



*An Evolutionary technology
having a Revolutionary impact*

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Abstract:

The retail grocery business operates in a ferociously competitive environment, in which the search for better financial performance and improved customer satisfaction never stops.

Part I of a three-part series, this paper reviews the challenges and benefits that checkout solutions provide store retailers and customers.

This paper helps retail executives, operations managers and store managers:

- Review past and current trends in retail checkout technology.
- Review what's most important to retailers and consumers.
- Identify ideal checkout solutions: the features, capabilities and uses that retailers and customers value most.

Stakeholder Pains, Concerns and Priorities

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What Stakeholders Want and Technology Can Provide

The retail grocery business operates in a ferociously competitive environment, in which anything that can help control costs and improve the customer experience has value.

This is the first of a series of three white papers, which focus on the 20-year search for retail checkout solutions that promise to control costs and improve customer service.

Part I of this series reviews the challenges and benefits that checkout solutions provide store retailers and customers. This paper helps retail executives, operations managers and store managers:

- Review past and current trends in retail checkout technology.
- Review what's most important to retailers and consumers.
- Identify checkout system ideal solutions: the features, capabilities and uses that different stakeholder groups value most.

This paper presents information gathered from academic research papers, trade press articles and surveys of retail customers and retail store employees.

Current Retail Checkout Technologies

Part I: Stakeholder Pains, Concerns and Priorities

Part II: Checkout Station Designs and Capabilities

Part III: Comparing Checkout Costs and Performance

Stuck in the Checkout Line: How Did We Get Here?

In groceries and other retail businesses, any approach that expands revenue and shrinks or controls costs can contribute to a stronger bottom line. Established, newly commercialized and in-development technologies provide store owners and managers with a variety of retail checkout approaches designed to do just that.

- **Alternative technologies.** When self-assist checkout technology and processes emerged more than 20 years ago, it promised lower labor costs, more efficient revenue per square foot and more satisfied customers. But other approaches such as hybrid checkout stations and the “fully automated grocery” are newly commercialized or now in development. These alternatives reflect customer dissatisfaction with self-assist checkout methods and technology.
- **Limiting factors.** At present, a number of social and economic barriers currently limit the extent of SCO use in stores. These factors include theft, maintenance, perceptions of service, internal controls, and specific labor contract provisions.
- **Getting personal.** In the past, shopping was all about personal service. But over the years, it has become more and more impersonal. Consumers and store managers alike recognize that self-assist checkout can deliver a negative experience, which can lead to lost customer loyalty.

So, store managers wanting a positive way to distinguish their businesses continue to search for alternative checkout methods that can deliver a more positive customer experience.

Why getting the right solution matters

What is the ideal checkout solution? It's not the same for all retailers or all customers. It should enable stronger financials. But building strong customer loyalty and a positive customer experience are important differentiators, too. They can improve competitive advantage, especially in industries such as the grocery business, in which products and services are highly standardized.

What matters most to customers?

In surveys and interviews, the most frequently mentioned reasons customers select self-service checkout are:

- Faster checkout and less time spent waiting in queues.
- A simple, no-hassle process.
- A better way to buy just a few items.

The most frequently mentioned things that influence the experience of customers using a checkout station or device include:

- The quality of the overall experience and an element of a positive surprise. ("My, that was easy!")
- The customer's ability to master the entire checkout process.
- Checkout process speed.
- Simplicity of use.
- Reliability of checkout process and devices.

But not everyone wants to use self-assist checkout stations. People who crave the self-assist checkout at grocery stores represent a minority of about 20 percent of retail grocery customers. Most shoppers would rather entrust their groceries to someone else — someone trained to clerk — and not risk dealing with a machine that tells them they did something wrong.

Most customers claim the shopping experience runs more smoothly with a real clerk scanning the items, entering produce codes and bagging up groceries.

The most frequently mentioned things that influence customers' shopping experience in a typical service scenario are:

- How store employees react when they face customer problems or the lack of good customer service.
- How store employees react when customers describe their requirements or ask questions.
- The ability of employees to provide rapid solutions or additional services when things go wrong.

Customer dissatisfaction with responses of technology and humans is well documented. This dissatisfaction and difficulty providing a more positive experience continue to drive retailers in their search for more customer-satisfying alternatives.

What matters most to retailers?

Customers focus on the service-related and customer experience-related aspects of checkout. But retailers are constantly concerned with improving business fundamentals as well as maintaining customer loyalty.

Improving business fundamentals

No matter how snazzy the technologies used in stores might be, retailers must continue to focus on business fundamentals—how they can continue to generate sales, control costs and make the most efficient use of in-store resources.

Supermarket operators say the move towards self-assist checkouts is not all about cutting costs. They argue that the checkout stations can speed up customer shopping trips. However, self-assist stations do not speed up checkout times consistently. Usually, they are slower to use than traditional solutions. When there are long lines in the cashier checkout lanes, self-assist stations might provide faster checkout because they normally have shorter lines or none at all. For a detailed analysis of utilization rates and their effects on checkout speed, see Appendix A, “Utilization Rates and Checkout Speeds” in this report.

As a result, self-assist stations provide a more flexible way to reduce the load on cashiers during heavy-traffic hours and offer customers another service option. Not all customers—or retailers—understand this. The urge to use self-assist stations might encourage retailers to push customers toward them. This isn’t always a good idea because it can compromise customer service. Part III of this series, “Comparing Checkout Costs and Performance,” shows that the flexibility of the self-assist service option comes at a high price.

Improving customer satisfaction and loyalty

Retail is still a very competitive business. Cost structures are often difficult to improve. It’s far easier to differentiate a high-volume retail business with a fast, pleasant shopping experience that combines IT efficiency and the human element—great customer service.

What can we say about the retail customer experience in general? And, how can those basic principles guide the choice of checkout technology?

- **Customers don’t like obstacles.** Customers have a low tolerance when it comes to facing obstacles such as poor service or equipment that is not functioning properly. These events squelch customer expectations. A negative experience can include not taken seriously, wasted time and a loss of control. The customer’s negative reaction can get worse if the problem isn’t resolved quickly in a positive way.
- **Best solution is avoiding the problem.** A negative customer experience may be avoided by ensuring that the customer is not exposed to the problem or resolving problems quickly and to the customer’s satisfaction
- **Repeated problems drive customers away.** Any problem will lead to a negative experience if it’s repeated several times. When the problem is repeated, customers will expect the problem to occur again. It’s likely that they’ll try to avoid the source to the problem. Eventually, this might lead to a lost customer.
- **Quick solutions build customer loyalty.** A non-frequent problem resolved satisfactorily can result in an improved customer experience. Quick, successful problem resolution gives customers the sense of being respected and taken seriously.
- **Customers who experience a substantial or repeated problem want to complain.** Negative experiences that are shared by customers (and possibly the store staff) could lead to an intensified sense of the uselessness of the service, process or device. In the case of self-assist checkout technology, this level of problem

contamination would probably not jeopardize the success of a retail business. But it certainly could reduce utilization rates and therefore increase labor, operations and IT costs.

- **The cost of resolving a complaint can be substantial.** Customers will only accept a problem a certain number of times, before abandoning a retailer. So, it's best to avoid problems that may lead to complaints in the first place.

The effect of checkout technology on the customer experience is complex. Comprehensive research that delivers consistent conclusions is not generally available. However, many helpful trade press articles are available. They point the way to possible solutions.

What Retailers Can Do to Promote Customer Satisfaction and Loyalty

Overall, customer approval of self-assist stations is mixed. Some grocery store chains throughout the United States are ending their use of self-assist stations—once considered the wave of the future—in the name of customer service. Other stores, committed to this approach, have started or continue their use. Market studies cited by the Arlington, Va.-based Food Marketing Institute found only 16 percent of supermarket transactions in 2010 were done at self-assist checkout lanes in stores that provided the option. But other customer surveys cite approval rates of self-assist checkout of 52 percent.

Evidently, how well an organization fields the technology can make the difference between whether customers walk away from the experience enthusiastic or discouraged.

Checkout technology and customer response to it can provide retailers with an effective way to grow and differentiate their business. Retailers wanting to fine-tune their business' use of self-assist stations should consider these recommendations to encourage customer acceptance:

- **Select technology that works the way their customers do.** Think through what the customer—and the system—has to accomplish.
- **Iron out the kinks at manned cash registers,** before opening up self-assist checkout lanes.
- **Select technology and processes that fit well into existing store operations.** Retailers who fail to make this effort up front will suffer through operational problems after the solution is installed. And the failed process will damage customers' perceptions of the technology and business.
- **Match self-assist use to the right clientele.** Self-assist checkout adds a real service to users who check out fewer items, have a do-it-yourself attitude and prefer to avoid the standard checkout line. Tech-savvy users who buy the same combinations of items again and again will get the best benefit from a self-assist station. But nudging shoppers who prefer human help or are reluctant to use technology into the self-assist lane is not recommended.
- **Consider opening self-assist services to customers with larger (2+ bag) purchases.** If cashier-assisted counters have long lines, and customers have more than one bag of items, this might be a useful option. Look very carefully at staffing schedules to see if the added cost might be outweighed by subtle staffing changes.
- **Ensure that each shift has enough self-assist station attendants** to respond to any situation that might cause a customer complaint. Also, if a complaint situation exists, another staff member should be available to step in and work with the customer.

Appendix A: Utilization Rates and Checkout Speeds

Survey evidence makes it clear. Customers value speedy checkout as one of the most important parts of their retail purchase experience. Most customers—and many retailers—are often unaware of the important connection between checkout speed and utilization rates of their checkout stations. This information is important because it can help managers choose the type of checkout station that maximizes utilization for their stores, with their unique combination of queue lengths, traffic volumes and customer demographics.

A checkout line or group of checkout stations has a utilization rate, which indicates how much time cashiers or attendants actually spend scanning items and completing sales. When staff members are idle, the downtime can be used for other tasks in the store. This flexible time typically varies during different parts of the day, when the number of customers changes in a predictable way.

But downtime might also occur when cashiers or attendants are idle at their checkout stations. This lost time is not productive. Instead, it increases the transaction cost in the checkout area substantially. The research on which this report is based indicates that:

- ***Different station designs have different utilization rates.*** Depending on the length of queues allowed, short-term checkout load variations, the number of checkout stations and other factors, each checkout station type will have more or less idle time associated with it. (A comparison of throughputs and scanning speeds of three major checkout station designs is available in Part III of this series. The performance and cost results presented in Part III were load-adjusted to account for this idle time.)
- ***Longer queues mean shorter waits.*** In general, a checkout station with a longer queue will have less idle time than one with shorter or no queues at all. This occurs because the queue is a buffer that avoids wasted cashier or attendant time.

Queue theory states that a self-assist checkout transaction with a very short queue (or none at all) will have lower utilization than (for example) hybrid checkout transactions. Higher scanning and registration speed at the hybrid checkout station can compensate for longer queues without affecting the customer experience.

For example: A store uses one attendant to support a cluster of four self-assist stations. The attendant serves customers at only one or two stations at a time during most of the day. Given the relatively slow per-unit checkout speed of self-assist transactions, this setup is expensive. This expense occurs because attendant time per item scanned increases substantially when one or more station is idle. So, the lower utilization rate is the result of shorter buffering queues in the self-assist checkout line.