NACRA

Air Services, Inc.

By Michael Fields, Southwest Missouri State University. *Management cooperated in the field research for this case, which was written solely for the purpose of stimulating student discussion. All events depicted in the case are real. The author thanks John Seeger and the anonymous reviewers of the* Case Research Journal *for their assistance and advice.*

March and April of 1992 had been unseasonably cool and rainy in the Ozarks. In a discussion with his primary equipment manufacturer, Al Spencer had complained about the effect that the weather was having on his air conditioning business, Air Services Inc. The manufacturer had responded with an offer for a special price on up to twenty-nine air conditioning units. On the basis of the manufacturer's price, Al had come up with a promotion offering customers up to a one-third savings if they bought a new unit right away. In fact, Al had in hand the proof of a newspaper ad to run in the Springfield, Missouri, *News Leader* promoting the deal (see Figure 1). With final approval of the ad proof, Al knew that he would be committed to the promotion.

"I've really got mixed feelings about this," explained Al. "On one hand, I think the ad is cleverly done and it might be successful in adding volume to a very profitable segment and at the same time add sales to what has been a slow start to the air conditioning season. On the other hand, I'm somewhat skeptical because I have not been happy with the results of past newspaper advertising efforts." Regardless, Al was feeling pressure to take some action that could improve his bottom line.

Al summed up the 5 years since he and his wife Karol had purchased the heating and cooling business. During the first couple of years Air Services had focused on new residential installations, just as the previous owners had done. But it soon became obvious that this segment would not allow the margins that Al wanted to achieve. "In the last 3 years, we have been in the process of shifting the focus of our business from the new equipment to the replacement equipment markets," explained Al, "but we just haven't found the right combination."

Al had been successful in moving much of his business away from the new residential segment, and in 1991 it represented less than 10 percent of his business (see Exhibit 1). However, the transition had not been with-

FIGURE 1
Proof of Proposed Ad for Air Services

Al Spencer
Owner & Operator

HOW 29 HOMEOWNERS WILL SAVE 28% ON AIR CONDITIONING

April is normally the start of my busy air conditioning installation business. Unfortunately, all the rain we've been having has "killed" the calls.

I've decided to give up waiting for the weather to help me.

MY PROBLEM IS YOUR OPPORTUNITY

Here's how this offer came about. My supplier and I were discussing the slump in air conditioner installations. We're all stocked up and need to move out some units (more shipments are on the way in May). Also, I have trained technicians that I need to keep busy, so I'll have them for our real busy season. So we developed a Win-Win-Win offer for you.

HERE'S THE OFFER...

By taking advantage of the "help" I've negotiated, you can buy our best air conditioner installations at 28% off our normal price. These units are not seconds or "builder" models. I'll bet you didn't realize it, but if you have air conditioning that has been in your home since 1980, it's most likely costing you 25% more than it should to operate it.

HERE'S HOW TO GET MORE...

I've got certain costs to get my installation truck, equipment and installers to your house to put in your air conditioner. So if you and a neighbor(s) would get together and buy air conditioners, and I can put them in the same day, I can save those costs and I can pass them along to you with an additional 6% savings for a total of 34%.

YOU CAN BUY WITH NO CASH

You don't even have to pay me right away. I have set up a terrific bank rate financing at only 9%.

THIS OFFER WON'T LAST

You must act soon. There are two reasons:

1. I only have a commitment of factory help on 29 air conditioners. When they're gone, that's it.
2. If the weather would suddenly change, my normal business will return and I could use up all these specially priced units.

Please, don't delay. Call me today at 886-1460, and I'll set an appointment to come to your home and survey your needs to determine if we can help you.

Yours truly,

Al Spencer

P.S. This is your chance to save $100's!

AIR SERVICES

Heating • Air Conditioning

(Formerly Thomas Heating Co.) 1617 E. Grand Springfield, MO
In Business for 29 Years

866-1460

out problems. During both 1989 and 1990, the first two years of the change of focus, the business had recorded a net loss (Exhibit 2), and the recently released 1991 income statement showed a loss for the third consecutive year. Al felt the issue was selecting the proper segments with the optimum mix. "It's a real balancing act," noted Al. "If I don't have enough business, I can't keep my crews busy and the labor cost will eat me up, but if I price to 'buy' the business, there won't be sufficient margin to make the business profitable."

Al knew that it would take a carefully defined strategy to achieve the desired mix. There were several dangers associated with the shift away from the new residential segment. First, the fact that certain segments were more profitable had not been lost on other established firms, and many were very competitive in these areas. Second, a move away from the labor-intensive new residential sales would require substantial new business to keep his existing personnel busy. Third, Al had to balance the workload for his field personnel. He presently had five service trucks with a total of five journeyman-technicians to staff them and two installation trucks used by two two-member crews.

In addition, many segments of the heating and cooling business were extremely cyclical. One such segment was the replacement market. Too much reliance on that part of the market would lead to excessive demand (i.e., overtime) for the technicians for approximately four months of the year and much lower demand (i.e., unbilled hours) for the balance of the year.

Obviously, Al needed to get his business in the black, but ultimately, his goal was to achieve 8 to 12 percent annually in net profits. It was now April, and Al knew that he must soon carefully analyze the 1991 results. From this evaluation, Al hoped to develop a strategy which would move the business closer to his profitability goals. One of the issues he had to decide was whether advertising efforts like the proposal before him should be a part of his plan.

The Heating Ventilation and Air Conditioning (HVAC) Industry

Nationally, the heating, air conditioning, and refrigeration industry could be characterized as a stable, slow-growth industry. It had consistently experienced a 2 percent growth rate during the late eighties and first two years of the nineties, and that sales trend was expected to continue. The *U.S. Industrial Outlook* had forecasted that the HVAC industry would grow about 1.9 percent annually during the 1992 to 1996 period. Although specific sales figures for the local market were not readily available, it was felt that growth in the Springfield market was in line with the national figures.

Industry Segments

The HVAC industry was widely recognized as being composed of five segments: mechanical construction, residential new construction, commercial new construction, add-on and replacement, and service.

Mechanical construction. This specialized segment dealt with the sale and installation of very large systems such as boilers and chillers to large industrial concerns.

Residential new construction. The sale of units for new housing included the placement of not only the unit but also the ductwork throughout the structure. Because home builders were extremely sensitive to price and it was easy for individual technicians to go into business for themselves, this segment was extremely competitive. A large number of the competitors essentially worked out of their homes. Because of lower overhead, shorter margins, and equipment that had a less established name (and cheaper price), these home-based contractors—who were frequently only in the business for a short period of time—often underbid more established firms.

Commercial new construction. There were two methods for gaining commercial new construction business. The first was through bidding based on business specifications. The usual closed-bid process was typically very competitive, and bids were almost always awarded to the lowest bidder. The second option was on the basis of individually negotiated jobs. In this instance, the customer and the firm negotiated on a one-on-one basis and reached an agreed-upon price for the proposed job. There was rarely any direct competition involved.

Add-on and replacement. This segment dealt with replacing or adding to an existing system. Although it could apply to either businesses or homes, the residential portion had the most potential. Most systems in place had a life expectancy of 15 to 20 years. Add-on and replacement profit margins were traditionally high, since many replacements are the result of existing system failures which do not afford the customer a great deal of time to shop the market.

Service. The focus of this segment was the sale of service contracts and the repair of existing systems. The industry had seen a large increase in the use of service agreements—contracts with customers to keep their present systems running as efficiently and productive as possible. Most agreements, which include two technician visits per year, were competitively priced. A benefit of the agreements was the possibility of establishing a meeting of the minds with a customer concerning future heating and cooling needs.

Industry Regulation

Future business, particularly in the air conditioning sector, would almost certainly bring greater regulation for HVAC industry members. The Clean Air Act (1990) increased the number of government regulations concerning environmental safety and set higher minimum-efficiency equipment standards. Because chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) damage the ozone layer, substitute chemicals had to be phased into air conditioning systems by 2000 for CFCs and by 2030 for HCFCs. The act established a goal of immediate and absolute elimination of the escape of any refrigerants into the air when extracting freon from air conditioning units. In addition, it provided that (1) state and local regulations would be preempted by federal standards, (2) intentional venting of CFCs would be penalized by 1992, and (3) specified recycling regulations would be effective by 1992.

Pursuant to Clean Air Act legislation, the Environmental Protection Agency (EPA) established regulations governing the people and the equipment involved in refrigerant work. These regulations established four separate classifications for technicians and required each service technician to be certified and to carry a verifying card. Clearly, compliance with these regulations would increase costs for both equipment suppliers and individual installation and service companies.

An additional piece of legislation that had substantial impact on the industry was the National Appliance Energy Conservation Act of 1986, which became effective at the beginning of 1992. The act, which established minimum power-consumption (efficiency) standards that all new units had to meet, had the effect of eliminating the low-efficiency market. Prior to 1992, many firms sold inexpensive but high-power-consumption units. Under the new law, however, the least efficient unit allowed was expected to use 30 to 35 percent less power than the old low-efficiency models. Thus manufacturers of the no-longer-legal low-efficiency units moved into competition for the mandated higher-efficiency systems.

Industry Distribution Channels

Wholesale intermediaries for heating and air conditioning manufacturers were typically exclusive dealers. That is, they carried only a single manufacturer's line. Additionally, some of the manufacturers of top-of-the-line units, such as Carrier, Lennox, and Rheem, produced the same equipment under multiple brand names with the hope of broadening market share. However, the result was that retail firms desiring to carry a line of products that offered their customers some quality and price options were forced not only to carry equipment from multiple manufacturers, but also to obtain the equipment from different wholesale sources. A second fact of life in the industry that a retailer had to deal with was being recognized as an "authorized dealer" by the manufacturer. This designation was designed to provide recognition to dealers whose technicians were fully schooled on the manufacturer's systems. To what degree being an authorized dealer for a particular manufacturer affected a given customer's purchase decision was not known and likely varied among segments. In any case, its importance was not believed to be significant. The benefit of being an authorized dealer was further diluted by the fact that wholesalers typically could and did sell equipment to any buyer. Although large dealers and regular customers might receive favorable sales terms, this environment placed a great deal of emphasis on price in highly competitive segments.

Thomas Heating and Air Services

Thomas Heating had been operating in the Springfield market for over 22 years when Al and Karol Spencer purchased the business in 1986. Al, who had a degree in mechanical engineering and was a licensed professional engineer, had previously worked in the industry, although he had never been involved with the retail end of the business. "The opportunity presented itself and it was something that we felt we couldn't pass up," explained Al.

Al's focus had been on selling and on hiring, training, and supervising his staff of technicians. Al estimated that in 1991 he did over 75 percent of the firm's selling. Often he did not have as much time as he wanted to follow up on customers or to spend the appropriate time needed to service a customer on bids and proposals. Al's management responsibilities were also important relative to sales, since properly trained technicians, because of their direct contact with service customers, could play an effective selling role in the replacement market. In 1991, Al had a group of five technicians and four installers that he considered to be well trained and stable. Karol was serving as the office manager for the firm; she and one full-time clerk had established a smooth paperwork flow for the business.

Changes in the Business

In the six years since the Spencers had purchased Thomas Heating, they had instituted a number of changes. The most visible change was the 1991 decision to change the name to Air Services Heating and Cooling. "Obviously, we knew we would be giving up a recognized name in the market," noted Al, "but there were a couple of advantages that the new name would provide. First, our business includes both heating and air conditioning and this fact wasn't clear with the previous name. Second, the Air Services name would place us closer to the front in the Yellow Pages listings." Al admitted that the name change hadn't gone as smoothly as he had anticipated and had apparently even caused some confusion in the marketplace. For example, Karol recalled one call late at night from a man looking for service for his airplane. Another concern was the name's similarity to All Service Plumbing, Heating, and Cooling, an established competitor already in the market. Although All Service had not voiced any complaints, Al was still apprehensive about potential confusion on the part of the public. Of more concern, however, was the confusion of existing Thomas Heating customers. "In fact," said Karol, "even a year later we are still answering the phone Thomas Heating/Air Services."

The couple was particularly sensitive to the needs of after-hours callers. Although all other firms used answering services or answering machines, the Spencers insisted that after-hours calls be answered by someone from Air Services. "We just feel that an answering service would not be able to handle many of the customer's questions and would probably not be as responsive to the caller's needs as we would like," explained Karol. As a result, when Air Services offices closed at 5 p.m., calls were generally transferred to the Spencers' home. When no family members were home, calls were sent to the home of the lead service technician.

Perhaps the most significant change that Al had implemented since the purchase of Thomas Heating was Al's decision to alter the customer base of the business, shifting the focus from the residential new construction markets to the add-on and replacement market. In 1987 Al organized a service department, and in 1988, the firm sold its first service contract.

Al knew he needed to plot a course that would move the firm much closer to its profitability goals. He planned to sit down in the next day or two to "take the figures apart" so that he could better understand the situation.

Product Offerings

The firm had been a Rheem dealer for a number of years. As a national manufacturer, Rheem had an established name in the marketplace, and Springfield consumers seemed to associate the name with a quality product. "From my dealings with our customers, I can tell that a very large majority recognize the Rheem name and most consider it to be a high-quality product," explained Al. He noted that over 95 percent of the units the firm installed had been Rheem equipment. The only exceptions generally were when the customer specified another brand. In 1991, the average costs of a new furnace and a new air conditioning condensing unit were $1362 and $1235, respectively..

One of the factors that played a strong role in Air Service's continued emphasis on Rheem was the fact that a local wholesaler handled the Rheem line. This enabled Air Services to sell the various systems without having to carry any units in inventory. Other prominent brand names, such as Bryant, Lennox, and York, did not have local wholesalers, and manufacturers of these units encouraged the installing dealers to carry an inventory of systems. To sell one of these brands, Air Services had to ship the system in from an outside source.

Rather than handling a number of different lines, Air Services attempted to differentiate the products they sold by adding different levels of value to a particular system. For most system offerings, the firm offered four distinct packages (see Figure 2). Al estimated that 5 percent of sales were done in the standard package, 60 percent in the deluxe, 30 percent in the premium, and 5 percent in the superior. The gross margins for the four options were 35 percent, 40 percent, 43 percent, and 45 percent, respectively.

Market Segments

The sales classification system used by Air Services (Exhibit 1) was somewhat different from that used by other retailers in the industry. For example, the firm reported the add-on/change-out (add-on and replacement) amounts separately for residences and commercial business. Also, in the service segment, the firm segregated the service contracts from the actual repair (time and material service) revenue. The miscellaneous sales category included small parts such as electrostatic filters and central humidifiers that Air Services might sell.

FIGURE 2
Air Services Furnace Product Options

REPLACEMENT HEATING DOWNFLOW GAS FURNACES
THE FOLLOWING SYSTEMS INCLUDE:

Thomas Heating Co.

	STANDARD	DELUXE	PREMIUM	SUPERIOR
	1 YEAR FULL GUARANTEE 10 YEAR HEAT EXCHANGER GUARANTEE ALL LABOR ANTI-VIBRATION PADS AVG. 8% SAVINGS OVER OLD SYSTEM	1 YEAR FULL GUARANTEE 20 YEAR HEAT EXCHANGER GUARANTEE ALL LABOR ANTI-VIBRATION PADS AVG. 20% SAVINGS OVER OLD SYSTEM 5 FUNCTION THERMOSTAT SOUND ISOLATION ENERGY SAVING PILOT SAFE CORROSION PROOF FLUE	5 YEAR FULL GUARANTEE LIFETIME HEAT EXCHANGER GUARANTEE ALL LABOR ANTI-VIBRATION PADS AVG. 35% SAVINGS OVER OLD SYSTEM 5 FUNCTION THERMOSTAT SOUND ISOLATION ENERGY SAVING PILOT HEAVY DUTY FILTERS SAFE CORROSION PROOF FLUE VIBRATION ISOLATION 2 PRECISION TUNE-UPS PER YEAR FOR 5 YEARS	10 YEAR FULL GUARANTEE LIFETIME HEAT EXCHANGER GUARANTEE ALL LABOR ANTI-VIBRATION PADS AVG. 37% SAVINGS OVER OLD SYSTEM 5 FUNCTION THERMOSTAT SOUND ISOLATION ENERGY SAVING PILOT SAFE CORROSION PROOF FLUE VIBRATION ISOLATION CENTER HUMIDIFICATION HIGH EFFICIENCY FILTER ENERGY SAVING COMBUSTION AIR SYSTEM 2 PRECISION TUNE-UPS PER YEAR FOR 10 YEARS
60,000 BTU	$865	$1715	$2550	$4150
75,000 BTU	890	1740	2575	4180
100,000 BTU	930	1815	2745	4405

The add-on/change-out segment, particularly in the residential market, was an important one for Air Services. Almost one-third of the firm's 1991 sales volume was derived from residential add-on/change-out business. A difficulty associated with this market was its seasonal nature. "You can pretty well expect a flood of calls the first time in the season that the temperature hits 35 degrees or 90 degrees," explained Karol. "People want their malfunctioning systems fixed immediately, and as a result, our service people typically work double shifts until we can work through the backlog," explained Al. "Having to pay this overtime hurts our profitability, but I can't afford to add crews that I can't keep busy the rest of the year."

Al's status as a professional engineer aided Air Services in both the new commercial and the replacement markets. As a licensed engineer, Al could prepare blueprints for customers. This was particularly important in the new commercial market. If customers gave Al the blueprints for a building, he could both plan the system and prepare the necessary heating and cooling system blueprints for the project. Preparing blueprints was time-consuming, and Al only provided this service after an agreement had been reached that Air Services would provide the heating and cooling system and accompanying service. Because each project was different, prices were negotiated on a project-by-project basis. In 1991, Al estimated that 23 percent of the business in the new commercial segment had been the result of these more lucrative (i.e., profitable) one-on-one discussions.

In the replacement commercial market, Al hoped his professional certification would help indirectly contribute to the perception that Air Services would provide a higher-quality service to its customers, leading to more commercial replacement business. For example, one firm which owned a number of multiunit rental properties in the Springfield area used Air Services almost exclusively when their own on-site maintenance people could not resolve problems with their heating or cooling units. These calls often resulted in replacement sales.

The new residential segment was the most competitive. In 1992 there were 84 heating and cooling businesses operating in the local market. Many worked exclusively in the new residential market, and most had at least a presence in that segment. Most business in the new residential market was price-driven, and the average profit margin nationally for this segment was a slim 1.5 percent. However, this market offered high potential return for Air Services, since Greene County, in which Springfield was the largest city, was expected to grow by 20 percent by the year 2000.

The service segment was comprised of two different revenue sources, maintenance service contracts and repairs.

Service contracts provided that an Air Services technician would make two annual preventive maintenance visits, one to service the customer's air conditioning unit and one to provide maintenance on the heating unit. Each visit took approximately 2 hours. Although customers expected their maintenance to be performed on a reasonable seasonal basis, scheduling of the visits was done by Air Services according to available technician time. The price that Air Services was presently charging was $99 per year, payable at the beginning of the annual contract. (Larger homes with more than one heating and/or cooling unit were charged proportionately more.)

The Spencers were confident that few competitors met and no one exceeded the quality of service provided by the maintenance contract. Karol Spencer thought that the two groups who had purchased most of the service contracts were (1) those who were over 50 living in older homes and (2) baby boomer home owners who believed in the value of maintenance. At the end of 1991, Air Services had 750 service contract customers: 652 in homes with single units and 98 in homes with two separate heating and/or air conditioning units. (Service contracts for homes with two separate units were twice the standard $99/year rate.)

Although the company had typically been able to renew 80 percent of its service contracts each year, Karol estimated that the company would be able to renew only 75 percent of the present service contracts in 1992 because of general economic conditions. In addition to economic uncertainty, the other two most prevalent reasons for nonrenewal were death of the customer or the customer moving out of the area. "We hardly ever lose a service contract customer because of dissatisfaction with the service," she noted.

A second, and substantial, component of the service segment was the time and material revenue generated by service calls in which the customer's system was repaired. It should also be recognized that much of the volume reported in the add-on/replacement segments was the result of service calls which ultimately resulted in replacement of the customer's system.

The actual demand in both the service repair and the add-on/changeout markets was difficult to estimate accurately because revenues in those segments were very weather-dependent. The best "feel" that Al could get for the potential market size came from previously collected data showing the years in which the city's homes had been constructed (see Exhibit 3).

In Al's view, miscellaneous sales were a fringe area and held very little opportunity for future sales growth. Al also indicated that it was unlikely that the firm would ever pursue the mechanical construction market, since the size of that market in the immediate area was limited and such a move would require substantial additional training for the technicians.

Service and Installation

Like most heating and cooling businesses, Al broke his business into two major areas: service-related and installation. The five service technicians, who were paid a standard rate of $9.30 per hour, were responsible for handling both the scheduled maintenance calls on the heating and air conditioning units for the service contract customers and all service calls when either businesses or consumers called in with malfunctioning systems. The standard labor charge was a $57 minimum, which included the drive to the job and the first 40 minutes of service. Any additional time was charged at an incremental rate of $16 for every 20 minutes. Because of vacations, truck replenishment, equipment breakdowns, and occasional slack time, not all work hours could be billed to the service customers. It was estimated that 60 percent of the regular workable hours and 100 percent of any overtime hours were billable.

Al estimated that it took $10,000 to add a new service truck to the fleet and that it cost at least $.06 a mile to operate a truck. Air Services' service trucks typically averaged 24,000 miles per year.

Service personnel often had the opportunity to sell new units. In instances where the service customer's unit was not repairable, the service technician was in an excellent position to present the firm's product offerings. Service technicians were paid a 4 percent commission on new systems that were the result of service calls. Al estimated that the average service person made $2000 annually on these commissions. One disadvantage of the technician-generated sales was that they were almost exclusively in the two lower price brackets—standard and deluxe (see Figure 2). Al suspected that this was because the technicians were selling primarily on a price basis.

The second major area, installation, included labor in the new commercial, new residential, add-on/change-out commercial, and add-on/change-out residential segments. The standard compensation rate for installers was $9.00 per hour.

Even though installation trucks were larger than service trucks, Al estimated that he could still put one on the road for $10,000. However, the cost of operation was $.08–20 per mile to operate, and they only averaged 12,000 miles per year.

Al estimated the average technician's time (in worker hours) required for a call for each type of business (see Table 1).

Promotion

In 1991, Air Services spent the majority of its promotional dollars on Yellow Page purchases. Air Services placed similar ads in the Southwestern Bell Yellow Pages and the Bi-Rite Directory Yellow Pages. The cost was $1400 per month and $400 per month, respectively. At the present time, the largest components of Air Services' Yellow Page costs in both outlets were a half-page ad in the heating section and an eighth-page ad in the air conditioning section. The remaining promotional dollars had been spent on occasional radio advertising ($2700), two direct-mail pieces ($5500), a booth at a local home show ($1000), and miscellaneous promotional items ($4666). Al estimated that sales made as a direct result of 1991 promotional expenditures were $200,000 from the Yellow Pages,

TABLE 1
Technician Hours by Type of Call

Business Type	Required Technician Hours
Residential add-on/change-out	13
Commercial add-on/change-out	16
New residential	40
New commercial	150
Service (repair) calls	1.33
Service agreements	4 (2 for heating, 2 for A/C)

TABLE 2
Use of Yellow Page Ads by HVAC Companies in 1992

Size	Monthly Cost	Number of Firms Using
Full page	$1750	0
3/4 page	1325	1
1/2 page	882	4
3/8 page	665	1
1/4 page	448	1
1/8 page	339	8
1/16 page	231	10
1/32 page	122	20
Bold listing	57	40
Regular listing	9.50	24

$100,000 from direct mail, and $10,000 from the home show booth. Al had used some newspaper advertising in past years, but it had been limited to "image" ads and it was impossible to gauge what effect, if any, it had had on sales.

Customers with a sense of urgency who did not have an established preference seemed to overwhelmingly rely on the Yellow Pages for selection of an HVAC company. Thus most firms operating in the replacement market and/or service markets considered Yellow Page ads a necessity. The 1992 figures for approximate cost of ad per month and the number of firms employing that size ad for the air conditioning section of the Southwestern Bell Yellow Pages are given in Table 2. Firms purchasing ads that were one-sixteenth page or larger received listings as a part of the monthly purchase price.

Because of the seasonality of the business, it was necessary to advertise in both the air conditioning and heating sections of the Yellow Pages. The costs of ads in the BiRite directory were roughly 30 percent of equivalent Southwestern Bell ads. The cost difference was the result of the difference in the number of households reached by the two. Unfortunately, there was much duplication in the distribution of the two directories.

The Competitive Market

Currently, Air Services considered its market to be potential customers within a radius of 15 miles of Springfield. Al felt that excessive travel time would make it unprofitable to service individual customers beyond this point. Springfield had approximately 66,300 households within the city. In addition, there were another 11,600 residences in surrounding towns that were within the 15-mile radius.

All market segments in which Air Services operated were competitive. Not only were there a large number of small, low-margin operations in the marketplace, but there were also several large, well-established firms that competed in the same segments in which Air Services sought growth (see Exhibit 4). Air Services' per segment market share was difficult to determine since all the firms were privately owned and none released their sales figures.

Ozark York

Ozark York was the largest competitor operating in the Springfield market. They had a very strong presence in the new commercial market and also emphasized the add-on/change-out and service markets. They aggressively pursued service contracts. About two years earlier Ozark York had switched their main brand from York to Lennox equipment. They emphasized that they were a "Five Star" Lennox dealer and frequently ran cooperative television ads with Lennox in which an actor portraying Dave Lennox introduced the Ozark York owner. They had a bold listing in the heating section of the Yellow Pages, an eighth-page ad in the air conditioning section, and ran some radio ads.

All Service

As a medium-sized competitor, All Service had in the past placed the greatest emphasis on the new markets, in particular the new residential market. They attempted to differentiate themselves by offering plumbing services in addition to their heating and cooling products. Within the last two years, the firm had attempted to shift their focus to the add-on/change-out and service segments. The firm had become an aggressive advertiser, using more television and radio than any other competitor and running a half-page air conditioning ad in the Yellow Pages.

Goff

Goff was a well-established, highly respected firm that had been operating in the market since 1963. Their business was strongly slanted toward the residential customer. Although still a significant competitor, in recent years the firm had not been particularly aggressive in the marketplace. For example, their major promotion expenditure consisted of their sixteenth-page ads in both the air conditioning and heating sections of the Yellow Pages. This reliance on the status quo might be attributed to the fact that the owner was approaching retirement age. Regardless, the firm maintained a loyal base of customers.

Temperature Control

Like Ozark York, Temperature Control emphasized their Lennox Five Star status. The firm operated mainly in the commercial new construction market and relied on pricing rather than advertising to attain a leadership position in the segments in which it operated. For example, they rarely took advantage of Lennox's cooperative Dave Lennox television ads and used only an eighth-page ad in the air conditioning section and a bold listing in the heating section of the Yellow Pages.

SS & B

SS & B's focus was primarily on the new equipment markets. In fact, six of their eight technicians were installers. SS & B did very little advertising outside of the Yellow Pages, relying on a half-page three-color ad in the air conditioning section and a bold listing in the heating section to attract business in the consumer segments of the market.

Residential Heating and Cooling

Residential Heating and Cooling's sales volume was almost evenly split between the construction and the consumer segments. In the construction segments, Residential emphasized its low labor rate. To attract business in the consumer segments, the firm depended on the effectiveness of its Yellow Page ads. Residential was the most aggressive user of the Yellow Pages among the heating and cooling companies, running a three-quarter-page ad in the air conditioning section and a three-eighths-page ad in the heating section.

The Branson Market

One geographic market that Al had been watching was the nearby Branson, Missouri, area located 35 miles south of Springfield in Taney County. Although Branson only had 6000 residential households, it had experienced tremendous growth as a tourist destination for country music fans. A large number of long-time, mostly country stars had built, were constructing, or had announced plans to build theaters that seated anywhere from 400 to 4000 fans. The corresponding tourist support industries (e.g., motels and eating establishments) were scrambling to add sufficient space to service the growing number of tourists. A recent forecast had projected that within two years Branson would be second only to the Orlando area as a tourist destination in the continental United States. Tourist growth was expected to continue at least through the year 2000 provided the infrastructures (e.g., roadways and sewage and waste disposal) could keep pace. There was a shortage of residential property, and most of the construction in the near term was expected to be commercial. At least five of the heating and cooling firms from Springfield had already established a presence in the Branson market. Al had recently made a trip to Branson to evaluate the market. An examination of the Branson Yellow Pages indicated that 35 firms were presently in the heating and cooling segment. As a basis of comparison, Springfield had approximately 85 competitors. Al called several of the firms and found that all were charging from $30 to $32.50 per hour for labor. Business could be handled by either sending technicians from Springfield daily or by establishing Branson-based crews. Al estimated that (1) it would increase his costs by 20 percent if Springfield crews were used and (2) $50,000 would be needed to establish Branson-based crews with a Branson telephone number to be directed to the Springfield office.

The Decision

Although three consecutive years of losses were more than Al had anticipated when he began changing Air Services' focus, he continued to feel optimistic about his business. However, he considered it to be a top priority that he return his business to profitability in 1992. In order to accomplish this, Al felt that he must first better understand the reasons that had led to the 1991 loss and then establish a strategy that would move his business closer to his stated objectives.

In the shorter term, Al had to decide whether or not to take advantage of the manufacturer's offer and run the newspaper ad he had drafted (Figure 1). The price point he had projected for the units would give him what he hoped would be an average gross margin of 30 percent. Al anticipated that it would take a three-ad series to sell all twenty-nine of the units. Although there might be some variance in the cost of the ads depending on the day they were run, Al estimated that the total cost would be $1500. The danger was that if warm weather arrived while the ads were still running he would have to sell the units at a lower margin than he could have had without the ads. As Al knew only too well, weather forecasters were unable to make accurate projections for more than three days in advance. Yet Al had to make his decision by tomorrow.

EXHIBIT 1

Air Services 1991 Sales by Segment

Month	A/O and C/O Residential	A/O and C/O Commercial	New Residential	New Commercial	Service Agreements	T&M[†] Service	Misc.	Total	Percent
January	$ 18,819	$ 6,001	$ 2,605	$22,301	$ 4,142	$ 12,735	$ 1,733	$ 68,366	6.8
February	28,382	998	4,670	20,193	3,914	7,690	1,102	66,951	6.6
March	27,051	1,570	8,920	17,108	4,258	13,462	1,868	74,237	7.4
April	34,111	17,940	0	13,103	12,646	7,675	810	86,285	8.6
May	23,218	1,695	17,235	23,754	11,518	18,839	1,706	97,965	9.8
June	39,163	1,640	1,380	3,970	6,107	16,103	722	69,085	6.9
July	44,977	9,011	4,000	11,298	9,146	27,331	161	105,924	10.5
August	36,365	1,130	6,649	33,549	8,906	29,940	975	117,514	11.7
September	16,904	4,941	1,680	50,113	7,809	11,442	580	93,468	9.3
October	7,636	2,818	13,545	26,597	5,321	13,292	1,240	70,450	7.0
November	27,127	0	4,700	23,604	5,445	18,377	40	79,294	7.9
December	33,278	19,840	4,337	11,280	4,764	1,237	147	74,884	7.5
Total sales	$337,031	$67,584	$69,721	$256,870	$83,976	$178,123	$11,084	$1,004,389	
Percentage	33.6	6.7	6.9	25.6	8.4	17.7	1.1		100.0
Gross margin percentage[‡]	40	45	29	27	65	30	50		
Average sale by segment[‡]	$ 1300	$ 2900	$ 2800	$ 26,400	$ 112[‡‡]	$ 80			

* Add-on/change-out (i.e., replacement).
† Time and material.
‡ Estimated by Al Spencer.
‡‡ $83,976/750

EXHIBIT 2

Thomas Heating/Air Services Income Statements, 1989–1991

	1991	1990	1989
Sales			
Add-on/change-out	$ 404,615	$ 440,876	$1,026,314*
New units	326,591	434,509	
Service work	178,123	119,321	68,898
Service agreements	83,976	43,673	14,455
Misc. revenue	11,084	21,916	6,897
Total revenue	1,004,389	1,060,295	1,116,563
Cost of Sales			
Direct materials	525,062	594,287	696,483
Direct labor†	257,524	234,099	263,883
Other cost of sales	21,311	42,693	10,818
Total cost of sales	803,897	871,079	971,174
Gross profit	200,492	189,216	145,389
Expenses			
Advertising	35,466	25,835	21,281
Other administrative expenses	$ 177,167	$ 187,333	$ 129,288
Total expenses	212,633	213,168	150,569
Net Profit (Loss)	($12,141)	($23,952)	($5,180)

* Represents a total of add-on/change-out and new unit sales.

† Total nonpayroll cost represents 21.875% of total payroll costs.

EXHIBIT 3

Springfield Housing Market
By Year of Construction

Year	Number	Percent
1939 & before	10,143	16.2
1940–49	5,202	8.3
1950–59	9,497	15.2
1960–69	11,119	17.8
1970–79	13,843	22.2
1980–84	4,769	7.6
1985–88	6,588	10.5
1989–March 1990	1,311	2.1
Total	62,472	99.9

Source: Department of Planning and Development, City of Springfield, Missouri.

EXHIBIT 4
Major HVAC Competitors for Air Services

Competitor	Product Lines		Service		Number of Technicians	Internal Sales Mix (%)							Estimated Sales
	Primary	Others	Residential Labor Rate	Residential Contract		Mechanical Construction	Add-on Change-out	New Commercial	New Residential	Service	Misc.		
Temperature Control	Lennox	Carrier, Lieberts, as specified	$40/hr.	$149	7		10	60	4	25	1		800,000
SS & B	Bryant	Carrier	Bid	Bid	8	5	14	40	30	10	1		800,000
Ozark York	Lennox	As specified	$38/hr.	$86	15		20	62	2	15	1		3,000,000
Goff	Carrier, Trane	—	$38/hr.	$72	8		40	2	17	40	1		1,000,000
Residential	Heil, Lennox Ruud	Janitrol, Trane	$27.50/hr. ($34.50 out of town)	Bid	5	5	30	14	30	20	1		600,000
All Service (est.)	As specified		$40/hr.	$70	8	5	34	10	20	30	1		1,000,000
Air Services	Rheem	As specified	$57/hr.	$99	9		40.3	25.6	6.9	26.1	1.1		1,004,389