AUTOMATED REVENUE MANAGEMENT:
OPPORTUNITIES AND CHALLENGES FOR APARTMENT FIRMS
By Donald Davidoff and Steven Small

- This NMHC White Paper provides an overview of automated revenue management, or the use of data-driven pricing to find the optimal price for individual apartments based on current and forecasted market conditions.

- It explains that revenue management is not just an off-the-shelf software purchase, but a new way of managing apartments that requires firms to re-think their business processes and organizational structure.

- The paper describes the three major revenue management software products currently available and predicts likely near-term and long-term enhancements to future versions.

- It spells out the steps firms need to take to implement such systems and identifies the critical elements required for success.

- Recommended distribution for this White Paper:
  o Chief Executive Officers
  o Chief Information and Technology Officers
  o Revenue Enhancement Executives

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The Council was established in 1978 as a national association to advocate for rental housing and to provide a source of vital information for the leadership of the multifamily industry. Since then, NMHC has evolved into the industry’s leading national voice. The association concentrates on public policies that are of strategic importance to participants in multifamily housing, including finance, tax, property management, environmental and building codes. NMHC benefits from a focused agenda and a membership that includes the principal officers of the most distinguished real estate organizations in the United States. For more information on joining NMHC, contact the Council at 202/974-2300 or www.nmhc.org.

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Most of us are familiar with the concept of revenue management (also known as “yield management”) from our experience as travelers. We know that for years travel and the hospitality industry have used data-driven pricing methods to maximize their revenue. We take it for granted that if we ask 10 people on a flight what they paid for their tickets, we will probably get 10 different answers. Though each bought essentially the same seat, different market conditions at the moment of their purchase caused variances in the tickets’ prices.

Beginning in the late 1990s, some forward-thinking real estate and technology professionals began to talk about applying those same methodologies to setting apartment rents. After all, apartments have a lot in common with hotels, where such systems are de rigueur. Fast forward to 2003, and revenue management is poised to transform the way the apartment industry operates. Some firms believe it is the wave of the future. Others remain on the sidelines, saying it will never work.

Only the future will tell which side is correct, but before sides are drawn, it is important for apartment firms to thoroughly understand revenue management. Yes, we all understand the general concept, thanks to years of traveling the country looking at real estate. But not many apartment professionals understand the “big picture” view of revenue management. To many, it is simply a software package, and after the technology bust of the late 1990s, many consider it just another hyped-up concept long on promise and short on substance.

This White Paper provides an overview of revenue management and makes the case for its ultimate widespread adoption by multihousing firms. It explains that revenue management is not just an off-the-shelf software purchase, but a new way of managing our businesses; one that requires significant re-thinking of our established business processes. The technology itself is necessary, but not sufficient. It also compares the current human-based method of setting rents with a data-driven approach, identifying the benefits and challenges of moving to the latter.

Perhaps most importantly, it spells out the steps firms need to take to implement revenue management systems, and it identifies the critical elements required for success. It also reviews the current technology and makes some near- and long-term predictions about future systems.

As you read this paper, keep in mind that everyone has a revenue management system, whether they realize it or not. The good ones, in our opinion, are based on well thought-out strategic and tactical decisions. The others are cobbled together by happenstance and evolution and depend too much on the analytical skills of the individual employees across their portfolio.
Revenue management is the system first pioneered by the travel and hospitality industries to use their vast data warehouses to forecast supply and demand and price their products to maximize their yield. The idea is that the market, on that day and at that time, determines the price the consumer pays. With advances in technology and an increasingly sophisticated property management industry, the concept is now being applied, on a limited basis, in the apartment industry.

The concept of revenue management in the apartment business is the same as in the hospitality sector. The idea is to leverage technology and data to systematically forecast supply and demand for a particular unit and then price it accordingly. It stands in stark contrast to the current methods of setting apartment rents in which on-site employees use rules of thumb and their own judgment to establish prices. More often than not, these managers are responding belatedly to past events. That is, they will generally lower rents until a certain occupancy is reached and then increase them again.

This strategy does not take into consideration the fact that the events that affected the occupancy in the first place may have long since changed, leading the firm to raise prices just as the market is declining or lower prices just as the market heats up. The goal of revenue management is to use forecasting tools to accurately identify current market conditions and to re-price apartments immediately.

More than just a revenue-enhancing tool, however, revenue management also incorporates corporate strategy into pricing decisions and makes the pricing process more consistent. It can help time lease expirations to minimize days vacant, and it can help match the right product to the right consumer. Revenue management also offers firms a side benefit of less ambiguity with respect to fair housing compliance by relying on a computer system to make unbiased pricing decisions.

The concept is simple, but the reality is complex because of the wide range of variables required for revenue management to work. A good revenue management system will:

- Understand what is being sold;
- Understand what the customer is buying (which is not always the same thing);
- Know where incremental opportunities are;
- Know how to segment the market based on the consumer’s willingness to pay;
- Match availability and demand; and
- Replace ad hoc and cobbled-together business processes with systematic ones.

The first two are particularly important. Many apartment managers mistakenly assume that they are selling apartments, essentially floor plans, amenities and location. To some degree they are correct, but every resident rents a specific apartment for personal reasons. One resident might be attracted to the apartment’s convenient location to work or family. Another resident might be attracted by the community’s social environment. Still another might be specifically interested in a key property amenity. Understanding what your residents are buying, rather than what you are selling is the first step toward identifying additional revenue opportunities.

From the apartment firm’s perspective, there are a large number of other variables, both internal and external, that must be considered when setting rents. They include: the number of units currently vacant; current and anticipated future demand; competitive property rents; marketplace factors, such as job growth, the number of apartment permits, and even interest rates. It is virtually impossible for human judgment to systematically and consistently take all of these into consideration when setting rents. A data-based revenue management system can, however.
The data element of revenue management is critical. All the factors that affect pricing are constantly in flux, so a firm’s revenue management must be dynamic. What worked yesterday may not work today or tomorrow. If, however, a firm has a warehouse of data with information on its properties, its leases, its revenue and competitive marketplace measurements, it can better understand its customers and the marketplace and, thus, more easily adjust its revenue strategy as any single variable changes.

**Incremental Opportunities**
Revenue management, in large part, is about tapping into incremental revenue. The best way to do that is to analyze each element of the leasing process and include it in your pricing strategy. They include:

- **Base Rents.** Base rents are the foundation of any pricing strategy. Improving revenue through base rents requires firms to find the highest price at which they can maintain desired occupancy. This requires an understanding of the price elasticity of demand.

If the demand for a product is relatively elastic, such as for a luxury item, a price rise will cause a disproportionately large drop in demand such that total revenue will actually decrease. Conversely, a price cut will cause a disproportionate increase in demand, resulting in an increase in total revenue. On the other hand, if demand for a product is inelastic, such as for a necessity good, a price increase will cause a smaller change in demand, so revenues will increase. It is when a product has unitary elasticity, where small changes in price do not affect demand and thus do not affect total revenue, that revenue can be maximized.

Several factors affect the price elasticity of demand, including:
- The availability of substitutes. The more substitutes, the more elastic demand is and the less a firm can raise prices to increase revenue. In many markets, the apartment industry suffers from a large supply of substitutes – competing rental properties and owner-occupied housing.
- The degree to which a product is a necessity or a luxury. Luxury products, such as luxury apartments, have greater elasticity of demand and are, thus, less able to raise prices.
- The proportion of the purchaser's budget consumed by the item. Products that consume a large portion of the purchaser's budget, such as a resident's living expenses, tend to have greater elasticity.
- Whether the time frame is short-term or long-term. Elasticity tends to be greater in the long term because consumers have more time to seek out substitutes. If the price of a gallon of gas increases, in the short term consumers will have to continue to use gasoline, so short-term demand is inelastic. In the long term, however, alternatives can be found: propane, electricity, natural gas, etc., so long term demand for gas is more elastic.

In apartment terms, the alternative to renting is owning a home. But because a lease obligates a renter to an apartment for a fixed period of time, he or she has less opportunity to move to the alternative. Thus, leases decrease the elasticity of demand for apartments--if everyone rented month-to-month, demand for apartments would be more elastic, because renters could more easily move to the alternative of buying a house.

We know that total revenue equals the number of units rented multiplied by the rent charged. Higher prices will increase the revenue obtained from each unit leased (the good news), but will, generally speaking, cause fewer units to be leased (the bad news). The elasticity of demand tells us whether the good news will dominate over the bad news.

The real world difficulty for the apartment sector lies in the fact that apartment transactions are not like buying a tank of gas or a gallon of milk. There are far fewer transactions and each transaction represents a lot more money, so it is a much more considered purchase. As a result, it can be very difficult to determine the ideal price that maximizes occupancy and revenue. Generally, we know that in a down
market, apartment demand tends to be elastic because an apartment takes a large portion of a resident’s budget and because competitive substitutes exist. In a tight market, there are fewer substitutes and demand will be more inelastic.

This analogy also uncovers a critical dimension for us. The gas station can hold onto the gallon of gas indefinitely. With no “spoilage,” they can wait indefinitely for someone to buy the gas. The grocery store can hold onto the gallon of milk until the “sell by” date. As long as they sell it before that date, there is no spoilage. With apartments, the “rental day” spoils as soon as the unit becomes vacant.

Unlike a person, a sophisticated revenue management system will combine these economic principles with current market data in a consistent, reliable way to forecast the most appropriate price.

- **Unit Turns.** Revenue management systems understand that a unit has no value until it is occupied. More sophisticated systems will identify the units coming available closest to the time a potential customer wants to move in. Instead of leasing a vacant apartment to someone who wants to move in a month, essentially leaving the unit vacant for a month, a sophisticated revenue management system will identify a unit coming available in three weeks. That leaves the vacant unit available for a prospective renter who may come in and needs to rent immediately. Without the revenue management system, you would have had to turn the second prospect away. Some systems will attempt to further optimize unit turns by suggesting sooner or later move-in times and providing a pricing incentive for prospective customers to choose the desired move-in date.

- **Lease Terms.** Ideally an apartment firm would like its lease expirations to match seasonal variations in its traffic. For example, if there is more traffic in the summer, a firm would like to have more of its leases expiring then. A revenue management system can analyze a firm’s data on lease renewals, traffic history and lease conversion ratios to forecast the optimal number of leases to have expiring in a given month. Then, it can price an apartment to encourage a prospect to take a shorter or longer lease.

- **Amenity Pricing.** Amenities, in a revenue management strategy, are anything that makes one unit different from another. Positive amenities include hardwood floors, a washer/dryer combination or a view of the swimming pool. Amenities also consider negative features of a unit, such as a view of the dumpster or a location next to a busy highway.

- **Renter-Specific Items.** These are fees tied to the customer rather than the unit and include pet fees, cable revenues, satellite dish fees and more.

- **Concession Management.** It is absolutely critical to measure a portfolio in terms of effective rent as opposed to market rent. After all, effective rent reflects the actual revenue that you will receive from a lease. Within this framework, concessions simply become promotional tools through which you match or achieve an advantage over your competitor’s promotions. A revenue management system will then allow concessions to be set strategically on a local property-by-property or even a unit type-by-unit type basis, thus limiting the adverse results concessions could otherwise have.

- **A Word on Lease Renewals.** Lease renewals differ significantly from new leases. A non-renewing renter incurs significant costs to move and the property management firm incurs vacancy and turn costs. A revenue management system can include those opportunity costs in its model and alter the way it sets renewal prices to maximize revenue.

Revenue management is not just a computer program or a one-time fix. Instead, it is a process, a dynamic approach to pricing. It can offer a greater return than cost cutting, it can improve corporate business processes, it can enforce compliance with corporate pricing strategy, and it can improve the sales process by customizing the match between product and customer. Technology is simply the tool to help achieve it.
As mentioned in Chapter 1, revenue management was pioneered by the travel and hospitality industries and has been successfully employed by those sectors for a number of years. To identify the potential benefits and challenges of revenue management in the apartment industry, it is useful to look at the similarities and differences between these industries and ours.

**The Similarities**

While it might not appear so on the surface, from a product standpoint there are many similarities between apartments and the travel and the hospitality industries.

- **Value Cliff.** All three sectors battle what is known as a value “cliff.” In the apartment industry, this means our units have a certain value (rental income) until the moment they become vacant. After that point, they are worthless until they are occupied again. Airline, hotels and cruise lines have the same type of problem. Their products actually increase in value as the day of the flight approaches, since some travelers are willing to pay more for being able to book at the last minute, but once the flight prepares for takeoff, the value suddenly drops to zero. An unoccupied airplane seat brings in no revenue. This is in contrast to a grocery store, which for example, can slowly mark down bananas as they ripen to sell them before they rot.

**The Value Cliff**

![The Value Cliff Graph](image)

- **Constrained Supply.** All three sectors face supply constraints as well. Unlike a package delivery company, which can hire additional workers and rent additional trucks during peak seasons, apartment, travel and hospitality companies firms have a fixed supply. They also often have more demand than supply. This means all three have an opportunity to segment customers and price their products to attract more of those customers higher on the “willingness to pay” spectrum. Revenue management will not increase the product’s value or the consumer’s price ceiling, but it will help firms “protect” their limited supply so they do not accept less valuable customers and later find themselves turning away the more valuable ones.

- **Advance Consumption Decisions.** In the travel and hospitality sectors, consumers “book” before they use the product. This allows those firms to analyze lead-time patterns to then predict demand. Airplane
seats and hotel rooms can be “saved” for higher paying customers who have not booked yet but are predicted to do so. If actual bookings differ from the forecast, price and/or availability can be adjusted. In the event of overbooking, hotel guests can be “walked” to another hotel and airplane passengers can be induced to take a different flight for a very low cost to the company.

Apartment operators encounter similar dynamics. Our customers apply for a lease days or weeks before they actually move in, and they usually renew or give notice before their lease expires. Therefore, apartments can also analyze their lead-time trends and set their prices by comparing forecasted demand with the units expected to come available.

We can also segment our customers. We know renewing residents may value the unit differently than new applicants, and people looking for short-term leases may value a unit differently than those looking for long-term leases. Both those examples have cost implications for the property owner. Renewing residents reduce costs by eliminating make-ready costs and vacancy loss. Short-term residents, on the other hand, increase the likelihood that the owner will face make-ready costs and higher vacancy loss in the short term. But just as airlines use revenue management systems to balance low-paying, but seat-filling leisure customers and high-paying, but short notice business customers, apartment firms can use these systems to find the optimal balance between new residents and renewing residents or between short-term and long-term residents.

The Differences

While there are many similarities between multifamily operators and travel/hospitality companies that suggest that revenue management can be easily applied to apartment rents, there are also many differences that will pose challenges. Apartment revenue management systems must overcome such differences as longer lengths of stay, fewer transactions, renewals and the sheer size of each decision.

• **Longer Lengths of Stay.** The most obvious difference between the hospitality industry and apartments is the longer length of stay in apartments. Hotel revenue management systems can create value by controlling a guest’s length of stay. Doing so enables them to not lose a week-long customer because they already sold too many one-night stays. Apartment firms can vary lease terms to maximize value, but not to the same degree as hotels.

• **Fewer Transactions.** Revenue management systems are statistically based, so the more data they have, the more accurate they are. But for every hundred transactions an apartment firm has, travel and hospitality firms have thousands. This means demand forecasts and estimates of price elasticity in the apartment world will have more "noise" in them. There are several ways for multifamily revenue management systems to address this situation. The most effective is to pool several unit types’ data into a single “forecast category.” For instance, assuming demand for one-bedroom units is similar across different one-bedroom unit types at a property, a system could pool data for all one-bedroom units and use that to forecast demand. Pooled data could also be used to determine whether the market is favoring certain amenities. Another option to compensate for sparse data is to use a longer time horizon for data analysis. Hotel systems might look back six to eight weeks to measure recent demand, while a multifamily system might need to look back 12 to 24 weeks to get enough data to be statistically significant. Of course, there is a trade-off between getting sufficient data and corrupting results with “stale” information.

In the end, though, the important question is not whether apartment systems are as accurate as travel or hospitality industry models, but whether they are more accurate than the current manual pricing systems in place. No revenue management system in any industry will produce flawless pricing decisions, but data-driven price setting should produce more revenue than current subjective, human-based pricing.
• **New Leases versus Renewals.** A big difference between travel/hospitality companies and apartment firms is that the former do not have “renewals.” They may have repeat customers, but that is different than having customers who make monthly payments and then decide whether to re-commit for another term at a potentially higher price. They also do not have “turnover” costs, so their systems generally only have to maximize revenue, they do not have to maximize profit (i.e., consider the additional costs of selling the apartment to a new customer instead of the current resident). Multifamily systems have to use somewhat different (though integrally related) algorithms for pricing new versus renewal leases to compensate for the direct and opportunity costs related to accepting a specific type of demand.

• **Value/Risk of the Decisions.** A typical hotel transaction involves anywhere from $49 to $2,500\(^1\) and represents a very small fraction of their total annual inventory. In contrast, a typical apartment lease involves anywhere from $3,000 to $35,000\(^2\) a year and ties up a much larger portion of the firm’s total annual inventory. In addition, in the apartment universe, the initial lease price influences the subsequent rate and probability of renewal. Therefore, each apartment transaction is more important and more risky.

**Conclusion: Don’t Push It Too Much**

The comparison of the travel/hospitality industries and the multifamily industry indicate that revenue management can be successfully applied to apartments, but the differences suggest that property owners should configure these systems conservatively.

In the apartment business, a vacant unit means the loss of all yield. Apartment revenue management systems should not be set up such that they risk 100 percent of their revenue in an overly aggressive attempt to gain an extra point or two of yield. At the same time, they must not be so conservative that they price units so low that they have problems at renewal. Revenue management in the apartment sector is a continuous effort to analyze supply and demand to determine the best balance between yield and occupancy. This is an iterative process, and these systems must offer enough levers to allow the firm to learn where the balance point lies.

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\(^1\) This is based on mainstream branded hotels (i.e. not super-budget motels) where a super-discount for off-season weekend might be $49 up to a 7-night stay at a deluxe property where the rate can be in excess of $300 per night.

\(^2\) This is based on a low-rent market that may offer corporate housing for a 2-month stay at $1,500 a month up to a 12-month lease in an urban high-rise environment where rents can exceed $3,000 a month.
It is clear that revenue management systems can have a meaningful impact on apartment sales and earnings. Right now these systems are the province of just a few of the largest property management firms, but over time we believe they will become a competitive necessity. Just as was the case in the travel and hospitality industries, the market leaders are generally the firms with robust revenue management initiatives. As these systems evolved, they became standard operating practice across these industries and companies without them did not survive. With that in mind, this chapter helps apartment firms determine whether these methodologies can be put to use in their companies.

**A Business Decision First, A Technology Decision Second**

This section begins with a warning: technology is not a solution by itself; it is a tool to implement properly designed business processes. The decision to pursue revenue management should be a business decision, not a technology decision. Apartment firms that become enamored with new technologies but fail to first examine their business processes will face disastrous and expensive consequences. Revenue management is no exception. Firms should begin by identifying the business objective they are trying to accomplish, and then they should develop the strategy to achieve that goal.

**Finding Opportunities: Creating a “Present” and “Future” View**

If your firm is like many, it has established procedures for conducting business. These procedures have evolved over time and are an amalgamation of mandates and on-site know-how. In many cases, how business is actually conducted in the field may bear little resemblance to the processes the corporate office thinks are being followed.

The first step is to take a hard look at how your business processes are actually working. You should develop a “present” view of your property management business and a “future” view. Among others, you need to know how it interacts with customers, how it reports results, how it forecasts the marketplace, how it garners market exposure, how it stacks up to competitors, and how it measures success or failure.

Developing this present and future view accomplishes two things. First, it helps you identify which processes to reengineer first in order to get the greatest return. No two firms are alike and each needs to identify its own strengths and weaknesses. Second, it will begin to generate support for an overall revenue management effort. Revenue management is as much a people and process endeavor as it is a technology endeavor. For it to succeed, the firm’s employees and leaders must understand how changing the way they do things can improve efficiency and results.

Begin the “present” and “future” view exercise by developing strategies to maximize the opportunities described in chapter one, such as base rents, amenity pricing, renter-specific items, concession management and lease renewals.

**Determining Your Technology Needs**

Once your future view is finalized, you can begin to develop the strategy for achieving it. Because of the complex variables involved in maximizing profit, a technology solution will be required to make decisions on a consistent, non-biased basis. When evaluating technology solutions, consider which of the revenue management aspects discussed in chapter one you want to address. If you choose multiple elements, you may need multiple solutions. For instance, you can use a browser-based property management system to balance lease termination and traffic/exposure, but you will need a revenue management system to forecast and adjust base rent. Finally, you may want a customer relationship management (CRM) solution to help with follow-up.

Whichever types of technologies you consider, you should evaluate several factors before making a decision.
1. **Data Requirements and Data Scrubbing.** To be effective, revenue management systems need access to real-time transaction and customer data. For many firms, this will require them to create a central data warehouse and replicate their individual property data into it. Data scrubbing becomes critical. Existing DOS-based property management systems offer only minimal data validation. Fee codes can be cryptic and arbitrarily assigned by the property management company. Additionally, variables may be assigned different meanings and values at different properties across a company’s portfolio. To aggregate data into a data warehouse, firms should have a common set of fee codes, amenity codes and other codes across their entire portfolio. Cleaning up historical data to comply with these new standard codes is a significant undertaking. It will require time, effort and earnest buy-in from the organization’s highest level.

2. **Integration with Your Property Management System.** Before selecting a revenue management system, determine whether it will integrate not only with whatever property management system you have in place today; but also with any browser-based centralized property management systems you might be considering in the future. Integration is important because revenue maximization is about incremental improvements in revenue and efficiency. Also, some aspects of revenue management can be provided by property management systems, so you must evaluate how all of the tools that you are considering will work together.

3. **External Information.** Before selecting a system, consider the degree to which it relies on external information, particularly market comparables, to set prices. In general, relying on your competitors to set your prices is not a recommended strategy. A good revenue management system may, however, use market comparables to use competitor price changes as one means of having price models react more rapidly to changing marketplace. Beyond comps, some revenue management systems will incorporate external measures such as job growth, building permits, average home costs and interest rates to improve the accuracy of supply and demand forecasts.

4. **Growth Capability and Plans to Evolve.** As with any core business system, you should evaluate the ability of the system to evolve as your comfort with revenue management grows and as your business needs change. Over time, you may expand the elements of the business model you believe you can improve through revenue management. Be sure the system you select can accommodate those areas of likely expansion.

### Types of Revenue Management Systems

There are several types of revenue management systems and the best one will depend on your firm’s business needs. As we’ve said before, no two companies are alike. There is no single right answer here, just a “best fit” for your needs.

As of this writing in the beginning of 2003, there are three primary apartment revenue management systems available. They are: Lease Rent Optimizer (LRO), Rent Wizard and OneSite Revenue Management.

- **Lease Rent Optimizer (LRO)** was originally developed by Manugistics, which provides revenue management and pricing systems for the travel and hospitality industries. The core algorithms of LRO are based on 20 years’ experience in developing similar models for diverse industries. Manugistics sold LRO to Archstone-Smith in 2002 and the product is currently being marketed by RE-Opt, a revenue management company established by former Manugistics consultants. The system forecasts supply and demand for new leases and renewals, move-in week and lease term. LRO delivers a daily price sheet with optimal new and renewal prices by unit, move-in week and lease term that considers amenity based pricing, lease expiration management, turn costs (vacancy and fixed), market comps and lease duration management. Of the three systems discussed here, LRO has been in use the longest.
• *Rent Wizard* is a point-of-sale system that was developed as a joint venture by AMLI Residential and Yield Dynamics, Inc. The system is currently being marketed through LivingNexus. Evolution captures traffic history and provides amenity-based pricing, optimal base rents, lease expiration, turn vacancy and lease duration management and lease renewal pricing. The system is built on a data warehouse and has a statistically based forecasting system that also incorporates market comparables and external market predictors.

• *OneSite Revenue Management* is a point-of-sale system that was developed by RealPage. It incorporates many of the features and functions present in the YieldStar system sold to RealPage in 2002 by Camden Living. OneSite Revenue Management sets base unit price and amenity prices by doing a sophisticated analysis of market comparables, which are provided by RealPage’s M/PF division. (A subscription to M/PF data is required.) The system employs a basic supply and demand analysis to adjust prices over time.

In addition to these full-scale revenue management systems, some firms may want to consider the quasi-revenue management functions included in some of the newer property management systems.
Once you have decided to implement a revenue management system, you need to develop a roadmap to get you from where you are to where you want to go. There are many different methodologies to do this, and this paper is not intended to endorse one approach over another. In general, though, the best approaches take a holistic approach and address four separate, yet related, business dimensions:

1) Strategy
2) Organization
3) Process
4) Technology

A successful deployment depends on aligning all four elements. Firms must first change the strategy behind their pricing decisions, then they must re-examine, and in many cases, change the business processes by which they decide and implement pricing changes to match the new strategy. As part of that change, they often must re-organize, re-examining where pricing authority lies within the company. Finally, they must select a technology solution to help them achieve their new strategy. These steps are not necessarily sequential; however, all are required for success.

The table below describes the typical current state of many apartment firms on these four key business dimensions as well as the desirable future state. The rest of this chapter analyzes the gaps between current and future for each and concludes with a discussion on the change management process required to bridge those gaps.

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<th>Revenue Management: Desired Future State</th>
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<td>• Focus is on units and price</td>
<td>• Focus is on demand and strategy</td>
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<tr>
<td></td>
<td>• Company relies on budget-based pricing with limited reaction to market conditions</td>
<td>• Company relies on optimized, frequently updated prices</td>
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<td><strong>Organization</strong></td>
<td>• Pricing authority has evolved instead of being set strategically</td>
<td>• Pricing authority set strategically</td>
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<tr>
<td></td>
<td>• Pricing is often just one of many responsibilities</td>
<td>• Pricing authority either focuses exclusively on pricing or need only monitor pricing system for anomalies</td>
</tr>
<tr>
<td></td>
<td>• Little/no staff focus on pricing</td>
<td>• Dedicated staff team monitors and manages pricing process</td>
</tr>
<tr>
<td></td>
<td>• Unit hierarchies based on operational view</td>
<td>• Unit hierarchies based on modeling needs</td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td>• Price set by looking in rearview mirror</td>
<td>• Pricing is based on demand/supply forecasts</td>
</tr>
<tr>
<td></td>
<td>• Pricing decisions based on “gut feel”</td>
<td>• Daily/weekly/monthly processes well defined</td>
</tr>
<tr>
<td></td>
<td>• Pricing changes tend to be infrequent and slow to respond</td>
<td>• Management drives pricing &amp; revenue management analysis</td>
</tr>
<tr>
<td></td>
<td>• Limited management reporting</td>
<td>• Compensation consistent with revenue management practices</td>
</tr>
<tr>
<td></td>
<td>• Compensation can work counter to pricing needs</td>
<td></td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>• Legacy property management system makes transaction retrieval and analysis difficult</td>
<td>• Modern, relational property management system provides easy transaction retrieval and analysis</td>
</tr>
<tr>
<td></td>
<td>• Price administration is paper -and/or client application-based</td>
<td>• Web-enabled price administration</td>
</tr>
<tr>
<td></td>
<td>• Little/no timely reporting of key performance indicators.</td>
<td>• Automated pricing tool optimizes pricing and delivers reports on key performance indicators.</td>
</tr>
</tbody>
</table>
**Strategy**

**Units and Price Versus Effective Rent.** Virtually all of today’s apartment firms focus on units and price. They ask themselves questions such as:

- Which unit(s) is/are available?
- How long has a unit been available?
- What is my market (i.e. “asking”) rent?
- What concession do I have to give?

In this world, it is easy to get hung up on individual units and agonize over individual pricing decisions. The result is that we budget for market increases independent of external considerations and then we grudgingly give concessions when we feel like we have to, or when the competitor across the street does.

In the future revenue management-driven world, the emphasis will switch to demand and strategy. We will ask ourselves questions like:

- What is our demand/supply forecast?
- What have other people been willing to pay?
- What kind of strategy do I want to employ?

By focusing on maximizing effective rent, revenue management forces us to make a conscious decision about how we want to position the price of our product; it makes us answer that last question, “what is my pricing strategy?” In this framework, concessions are no longer bad or good; they are simply a way to position our product. Do we want to position a unit as an $800 value that does not need to be discounted, or do we want to employ an alternate strategy and market it as a $900 value that we are offering at $800? Understanding the needs of your customer will help answer this question. Revenue management moves the apartment industry closer to the other consumer product industries, replacing “asking price” and “concession” with “retail price” and “discount.”

The way we approach vacant units also changes. The revenue management world does not ask about specific unit availability. Today, if a unit is vacant for more than a certain amount of time, we tend to react with a concession. Since revenue management is focused on effective rent, it does not differentiate between one unit that is vacant for 52 weeks or 52 units that are vacant for one week each—the impact on effective rent is the same.

That is not to say that we should not react when a unit lays vacant for too long. It simply means that the response should be a part of a strategic process rather than a simple price-cutting tactic. We should determine why the consumers have favored other units over this one. We should inspect it to see if there are blemishes in the make-ready process or if there is an error in the amenity package. We should confirm that the leasing associates are showing the unit; perhaps even make sure a different person shows the unit next time. Then, we should reduce the price only if doing so supports our demand strategy, such as it is the worst located unit of that unit type and thus has a negative amenity. Lowering the price just to “move it” merely shifts vacancy from this unit to another. Arbitrarily lowering the price may improve the Scheduled Vacancy Report by removing the 45-day vacant unit from the average, but it also reduces overall revenue by discounting a unit arbitrarily without correspondingly increasing occupancy.

**Budget-Based Pricing Versus Profit Maximizing Pricing.** Today, most apartment firms allow the budget process to drive pricing practices. Firms plan on some desired rate of increase and then offer concessions if they cannot achieve it. Most senior executives will say that the budget is a guideline; properties should push rents higher if the market allows and reduce rents if demand softens. But the reality is that most onsite staff feel safe following the budget and feel they are taking a personal risk when they deviate from it. The budget-based rent increases become de facto law, not merely guidelines.
In contrast, a revenue management approach recognizes budgets for exactly what they are—single point-in-time forecasts. Budgets have value for corporate purposes, but have little value in making tactical pricing decisions. The budget is not an input in the revenue management systems we describe. This allows the system to make pricing decisions that will optimize current rents based on current demand, supply and market conditions. Revenue management changes the budget/pricing relationship. Instead of budgets driving pricing, pricing can drive budgets. That is, the data revenue management systems require and the analysis they perform can be very useful inputs into the budget process.

**Organization**

In today's world, most apartment pricing is done in a fairly decentralized manner, with site-level staff generally setting prices. But this system overlooks two important facts. First, these people were mostly likely hired because of their customer service skills and not their keen analytical skills. Second, even if they were experts at pricing analysis, they are too close to the customer. Few other consumer sales industries put the pricing decision maker so close to the customer. There is an inherent conflict of interest in pricing—we want customers to like our site-level associates, which contrasts directly with our fiduciary responsibility to stockholders and investors to charge the most we can.

For the most part, there is no strong organizational reason to vest pricing authority with the site level. More than the result of a well-thought out strategic decision, the current system is largely the result of an evolutionary process in which authority simply settled wherever it currently is.

Pricing authority in the future revenue management world can be centralized or it can remain closer to the field. The difference is that the future world requires senior executives to make a conscious decision after examining their size, culture and organization. Either way, revenue management software enforces a disciplined pricing methodology. If authority is vested closer to the field, site-level staff are generally limited to entering market-related information (such as competitors' prices) and then reacting to exceptions where the output seems much lower or higher than expected. This eliminates the pricing/customer service conflict and frees these staff up to focus on their area of expertise: sales and service.

Regardless of where pricing authority ultimately ends up, firms should invest in a pricing and revenue management team. This group should monitor the software as well as support the firm's processes, run reports for management, and translate mathematical concepts into operational words.

**Process**

As discussed earlier, despite its reliance on technology, revenue management is a business decision first, and a technology decision second. It is not surprising, then, that the largest gap between current state and the desired revenue management-driven future state is in the process dimension.

Almost all apartment firms still operate using outdated processes that evolved from the days when deal-making was more important than operating profit. Too often, companies:

- Rely on managerial rules of thumb;
- Focus on vacancy and/or exposure combined with “gut feel;”
- Update pricing infrequently;
- Have only limited resources to support decision-making; and
- Have created reward programs that are misaligned with revenue management objectives.

Most managers price apartments using ‘rules of thumb.’ Some rules flow down from the corporate headquarters or regional managers, but more often than not, they are based on the manager's personal experience and intuition. Some common rules we've encountered include: (1) raise renewal rents to market if the increase is $25 or less; if the increase would be more than $25, managers should raise the rent 75 percent of the increase needed to get to market rents; (2) do not raise rents if exposure is greater than five percent;
or (3) raise rents when increases are needed to stay on budget.

Even if managers wanted to take a more sophisticated approach to pricing, most are drowning in data, but starved for knowledge. They have no easy or clear-cut analytical way to make sense of it all. Further, the data they have is of limited value. For example, most managers have paper reports on current rents, current vacancy and exposure and recent traffic, but these reports rarely include time-trend information on what vacancy was last week, last month or last year. Lacking any kind of scientific analysis, they are left primarily with their own intuition.

To the degree that apartment firms do use data to drive their pricing decisions, they generally rely on vacancy and exposure rates. But this approach misses the critical demand portion of equation. The table below shows why this is a problem. Consider a 400-unit community with five percent exposure. Under the traditional approach, which does not consider demand, the property manager would act conservatively and hold rents steady. Adding demand into the equation gives the manager more guidance. In Revenue Management Option I, demand is forecasted to be below supply so the system advises the manager to increase concessions. In Revenue Management Option II, demand is forecasted to equal supply, so the system advises the manager to hold rents steady. In Revenue Management Option III, demand is forecasted to exceed supply, so the system advises the manager to increase rents or decrease concessions.

<table>
<thead>
<tr>
<th>Type of Pricing System</th>
<th>Number of Units Exposed</th>
<th>Demand Forecast</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Pricing System</td>
<td>20</td>
<td>Does not exist</td>
<td>Hold rents steady</td>
</tr>
<tr>
<td>Revenue Management: Option I</td>
<td>20</td>
<td>10</td>
<td>Stimulate marketing efforts; increase concessions</td>
</tr>
<tr>
<td>Revenue Management: Option II</td>
<td>20</td>
<td>20</td>
<td>Hold rents steady</td>
</tr>
<tr>
<td>Revenue Management: Option III</td>
<td>20</td>
<td>40</td>
<td>Increase rents and/or decrease concessions</td>
</tr>
</tbody>
</table>

Why do managers focus so heavily on vacancy exposure to make decisions? Primarily because they have limited time to consider pricing, and they lack the tools needed to consider all the variables that should go into effective pricing decisions. These are the same reasons that pricing updates are done infrequently. Corporate-level managers may want pricing updated weekly, but most are lucky if their site-level managers update them once a month.

This system also means that pricing depends on the individual aptitude of the person making the decision. Apartment managers often are hired for their customer service skills, not their analytical skills. Some managers are good at making pricing decisions while others are not. This inconsistency makes it difficult to implement and support brand strategies for price positioning. High turnover rates compound this sub-optimal situation.

The weaknesses of the current system mean that we generally manage by looking in the rear view mirror, thus missing opportunities. Humans are simply lousy forecasters. Our intuition often lags changes. If managers wait for high occupancy to raise rates, much of the opportunity for increased revenue is irretrievably gone. Worse, if the community is now heading into a period of lower demand, raising the rents is precisely the wrong solution.

A revenue management system solves all of these problems. It institutionalizes the corporate strategy on pricing and positioning. It removes the risk related to turnover – employees can come and go, but the system will continue largely uninterrupted. It frees managers to focus on the more important tasks of closing leases, serving residents and monitoring local market conditions. It considers supply and demand (and
much more), and produces knowledge out of data. It expands the sophistication of our pricing program by allowing us to calculate pricing schedules that can vary by customer segment (new or renewal), move-in week, lease term and other relevant variables.

Upgrading to a revenue management system requires firms to re-examine a wide variety of operating procedures, not just the pricing-related ones. It can affect everything from employee compensation/reward structures to the corporate culture. For example, it should be clear by now that the more data a revenue management system has, the more accurate it will be. And a key data element is the guest card/traffic ratio, which the system uses to help estimate demand. But what if associates are rewarded based on their closing ratios? If so, they may be inadvertently motivated to “lose” guest cards to boost their closing ratios. Or consider a situation where a firm has deployed revenue management, but bonuses for on-site personnel are still based on their ability to meet some arbitrary budget goal. In this scenario, they may be unwilling to give up control of pricing for fear of losing their bonus. These examples simply reinforce the message of this paper: revenue management is a business decision and, as such, requires firms to re-evaluate all of their operating procedures.

**Technology**

Even though revenue management is a business decision first, ultimately it requires significant technological elements to work, so it is worth briefly discussing the technological challenges in moving to a revenue management system.

*Data Input and Output Considerations.* Companies using older model property management systems (e.g., AMSI’s PowerSite, RealPage’s Rent Roll) will face several obstacles in moving to a revenue management system. First, most of these systems are “state variable” systems. That means they only store the data on the most recent resident. You can see who is in each unit today, but there is no transactional history contained within the system. Revenue management requires prior transaction-level data to build accurate models. Even where data do exist, most of these systems have limited data validation, so existing data-stores are often rife with corrupt data.

All of the revenue management systems discussed in Chapter 3 have created methods by which to deal with data integration/import. So, firms will find that it is possible to implement revenue management systems based on their existing property management systems. However, firms that upgrade to the next-generation property management systems now available (e.g., MRI Systems, Realeum’s Foundation, Yardi Systems, AMSI’s Evolution, and RealPage’s OneSite) will find the transition easier because all of these products are fully relational and have substantial data validation capabilities.

Older model systems also offer more limited output. Newer property management systems will allow for strategic pricing across more dimensions (e.g., lease term, move-in date). Older systems will be more limited to pricing based on unit type and unit number. It is also more difficult to pull data from older systems into other analytical tools. The fully relational nature of the newer systems, on the other hand, will make it easy for firms to create data warehouses and for Information Technology departments to run ad hoc and scheduled analytical processing.

*Paper- and Client-Based Price Administration.* In today’s world, most apartment firms are not using an Intranet or an internal Web portal to administer pricing. Instead, pricing is kept in their property management system and distributed through local reports. In many cases, on-site staff record changes or overrides with pen and ink on the printouts. In the future revenue management world, prices will be administered via Web-based reports. If local managers are allowed to override prices, they will do so through their property management or revenue management system. The analytical reporting available through these systems will be used to audit leasing activity and identify unreported deviations from system-suggested pricing. It will also quickly create market and manager portfolio summaries of pricing.
Key Performance Indicators (KPIs). Few of today’s apartment firms today have a good grasp of their KPIs. Yes, they have reports showing vacancy, average rent and exposure, but these are usually static snapshot reports with little trend analysis and very limited forecasting. Revenue management systems will provide much more robust information, including:

- demand seasonality;
- recent and historical absorption rates;
- time-phased understanding of exposure instead of a single percentage; and
- time-phased understanding of expiring rents versus new rents.

A good revenue management reporting system will also analyze these data at any hierarchical level desired, e.g., geographically (by division, region, market, sub-market and property) or organizationally (by vice president or other manager portfolio).

Bridging the Gap
So how do firms bridge the gap between where we are now and a revenue management world? Following are the success factors learned from other revenue management deployments.

1. Secure CEO-Level Commitment
   This cannot be over-emphasized. Every successful revenue management implementation starts with commitment from the CEO. Revenue management requires changing core business processes and shifting the corporate culture about how the business is run, and this can only occur when the CEO is the champion for change.

2. Create an Executive-Level Revenue Management Position
   While CEOs must be the champions for change, guiding the deployment day-to-day and managing the system’s ongoing operation requires an executive-level person who understands pricing and real estate operations.

3. Undertake Comprehensive Planning
   Revenue management deployment is too large an undertaking to rely on “seat of the pants” project management. The firm must plan for various test and rollout schedules, for changes to corporate reports, for integration with existing information technology resources and myriad other tasks. And they must plan the training. Everyone from leasing consultants to property managers to vice presidents need different types and levels of training.

4. Develop a Tolerance of Ambiguity
   As of early 2003, revenue management is still very much an evolving discipline and firms who go down this road are clearly in the “early adopter” phase. While this means these firms will be ahead of the curve relative to their competitors, it also means that to succeed they must be willing to tolerate the ambiguities and uncertainties that come with entering new territory.

5. Adopt a “Can Do” Attitude
   As with any major endeavor, there will be bumps in the road. Organizations that tend toward complaints and recriminations will quickly lose interest and waste their time and money. Organizations that embrace challenges as opportunities to improve their business will succeed. Revenue management deployments require an attitude that keeps people focused on solving problems for the future rather than worrying about past mistakes.

6. Be Realistic
   Finally, firms should remember that perfection is not the appropriate standard by which to measure revenue management systems. If a firm waits to deploy until its model is close to perfect, it will never start. The goal should be to create a system that is better than the current state. Given the manual pricing systems currently in use, the standard is not very high. So don’t let perfection be the enemy of the good.
Given the relatively immature state of apartment industry revenue management, it is worthwhile reviewing some general trends in apartment industry technology adoption to predict how revenue management may develop in the future.

As discussed earlier, revenue management is a journey, not a destination. It not only changes the way we do business, it fundamentally changes the way we think about our business. Like peeling an onion, each layer of experience exposes a deeper layer for us to understand. In this iterative process, the more we learn, the more we identify new things we need to learn and new challenges. But each round brings us new discoveries and more advanced solutions.

**The Big Picture Forecast**

*Revenue Management Today*

Revenue management is very much in its infancy.

- The conventional wisdom of whether revenue management will work in the apartment industry is split; some executives are certain it will; others disagree. The ones who believe it will are generally people who feel that while existing technology-based systems are not perfect, they still bring a discipline and science to the pricing challenge that is superior to existing manual intuition processes.
- There are a few early version software products available that fall into one of two camps: (1) programs that adapt and then apply price optimizing processes from other industries; or (2) programs that are based purely on the multifamily perspective. A few companies are testing these, but only one company has a full production implementation.
- Since existing property management systems were not designed to feed or receive data to revenue management systems, early adopters have had to build their own integration processes to make it work.
- Because of the complex nature of the change required, all the early adopters are generally larger companies (25,000 units or more).

In short, the field is still wide open.

*Short-Term (Next 12 Months)*

If the travel and hospitality industries are a guide, there is no turning back now. Currently the purview of a small minority of firms, the widespread adoption by the professionally managed firms of at least some form of automated pricing/revenue management will make great strides in the next 12 months.

- As more results become available from the very early adopters, the group of companies testing or using revenue management will double to six or more significant players by the end of 2003.
- As implementers move along the learning curve, revenue management will become affordable for firms with 10,000-15,000 units.
- Those software providers with current first-generation software will release second versions.
- Naysayers will continue to stand on the sideline, but the vast majority of apartment firms will be closely watching as early adopters choose vendors and jump in.
- Winners from the product development side will be those who listen closely to the market and respond with software that fits the industry’s business needs rather than forcing the industry to adapt their procedures to match the software.
Mid-Term (12 to 36 Months)

- The “mass market,” propelled by the early adopters’ successes, will accept revenue management. Some firms will jump in willingly; others will be “pushed” by shareholders and Wall Street analysts.
- Thanks to the roadmaps provided by the early adopters, the change management processes will be less daunting (though still not simple).
- The cost and risk of implementation will decrease significantly, particularly as software providers make their products easier to use.
- The expanded range of options and reduced implementation risk will likely attract attention from companies with as few as 5,000 units.

Long-Term (Beyond 36 Months)

- By the end of 2005, revenue management will be an accepted part of how apartment firms operate.
- With expanded implementation options (e.g., value-added reseller partnerships between revenue management and property management system providers) and web-based instructional systems (originally developed to facilitate the large implementations), operators with just a few properties will consider revenue management.
- Existing software will be on version three or beyond and will have incorporated early lessons into their systems.
- Early adopters will have found new ways to use their data warehouses to support other operating needs.

Next Generation Systems

The “next generation” of revenue management systems will have a number of enhancements absent in these initial versions. This section reviews the most likely improvements and identifies some of the ancillary applications and benefits apartment firms are likely to pursue. This look into the future is designed to identify and prioritize future opportunities, not to focus attention on what today’s software does not do. Remember, the pursuit of perfection should not be used as a reason to stifle incremental progress.

- **Improved Understanding Of Price Sensitivity.**
  Most first-generation systems are based on a rudimentary understanding of a customer’s price sensitivity. We know, for instance, that renewing residents are probably less price sensitive than new customers because of the cost and hassle of moving. But we do not really know true customer price response. (Of course, this is also true when we rely on “gut feel” pricing.) As early adopters acquire more experience and data, they will develop more sophisticated ways of assessing price sensitivity. Future software versions will incorporate those lessons.

- **Credit Scoring.**
  Price is not the only means of controlling demand. Apartment firms also use credit-scoring thresholds to increase or decrease the number of qualified applicants. Since these thresholds are traditionally based on decline rates or bad debt ratios, most properties operate as if there is one right threshold. The optimal revenue answer, however, is more varied. Future revenue management systems are likely to link price and credit scoring. This will allow firms to alter their credit scoring thresholds based on the demand picture. In periods of high demand, the focus can remain on reducing bad debt by setting thresholds high. In periods of low demand, thresholds can be reduced to increase occupancy. While this action may cause bad debt to rise, since the revenue management and credit scoring applications are integrated, total revenue is still likely to go up more. These systems can also be programmed to prevent credit scoring thresholds from being reduced so low that they change the community’s demographics in undesirable ways.

- **Corporate Housing Revenue Management.**
  Given that revenue management started in the hospitality industry, it is a logical extension to apply it to corporate housing, where short lengths of stay make the business more hotel-like. Current-
generation systems do provide pricing for shorter-term stays, but future systems will likely be based on a better understanding of the difference between short-term and longer-term residents, resulting in more accurate demand forecasting and price optimization.

**Ancillary Applications and Benefits**

Since revenue management requires users to strategically review and redesign their organizational structure, strategy and business processes, it will likely have an impact beyond revenue maximization. As firms use these systems to organize and process data, firms can expect to “see” things that are not currently obvious. Since we are still in the early adoption stage, there are not a lot of examples of what these will be, but lessons from other industries assures us they will come. Some of the ancillary effects and benefits already being documented include the following.

- **Budgeting**
  Many companies in multifamily housing, particularly the publicly traded ones, go through an excruciating budget exercise every fall that involves manual data entry and/or analysis from the field level all the way up to senior executives. Then they partially repeat the exercise in a series of re-forecasts during the year. A revenue management system can greatly simplify this by creating a centralized relational database with all the key data elements, e.g., lease expiration timing, current rents versus expiring rents, differences between new and renewal rents, and so on.

  One firm is already using its revenue management system to move to a rolling 12-month forecast, eliminating 90 percent of the time and energy required to create property-level revenue forecasts. While this could be done without revenue management software, most firms do not have the energy or the will needed to make all the required information technology and corporate forecasting changes. With a revenue management system, more than 80 percent of these changes come for “free” (i.e. there is no additional cost or work beyond the revenue management project).

- **New Key Performance Indicators (KPI)**
  As revenue management systems become more widespread, it is virtually certain that tomorrow’s key performance indicators will be different, and better, than today’s. In the current business model, most operators focus on “market” or “asking” rents and then infer what is happening financially using information on loss to lease, concessions, changes in gross potential rents and a “guess” as to what the future will bring.

  Revenue management systems, on the other hand, focus on net rent, since that’s the only profit and loss rent number that really matters. These systems essentially force us to break the old real estate models and create new ones. They create more accurate predictions of revenue changes and give us information on the key drivers of revenue performance, such as current effective rent, average effective rent from the current rent roll, average effective rent for expirations by month, and current/historical occupancy versus yield. Ultimately, they may change our lexicon so that we begin talking about “revenue per unit” (RPU) instead of “average rent.” We might even see “revenue per available square foot” enter our lexicon.

- **Distribution Channel Management**
  The supply and demand forecasts in a revenue management system, coupled with KPIs like “revenue per unit,” will drive us to better utilization of our fixed assets. Consider, for instance, the issue of short-term rentals. Some firms embrace them, while others shun them out of fear of turn costs and loss of control.

  Though revenue management systems are not designed explicitly to inform such decisions, they can bring new knowledge and data to the table. Firms can use the RPU data (or RPU minus furnishing and other costs) produced by their revenue management systems to evaluate their corporate housing deci-
sions. Some may find that corporate housing is driving down their RPU; that even though they are getting a premium for those units, they are reserving too many and are incurring unnecessary vacancy losses. Others may find that they are missing out on a key revenue source by avoiding corporate housing. Revenue management systems will enable us to fine-tune our distribution channels.

- **Marketing Enhancements**
  Very few apartment firms truly understand their cost per lease, and fewer still can drive that down to a cost per lease by marketing source. In fact, many companies do not even collect the data required to analyze this. Revenue management systems, with their relentless attention to detail, provide a mechanism to collect and measure these data in the future. The result is another way in which we gain a more defined and actionable insight into our business as a result of implementing a good revenue management system.
While predicting the future is risky business, we are confident that revenue management has a bright future in the apartment industry. Specifically, we believe revenue management will be adopted as a standard way of doing business in the next three to five years and that it will transform the way we view our businesses along the way. Make no mistake; adopting a sophisticated revenue management system entails a significant commitment of time and money. However, those costs must be weighed against the “opportunity cost” of not modernizing.

As we have said repeatedly, revenue management is a business process and a strategy decision, not just a software purchase. The technology component is important, but not sufficient for success. The transformational power of revenue management will come in three stages.

First, as firms prepare to implement revenue management, they will re-engineer their procedures, their organizational structure and their entire approach to the business. By looking at our businesses differently, our eyes will be open to options and opportunities we did not know existed.

Second, firms will be further transformed with each successive generation of software. The more we do with revenue management, the more we will learn about what else we can do. Those lessons will be included in future versions of our technologies.

Third, as revenue management systems become more sophisticated and robust, their impact will spread throughout our companies into areas we did not originally anticipate.

While the early adopters have the competitive edge right now, ultimately the companies that marry technology and people will be the most successful. Firms relying disproportionately on one or the other will likely suffer in the marketplace.