The Impact of Technology on Customer Value in the Restaurant Industry

by

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Dedications and Acknowledgements

First and foremost I am thankful to a God who has allowed me to get to the place where I am today.

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Abstract
This thesis will analyze the influence of the use of technology in the restaurant industry in respect to delivering value to customers and the organization. This technology primarily includes Point of Sale Systems, digitalized menus, and online activities such as social media. Interactions with technology include the process of ordering food, efficiency, service time, accuracy, and building customer relations. This thesis looks at the past, present, and future of the use of technology in restaurants and the theories in trying to deliver value and gain competitive advantage. Restaurants and businesses are turning to technology to keep up with customers’ trends and maintain advantage. Through secondary and primary research this thesis describes theories and methods of customer-oriented and technology-oriented businesses. Those organizations that manage to incorporate technology and make creative use of the information available, in addition to having a good product or service, positive business culture, the right employees, investors, and customers will experience competitive advantage, growth, and increase in profits.
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Chapter 1:

Impact of Technology on Customer Service and Value

Technology in the past decade has evolved at a tremendously fast pace. It has transformed the way individuals interact on a daily basis, affecting their routine from the moment the day begins. These changes have significantly affected personal interactions amongst individuals, such as in communication, conversations on the phone, and traditional written messages, and even the notion of dating has been transformed. Technology has also deeply affected the business environment, particularly from the perspective of the consumers. Smartphone and tablet-savvy consumers are accustomed to immediate gratification and a wealth of comparative information available to make the decision-making and consumption process easier. Apps and websites allow consumers to compare prices of similar products and services across different stores or companies, view countless pictures, customer reviews and other relevant information before making a decision. All industries, though not all businesses, have had to modify and adapt the way they do business and operate to accommodate and stay updated with the technological trends; from marketing and advertising strategies to the daily operations. One would think that some industries have been affected less, especially those that rely on personal contact and high quality personal service as a competitive advantage, since the advantage relies on the personal attention and quality of the sales and service employees. The question then becomes how does technology influence an industry that is based on personal interaction and customer relations, especially processes that directly deliver value to the consumer? This thesis seeks to address this question in the context of the restaurant industry and offer some new insight into how the addition of new technologies and tablet devices in
restaurants is impacting the consumer experience, the delivery of customer value, and level of customer satisfaction.

**Back to the future**

It was not until the second half of the twentieth century that technology, as we know it, came to play a significant role in the operations of restaurants. Before then everything was done manually, and restaurant operators had to rely entirely on their skills and knowledge of the business to be successful. Nevertheless, failure over success has always been prevalent. By the 1970s the introduction of the casual dining chain brought the theory of a single business unit owning multiple locations, and with them came a new level of sophistication for food service and higher expectations from the customers. The ideals and systems that these chains brought revolutionized the restaurant industry forever. Restaurant chains and individual establishments had to ensure consistency and duplicability in their methods and procedures at all levels of the business. On the other side, these businesses found success with elementary and simple accounting, ordering, and preparation systems. Training was the key to consistency and well executed performances for the guests. Many of these companies found success and grew exponentially.

As time goes on and things change, the larger concepts have had to be revolutionized. Solutions to manage business better have been essential to ensure future growth and success. The emerging computer industry is changing the ways in which the entire enterprise is operated, from accounts payable to the guest ordering process. These new procedures have helped in reduce the time of table service, minimized employee errors, and therefore save thousands of dollars. Early Point of Sale (POS) systems were burdensome for team members to use and limited their ability
to improve efficiency for the guests and the businesses. Many of these new systems had no back-up programs, which could be catastrophic in the event of any unforeseen issues.

By the 1990s restaurant technology began to redefine itself as what we know it today. Back of the House (BOH) systems developed to allow invoice input, inventory tracking, and tracing labor. Then arrived the electronic seating system to allow the execution of reservations and wait lists along with floor plans; later came other systems and functions. Kitchen delivery systems (KDS) are programmed so that each individual menu item has an inherent cook time to ensure that hot and fresh food is delivered to the guest and therefore eliminates food waste and costly printers in the kitchen. Online and automated bill pay has allowed for electronic product ordering from pre-established vendors and transfer of funds to pay invoices upon approval. Online reservation platforms through an outside vendor technology allows guests to visit well-known websites to book reservations and receive automatic confirmation to minimize the burden of making phone calls, waiting, and minimizes labor dollars for restaurants. Online Human Resources management allows for online training, and personnel information such as W-2 and I-9 maintenance; this way management gets more time and resources to develop people, create a culture, and spend less time doing paperwork. Lastly, online menu and POS management allows for remote menu and system maintenance from a central location. Overall, the development of technology operated systems helps ensure that the establishment is operated properly and has an improved chance of survival.¹

At the pace at which technology is moving, restaurant innovations are also likely to accelerate rapidly. Radio frequency identification (RFID) allows for any guest in a frequent dining program to be recognized at any time and could be integrated into the seating system of a restaurant—the way this works is that each guest is provided with a VIP card with an RFID chip

¹ Doran 2010
with their data that would be recognized as soon as the guest walks through the door to build the confidence and esteem of a guest when walking into a busy restaurant. This same chip and system can be used to track inventory, food temperatures, and abuses of a product. Card-free credit card processing also has potential in the restaurant industry given the number of credit card fraud cases and even lost or stolen cards. The Transportation Security Authority and the Clear Card, already use the system of finger printing or iris scan for individual verification combining the technology of a card and chip to ensure identity. Another potential system is an integrated POS/reservation system information management which automatically collects ordering information of a guest; the data base could ensure proper ordering based on the history, including food preparation lists and the ability to advise a guest if any particular item is unavailable prior to arrival.  

A look back in time: The Automat

Innovative technology is not a discovery of the twentieth-first century. Advances and discoveries in technology have progressed ever since the Industrial Revolution in the eighteenth century. Technological innovations have been employed in the hospitality industry in an effort to improve quality and value to the customer. One of the most significant innovations came at the break of the twentieth century in 1902 when Joseph Horn and Frank Hardart founded “the world’s largest restaurant chain, serving 800,000 people a day […] the cavernous, waiterless establishments represented a combination of fast-food, vending and cafeteria-style eateries. These restaurants, with their chrome-and-glass coin-operated machines, brought high-tech,
inexpensive eating to a low-tech era”. First in Philadelphia then in New York in 1912, the Automats became America’s celebrated icon as it would become the first major food-chain.

The word “automat” comes from the Greek word automatos, which translates to “self-acting.” Technology was not so advanced that these machines were truly automatic, however. Large numbers of employees and hours of labor were part of the automat experience; this was the first attempt of the restaurant industry at emulating an assembly production line. Machines required a nickel to dispense the food, which was quickly replaced by an employee on the other side of the machine. Customers found many advantages in this style of dining; for starters, they could sit wherever they want. There was no human interaction between employees and customers, besides the ladies that handed customers their nickels at the door. So how can a restaurant with such little human contact became so popular? “There was definitely human contact, because you had paupers and Rockefellers sitting next to each other […] it was the great equalizer. A place you would go for good food, it was cheap and classless,” a place where families, bankers, and artists came to dine together at the same table. It became highly popular at lunch time in Times Square New York City. The Automats captured Americans’ interest and imagination; the concept of a quick lunch was an innovation in New York at the time.

Part of the success of the Automats was their strict policies and procedures from food production to cleanliness. All of the Automats in New York got their food from the same central commissary where all the food was baked fresh daily following quality control of every item and delivered by truck. Every day the founders, Horn and Hardart, and other executives had lunch together at the Sample Table to test the quality and uniformity of the popular items and offered suggestions for new ones. Managers received a book of rules they had to follow listing procedures to handle the nearly 400 menu items including the positioning of the items on the

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3 Crowley, 2001
buffet-style plates, as well as the number of times employees were to wipe tabletops each day.\textsuperscript{4} Another key to success of the Automats was their simplicity, from their ingredients to the décor of the establishments. The establishment was a two-story façade of stained glass, marble floors, and ornate carved ceilings. The excellence of food was based on the few and straightforward ingredients, nothing fancy. “It was food in the best tradition of mainstream American home cooking, prepared as close as possible to the time it would be served, and at the height of the Automat’s success it reached hundreds of thousands of customers daily in locations all over the city”.\textsuperscript{5}

With such success and popularity one can only ask: where are the Automats today? Consumer numbers began to drop by the middle of the century. The Automats fell victim to the high costs of labor, fresh ingredients, and as trucking food around the city became expensive. Changing times were inevitable, customers perhaps got tired of cafeteria-style food, many Americans also moved into the suburbs, unionized labor started to increase wages, and a new time of fast food gave rise to new restaurants like McDonald’s and White Castle. “In the 1970s Horn and Hardart replaced its dying restaurants with Burger King Franchises. The generation that ate at these new fast food outlets didn’t miss the charm of Automats’ fancy fixtures and diverse menu. Upscale power lunchers had no use for Automats’ simple fare”.\textsuperscript{6} The last Automat in New York City closed in 1991.

By the late 1990s the Automats seemed to experience something of a mini-revival, with the peculiar food delivery gadgets popping up in restaurants, offices and homes all over town, though in some unconventional ways. Nostalgia for happier times brought about the Stardust

\textsuperscript{4} Crowley, 2001  
\textsuperscript{5} "Lunch hour nyc:;" 2012  
\textsuperscript{6} Crowley, 2001
Dine-O-Mat with an Automat style machines in the middle of New York. The quality, service, and cleanliness that the Automats represented have been long gone.

Profile of a Quick Service Restaurant (QSR) leader: Burger King

As technology takes over different industries, it is perhaps easier for privately owned establishments to make dramatic changes and upgrades of technology for strategic reasons since owners often only have one establishment to make investments with the latest technology. Franchised restaurants must follow corporate guidelines and meet certain operating procedures in order to function accordingly; one restaurant cannot decide to operate in a unique way, they all must be homogeneous.

One franchise has decided to invest in technology in its nationwide restaurants. “The new digital menu boards recently rolled out by nearly the entire Burger King system in the United States are saving hours of labor and have spurred sales of promoted items”\(^7\). Strategic Restaurants Acquisitions operates 293 franchised Burger King Restaurants in various regions of the United States. By the end of 2012 approximately ninety-one percent of the chain’s restaurants replaced their front-counter menu with flat-panel LCD displays that reproduce images of product items, descriptions, prices, and special promotions.

This upgrade of menu displays is part of Burger King’s reimagining initiative after the chain was acquired in 2010 by the private equity firm 3G Capital Partners Ltd. of New York. Menu boards and the software were provided by technology vendor Sicom Systems Inc. Since the new acquisition, Burger King Restaurants have had an increase in sales. There are, however, more improvements to make regarding the technology upgrade. The software does not yet “have any data related to sales trends that can be attribute solely to the use of the new technology

\(^{7}\) Liddle, 2012
mandated by the franchisor⁸. Advantages of the software include the ease of updating the boards on an individual basis or on a mass level; if a restaurant runs out of a promotional item it can easily be taken off the display or when a new item is launched it can be added to the menu content across an entire market with just a click. This saves a lot of time from an employee and manager point of view, reducing labor hours and work intensity. Price changes and new merchandising material are no longer concerns for the employees. Furthermore, the new menu boards can effectively and neatly display nutritional labels on the items as mandated by state, federal, or local regulations. It is predicted that this is the first of fast-food chains to make the change, and soon enough all others will follow.

The iPad & Other Tablets

The first iPad was released by Apple on April 3, 2010, three years after the first launch of the iPhone on June 29, 2007. The iPad was said it would become a “revolutionary device for surfing the web, reading and sending email, viewing photos, watching movies or videos, listening to music, playing games, reading e-books and so forth”.⁹ It was launched with built in applications and thousands more available on the App Store. Steve Jobs described it as “magical and revolutionary.” He continued by stating that the iPad would create and define “an entirely new category of devices that will connect users with their apps and connect in a more intimate, intuitive and fun way than ever before.”¹⁰ Whether these characteristics are true, or rather the complete opposite, is subject to debate; many argue that technology has made communication and interactions less personable and intimate, that the personal touch has been lost.

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⁸ Liddle, 2012
⁹ Cho, 2010
¹⁰ Cho, 2010
Since its first release, there are five versions of the iPad including the iPad mini, released in 2012. The iPad is now used across industries; it has gone beyond the original target market and the ordinary everyday user. Apple now markets the iPad to the education industry, corporate business, and to the hospitality industry. It would be difficult to determine how these conditions came to be about, was it a pull marketing strategy as a result of demand from customers who desired a particular customization of the device to specifically fit their needs and wants? Or was it a push strategy as result of Apple’s ambitious desire to reach out to as many industries and markets as possible?

Companies in the business world are exploring and embracing the opportunities that technology, like the iPad, can bring forth. Senior Vice President of PepsiCo declares: “We think iPhone and iPad technology is absolutely a game-changer for us, both in terms of communication and service and in productivity.”11 This is the consensus across industries, whether it is a product, a service, or a combination of both. The latest feature of the iPad allows companies to design customized apps for employees or customers through the Volume Purchase Program, and be built by third party developers. From corporations to privately owned businesses, “iOS is the best platform for businesses—hands down. From improving productivity to offering secure and immediate access to information, iOS provides the solid foundation to change the way your business works.”12

However, one of the iPad’s main criticisms is its high price, as result of being a leader in the market. The iPad is not the only alternative for customers and businesses that are technology-forward. Competition and alternatives to Apple’s iPad include Google’s Nexus, Amazon’s Kindle Fire HD, Barnes & Noble Nook HD, ASUS Transformer Pad Infinity, Microsoft Surface,  

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11 “iPad in Business”  
12 “iPad in Business”
Samsung Galaxy, Sony Xperia Tablet S, and Fuhu Nabi. Many of these companies have established popularity and credibility, but when it comes to innovative technology Apple remains at the forefront.

**Apple’s Marketing Strategy**

Apple, like many other companies using the Apple products, understands that the success of a marketing strategy is the result of being able to identify the company’s competitive advantages in a given market and develop an effective marketing strategy to tie all the factors together. Apple was able to do this by building its third generation iPad marketing strategy around its competitive advantages, which has resulted in keeping dominance in the tablet market despite all the competition that has emerged. Apple knows and understands the company’s identity and advantages to provide direction for their strategies. When new tablets emerged in the market, Apple realized that its competitive advantages could not, and did not, lend to a price war. Instead, Apple stood strong and managed its marketing strategies around its competitive advantages in the tablet space.\(^\text{13}\)

What are these competitive advantages? Premium brand image, market position, technology leadership and patents, product development, and a large number of supplementary service offerings.\(^\text{14}\) In the launching of its products, Apple has maintained a sharp focus on keeping its market position despite the competitions’ attempts to take the lead. Apple’s strategies have followed specific factors such as abstaining from competing in price regardless of the competitors offerings; this tactic is about keeping the iPad as a premium brand. Secondly, Apple utilizes its exclusive services such as the iCloud and FaceTime to further differentiate the iPad

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\(^{13}\) Hickie, 2012  
\(^{14}\) Hickie, 2012
from competitors. Apple, also makes sure that the hardware is profitable and that the additional content revenue is just “add-on” revenue. To ensure that the iPad maintains its top of the line functionality and performance, the company leads the race in research and development. Apple sells to major content consumers mainly, as this will also ensure that they will consume iTunes and other Apple offerings. The App Store is the largest store of its type with the highest security standards, and Apple often reminds customers about this fact. Lastly, the company sticks to one device size so that the accessory producers have an easy way in offering their products and which are not offered for other competing tablets due to the variation in size.

It is important to point out that regardless of any company’s market position its competitive advantage should be at the center of its market and product strategies. These factors, like with Apple, will enable a company to differentiate itself from the competition and maximize profitable outcomes. Apple has managed to stay true to itself and has leveraged all its factors to make something great, as with the iMac, iPhone, iPod, and iPad.

On its product strategy, Apple has managed to create innovative products and services. Its branding strategy on the other side has been focused on emotions: imagination, liberty, innovation, passion, aspirations, dreams, and power; its brand personality is about a lifestyle. Throughout the years, Apple has managed to become more efficient in its manufacturing, logistics, and operations allowing them to provide premium products at a premium price. Over the next few years it seems that Apple will be focusing, once again, on the corporate marketplace. Apple provides updates on a regular basis on the Fortune 500 companies which are either trailing or deploying iPhone and the iPad. It is evident that the iPad, and Macbook Air, are designed not only for individual consumers but for business markets as well. Apple continues to display its mastery in effortlessly adapting the consumer experience and brand experience from
one product category to another, as it expands to include businesses and corporate markets once again.\footnote{ Brittany, 2011}

By the end of 2012 more than 29 million iPads had been sold. Its programming advancements go beyond the luxurious look and brand name. Currently many restaurants are replacing their traditional POS systems with iPads. This innovation has been more cost efficient for the many small restaurants that have made the change than if they had invested in a new POS system. Besides the cost efficiencies, the new iPad systems provide a speedy service sending orders to the kitchen at a faster time than traditional systems.\footnote{ Brittany, 2011}
Chapter 2: Literature Review

As the main sources of literary criticism, two books have been employed in this research, *The Service Profit Chain* and *The Value Profit Chain*, both books by the same authors James L. Heskett, W. Earl Sasser, Jr., and Leonard A. Schlesinger.

**The Service Profit Chain**

Many services, if not all, are produced, marketed, and occur at the point of contact with the consumer, and therefore the service encounters between customer and frontline service employees or electronic media are critical and central for successful results. Thus, a significant amount of attention must be addressed to the challenge of producing successful business encounters. However, the mistake must not be made to address full and complete attention to the frontline services while neglecting the broader strategies because, as many business people forget, frontline services are products of fundamentally strategic issues which have been understood by top management. Too often in the service industry it is concluded that service quality is the key to success. However, “being nice to people is just 20% of providing good customer service. The important part is designing systems that allow you to do the job right the first time. All the smiles in the world aren’t going to help you if your product or service is not what the customer wants.”\(^\text{17}\) In fact, a combination of both is what customers really want: results and process quality.

The authors of *The Service Profit Chain*, developed measurements and looked for relationships that would lead to achieving service excellence and organizational success. They began by basing their research on a previous theory called the *Strategic Service Vision* composed of four major elements:

\(^{17}\) Heskett pp. 7
(1) Markets targeted on the basis of psychographic (how people think and act) as well as demographic (who people are, where they live, and how they are educated) factors.

(2) Service concepts, products, and entire businesses defined in terms of results produced for customers, all positioned in relation to the needs expresses by target customers and the offerings of competitors.

(3) Operating strategies comprising organizations, controls, operating policies, and processes that leverage value to customers over costs to the offering organization.

(4) Service delivery systems comprising bricks and mortar, information systems, and equipment that complemented associated operating strategies.\(^*\)

In this research it was found that companies achieve high profitability by having either market focus or operating focus; those that are able to achieve both are nearly unbeatable. The Strategic Service Vision embraces the idea that value is achieved by leveraging results for customers over costs, and yet operating managers continued to express the need for a set of concepts that would assist them in implementing strategies, not formulating them.

For many years, managers have been led to believe that share of market is the primary force of profitability. The Profit Impact of Market Share studies in the 1970s found that this is not true. The process based in the collection of factual experiences of various organizations, found that the factor more often associated with high profits and rapid growth was customer loyalty. During a Partner/Manager program that employed unit managers in a program in which they would split with the company on a 50/50 basis all operating profits over an agreed amount, managers were given greater latitude to manage as they chose, taking responsibility for all physical changes to the premises of their respective stores, subject only to quality control limits.

\(^*\) Heskett pp. 8
and certain matters that every store had to practice. The best results exhibited ideas of the “Cycle of capability,” which states that satisfied employees are loyal and productive employees. Their satisfaction stems from their desire to deliver results to customers. In order to deliver results to customers, they must have the ability to relate to customers, the latitude to use their judgment in doing so, the training and technological support needed to do so, and recognition and rewards for doing so. Implementing all of these fundamentals consequently leads to reducing employee turnover and increasing customer satisfaction; the links between customer and employee satisfaction and loyalty are clearly exhibited.

Service profit chain maintains that there are direct and strong relationships between profit, growth, customer loyalty, customer satisfaction, the value of goods and services delivered to customers, and employee capability, satisfaction, loyalty, and productivity.

Figure 1
Elements of the Service Profit Chain

The strongest relationships were those between profit and customer loyalty, employee loyalty and customer loyalty, and employee satisfaction and customer satisfaction. The
relationships suggest that in service settings, the relationships are self-reinforcing; so that a satisfied customer contributes to employee satisfaction, and vice versa.

At the center of the Service Profit Chain is the “customer value equation,” which reinforces the idea that the value of goods and services delivered to customers is equivalent to the results created for them as well as the quality of the processes used to deliver the results, which are all in relation to the price of a service to the customer and other costs incurred by the customer in acquiring the service. In this definition of value, it is directly related to customer satisfaction because it is a customer’s view of goods and services that are influencing decisions to buy and use them.

One must be aware, however, to not disregard the results over the elements of process of service quality. Results are an essential element of the value equation, and in some cases price and other acquisition costs may be more important than the process quality in determining value for customers’ satisfaction and loyalty. Value is not associated with low prices; high value goods and services can, and do have high or low prices. Some customers are willing to pay premium prices depending on its importance at a given place and time. Accessibility is a way of enhancing margins and profits if the service is made easy to acquire. The resulting leverage of value over costs creates potential for profit, the level of that profit depends on the price of the product or service to adjust to the value that a customer will attach to the service. Therefore, it must be noted that price and cost are the determinants of profit to be realized from the business by the service provider. An effective operating strategy must be designed from the strategic service vision to produce maximum results and process quality for customers in relation to costs to the service provider.
Customers buy results, not a product. This is the main reason to know and understand the quality of the processes for delivering results, while also acknowledging the attitude of those in direct contact with customers. Value is achieved, primarily, through the frontline satisfied, loyal, and productive employees because of the high level of capability they possess to deliver results to customers. The Service Profit Chain chart demonstrates the links between customer satisfaction and loyalty, the value of services and goods delivered to customers, employee satisfaction, loyalty and productivity, and capability of employees to deliver results which yield to profit and growth (Figure 2)\textsuperscript{19}.

Figure 2: The Service Profit Chain

\textsuperscript{19} Heskett pp. 19
Through this model, the researchers found that customer loyalty is a more important of profit than market share in a wide range of industries. The quality of the market share has become as important, and deserves as much attention, as the quantity of the market share.

As mentioned before, the relationships amongst the components of the service profit chain are crucial and important to understand; more and more organizations are beginning to measure the relationship between the individual links. Only a few firms have related links in truly comprehensive ways and discovered strong and noteworthy relations between customer loyalty and the company’s growth and profitability, employee and customer satisfaction, and employee satisfaction and capability.

Managers, then, must use the chain to build organizational capability and manage businesses on a continuing basis. Several steps to follow include the measurement of service profit chain relationships across units, communication of the self-appraisal resulting from this measurement, the development of balanced tracked records of performance measures, the design of efforts to help managers improve service profit chain performance, the development of recognition and rewards programs tied to established measures, a widespread of communication of service profit chain results at the operating unit level, and lastly the active encouragement of internal best-practice information exchange.  

A service delivery system is the sum of information and non-information support systems, location, layout, customer management devices, décor and ambiance, and employee amenities. All of these factors provide support for a strategic service vision targeted at attaining certain goals, in terms of the service profit chain.

Establishments designed and built to encourage self-service are perhaps the most common form of customer control. Encouraging customers to share responsibility for service

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20 Heskett pp. 34
delivery by helping themselves in certain services where customers experience high degrees of perceived risk or traditionally poor service produces higher perceptions of service quality as well as a reduction in costs. Information support systems are central to the strategies of an increasing number of establishments and restaurant; some companies have acquired systems to accept and process reservations while planning the yields of each customer.

Managers for decades have operated and kept in mind the concepts of continuous quality improvements, reengineering, and process redesign; as result there are many techniques for high-profile initiatives and many critiques of such consequently. Interestingly, some of the most successfully designed processes did not spur from any of these philosophies, techniques, or concepts. Therefore, there are far more important factors for success at work in these efforts than the philosophy followed or the techniques chosen. It is important to understand that quality and productivity improvements do not always translate into processes that deliver value. The role of process improvement is not only to deliver the highest quality or productivity, but to deliver the highest value and satisfaction to customers and employees alike.

Several general lessons have resulted from all the experience in the attempt to enhance value and improve quality and productivity through process redesign, such as the following:

1. The customer, not the company, determines and defines quality and value.
2. Because the customer determines and defines quality and value, these definitions are relative, not absolute.
3. Customer evaluations of quality and value are based on what was delivered—as opposed to what was expected in terms of results, process quality, price, and the costs of acquiring the service.
4. Customer expectations are equally as an important element of perceived value as what is actually delivered; therefore it is important to also manage those expectations.

5. Due to the relativity of the customer’s perceptions of quality and value, effective service delivery requires the adaptation of service to individual needs.

6. The most cost-effective way in which services are adapted to individual needs is through front line employees or support systems, such as information technology, that recognize and respond to such needs.

7. Any decisions concerning quality and value that fail to take into consideration the customer are immediately suspect, which applies equally to techniques used in support of decision making.\textsuperscript{21}

For all these reasons, any efforts taken to enhance processes, quality, and value should have a profound impact on the very culture of an organization, and thus force it to become more sensitive to the needs of customers, suppliers, and employees alike resulting in growth and greater profits.

New marketing techniques have developed and shown success as they step away from competitors and concentrate on targeting profitable customers, recognizing the full-time value of a customer, and managing customer loyalty in part through the development of effective listening posts. Traditional marketing concepts revolve around the four Ps—product, price, promotion, and place—in an attempt to gain market share. These concepts are based, and reinforced by the Profit Impact of Market Share (PIMS) which concludes that market share has an important direct relation with profitability. Strategies relying on sales and advertising are many times based on philosophies such as “the customer is always right,” directed at broadly

\textsuperscript{21} Heskett pp. 133
defined market segments and a high degree of expertise assembled in a clearly defined function of the organization often having little to do with cross-functional activities such as customer service.

When tested, no relationships found between market share and profitability in a sample of service-producing organizations. When seeking other determinants of profitability, researchers found not only that service firms with higher levels of customer loyalty also enjoyed higher profitability in a given industry, but that loyal customers became more profitable over time; by definition the most profitable year of a relationship with a customer was the last year. Consequently, this has led to organizations giving more attention and focus to the lifetime value of a customer and the value of building customer loyalty by listening to their complaints, anticipating their estrangement, and understanding what motivated them to default to competitors. In addition, it also lead them to emphasize that organizations seek out ways of retaining customers and encouraging them to buy related products and services, and to provide referrals to friends and acquaintances of their good experiences with companies’ products or service. This concludes with the three Rs: retention, related sales, and referrals.

Retention is defined in this text as the continuing, active relationship with a customer that yields a stream of revenue from the sale of the initial product or service; the stream of revenue becomes more profitable as existing customers become easier to serve with less need to spend effort on getting them acquainted with the product. The cost of selling new products and services to existing customers is far less than to new customers because sales to those you already know and who know you require little marketing introduction and much less time. The greatest profit impact, by far, of efforts to retain customers and develop their satisfaction comes through the positive referrals they provide to potential customers; a study for the U.S. Office of Consumer
Affairs suggested that satisfied customers for consumer services were likely to tell five other people, while dissatisfied customers were likely to tell eleven other people. Losing a loyal customer is a true tragedy in the current era of marketing. New findings and data encourage increasing efforts to measure and communicate the lifetime value of customers to employees; identify, create, and enhance listening posts; create recognition and incentives for building customer loyalty; and utilize defections as learning opportunities.

Service profit chain management is thus changing the face of marketing. Market share quality, defines in terms of the share of loyal customers served, is becoming the primary goal instead of simply having the largest market share. In the process of understanding and accepting this, organizations move away from the idea that the customer is always right and embraces the idea that some customers are never right. It is a form of marketing that requires listening, by providing outstanding customer service and reliance on customer-to-customer referrals, rather than by telling through costly sales and advertising. In addition, it also means taking major cues for new products and services from customers, with the resulting product development process managed on a cross-functional basis and taking full advantage of new electronic media that are replacing traditional channels of distribution.

Many marketing managers fail to recognize that some customers are worth more than others and that efforts to attract and please all potential customers can significantly damage bottom-line performance. Potential-based marketing is based on building customer loyalty, and is closely related to concepts advocated under relationship marketing, which also advocates actions to seek long-term relationships with customers rather than merely carrying out transactions with them. The goals of potential-based marketing are to increase shares of

\[ \text{22 Heskett pp. 63} \]
\[ \text{23 Heskett pp. 59} \]
purchases by customers who have the greatest need for a product or a service, or those who tend to exhibit strong loyalty to a single supplier. Essentially it seeks to lengthen the relationships with the loyal customers, extend relationships through increased sales, and increase the profitability on each sale opportunity (Figure 3). Potential-based marketing has a significant impact on profits and growth.

Figure 3: The Relationship between Current and Full Potential Performance in a Customer Relationship

![Figure 3: The Relationship between Current and Full Potential Performance in a Customer Relationship](image)

Forward thinking organizations are building comprehensive information files that allow them to track, predict, and influence customer behavior. Comprehensive vertical profiles utilize data from files gathered solely from within the company, which sometimes have existed for years but have never been integrated. Horizontal profiles are developed describing the customer’s buying and other behavior associated with related product and service categories (Figure 4). The goal of these efforts is to achieve mass communication, as the ability to address customer segments of one, addressing each customer’s needs individually.

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24 Heskett pp. 69
Any organization is, and should be, able to provide outstanding service management designed to deliver high levels of value to targeted customers. When the ideas of the “service profit chain” are implemented, time and time again, companies have benefited from an increase in profits and growth levels. Those that have been able to achieve this success, have done it through high levels of customer and employee satisfaction and loyalty which will enable them to continue delivering outstanding results in the future. Yet, as we speak, the terrain of service profit management is changing, and adaptability is and will be necessary to continue to thrive.

The Value Profit Chain

The performance trinity that drives and sustains success is composed of leadership and management, culture and values, and vision and strategy. It is the foundation for achieving the
five value profit chain virtues: leverage, focus, fit, trust, and adaptability; and a sixth, value for customers, employees, partners, and investors. The six virtues go hand in hand with the elements of the performance trinity. The six virtues are attained through an array of information technology, knowledge transfer, supply chain management, value exchange, operating strategy, and such financial concepts as economic value added (Figure 5). The elements of the cycle are self-reinforcing.

Figure 5: Factors in Value Profit Chain Success

Employee value leads to satisfaction, loyalty, and productivity that consequently produces customer value, satisfaction, loyalty, trust, and commitment, and they the primary driver of any organization’s growth and profitability which is then reinvested in the business for partners, investors, customers and employees. To create value for employees, change must begin with a capable leadership team, centered around employees’ capability to deliver results to

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25 Modified from Haskett pp. xvii
customers; it is driven by a reevaluation of culture and values, visions and strategies. One must keep in mind that this kind of change must be *led*, not merely *managed*.

When value is achieved for employees, customers, and investors the primary and next challenge is to strengthen the grains and sustain performance in a process of revising the core values which in turn provide the core of an organization’s culture. Then, performance can be implemented by redefining the very purpose of an organization in terms of solutions, and thus guaranteeing their delivery to customers. The truth is, most decisions made by managers do not create any long-term value and in worst cases, destroy it. This occurs when they fail to react to changes in the competitive, social, economic, or legal environment. There is a strong temptation to resist significant change in a winning strategy. But one must keep up in today’s rapidly changing business environment.

When an organization serves as the agent for the customer, value diffuses everything it does. The search for value—what you get for what you pay—is the primary motivation for the actions of customers, employees, and other shareholders with whom an organization interacts. Value has different meanings to different people, thus is highly subjective. Its pursuit has fueled durable business success. While it is a driver, it is also a reflection of several important singularities that many businesses are only beginning to understand and act on. Evolving factors are now being referred to as concepts of strategic value vision, the value profit chain, and the customer value equation. The strategic value vision is a framework for strategic planning based on several assumptions:

1. People buy results and process quality, not product and services.

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26 Haskett pp. 11
2. To know what the results and process qualities wanted organizations must know the customers being targeted and be carefully delineated in demographic and psychographic terms; while as importantly it is to keep in mind the ones that are not being targeted.

3. To leverage results and process quality over costs, should be an organization’s primary goal and it can only be achieved through an internally consistent operating strategy made up of policies, procedures, organization, controls, incentives, and an organization culture designed to do just that.

4. The operating strategy is supported by information systems; locations, technology, and the bricks-and-mortar compromising a value delivery system.

5. Value results from both market and operating focus. Through focus, superior results for customers and low costs can be achieved.

6. Vision should be applied not only to customers but also to other important constituents of a firm as well.

The value profit chain comprises a series of interrelated phenomena organized according to different assumptions. These may include customer loyalty and commitment as the primary forces of growth and profitability, which in turn arise from customer satisfaction compared to competition. Customer satisfaction consequently, results from the realization of high levels of value compared to competitors. Value is then created by satisfied, committed, loyal, and productive employees. Employee satisfaction results from factors including fairness of management, the quality of one’s peers in the workplace, the opportunity of personal growth on the job, capability as the latitude within limits to deliver results to customers, levels of customer satisfaction achieved in customer-facing jobs, and monetary compensation. Lastly, the
relationships between elements of the value profit chain are self-reinforcing, they can work for or against and organization’s performance.

Value to shareholders in an organization can be characterized by four elements organized in the following manner\(^\text{27}\):

\[
\text{Value} = \frac{\text{Results} + \text{Process Quality}}{\text{Customer Access Costs} + \text{Price}}
\]

Value for employees results from a base pay and cost-based incentive compensation, high-quality information support systems, values that emphasize respect for the individuals and the absence of perquisites for crew members of various rank, latitude to deliver results to clients, frequent recognition, and stable employment in an organization with steadily growing opportunities. It can be determined, then, that a culture centered around the selection of nice people as associates, frequent recognition, and an atmosphere of excitement on the job are just as important. The goal is to provide a sense of ownership to everyone. Any organization can make customers happy when the employees are happy. There is not much cost in the process of building this kind of organization, on the contrary it contributes to the higher productivity levels attributed to successful operations, as it represents a significant competitive advantage.

In a fast moving world of product development, technological change, and high performance expectations, it has become more and more difficult to make competitive returns from the manufacture of basic commodities sold to business users and consumers. There is a growing consent that even technology is not immune to commoditization. In many industries it has been found that significantly higher margins await for the firm that is willing to service the products it manufactures or literally to convert its products into components of overall services.

\(^{27}\) Haskett pp. 26
Value is created through a value concept based on results and the way they are to be attained, such is the process quality as opposed to products and services. In this process an operating strategy seeks to leverage results over costs through policies, processes, practices, measures, controls, incentives, and the organization itself. All of this, consequently, is supported by a value delivery system comprising elements of an organization’s infrastructure.

A significant factor in the success and implementation of strategies in organizations depends on having the right people, culture, values, vision, and strategy as well as being aligned with each other while reflecting the demands of the competitive, legal, social, and economic environment in which the organization operates. The process of the value profit chain begins by creating dissatisfaction with the status quo through methods that not only suggest the possible but also highlight the gaps—including how goals are set, how resources are used, how values are articulated and adhered to, selection of people, and recognition and awards—between the possible and the actual through means of customer and employee lifetime value, internal best practice comparisons, and benchmarking against other organizations.

To create and provide value, organizations must understand the relationships of the value profit chain as well as the components of value for shareholders, including customers, investors, and management. These measurements are defined in monetary terms in a very minimal way. Most of this data is facilitated and made possible by the new generations of information technology and those who understand its use. Organizations must not, however, make the mistake of losing focus to create change, by becoming complacent or even arrogant—all of which are internal factors to the organization and often products of success.

Technology has significantly contributed to the creation of value, but it has rarely proven to be a source of continued competitive advantage for anyone but its creators. Sophisticated users
have often concluded that it is useless to fashion a strategy based on long-term competitive advantage through the differential in value resulting from the development in technology. Instead, they conclude that long-term differentiated value results from an understanding and use of information assembled and analyzed by means of technology. Those who make a creative use of the information available than the competition will have an advantage, but this however will not be enough to set an organization in competitive advantage. What will is the right combination of employees, investors, and customers along with effective technology. The way in which the organization will achieve success is in how it is able to create and maintain relationships amongst the shareholders. Value can be created most effectively on the basis of trust, and thus those responsible for the preservation of this trust play a significant role in the creation of value. On the contrary the abuse of trust can lead to the rapid destruction of value that reaches far beyond the confines of a single organization. When organizations and people understand how value is created is that they can seek the kind of change in people, values, and strategies that can lead to more effective value creation.

**A recent study shows…**

The National Restaurant Association’s 2012 Restaurant Industry Forecast found that fifty percent of customers use a restaurant’s smartphone app to review menus and make reservations; almost forty percent would use a tablet provided at the table to view the menu and place the order, and another fifty percent said they would take advantage of at-table electronic payment options. These results were similar for fast-food franchised restaurants. In addition, one-third reported they would follow a restaurant’s updates on Twitter and Facebook, and another thirty
percent said they would be interested in receiving daily emails with specials. Restauranteurs need to acknowledge and seek out the large number of technology savvy consumers in today’s world.

“The Restaurant Industry Forecast also noted a trend in consumers’ most valued restaurants attributes. When choosing a table-service restaurant, customers most highly value food quality, customer service quality, and value […] In short, customers want tasty food, a good deal for their money, and top-notch customer service.”

Restaurants need to take note of this strong consumer interest in technology and include it into their operations, which will consequently lead to more streamlined quality service and more satisfied customers.

A research by IHL Group has estimated that handheld devices are expected to reduce the number of shipments of traditional point-of-sale devices by eleven percent in 2012 and by as much as twenty percent in some segments. In addition, by 2015, annual shipments of mobile devices will be four times that of traditional POS terminals.

However, it must be noted that tablets and smartphones should not replace great service, but rather complement it.

The unconventional ways

The iPad has many advantages: it is light, portable, has long battery life, and its “point-and-touch” interface appeals to all of those who do not like computers. The iPad has moved beyond the personal individual use, beyond the classroom, and beyond the office. It can now be used to improve marketing, management, and efficiency in the hospitality industry: restaurants, hotels, clubs, bars, and cafes. Advantages of using the iPad in these establishments goes beyond the customized applications created by restaurants and chains, but it can rather expand the management capacity to any business.

28 “Technology has a,” 2012
29 Aquino, 2012
The end of the old-fashioned era

In the kitchen, iPads can be used to find recipes and cooking instructions on an app, a digital cooking book, either as reference for chefs or as a training tool for new staff. A different approach to this idea is to add recipes as PDF files to the “Books” section so they are available in the iBooks app; this allows easy synchronization between the PC, iTunes, and the iPad in the kitchen. Another way to use the iBooks app and the iTunes store is to find and download new cookbooks. A different use for the tablet is to serve as a control panel ranging from home security to power management. An important utilization of the iPad to improve efficiency is to use it to manage budgets and costs through the Numbers App, or another spreadsheet application, and store them online in Google Docs for easy access.

In the Front of the House (FOH) the iPad’s most common and popular use is to replace the POS and the traditional menu; MenuPAD is thus far the leader in this market with a product that can be linked to multiple systems and display information not only on food items but also on wines and other merchandise. More and more often restauranteurs want to know and hear what customers have to say, and with apps like SurveyNow and iFeedKiosk they can gather and organize data from customers. One last use at the tableside is to keep children occupied; chances are they already have digital games and gadgets, so why not make it available at the table for interaction with the parents as well.

In the Back of the House (BOH), the iPad can be used for indoctrination and training of new staff members with tools such as videos, quizzes, and written instructions. Adding online content for briefing and trainings can be another valuable tool. Lastly, the iPad can serve to record notes during staff meetings so they can be then emailed to all staff members.
For marketing purposes, the iPad can serve to create a photo gallery of special functions and events, display rooms, decorations, food, table settings, entertainment options, and videos of previous events. PDF files can be kept and arranged to display catering packages and different menus. Finally, the iPad can help connect with customers through mailing lists and Facebook or Twitter\textsuperscript{30}.

The iPad at work

Stacked: Food Well Built, a restaurant chain located in California, is a new concept chain that allows guests to design, order, and pay their meals with tabletop iPads. Experts in the hospitality industry predicted that the era of the printed menu is coming to an end. The concept of human table service as we know it will change forever. As table technology becomes more affordable, and for a variety of other reasons, their use in restaurants is rapidly becoming more common. Some people have argued that the game-changing aspect of the tablets in restaurants is not the technology itself, or that it is cool or simple to use, but rather the appeal of its features, what it allows customers to do: customize. People get exactly what they want. At Stacked, about ninety-five percent of customers build their own meals or modify suggested offerings, they can add or omit ingredients on the burger, pizza, or salad of their choice. Burgers are the most popular customized item at Stacked. However, this raises a concern regarding the adaptability of technology and the use of iPads in \textit{all or many} other restaurants; is it a feature and advantage for restaurants that only serve burgers, sandwiches, salads, and pizzas? Can this innovation be applied to a fine-dining restaurant, to a bar, or a family-style establishment?

There are other challenges, as the restauranteurs of Stacked also saw it. “The challenge was not educating guests about how to use the technology, but learning how to deal with a menu

\textsuperscript{30} Burgin 2012
that could be so elaborately customized. For instance, the kitchen staff might receive as many as 60 burger orders at one time, each with very specific ingredient requests” (Jennings 12iPads). So the concern here is to question and put into perspective the trade of between the use and cost of technology, versus the additional required training of kitchen staff and other employees. Or perhaps, managers just have to hire more qualified employees who have more and better experience and will be able to handle the nature of this establishment.

Stacked had to eventually modify its kitchen display system to improve the operational flow. In the beginning, the incorporation of the iPads into the business was also intended to improve labor efficiency, but they have yet to see those results. This is due to the fact that as a new establishment, Stacked is focused on creating a warm and hospitable environment delivering food and drinks to every table. Speed and value are significant aspects of every restaurant; guests go out to restaurant because they want the full-service concepts, unless it is a fast food establishment like McDonalds or Burger King. Even then, guests want to linger at the table, and as a result, Stacked had to add more appetizers and drinks to its menu. The use of technology in restaurant alone will not be successful for the restaurant, the use of technology has to be for the benefit of the guest.

As technology and tablets become more popular, entrepreneurs and restauranteurs are foreseeing and understanding more opportunities for new businesses. While in the last decade, the United States has experienced an economic depression, people have not stopped going out to eat or spending their money on eating out, however, they are more carefully choosing where and when to spend their money. Managers and restauranteurs understand that diners will be more likely to trade deluxe settings for deluxe ingredients. On a similar note, transparency of sourcing is paramount; customers and society want information, they want to know where their food
comes from. The beverage list is a trailblazer; from signature cocktails to coffee drinks. Lastly, another changing trend is that experiential packaging will win; managers want their restaurant to be remembered and thought of for more than just a special occasion but rather give them more than just one reason to come back.  

As restauranteurs understand these changes they are beginning to adapt to the trends and find innovative ways in doing so to give them a competitive vantage against everyone else in the industry. Restaurants that are using mobile devices have seen a 25 percent increase in the number of times they can turn a table, thus serving more customers every shift. 

[31 “4 ways restaurants,” 2012
[32 Aquino, 2012]
Chapter 3: Methodology

This research is a qualitative study in which primary and secondary research was used. The study was designed to examine several aspects of restaurants’ use of technology in their daily operations including the use of digital menus, presence on the web, activity on social media, and any other technological innovation. The hypothesis being tested is that restaurants that use technology are seeking to provide a higher level of value to customers while trying to develop and maintain competitive advantage. The study, as well as the hypothesis was developed as result of personal observations and trends in the restaurant industry.

As part of the primary research an original survey of thirty questions was designed to inquire about the different forms and employment of technological devices (See Appendix A). Due to the nature of the process of face-to-face interaction, the interviews were very difficult to be approved for. The survey and proposal was submitted to the University’s IRB (Institutional Review Board) for approval through a related study on the decision-making processes involved in urban, small businesses at the University. The businesses to participate in the research were selected from online inquiries on Google and Yelp under “Best American Restaurants” and “Best value American restaurants,” all in the New York and Jersey City metropolitan area. In addition, restaurants selected from other articles were also included in the list. Some of these restaurants employ minimal technology in their establishments, which provided insights into the other side of the spectrum. Through phone calls, the owners, managers, or operating supervisors were contacted to arrange a thirty minute interview. Unfortunately most of the restaurants were unwilling to provide such time and information; in some cases the offer was completely declined, in other cases there was no answer from management after leaving three or more messages with the receptionist/hostess. Those that were able and willing to provide the time and
information were provided with a Research Agreement (see Appendix B) explaining the nature, purpose, and rules of the research. Some managers provided in-depth answers, while others were short and straightforward.

In addition to the primary research there was also observational research conducted in the restaurants that are using innovative technology but were unwilling to concede an interview. In this observational research the interactions between employees and customers were observed, as well as the interaction between employees and customers with any technological devices available.

For the secondary research academic journals were limited due to the novelty of the topic; those journals available were used in this paper. The majority of the secondary information came from online articles including online newspaper and magazine articles, blogs, and reviews; the restaurants’ websites were also used along with other online articles on various related topics.
Chapter 4: Results, Findings and Analysis

Observational Findings

Running the observational research, I had the opportunity to experience the use of technology in restaurants from the perspective of a customer. In an American food, casual dining restaurant in New York City, servers have six iPads available to use during dinner service. On a Thursday night there were five servers, two back waiters (bussers), and two bartenders on the floor, no management to be distinguished. The iPads can either set on a station, or be hand-held by the server at every table (the iPad at the bar is set at the station); the printer and credit card reader are wireless and connected to the tablets via Bluetooth. The convenience and advantage of having the POS system in your hand, as the server explained, is that it is easier and faster to go from table to table taking orders without having to go back and forth to a station to put in the orders. Tickets to the bar get processed immediately, as the bartender makes the cocktails with the same time-efficiency. Also mentioned by my waiter, when they first acquired the tablets about a year ago, there were many difficulties with the system and it took a while before everyone got used to them. Another major disadvantage, he said, was that sometimes the system shuts down and it takes a while to reboot. The system, however, updates automatically on a monthly basis. The waiter was knowledgeable of the menu items, pleasant, the entire staff was in a cohesive uniform the classic black slacks, white shirt, and black tie—bartenders with black suspenders. The overall experience was very pleasant, service and food arrived in a timely manner. The atmosphere of this restaurant was classy with a touch of sophistication, for which the iPads fit perfectly.

In a franchise burger establishment, also in New York City, there are large digitalized menus displaying pictured of the featured burgers along with the rest of the items and specials.
The four-paneled menus set above five traditional POS registers on the counter, with three employees, and two cooks in the visible kitchen behind the counter. The manager was not distinguishable, but when a charge needed to be fixed on the computer, one of the employees processed the transaction immediately. The establishment is conveniently located on a corner, on which the windows go from floor to ceiling; on the other available wall an oversized digital board displays ticket numbers when the order is ready, other news articles relevant to the hamburger industry rotate on the screen, along with other pictures; it is placed in front of ten step bleachers giving a sense of being in a movie theater. This floor-to-ceiling screen illuminates and brightens the inside of the white-colored interior design. As if these were not enough, on the floor level there is one table accommodated with six iPad to be used at the convenience of the customer. The iPads have the usual Apps, and as described by one of the employees are for the customer to use to check emails or browse the internet.

One other casual American restaurant in the city has a sense of a more traditional old-fashioned restaurant. A medium sized restaurant, with two waitresses, two back waiters, one hostess, one bartender, and a manager (distinguishable by the different dress code). In the whole restaurant there was only one POS computer visible at the bar. My server memorized my order, but did have a pad and pens in her apron. There was always at least one employee making rounds through the tables, refilling water glasses, changing silverware, and clearing dirty dishes. No televisions either, the only other form of technology was the iPad held by the hostess at the front door; she was using it to check for reservations and manage the floor chart when she sat new guests at the table.

In other recent experiences, a street-side food truck displayed on a chalk board their items, specials, prices, and twitter and Facebook accounts. I had to check their profiles. Both
accounts are updated with the location and time where the truck will be that day, and with pictures of their food items. It was been open but only one year, and they are embracing the social media as a form of marketing and advertising. A disadvantage, along with another bar I was recently at, they do not accept credit card payments only cash. Given that I had no cash at the time I stopped at the bar, I had to leave the place; late at night I was not willing to look for an ATM machine and return to the bar to have one drink. On a more pleasant experience, a franchise sea food restaurant is using the iPad at their front desk to keep a waitlist. When a guest arrives, the hostess asks for a name and phone number, and verifies that they can receive text messages; when the table is ready a text message is sent from the iPad to the cellphone number provided. Depending on the wait time, the guest can leave the premises, or walk around until the table is ready.

**Interview Findings**

In the interviews I had restaurants that are using technology in their operations, and some that are using the bare minimum. First, I will discuss the ones using technology.

In one of the restaurants, they are employing the traditional touch screen POS systems, which have been used since their opening four years ago. The system runs biweekly updates of the system automatically and checks for any errors in the system; since they began using it no major maintenance has had to be done. In the case of having to get serviced, the manager would have to call the company and they will tap to the bug overnight, or send any back up computers if needed. A relatively large restaurant, there are two POS systems in the front of the house for servers to use (depending on the day there could be one server on the floor or up to five), and two more behind the bar (for one or up to six bartenders). To train new employees to use the
POS systems it takes about one to two days, or if they do not have any previous knowledge up to five days; it is easier to show them and let them see the system at use instead of showing them button by button, function by function, the system is very self-explanatory. Besides the basic functions of allowing employees to ring up food items and drinks, the system also allows the manager to perform a variety of functions such as tracking employee hours, all sales made broken down into categories, track inventory, discounts (how many and by whom), track taxes; all of these numbers are then transferred to the financial statements as needed. For disadvantages, the system only tracks back until certain date, and if any numbers prior to that date are needed the manager has to call the company, then they ask for an access code and is overall a tedious process. In addition, it does not let employees do any discounts and voids, a manager is always needed for certain transactions, which then again limits the employee’s latitude to act when necessary. One other problem the manager faced not long ago, was with the credit card system which operates on internet connection; the system, then, records the credit card information but does not process the payment until the internet is working again, this can be a major issue in case any of the credit cards gets declines. The functions of the POS system help enhance the experience of the customer because it is time effective and sends the orders automatically to the kitchen and the bar, accordingly. If they were to write all orders manually it would take too much time and there could be other communication issues.

The restaurant does have a website, Facebook page, and Twitter account; when they first opened there was a company that updated and maintained the website, but after only a short time, the manager decided to take over the website and social media accounts. The website gets updated every time there is new information to display, such as a new menu or an event coming up, the Facebook page likewise, along with pictures of past events as needed. The manager uses
an App that links his personal account with the restaurant’s account, so he gets notified immediately when there is a new post on the restaurant’s page. The Twitter account is there but is rarely updated. Coincidently, this restaurant recently started doing deliveries. They are on grubhub.com, delivery.com, seamless.com, and njwaiters.com (the same company that is doing the deliveries for them). They had to accommodate their catering menu so that it would carry well in containers, the rest of the menu stayed the same. The restaurant offers coupons and discounts on their website, when customer register they get automatically added to a mailing list (as of today, they have up to four thousand emails in their data base); customers on this mailing list get new coupons, offers, and events on a regular basis, as well as personalized birthday specials and anniversary specials. Other coupons are also offered on Yelp’s phone App and on Foursquare; the customer checks-in to the restaurant on the app and the coupon is activated automatically—with foursquare, when they check in it also shows on the Facebook page, the customer’s and the restaurant’s, so this way it will appear on the newsfeed of friends and encourage them to like the page.

For the reservation system, the restaurant uses Open Table, the most popular site to make reservations online. When you register, they send the computer with the installed software to run the system. They also provide reviews, email blasts, and are low cost. To manage employees schedules, request for time off (RTO) are submitted via email to the manager, who sends the schedule on a weekly basis by the weekend.

Yelp has become a great phenomenon for many restaurants, and customers. The manager reads the reviews on a regular basis and if he has to he will address them individually, offering a customer to return with a promotion if they had a bad experience, or merely thanking those who enjoyed their visit. He gets a report on a regular basis, from Yelp on how many people have
clicked on their page and how many new reviews have been posted. The manager does not necessarily agree with Yelp’s settings, good reviews for the restaurant do not show up while old reviews and bad reviews always show up. When he called to try and fix this, he was told that it is not up to them, that the filters and settings are set so that certain reviews show up depending on the statistics of the person posting the review (new accounts or accounts with very few reviews are often not displayed). Yelp’s phone app has allowed restaurants to offer coupons, for a fee of course, thus this manager feels the whole system to be a bit unfair and arbitrary.

For their marketing and advertising campaigns, the restaurant uses an outside company which proposes various means of advertising, such as newspaper, flyers, radio, and signs at the train PATH stations, and then it is up to the manager which ways to go. They also design the individual ads and place them accordingly. For the first two years of the restaurant being opened, the manager himself designed the ads and placed them where he wanted them to be, but it ended being a time-consuming process.

When asked to comment on the hand-held POS systems he rejects the idea of using them in his restaurant. He considers them impersonal, and feels such devices take away from customer interaction such as making eye contact, he would rather servers spend time and make connections with each individual guests. He joked that restaurants that are using such devices are doing it just to show off.

For the restaurants not using technology the owners are operating managers, and they are prefer more traditional ways of running the business. These restaurants are not using any POS systems and instead they use the good old-fashioned cash register; the functions of such device are the same of a simple calculator, and holding cash in the drawer. These establishments, which I must note are bars that serve simple food such as sandwiches and salads, have been open for
more than ten years, and since their opening they have had to service the registers about every five years, if at all. One of these establishments did not start accepting credit card payments until about eight years ago, he claims that credit card companies charge very high fees, but he found it necessary in order to not turn customers away. New employees do not require more than thirty minutes of training using the register, ten minutes will even suffice. Per shift, there are one to three employees per register, although most times only one (the bartender) will have actual access to the register. Advantages of such device are the feel and look that they add to the atmosphere of the restaurant, it is straight forward without too many complications, it is simple, easy to control, and requires only a short time for training. For the disadvantages, daily reports, reconciliations, and tracking inventory are of primary concern, but besides that the use of the cash register brings no other problems in the operations. In this system, all orders to the kitchen must be handwritten and brought to the kitchen on an individual basis. One of the managers elaborated on this topic and explained that he prefers communication and trust between his employees.

They all have a website (one of them is still work in progress but they are present on the web), Facebook page, and Twitter account. The accounts get updates on a regular basis, five times a week, by either the manager or the employees themselves. None of these establishments offer delivery, but they do provide take out if the order is placed over the phone or in the restaurant. They also do not offer any discounts or coupons online, in the words of one of the managers: “I don’t believe in it,” just give them a good price. They do, however, follow the reviews on Yelp to take feedback; one of them said reviews are mostly positive so there is nothing to worry about, while they do believe that bad reviews can hurt them. These establishments do not take any reservations, unless it is for large parties but that rarely happens.
Employee schedules are the same every week, given that the most employees they have at a time are twenty; if any one of them needs to switch shifts they arrange it amongst themselves (once again the belief in communication and trust), if they cannot figure something out, the manager will accommodate accordingly. For their advertising, they rely mostly on word of mouth and local publications; more than one third of their business comes from regular customers, that is they visit the restaurant four to five days a week. One other piece of technology they employ are the cameras in the business, one manager says he relies on them on a regular basis specially when he is not in the restaurant, he can see what is happening on any computer.

Although they have considered making the transition to more innovative systems, they do not find it necessary—and rather expensive—for their operations, what they have works for them in their “low profile environment.” They believe in providing substantial material, good service and good food. Coupons and computers are meaningless if they are not backed up by quality products. Consequently, there is great emphasis in the hiring process, one of the managers insists that is the most important part, bringing in people in whom he can trust, in addition to being smart and interesting individuals. Subsequently, the majority of his current employees have been working for him for years and takes a lot of pride in that no one has ever quit because they do not like the job, but rather because they are moving to bigger places in their own professions. Overall, their system works for them, otherwise they would not have been in business for so many years.

**Companies & Software**

Point of sale systems are for more than just getting a physical job done. They are about building relationships with guests, educating the staff, and collaborating with customer. There
are various new companies creating new software and systems for Point of Sales Systems. Software systems like Compeat, Hotschedules, and eatec are helping restaurants track complex data like sales trends, employee overtime, and food orders from suppliers. ISISPOS is a company that provides easy, reliable, and precise order taking based on iPad POS. As these systems are interactive between guests and staff, new information is created at every interaction. Features of these software programs include the digitalized menu, nutritional information on menu items, upcoming events of the restaurant, and information on wine pairing. In addition, customers can take surveys on the experience, offer suggestions and improvements, and how the customer feels about the restaurant’s operation. Through this information, the restaurant can then gather meaningful information and improve themselves. Setting up the features and gathering reports can easily be performed on an office computer which will also be setup with the software to explore reports, make notes in an online redbook, make adjustments, and add new menu items. It is just as convenient and helpful for employees who are enabled to split checks, do voids, discounts, transfers, and run payments right on the iPad.  

As these applications, features, and software gather information by the customer, management needs and must know what to do with it, otherwise it is all useless data. Despite the high-tech Point of Sales machines and software, the restaurant industry is still dominated by paper receipts, guesswork, and intuitions. Even with the most sophisticated software, and even if every transaction is tracked, often little is done after the customer leaves the restaurant and thus that data has little value. The processed data from these software programs is detailed enough for managers to analyze and understand without having to be expert accountants.

Data Mining

33 “iPad for restaurants,” 2013
One of the restaurants in New York using the iPads in their Front of the House operations is using the device to gather a particular type of information. The software they are using, Slingshot, allows them to log and enumerate every item they sell, from a glass of wine, to the martini, and even a side of rice. Each item and sale is listed under an employee’s name. On a regular basis the manager then gathers information of items sold by each server and is evaluated on a performance review with the employee to determine where they can make improvements. This type of system has become known as “data mining,” and more and more establishments are using it to augment profit. The restaurant’s recent data shows that overall sales and waitstaff average have increased.

Slingshot is customized to bring the wait-staff to their best performance. Through its systematic breakdown, the program lets managers know the areas in which the server is the strongest and the weakest. These analytical tools are, thus, a platform for maintaining consistent management and employee goals and standards. The reports enable managers to read trends, predict ups and downs in the business, and help restaurants compare themselves in particular areas, wine sales, per se. Software developers and experts are predicting that this type of software could one day used to monitor and track customers.

Most of this data mining being experienced in restaurants recently, had previously been mastered by casinos. These institutions were analyzing and examining how much money croupiers were ranking in at which tables, and which video poker machines were generating the most money. Nevertheless, it is not only the casinos and fine-dining restaurants who want to understand better their statistics. Not only the economic changes are asking for such practices, but the competition in the restaurant industry also demands for restauranteurs to understand such data; in New York alike every other big city and town will have an Italian restaurant in every
block, one form of franchise or another in every corner, and the food trucks in every street. So what is one doing to be better than the one next door?34

The uses are limited only by our imagination

New technology can help to improve sales with no additional capital investment by restauranteurs. SmartCellars is another software company designed for fine diners to make wine selections from an iPad. SmartCellar is developed by Incentient, LLC, which is the world’s leader in “at-the-table-technology” and is constantly changing the wine experience for customers. This software allows customers to browse a restaurant’s wine selection using easy to understand links, search for wines by name, region, price, or variety. The device can also be set up to include premium liquors, beers, signature cocktails, and food pairings. It can include as little or as much information as the manager wants, and it can also be updated in real time so that the lists display accurate information of the inventory. Restaurants that are using this application have experienced an increase in sales, especially in wine, as never before by up to twenty five percent, while keeping customers actively engaged.

SmartCellar is cost effective and it even installs, warrants, and services all equipment of touchscreen devices to individual restaurants. Furthermore, they can even customize the logo, styles, colors, and imagery to match the restaurant’s uniqueness. Another benefit of using not only SmartCellar, but any other tablet in the restaurant, is the marketing opportunity it delivers because it reflects graphics and messages that are important to building a strong brand with the customer.

According to some restauranteurs, “SmartCellar sets the stage for sommeliers to engage in higher quality, table-wide discussions with customers. It makes the staff’s job easier because

34 Ray, 2012
half the questions were already answered by the devices, the other half can by answered by 
staff." Therefore, one must question the implications of the use of such applications and 
devices. Does this imply that employees have to be trained less and be less knowledgeable of the 
menu and items? Or rather the other way, be more informed of everything that is on the iPad plus 
additional information that the customer may inquire about?

Social Networking

As technology and the way we use it continues to change at a very rapid pace, many 
organizations are still trying to figure out the best way to compete in the social media arena. 
There are so many social platforms available for restaurants: Twitter, Facebook, Groupon, 
LivingSocial, blogs, mobile apps, email blasts, Seamless, and many other not so popular. The 
more it becomes an important part of a business marketing and advertising strategy, and the more 
technology savvy the customers become, experts have devoted time into finding formulas and 
theories that could work for different establishments.

First, restaurant operators must create excitement through targeted promotions. One 
restaurant launched an online contest that challenged entrants to combine three of the brand’s 
sauces for a customized taste; through email blasts, text messages, Facebook photos, and 
materials in the restaurant promoted the contest, the goal was to tap into the networks of fans on 
every page and get valuable feedback on sauce combinations. Another idea is to highlight 
holidays and seasons; the fluid nature of social media allows for seasonal and holiday 
promotions. These days can even be customized to the nature of each restaurant, such as the 
National Cheese Fondue Day, or National Hamburger Day. A restaurant chain used this idea to

35 "Smartcellarsm uses 'at-the-table," 2011
add new members to their emailing list and then give away coupons and other giveaways through Facebook and other social media: more than 500 tweets, hundreds of Facebook shares, and blog posts spread the message. Other restaurants use social media to inform guests of new seasonal items on their menu and when they will be launched. One restaurant found that fifteen to twenty tables on a given night had come as a result of the promotion. Tools may include videos, alerts, and special dinners.

Another idea for managing social media is to always keep your name on the front line. According to the Pew Research Center, Facebook users are forty to fifty percent more likely to read about your restaurant if it is part of their newsfeed than by visiting the fan page. Businesses need to post on Facebook often and with actual news. It is one thing to have a Facebook or Twitter account, but to have it inactive is just a waste; you have to at least say a few lines every so often about a special item or an event, preferably with photos. Like in comedy, timing is very important; if you want to promote lunch the posts should run at a particular time, the same about dinner, between three o’clock and four thirty perhaps. On these social media, it is also important to take time to read and respond to comments or questions at least once a week. One restaurant operator says his being recognized as being savvy, fun, responsive and engaging in social media translates into revenue and guests satisfaction. On that note, the next key is to get customers engaged. Listening to customers is essential for new ideas and feedback, they are the ones who experience your establishment with a different set of eyes. Through this manner restaurant can also exploit any potential possibilities they have not explored such as a larger facility, long beer lists, cheese options, and many others.

The next key is to demonstrate your expertise on social platforms. One restaurateur uses Facebook to promote lectures of grass-fed beef, farming, and local products. This approach
establishes the restaurants concerns about certain issues. If there are intricate blogs and entries, they can be send via email along with Facebook and Twitter links. When it comes to these social topics and issues, pooling resources can create more marketing power. A group of restaurants decided to form a loose association, helped by social media, to fight back newer competition. The marketing campaign is designed to promote awareness of the town’s eateries, theaters, and hotels. The alliance uses social media to promote upcoming events on its branded website which also features a restaurant food item, along with a restaurant directory.

Another key to social platforms is to create your own deals on your own terms beyond Groupon and LivingSocial. Posting an offer or a special deal on the Facebook page is free while it has recently provided the option of buying ads or sponsoring content to draw attention to offers. Lastly, restaurants have to manage their reputation. Restaurants, among all other businesses, are the most vulnerable to online attacks mainly because consumers rely on sites such as Yelp to research where to eat. The best ally and worst enemy of any restaurant is word of mouth, consumers trust their friends and peers heavily, even more than they listen to professional marketers. When restaurant operators respond to online critiques, either negative or positive ones, it shows to the consumer that they care enough to bother. It is becoming quite common and popular for organizations to hire a company to manage the reputation online through press releases, blogs, and reviews that will show up on web search results. Monitoring your online presence is incredibly important, and organizations must own it however good or bad it is.36

Yelp: a Fad and the Future

Yelp’s iPhone app has become a useful—yet dangerous—tool and guide to local restaurants, bars, and other merchants. The app contains a feature labeled “Monocle,” which

36 Rowe, 2012
displays a live feed from the phone’s camera showing exactly what is in front of you. When aimed at a local storefront, Yelp superimposes a star rating on tile image giving a quick appraisal of the best food in the area. This app is one of the first augmented reality (AR) programs to debut on the iPhone. To this day, the most prominent AR practitioners have been ad agencies, and yet not very useful; this technology however has been around for years and used in the military and museum exhibits. Modern smartphones can determine the location through GPS and an internal compass, they can download data through broadband connections, and have powerful graphics-processing capabilities. While this is a feature that is definitely fascinating, it has the disadvantage that it can only work when standing in front of the establishment, and may only be suitable if one lives in a hot neighborhood. (Manjoo)

The key to success and the best form of advertisement involves getting your customers to recommend your restaurant to others. Restaurant operators are often seeking for positive reviews on Yelp, Urbanspoon, and other sites. A study from the Harvard Business School found the effect of positive reviews on Yelp: each star rating translated to anywhere from five to nine percent increase in revenues for restaurants. On the other end, predictably, negative reviews can kill the business. Another study found that eighty percent of people changed their decision of establishment due to negative reviews. A restaurant operator can never know how many potential customers it has lost. In today’s social platforms it is more important what others say about you, than what you say about yourself. Seventy-one percent of influencers and forty-eight percent of the public, turn to word of mouth for making dining purchase decisions.

The key, therefore, is to turn happy diners into marketers, or brand advocates, to spread positive word of mouth online and share promotional content with their friends and peers. This approach enables restaurants to improve online ratings and consequently increase traffic and
sales, build valuable emailing lists, increase check average, and fight negative word of mouth. One restaurant started to actively track and identify their best customers and found that forty-seven of them recommended the restaurant by sharing offers and other content on social media, creating testimonials and writing positive reviews on Yelp. Brand advocates put their reputation on the line to recommend certain restaurants because their experiences there have been great and want to help and guide others.  

**Technology in other industries**

Companies in different industries are learning to take consumer-oriented tablets and adapt them in ways the original marketers would have never imagined to fit their organization. From the military, to warehouses, hospitals, boardrooms, and cockpits, companies are embracing easy-to-use gadgets which requires creative IT work to make those tools do what companies need them to do. The sales industry has been the first to get tablets for their companies for the advantages that the gadgets contribute: they are mobile, instant access, easy display of presentations, produce demos, and videos.

Holy Hunt, a high tech furnishing company, tested iPads in the sales department which deals with big architecture and design firms. The tablets were programed to display beautiful photographs of designs on a PowerPoint slideshow which resulted not very ideal. Thus, the company is building an app that optimizes presentations for tablet viewing and can be transferred from personal computers or laptops.

Telecom provider Level 3 also built an app that allows salespeople to create presentations entirely on the iPad using standardized content, like company and product descriptions, and unique content to the customer. The app also lets them collect data from various sources,

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Fuggetta, 2012
including the company’s website, on-premises systems, and also generate price quotes. Salespeople were allowed to keep their laptops as a safety net in case the tablets did not work, also to let them chose what to do on them.

Blast Radius, a digital marketing firm, has built an app for a perfume maker to help its salespeople in department stores guide shoppers to a fragrance that is right for them. Sales agents will hand each prospective client an iPad with a presentation on the fragrances. Customers are already distracted with their own smartphones, and instead they will be distracted by Blast Radius courtesy app.

Royal Caribbean, the cruise ship company, is putting an iPad in every stateroom of its newly renovated ships for the convenience of the guests to use and access ship information or just browse the internet. Tablets are taking the place of interactive televisions with keyboards to provide guests with information including personalized promotions, past purchases and other data on spas and restaurants. The Chief Information Officer is not planning on including employees in this innovative transformation, however. He is allowing them to bring their own device to receive corporate emails and emails on their personal tablets.

Waste management, a garbage truck company, started using the Samsung tablet loaded with software for route and pick up instructions in an attempt to save money and improve performance with the touch screen device rather than having to use industry specific worn devices to replace its paper based routing process. They are still considering the disadvantages and other possibilities.

Executive Officers are also finding advantages out of the gadgets, when they are on the road they tend to consume and monitor information, and quickly respond with short emails. Corporate board members are also beginning to use the tablets. First they tried to replace lengthy
business reports with personal laptops, but they found it difficult to read and make notes. Then they launched the iPad which has had great success.

The iPad and similar tablets have the convenience of being cost effective and appealing to the young workforce, instead of using cash registers and other terminals that need a five-year life cycle to justify their cost. It is becoming more common that CIOs embrace the consumer product cycle, moving away from the three to five year innovation cycles to one to two year cycles. Although some industries need the reliability and consistency of being able to use the same device for three to five years. The disadvantage here is that most consumer tablet vendors do not produce specific tablets for that long period, their product cycle is about eighteen months. If the price of the consumer tablets goes down a couple of hundred dollars, it could pay off their shorter life cycle. Another possible disadvantage is that consumer tablets in the workforce will not get the advance warning about updates and new features, which might hinder businesses from getting everything they want.

Avnet, a global electronics distributor, began testing with iPad in one of their warehouses. The devices had to be adapted to fit the company by disabling iTunes so that employees could not download apps to it, as well as the Bluetooth and other unneeded features to prolong battery life. Valcamp’s employees are now getting as much as three days of iPad use without a recharge since the tablet is doing nothing but running the apps they need. The apps being used in this company have allowed employees to work smarter, not harder; they can now type data in or scan an item using the camera and the app will recognize the item. Avnet built the functionality as an HTML5-base Web app, which uses the iPad’s Safari browser.

The advantage of a Web app is that companies can write it once and it should work on any tablet with a browser, and allows you to take full advantage of other device features such as
the camera, GPS, or graphic capability. A hybrid approach will let companies combine native apps with data from a Web app to lower development costs; the company can later change the data an app user gets without going through the Apple approval process, since the native code stays the same and the changes happen on the back end. Another approach for companies to get content onto the tablets is a virtual desktop, often the Citrix Receiver, but with this approach the experience can vary greatly. Some companies are not using iOS developer but rather Java developers, many with minimal mobile skills but molded into an Android team. The majority of the top IT professionals like learning the hot skills and see the career opportunities. One must be careful, however, when hiring contractors, they cannot always do the integration or security work businesses need, or understand the scale of enterprise apps. Security is always a major concern, but many companies are discovering that off-the-shelf mobile device management software are good enough.

A warning must be made against making things too complicated in the tablet pilot stage, before the project is launched to full capacity it must first be satisfied that tablets make the workforce and teams more efficient. The use of new technologies has, and should, open the discussion about how to improve efficiency. The expansion of the use of tablets to different industries bring a challenge to Apple, Google, Microsoft, and other tablet developers as well as IT departments in various industries.\(^\text{38}\)

Retail is another industry that is hoping to give customers new incentives to shop at brick-and-mortar stores through the use of tablets and smartphones. Lower prices and fast deliveries have made online shopping increasingly attractive to customers. Brick-and-mortar department stores, like many other industries, are trying to fight back this innovative trend. With a tablet in hand, salespeople can pull up a customer’s purchase history, help compare other

\(^{38}\) Murphy, 2012
options, and even check out items. Many retailers have a strong desire to replicate the Apple Store experience, its efficiency most of all; retailers want better ways to assist customers when they walk in the door. Having the ability and resources to duplicate the ease with which Apple Store employees look up information, bring up items, and process credit card payments will not be easy for everyone out there. Retailers need to think carefully how they are going to incorporate those systems and digital devices into their stores. Nevertheless, retailers need to accept the fact that more and more consumers are becoming technology savvy and using the online resources more carefully, and they can either fight back or embrace this trend by being the consumer’s advocate by making the in-store experience so compelling people will want to come in.

**Concerns & Dangers**

Businesses need to seriously consider how they will support and maintain portable tablets in the field. Mobile enterprise management capabilities should be employed to keep applications synchronized, monitor device health, and manage security. A major concern is consumer privacy and security. Employees should not be aware of all the detailed transaction data that is protected via privacy regulations, but only the information that allows them to better understand how to help the customer.

Most recently there have been a couple of legal cases in Supreme Courts regarding freedom of speech of online reviews; these cases involve doctors, contractors, and hotels, and yet the implications of online reviews are universal to any industry as the boundaries dissolve on review websites as Yelp, Angie’s List, and RateMD.com. What judges in the Supreme Courts are struggling with is the balance of freedom of speech with the devastating professional
consequences of reckless or uncorroborated reviews. Libel cases over online comments are rising, perhaps as a result of an era of impulsive tweets and anonymous comments. Therefore, not all complaints can be counted to give an accurate and fair account, and yet many businesses are damaged irreparably by false accusations. Coincidently, section 230 of the Communications Decency Act protects websites from libel claims as long as they only allow the posting of content and do not actively control posts; if the site were to edit posts, sorting out vitriolic or unfounded attacks, its potential liability can be more, not less.  

There is no doubt, nonetheless, that the websites rating professionals and services are a real commodity for consumers, just a few minutes of browsing and reading reviews online can help ensure that you make the right choices in terms of where to spend your money and get the best results.

39 Paulson, 8A
Chapter 5: Opportunities and Recommendations for Improving Customer Experience

Technology is moving at an incredible fast pace; phones that take voice commands, give verbal answers, and who would have thought that in 2013 the first quantum computer\textsuperscript{40} would have been fully developed. Data is more than just an abstract concept used by Information Technology (IT) experts. It is now the results of constant digital activity, every time a website gets a click, a status is shared, and a photo uploaded data is created and stored. In today’s world data never sleeps. Every minute data is created\textsuperscript{41}:

- Email users send 204,166,667 messages
- The mobile web receives 217 new users
- Word press users publish 347 new blog posts
- 571 new websites are created
- Foursquare users perform 2,083 check-ins
- Instagram users share 3,600 new photos
- Tumblr blog owners publish 27,778 new posts
- Brands and organizations on Facebook receive 34,722 “Likes”
- Apple receives about 47,000 App downloads
- Twitter users post over 100,000 tweets
- Consumers spend $272,070 on web shopping
- Facebook users share 684,478 pieces of content
- Google receives over 2,000,000 search queries

Information and data are meaningless if they are not, first acknowledged, and secondly understood, and applied. Owners, entrepreneurs, and managers must understand the implications of technology and the data it generates to create a successful business. The opportunities to use

\textsuperscript{40} Hardy B1
\textsuperscript{41} James, 2012
and apply technology in daily operations are far too many. While it can be costly at first, it is an investment that organizations must make in order to deliver better quality to customer, and consequently create more profit for the organization.

Being present on the web is almost mandatory nowadays, given the statistics above, to not be on the internet and in the social media is to give up a large market of potential customers. If the manager considers himself unknowledgeable of how to run and operate a website and social media, there are various organizations that will do it for them; in an even better scenario there are very good chances that one of their employees could do it for them. The objective is to be active on social media, have a web page, and follow what customers are saying about your business. One step at a time, even if the mission or the culture of the organization has to be modified, they need to embrace the stirring changes in the business world. The reminder must be made, that the data created and collected from these sources has to be understood, interpreted, and applied for it to have meaning; when organizations do that, it translates into value to the customers.

Another significant part of the organization that influences the value and quality of the service is the employee. As described in the Literary Reviews above, managers must be able to treat employees like customers, and customers like employees. The process starts with the hiring process, followed by extraordinary training, and continued with good treatment on a daily basis.
Chapter 6: Potential Ideas for further research

Technology in other service industries

As described in the previous section of the uses of the tablet in other industries, customers must stay aware of the changes coming about. As different industries embrace the opportunities that the use of technology provides society must stay aware of the changes and their implications. Macys department stores have already made the transition to hand held devices to search for items in inventory and process credit card payments without the need of walking to a cashier or check out station. Bank of America, and other banks, have developed and launched an App to deposit checks without the need of going to the bank or an ATM machine to make the deposit; snap a picture of both sides of the check, process, and the money is in your account. In the near future we should be able to find different organizations that are using tablets and other gadgets to provide better quality customer service, and as these changes occur we could analyze why and how other industries are making the changes to twenty-first century technological gadgets and leaving the old fashioned ways behind.

Implications for management

As these changes occur they are bringing and demanding new skills from employees and management. As companies and industries move forward with technology, the skills required from the labor force will also have to be modified. It seems that because everyone has made technology part of their daily personal life, the transition perhaps should be a lot smoother. However, what do these changes also imply about the education that employees and managers will have to receive? Will the skills and lessons have to be taught in university classrooms or will they have to be inherent to the individual? What will the consequences be for the older
generations or those individuals who are not technology savvy? Seems like the labor force will be changing in the years to come.

**Management, entrepreneurial personality traits of those willing to use tech**

As of today very few privately owned restaurants are taking full advantage of technological innovations. While it may be influenced by costs and culture of the establishment, is there a sub-factor that depends on the owner’s or manager’s personality? Traits of risk taking, outgoing, extroverted, perhaps? In the years to come, will all or most establishments use the latest form of technology to keep up with competitive advantage and the trending fads, or will some refuse to embrace some changes with an underlying force on their personality? Even as of today, those establishments still using the old pen-and-paper methods, are they being influenced by their personality and melancholy of the past? Or is there rather a broader sense of the establishment and the business world?

**Customer’s perspectives & personality traits, Millennial generation?**

On the other side of managerial personal traits and personalities, are customers’ traits and personalities a factor in deciding what establishments to use based on their use of technology? Nowadays, more and more people are embracing technology in their daily lives, the Millennial generation, however, has a stronger inclination for those things; thus, are they more willing to frequent places that also embrace technology? Or is it still about the service, atmosphere, and type of establishment? How do customers see those who use technology in the workplace versus those who do not? Does it even matter?
Chapter 7: Conclusions

The Hospitality industry has come a long way since the good old days of hand-written orders and cash resisters, and those days would not be considered so good in today’s world. In the last few years, starting with the birth of the smartphones and social media, technology has been moving at a fast pace. While many organizations are keeping up to date, many others are still trying to catch up, and a few others are not even bothered by the race, because it is a race. The business world, regardless of the industry, is all about numbers. In that aspect, individuals nowadays are about numbers as well; how many followers they have, how many Likes they got, how many shares and favorites per post. Because customers are so attached, and dependent on their technological devices and social media, businesses have an easy entry through those means to the customer’s mind.

I cannot help but wonder how much of this technological phenomena can be blamed, or credited to (to use more positive terms), to Apple. The Apple products are the driving force in many areas of individuals’ life from iTunes, to the iCloud, the iPhone, the iPad, and the many Apps available for their devices. It has also driven the competition to launch various other devices in the smartphones and tablets industries. Consequently, brands and organizations are taking advantage of the significance of such technology to get to the customer. It is becoming more prevalent that companies are using the handheld devices to their advantage, it is almost inevitable to not see a tablet in a television commercial that features something else than the tablet itself; insurance companies, banks, and magazines.

Social media is also to be blamed for the impact of technology in individuals’ lives. MySpace first introduced the notion of social media, then Facebook arrived and took over, soon
after was Twitter, and more recently Tumblr and Instagram. Social Media has become the way to communicate, not only amongst friends and family, but businesses with consumers as well. There is no going back to the old ways, the force of technology is only moving forward. Therefore, organizations in all industries need to embrace such force and incorporate it into their daily operations if they want to keep up with the competition. These social accounts are now conveniently linked to the main website of the business; and how many times does one hear, and see, organizations and individuals say “Find me on Facebook and follow me on Twitter!” It is almost mandatory.

In the hospitality industry, there is more than just a product that is being delivered, it is also a service. Thus, restaurants and hotels have more things to incorporate and balance. As any other organization, a restaurant needs to have an established culture, everything else must fit into it. The next most important factor is the employee, the training program, and the performance thereafter; in part of the process there must be a program of compensation and rewards. Satisfied employees will lead to satisfied customers.

Frontline employees are the ones who are responsible for delivering the value to customers, they require the knowledge as well as the tools to deliver this value, and therefore it is up to the manager to provide those resources. In this process, one must keep in mind the foundational strategies of the organization, including the mission statement, the values, and culture. The goal, and key to profitability of any brand and organization, is to have loyal customers, to create meaningful relationships with as many single individuals as possible. Every reaction and interaction with the guest will build a relationship, or tear it apart.
Value is directly related to customer satisfaction because it is a customer’s view of the goods and services that influences decisions to buy and use them, today and in the future. Value is not always equivalent to low prices; price is but one factor in determining the value of goods and services. Value has different meanings to different people, it is highly subjective; while it is a driver, it is also a reflection of several important factors.

Technology has significantly contributed to the creation of value. The organizations that manage to make a creative use of the information available than the competition will have an advantage, but this however will not be enough to give it complete competitive advantage. What will is the right combination of employees, investors, and customers along with the effective technology.
Appendices

Appendix A

Name of Business:
Type of Business:
Address:
Manager’s Name:

1) What type of POS (Point of Sale) System do you use?

2) When and why did you make the transition to this system?

3) How often do you service the system?

4) How many servers/employees do you have per POS?

5) How and for how long do you train new employees to use the POS System?

6) What are the main functions of your system?

7) What other, if any, secondary functions does your POS system have?

8) What tasks does your POS System allow employees/customers to do?

9) What are some limitations/disadvantages of your POS?
10) What are some major advantages/benefits of your POS?

11) How does your POS influence or enhance the value of the product delivered to customers?

12) How often do you encounter problems/difficulties with the way the POS operates?

13) How do you deal and resolve those problems?

14) Since you acquired the POS systems have you had to lay-off or hire more employees?

15) Since using this POS system, have your expenses increased or decreased? How? Why?

16) Since using this POS system, have your revenues increased or decreased? How? Why?

17) Does your business have a website?

18) Does your business have a Facebook Account? Twitter?

19) If yes, how do you use them to communicate or inform your customers? How often do you update them?

20) Who is in charge to manage/update the online accounts?
21) Is your business on Delivery.com or Seamless.com?

22) What percentage of your business’ revenue comes from online orders?

23) Do you offer coupons or discounts on your website or other online sites?

24) Do you have a mailing list to send out coupons or special promotions to registered guests?

25) What system do you use to make reservations?

26) What system do you use to manage employees’ schedules?

27) Do you read your Yelp reviews? How do you address them?

28) What form of marketing and advertising do you use?

29) Do you have surveillance cameras? Who do you manage them?

THANK YOU for your time and cooperation
CONSENT TO PARTICIPATE IN HUMAN RESEARCH PROJECT

Research Team Copy
Saint Peter’s University
Departments of Business Administration
Technology in Restaurants

You have been asked to participate in a study on restaurants using technology to deliver value of a product or service. You will be asked to respond to a series of questions related to the operations of your business.

Participation in this research is entirely voluntary. You may refuse to participate, you may refuse to answer any specific question(s) and you are welcome to stop the survey at any time.

All information you share is confidential. Your name will be removed from the survey and replaced with a unique identification number.

If at any time you have questions regarding this research, you should contact the investigators, Dr. Mary Kate Naatus at 201-761-6393, who must answer all your questions.

You will be given a copy of this consent form.

I, ___________________________, consent to participate in the ___________________ study.

________________________________________________________________________

Respondent Date

________________________________________________________________________

Interviewer Date
CONSENT TO PARTICIPATE IN HUMAN RESEARCH PROJECT

Owner/Manager Copy

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_______________________________________________________________________
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_______________________________________________________________________
Interviewer                                     Date
Bibliography

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http://web.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=20&sid=e8c5664b-7dca-43c9-b380-d871e0691120%40sessionmgr198&hid=23