. Regularly service and maintain all technology tools, including wireless headsets, speakers, microphones and timers

actually improve speed and accuracy. At the same time, studies also indicate that customers like the sense of control that order confirmation systems offer.

Mobile Order Teams: At high-volume stores or during peak periods, instead of waiting for customers to come to a single point, order takers equipped with wireless Communicators® can be positioned at preview boards, thus creating several order points which can then process high demand more efficiently. This method is also effective in eliminating long lines in drive-thru lanes. Some wireless communication systems such as those from HME include special features which allow mobile team members to coordinate activities with each other as well as communicate with the employees inside the store.

Electronic Payment: Handling cash is time-consuming and risky. Several major QSR chains are testing a technology that will enable drive-thru customers to bypass the cash window by using a transponder similar to those which automatically collect highway tolls. The device is electronically scanned when the car passes the menu board and the purchase is billed to a linked credit card. This innovative technology could cut as much as 15 seconds off drive-thru service times, thereby boosting monthly sales by two percent or more.

Conclusion

While technology alone will not resolve every challenge that a QSR operator faces, technology is an extremely important component of operational efficiency and the overall customer experience. By focusing specifically on these objectives and measuring results, QSR operators can achieve their revenue, speed and quality goals.

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About HM Electronics, Inc.

HM Electronics, Inc. (HME) has been the leading provider of technology for the QSR industry for nearly two decades. A pioneer in technology, HME introduced the world's first patented wireless communication system for the drive-thru application. Today, HME continues to deliver the most comprehensive line of solutions to help companies improve their security and productivity. From communication and security systems to speed-of-service timers, HME has built a reputation for delivering customer driven solutions based on quality and reliability. Incorporated in 1971, the privately held HME develops, manufactures, markets and services its products in over 80 countries worldwide.

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