Time and Technology: Competing for Customers in the Future

by

James C. Wetherbe
The University of Memphis
The University of Minnesota

Competitive strategies, technology, and cycle time are explored in this article as ways to allow organizations to gain competitive advantage by differentiating their products and services and serving niche markets in compelling ways. A framework is provided for interaction with customers through technology and cycle time to determine the types of innovations and improvements they would like to see in an organization’s products and services.

Most organizations share three common concerns. First, they are overwhelmed by the rapidly growing amount of computing and network technology they know less and less about. Organizations are extremely concerned about how to apply technological innovations, including the Internet, for competitive advantage. Second, they are under pressure to improve customer service while simultaneously reducing costs. This would appear to be contradictory. Yet, because of the economics of computer technology -- which decreases in cost as capability increases -- it can be harnessed to improve customer service while simultaneously reducing costs. The third concern is a stronger than ever desire to achieve competitive advantage through some product or service innovation. Over the past 40 years, most organizations have used computing technology to improve existing operations. In the future it will be used to innovate new businesses, products, and services.

Competitive Strategy

The seminal work on competitive advantage, Competitive Strategy, authored by Porter (1980) presents three basic approaches for gaining competitive advantage:

- Be the low cost producer
- Differentiate
- Fill a market niche

Of these three strategies, becoming the low cost producer is the riskiest. If price is the only reason customers are doing business with you, lower prices from a competitor will result in fewer customers for you and possibly a price war. Ideally, a company does not want to be vulnerable to such actions from their competition. Competitive advantage can be achieved by some type of product or service differentiation or by filling a special niche in the marketplace. Perhaps one of the strongest examples of product differentiation is Harley-Davidson motorcycles. Here is a product with a one to two year delivery lead time. Potential customers have the choice of buying an alternative product, such as a Japanese cruiser, with immediate delivery, a lower price, and, some would argue, a technically superior product. However, people wait for the Harleys because of the look, sound, feel, and spirit -- essentially the mystique that differentiates the product from all others. When someone feels so strongly about your product that they will tattoo the product name on their body, you have achieved a high level of differentiation.

Differentiation can be achieved with information technology. A good example is a brokerage
house that provides customers with annual IRS tax reports for gains or losses on stocks, bonds, etc. Other brokerage houses do not provide this service, thus customers have to reconstruct gains and losses on stocks and bonds from monthly statements. This differentiating feature provides enough value to some customers who would not consider buying stocks and bonds from other brokerage houses because of the time and effort involved in maintaining such documentation.

A good example of filling a market niche is provided by Progressive Insurance. Most insurance companies consider motorcyclists a high risk and have, what many consider, unreasonable rates for this group. Progressive, on the other hand, realized that Harley owners represented a unique market niche. The typical Harley owner is over 40 years old, earns a respectable income, rides the motorcycle for recreational purposes only, i.e. they do not commute in bad weather (they spend more time polishing it than driving it), and rides in large groups, thus increasing visibility and noise (loud pipes save lives). The most popular Harley-Davidson model is the Heritage Classic, a 1950s retro-styled motorcycle. Harleys have 65 horsepower with lots of torque for cruising at low speeds, which is what Harley owners enjoy most. Contrast the typical Harley owner to someone who would buy a high performance Japanese sport bike which has 150 horsepower, accelerates from 0 - 60 mph in 2.5 seconds, and has a top speed of 175 mph. The Japanese sport bike, or “crotch rocket” as it is often referred to, is popular among 19 year old males who prefer models such as the Kawasaki “Ninja.” Do the Harley owner and Japanese sport bike owner appear to be different insurance risks? Realizing the difference, Progressive offers very attractive insurance rates to Harley owners which they consider to be a special niche in the marketplace. Of course, Harley owners are grateful for getting reasonable rates on their motorcycle insurance. As a result, Progressive is able to market insurance for automobiles, homes, etc. to the Harley owner.

Dynamic, Time Sensitive Strategy

The Porter model has served many companies well in formulating their strategies. The big issue with computing technology is that most people think of computers in terms of only one thing -- to reduce costs (i.e., be a low cost supplier). However, the very innovative and clever company can use information technology to differentiate their product or services (e.g., the brokerage house) or fill a niche in the marketplace (e.g., Progressive Insurance tracking new Harley registrations). The key difference with applying the Porter framework today is that competitive strategists no longer enjoy the long-term stability that they previously had. Strategies are much more dynamic with shorter life cycles.

To illustrate the time factor, another view of strategy is provided by Treacy and Wiersema (1995). In their book, The Discipline of Market Leaders, they point out that customers are looking for some new enhancement of a product or service each year. That is, they are looking for a "better deal" every year. They argue that the key areas for enhancement of products and services are through product innovation, customer intimacy, or operational excellence.

Many consumers have developed a "psychology" of "what impressed us last year, we become impatient with this year.” A good example is the microwave oven. Most of us were impressed with the microwave when it was first introduced. It appeared to be defying the laws of the universe as it cooked potatoes in less than five minutes. But most of us, within six months of getting a
microwave oven, would push the buttons and stand there in front of it impatiently waiting for the last few seconds to count down. A product that amazed a few months earlier was quickly taken for granted. Consumers look for continuous innovation and improvement. Cycle times for strategic positioning of products and services are continually being reduced.

The notion of faster cycle time or dynamic competitive strategy is further documented in D’Aveni’s book, *Hypercompetition* (1994), in which he points out that competitive moves occur at a very rapid fire pace. They can be characterized as playing a game of chess with a clock allowing only ten seconds for each person to make a move. D’Aveni indicates that speed and surprise are key issues in terms of hypercompetitive markets, where one organization's strategic moves will result in a new move by the competition, causing another move by the first organization, etc.

Organizations should be ready to make a move based upon something their competition does. A good example of a recent hypercompetitive move is what FedEx did during the 1997 UPS strike. After UPS workers went on strike, thus increasing the demand for FedEx services, FedEx increased its effort to provide their normal quality of world class delivery. This accomplished two things. First, UPS customers who had to choose alternative carriers were impressed with FedEx service. Secondly, FedEx was able to accumulate a lot of extra cash because of the additional revenue. After the strike was over, FedEx used its “full pockets” to increase its ground delivery capacity through the acquisition of Caliber System to improve its competitiveness (FedEx has always had a larger air fleet than UPS, while UPS has always had the advantage of a larger ground fleet). FedEx used elements of speed and surprise to strengthen their position in the marketplace by making this hypercompetitive move, rather than just reaping the benefits of the cash flow during the strike.

The remainder of this article explores ways to think about technology and cycle time that can lead to competitive advantage.

**Customer Resource Life Cycle**

Given the high level of emphasis placed on being customer-focused, a particularly powerful framework using technology and cycle time to gain competitive advantage is a concept called the Customer Resource Life Cycle (CRLC). Originally proposed by Ives and Learmouth (1984) and later expanded by Wetherbe and Vitalari (1994), the concept is further enhanced and explained below.

Customers have to complete a series of steps in order to have a relationship with an organization. Understanding these steps and exploring how technology and cycle time can be used to make improvements can result in a competitive advantage. A generic outline of the CRLC is provided in Figure 1 and each step of the CRLC is explained below.

- Identify/Research/Profile
- Educate/Advertise/Market
- Establish Requirements/Select
- Price/Order/Deliver/Payment
- Test/Accept
- Integrate/Monitor/Upgrade
- Maintenance/Dispose/Account For
- Feedback/Network

Figure 1: Customer Resource Life Cycle
Identify/Research/Profile

First, customers have to be identified. This can be something straightforward such as in a hotel where a guest calls the front desk and the desk attendant answers, "Good morning, Dr. Wetherbe. What can I do for you?" An automatic number indicator (ANI) system allows guests to be recognized. Pizza Hut uses such a system to identify callers by the phone number from which they are ordering pizzas. As another example, a BMW is purchased in Frankfurt. Months later, it is driven into a dealership in Brussels. The service representative comes out and, identifying the owner by name, suggests a 10,000 kilometer oil change and asks if the problem with the right rear speaker has been resolved satisfactorily. How do they do that? By keying the license plate into a Pan-European database, the dealership can access a profile of the owner and car, and then an expert system suggests the most likely scenario. In this case, given that the car is eight months old, an oil change is most likely needed. The system also indicates the maintenance problem with the speaker so that the service representative can follow up to see if it has been repaired satisfactorily.

One of the thornier issues in customer identification involves home telemarketing by insurance companies, a practice many consumers find particularly irritating. One insurance company has developed an interesting innovation as an alternative to telemarketing -- a multimedia kiosk that profiles all the various products available in the financial services arena. An interested party can push a button by one of the menu items and a "public education" quality multi-media video will explain the various financial services (e.g., tax shelters, annuities, trusts, and retirement programs). If the customer is interested in any of the products, he or she can push a telephone icon and the system asks for their name, phone number, and a convenient time to contact them. The kiosks are located in hospital waiting rooms, where people generally have a lot of time (where else will you read magazines that are six months old?). In addition, hospitals tend to sensitize visitors to their mortality. This particular system has an amazing conversion rate. The company sells five products for every eight times a prospect asks an agent to call.

A good example of researching and profiling customers is the information that is exchanged between a car salesperson and a perspective customer. This type of information can provide great insight into customer preferences and reasons for buying or not buying a particular car. Market researchers would find this type of information invaluable. Unfortunately, most of this information just evaporates into thin air during the conversation with the salesperson. One of the innovations being developed in the auto industry is that, instead of dealing with a salesperson, a perspective buyer sits down at a three-dimensional, high resolution graphics unit and designs their own car. They can switch exterior and interior colors, add or delete various features, and so forth. One version of the system even takes a side profile of the customer and projects it into the graphic image of the car so the customer can see how he or she looks in the car. The system keeps a running total of costs (associated with the design decisions). After the car configuration is complete, the price information is provided and the customer will be able to order the car for delivery to his or her driveway within a week. This could have a very positive effect on reducing car inventory and the real estate necessary to store it.

A system of this nature can collect useful research on what customers are adding/deleting to cars and maybe even find out why. For example, say 90 percent of customers put anti-lock brakes on their initial configuration, but 22 percent remove them before the final purchase agreement. The system can ask prospects what led to that decision, which might help the automotive manufacturer understand how to explain or market such features better.

Educate/Advertise/Market

In the areas of education, advertising, and marketing, there are several interesting innovations. For example, a Canadian fertilizer company (a difficult product to differentiate) has a system that allows farmers to log on in the middle of the
winter and interact to get information about market futures. The farmers provide information about their soil, temperature, amount of rainfall, etc. The system then makes suggestions to the farmers about crop rotation strategy, etc. Once the farmers have decided what they want to plant, the system proposes a fertilization program and provides the cost figures. If the farmer likes the program, an online order can be placed.

Johnson & Johnson’s Visticon Division, which manufactures extended wear contact lenses, has a system that allows eye care practitioners to log onto the Internet 24 hours a day and complete course work for college credits that count toward professional certification through Indiana University and the University of Florida.

Establish Requirements/Select

The insurance multimedia kiosk system described earlier allows customers to establish requirements, as does the agricultural fertilizer system. An additional example of customers establishing requirements and selection is provided by Trane and Carrier air conditioning companies. Trane and Carrier both have systems that allow engineers configuring air conditioning for a building to provide information about ceiling heights, BTUs, and exposures (northern/eastern/southern, etc.). The system then configures the duct work, outlets, and tonnage required for the air conditioner and provides graphic schematics for construction engineers. GTE Sylvania has a similar system to establish requirements for lighting, as well as providing all the necessary schematics for construction.

Price/Order/Deliver/Payment

Some interesting innovations here include those by Wal-Mart and Ford Motor Company. A major concern for Wal-Mart buyers is getting the best possible price from large suppliers such as Procter and Gamble. Accordingly, much energy is used to toughly negotiate every purchase. To remedy this situation, Wal-Mart entered into a straightforward negotiation in which Procter and Gamble guaranteed Wal-Mart that they would not give a better price to anyone else. The two organizations could then focus less on price negotiation and more on logistics using electronic data interchange (EDI) and electronic funds transfer (EFT) to allow point-of-sale (POS) transactions to track inventory needs and automatically reorder inventory. This action eliminated approximately 50 percent of the cost of the relationship between these two business partners.

Ford Motor Company reduced the number of people involved in their accounts payable and purchasing activity from 500 to 100 by simply sharing their production requirements with their suppliers and letting them automatically order, deliver, and keep in stock only necessary inventory. For example, if Ford is producing 1,000 trucks per week and each truck needs four sets of brakes, their supplier automatically delivers the brakes as needed and Ford pays for them as they are used in the manufacturing process.

Test/Accept

Sometimes a product or service needs to be tested and/or accepted as part of the CRLC. Walgreens provides an interesting example in this area. If customers leave a prescription at home when they are out of town, they can dial a
toll-free number, provide identifying information, and activate their prescription in a different city.

Another example of test and accept is Audit RX, a system originally developed by McKesson and sold to Eli Lily. This system allows a pharmacist to check all prescriptions a patient is currently using to make sure there are no harmful drug interactions. The system would track that information and alert the pharmacist if, for example, a physician has prescribed an allergy medicine that should not be taken by a person currently taking a particular heart medication.

Integrate/Monitor/Upgrade

These steps involve tracking utilization of inventory or services and adjusting as needed. The Wal-Mart system and the Ford system described earlier would fall into these categories. Other examples include Hallmark Cards automatically upgrading its quantity of anniversary cards and graduation cards during May and June. A magazine supplier knows that retailers will need six times as many copies of *Sports Illustrated* during the swimsuit edition and increases the order accordingly. One trash compactor manufacturer is researching the incorporation of an optical reader that can scan bar codes from grocery store packaging and automatically generate shopping lists based upon discarded packages placed in the compactor.

An interesting example of upgrading is a book retailer with a system that allows a young or inexperienced cashier (who may not have read that many books) to scan a book such as Clancy's *Hunt for Red October* at the POS terminal and suggest to the customer (based on a display provided by the computer) that "this is one of Clancy's earlier works. Are you aware of some of his more recent works such as *Clear and Present Danger, Sum of All Fears*, and *Debt of Honor*?" in an attempt to upgrade the sale. If the customer has already read those books, the cashier can say, "Since you have read all of his books you must really like Clancy. Another author you might enjoy is . . ." This information would be available at the touch of another button. This action introduces the customer to new authors, hopefully leading to more sales. Blockbuster Video makes use of this type of capability by monitoring the videos that customers rent so they can suggest other videos based upon customers who rent similar videos.

Maintenance/Dispose/Account For

The BMW service example provided earlier is in the area of maintenance. In another example, a consumer purchases a refrigerator from Sears in Detroit, moves to Los Angeles, and buys a washer and dryer from the Sears there. The Sears maintenance tracking system indicates the previously purchased appliance and indicates to the salesperson to offer a quantity discount on the maintenance contract.

Otis Elevator has an interesting system for maintenance. Most elevator sales are loss leaders for long-term maintenance contracts. Two problems are associated with maintenance contracts. One, if the local service representatives are having difficulty in successfully resolving a problem resulting in continued failures, a customer might become frustrated and cancel the contract. Two, people trained to service the elevator might become aware that an inflated price is being charged for their service and decide to set up their own "Acme" elevator repair and offer a discounted price to customers. An interesting capability Otis elevator implemented to counter both of these problems is *Otis Line*, a toll-free call center for requesting needed repairs and monitoring the performance of service representatives. In addition, the elevator can (in the same way a car can indicate it is low on oil or its brake pads are thin) call the Otis line directly to inform the call center that it senses an imminent maintenance problem.

In terms of dispose and account for, the brokerage house example cited earlier is a good case in point. Another example is the FedEx tracking
system that allows customers to call a toll-free number or use the Internet to track package delivery status and the signer.

**Feedback/Network**

Another important issue is allowing customers a convenient way to communicate satisfaction, dissatisfaction, and suggestions to a company. This can be done with toll-free numbers, but an Internet system with some fairly engaging graphics that allows customers to interact and indicate what they like and dislike about products or services is an even better means of feedback.

Networking allows customers to interact with one another. For example, Harley riders like to ride with other Harley riders. By logging onto the Internet, they can identify other riders who are in the same geographic area to help people organize rides.

A new guitar store chain would like to differentiate their instruments. They are exploring a system where Friday night “jam” sessions can be organized on the Internet. The stores will have bandstands allowing customers to take turns rotating on and off the bandstand, having indicated previously the songs that they know and like to play.

**Technique Lags Behind Technology**

The CRLC provides a basic way to determine how technology can be used to improve relationships with customers. Unfortunately, the ideas described above are obvious after the fact. What organizations are trying to do is identify and capitalize on a technological innovation before someone else does.

One problem with technology is that when we see new technologies we tend to use them in our old ways. There is a real historical pattern for this. For example, automobiles were called horseless carriages for years as if something was missing. For years, soldiers continued to line up shoulder to shoulder several layers deep in brightly colored uniforms and march in lines into open meadows, a very dysfunctional technique once rifle technology was developed. The old military technique was based upon sword and shield technology where it made sense to group together in straight linear fashion, but became devastatingly obsolete when rifles came along. Here again using the old technique with new technology.

We see the same problem proliferating as new innovations in computer technology are developed. Consider automatic teller machines (ATMs). The first ATMs were located inside the bank. Why? Because it was just like a teller window without the teller. Most people had reservations about ATMs, arguing that people would rather have personal customer service. But the banks persisted, placing them in bank lobbies. However, the real value added came when ATMs were placed outside the bank where they were available to customers 24 hours a day. Taking cash and leaving it unattended in malls was not an easy innovation for most bankers to embrace. To many people, it was a joke.

In fact, the nature of most innovations in the first stage of perception is a joke, the second stage is denial, (i.e., “no way we would do that”), and the third stage is when the innovation becomes accepted practice. The real art to strategic innovation is to recognize when a joke is not a joke, preferably before the competition.

Historically, industry leaders have left innovation experimentation to new, upstart companies. If an idea worked, then others would quickly follow by adopting the innovation. Increasingly, being just a

Of the three issues -- any time, any place, any way -- time is the most constraining.
fast follower is not a good strategy. Customers find out very quickly about a new competitive advantage and they can make a quick shift. For example, Visa's alliance with airlines allowing customers to receive frequent flyer points had an adverse effect on American Express who had previously enjoyed an advantage in terms of preference among upscale business travelers. It took American Express a couple of years (which is not real fast following) before they developed a comparable system. In the meantime, several thousand customers were lost and most of them never came back. So, fast following is a risky strategy.

**Future Perfect**

A much better strategy is to take advantage of work done by Stan Davis in *Future Perfect* (1987). *Future Perfect* is a direct and powerful means to establish a vision of the future and how technology will play a role in it. The basic assumption is that technology is going to get better and better and better. If technology is going to get better and better and better, it follows that employing it will improve any business. That is, there should be a better and better and better way of doing business. Now, better and better and better taken to its logical conclusion becomes perfect. When something can no longer be improved, it is perfect. So, the trick is to get a vision of what perfect looks like and realize you are on a journey towards getting as close to it as possible, or at least closer than the competition.

What does perfect look like? It is when customers are given what they want:

- Any time
- Any place
- Any way

For example, if I could stand anywhere I want and say, “I want $160.00” and it appeared immediately in my hand, or I said, “no make it $172.” If all those demands are met instantaneously, I am operating in an any time, any place, any way, or perfect mode.

If customers are required to go to their bank during banking hours in the city in which they live, there is a huge gap between perfect and actually getting money. However, if the bank put ATMs outside the bank and customers can get money in $20 increments, that is closer to perfect than before. If those same ATMs are placed around the city, that is even closer. If those same ATMs are located around the country, closer yet. If customers can get money in increments other than $20, i.e., exact change, closer to perfect again.

Customers can call their bank from anywhere and get their bank balance. That service is close to perfect already.

As a different example, consider the process of renting a car. Historically, most car rental companies required customers to wait in line, fill out forms, and then assigned a car of their choosing in a size requested, e.g., a silver Oldsmobile. If a customer indicated a preference for a red Grand Prix, an unpleasant situation was created particularly if there was a long line. National Car Rental was the first car rental company to innovate in this area with the Emerald Card. National stores customer information digitally on the Emerald Card so forms are not needed for every rental. The Emerald card is scanned, and the customer selects the car of their choice from those available. This process not only allows customers to have it their way, it also reduces the time required for the rental process -- closer to perfect. An added benefit for National is reduced clerical costs.

A classic example of limited inventory availability is sheet music. It is highly unlikely to find a particular piece of music in stock, and ordering may take weeks. The sad thing is that most music stores have inventory that rarely moves, often sitting on shelves for years. Some music stores have a
system in which customers choose from thousands of pieces, and the desired music prints on a laser printer -- in the preferred key. That is close to perfect. Still closer to perfection would be the capability to order music and print it on a laser printer at home.

The notion of any time, any place, any way allows us to get a very good vision of the future. Figure 2 depicts the addition of one more variable to the framework -- appropriate price. That is, people are willing to pay different prices depending on how well the time, place, and way utilities are addressed. For example, at my residence in Minneapolis my newspaper is literally worth twice as much to me on my front porch. Why? Because in sub-zero weather it is unpleasant to run out in a bath robe and slippers to retrieve it from the end of the driveway. Front porch delivery is not a service my newspaper offers, but I have made a deal with my newspaper carrier to pay him twice the price of the newspaper to place it on my front porch. He is actually operating with a better margin off the newspaper than the publisher of the newspaper. This is where the notion of appropriate price comes in, and it is a great opportunity to achieve competitive advantage through differentiation or addressing a market niche. The pricing of airline seats (where hardly anyone pays the same price for the same commodity) illustrates the dynamics of “different price for different folks” depending on value. A leisure traveler has different time pressures than a business traveler and can schedule travel in a way to reduce cost.

Applying Future Perfect to the Customer Resource Life Cycle

If the concept of future perfect is integrated with the CRLC, a very interesting and powerful matrix is created which, in essence, can define the future for an organization’s customer relationship (See Figure 3).

The overwhelming innovations in computer technology can be used to gain a competitive advantage. The matrix in Figure 3 can help. To illustrate, when an organization can identify a customer any time, any place, any way for an appropriate price, that is perfect. When an organization can educate a customer any time, any place, any way, for an appropriate price, that is perfect.

Review each step in the CRLC and assess how close to perfect your organization is today. Is it 20 percent, 50 percent, 80 percent? It is very useful to ask customers their perceptions of how the organization is performing in each category, and then assess differences in perception. It is useful to take every step of the cycle and explore

Figure 2: Perfection In Product or Service
where the organization is in terms of perfect, where customers view the organization, and where an increase in closeness to perfection would give the organization a competitive advantage. Then investigate technology in terms of helping the organization achieve perfection. For example, the proliferation of personal communicators (or portable phones) will allow the called organization to identify the caller any time, any place, any way.

The CRLC/Future Perfect framework works very compatibly with Porter’s (1980) work on competitive strategy, giving an organization a chance to differentiate or niche market. Using Treacy and Wiersema's (1995) work necessitates looking for some new advantage the organization can provide each year. In terms of D'Aveni’s (1994) work on hypercompetition, an organization must be in a position to outpace their competition consistently.

Customers can give an organization ideas to make "closer to perfect" improvements to gain a competitive advantage. By exploring each cell in the CRLC/Future Perfect matrix with customers, ideas for the innovative use of technology can proliferate. For example, I travel extensively doing seminars so I have to check into hotels, sometimes up to 100 times a year. It is a very undesirable transaction. First of all, I have to wait in line to check in, then I have to wait in line to check out. If someone calls the front desk while I am doing either, I lose time that I could be putting to more productive use.

If a hotel were to work the way I would like it to from a customer's standpoint, I would be able to call in and make my reservation either on a toll-free number or on the Internet, such as how FedEx allows customers to ship or track a package. I would provide the basic reservation information the hotel needs. When I arrive at the hotel, I would like to put my credit card into a kiosk and just have it tell me where my room is. Some people would argue “what about the personal touch?” Help with luggage might be a personal touch, but going and waiting in line at a counter to check in is not a personal touch. Once my credit card is approved, the kiosk tells me how to get to the elevator and provides specific directions to my room (i.e., your room will be the first on your left once you exit the elevator). What about a room key? That would be my credit card. Most hotels have already gone from industrial age mechanical keys to information age magnetic card keys. The interesting thing is, though I show up with one card, they make up another for me to use. I can pump gas with my

<table>
<thead>
<tr>
<th>Identify/Research/Profile</th>
<th>ANY TIME</th>
<th>ANY PLACE</th>
<th>ANY WAY</th>
<th>APPROPRIATE PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educate/Advertise/Market</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establish Requirements/Select</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price/Order/Deliver/Payment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test/Accept</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrate/Monitor/Upgrade</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance/Dispose/Account For</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feedback/Network</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 3: Customer Resource Life Cycle
Innovation and Improvement Matrix
credit card, why am I unable to open a door? When I go to check out, I put my credit card in the kiosk and it prints out my bill, which is much better than having them put a bill under my door that has to be replaced anyway because I am not finished using the phone, having breakfast, etc. At that point my credit card would be deactivated as a room key, which improves security.

A particularly annoying thing about hotels is the 12:00 check out time. Why do I have to check out at noon? Hotel managers say they have to be able to clean the rooms. They can not clean all the rooms at noon. Like most business travelers, I usually arrive at the hotel late in the evening, and depart at various times during the day. Am I not entitled to the room for 24 hours? Car rental companies (note: cars are a moving target) allow me to rent a car for 24 hours. Why am I unable to rent a room for 24 hours? I would argue the hotel could provide flexible checkout and more efficiently clean the rooms by getting the desired departure information up front and scheduling their cleaning personnel accordingly.

A compelling example of any time, any place, any way, appropriate price research is achieved by the Concours Group. They are in the business of helping companies master the learning curve on new technologies. They have developed a new business model that combines research with consulting to help firms make critical technology decisions on issues such as Internet commerce, object-oriented software development, and enterprise software implementation. They organize multiple company representatives, consultants, and researchers into a team to collaboratively answer questions and resolve problems companies are facing. Over a 90 day period the team meets twice, but all other networking is accomplished by exchanging questions, answers, and ideas on an Internet website.

It’s About Time

Of the three issues -- any time, any place, any way -- time is the most constraining. In other words, given enough time I can get something any place you want it. Given enough time I can get it any way you want it. However, time marches on without our permission. By working aggressively to reduce cycle time, an organization may be able to provide place and way utility more efficiently. In particular, through information technology and the Internet, there are incredible opportunities for much improvement in the CRLC/Future Perfect matrix. Using the matrix as a working tool both within an organization and with its customers, it can provide great insights to enable an organization to gain a significant competitive advantage.

Conclusion

As organizations strive to achieve competitive advantage more rapidly through the innovative use of information technology and cycle time reduction, models or frameworks are needed to assist in organizing the creative processes. By drawing from earlier strategic frameworks, organizations can combine the concepts of the CRLC and Future Perfect as working tools to provide ongoing guidelines in strategic innovation.

References


---

**James C. Wetherbe, Ph.D., is the Executive Director of the FedEx Center for Cycle Time Research and the FedEx Professor of Excellence at The University of Memphis.** Quoted often in leading business and information system journals, Dr. Wetherbe is internationally known as a leading authority on the use of computers and information systems to improve organizational performance and competitiveness. His specialties include cycle time reduction, business reengineering, management and computer-based information systems, systems analysis and design, and interpersonal skills.