



## AN ARISTA TECHNICAL ARTICLE

CALCULATING THE HIDDEN COSTS OF  
POOR HVAC MAINTENANCE



**ARISTA**

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## INTRODUCTION

When building owners, property managers and plant operators think about HVAC expenses, most tend to focus on the hard costs associated with their systems — equipment purchases, monthly energy bills, maintenance and repair expenses.

But what about the less visible — but no less expensive — costs to your business due to an out-of-spec system or equipment failure? Whether you're heating and cooling an office complex, a women's clothing boutique, a medical facility, a fitness center or an Irish pub, your customers have expectations regarding a comfortable temperature year-round.

Considering how much companies across a variety of industries invest in aesthetics — the décor for an upscale hotel or restaurant, for example — it's surprising how few treat heating and cooling

equipment maintenance as equally important. In fact, search the phrase “retail atmospherics” and you'll find an eye-opening look at how factors ranging from the right music to the right lighting — and yes, the optimal temperature — can positively influence buyer behavior.

## THE HARD REALITY OF SOFT COSTS

Here's one example of how so-called “soft costs” — expenses beyond your investment in actual equipment and maintenance — can quickly add up. A retail clothing chain came to Arista seeking a new preventive maintenance agreement. While evaluating its system, a conversation with a longtime manager revealed that the company noticed a significant drop in sales at specific locations when the temperature outside reached extremes.



“Aesthetics within the retail environment not only affect shopper comfort level but can influence employee morale and productivity. Employees who must work in an uncomfortable environment are not only less productive...they may communicate a negative attitude to their customers.” Jack Ries

It seemed that customers were avoiding their stores because they were not comfortable undressing to try on new garments when they were freezing or worse, sweating. The lack of a reliable, well-maintained HVAC system was having a serious impact on their annual revenue.

## MEASURING THE COST OF DISCOMFORT

The importance of effective temperature control certainly isn't limited to retail sales. A properly maintained and temperature-regulated HVAC system is critical to the success of nearly every building use or tenant type.

For example, a number of research studies have shown that indoor environments — those providing fresh air exchange and optimum temperature controls — contribute measurably to healthier, more productive environments for employees, tenants or customers. This manifests itself in a number of ways, including: better worker performance; cost savings in the form of fewer employee absences; enhanced concentration; higher employee retention rates; and improved customer satisfaction, to name just a few.

## THE EFFECTS OF TEMPERATURE ON OFFICE WORKERS

Researchers examining the link between temperature and productivity typically measure items such as workers' output levels, efficiency and accuracy. Research has shown, for example, that computer users are more productive and have fewer keyboard errors when the office temperature is 77°F compared to 66°F.

A closer look shows that productivity tends to decrease more suddenly as temperatures drop below 68°F and more gradually as temperatures rise past 75°F.

If you oversee heating and cooling for an office building, your company might be concerned about office temperatures for a couple of reasons. Of course, every business wants to maximize the productivity of its workers. But, if you're paying to heat or cool an office to a certain temperature — one that's making your staff less productive — you're actually doubling the negative effect on your business or those of your tenants.

## CHASING AWAY THE DINNER CROWD

Customers tend to try new restaurants based on positive reviews, media buzz or recommendations from someone they trust. But it's the overall experience — a welcoming dining atmosphere, staff professionalism, quality of the food and its presentation — that keeps them coming back and sharing favorable comments with friends and family.

Ever look at the restaurant reviews on sites like TripAdvisor.com? “Atmosphere” is one of the four main categories in which reviewers are asked to choose a ranking.

A less-than-comfortable temperature will chase away diners almost as quickly as a bad rating from the city health inspector. What's more, it can damage the reputation of your business. If you're skimping on maintaining your heating and cooling system, customers may wonder where else you





“A range of design characteristics, such as... reduced noise, improved lighting (and) better ventilation...can help reduce errors, reduce stress, improve sleep, reduce pain and drugs, and improve other outcomes. Improved physical settings can be an important tool in making hospitals safer, more healing and better places to work.”

Source: The Role Of The Physical Environment In The Hospital Of The 21St Century, The Center for Health Design

may be cutting corners — on the quality of your ingredients, proper food storage and handling, even the cleanliness of your kitchen.

If patrons are choosing the competition based on comfort — and telling their friends and family about a poor experience — imagine the lost revenue on a busy Friday night or holiday.

## MAINTAINING A HEALTHY BOTTOM LINE

For healthcare facilities such as hospitals, nursing homes and ambulatory care centers, fluctuations in temperature can mean much more than simply an inconvenience. They could make the difference between life and death for at-risk or elderly patients, the loss of your facility’s professional license, the threat of expensive litigation or even criminal charges.

Federal and state regulations require facility administrators to report temperature variances beyond a certain tolerance. Regular inspections are conducted to ensure compliance with federal and state standards for patient comfort.

As with other industries, lack of control over a healthcare facility’s heating and cooling can result in incalculable damage to your professional

reputation. If you’re not maintaining your HVAC system, patients and their families may begin to question the reliability of critical lifesaving equipment or your overall quality of care.

## SWEATING THE DETAILS IN YOUR HEALTH CLUB

If you think temperature doesn’t matter when you’re going to the gym to sweat, think again. Members expect high levels of service when they join your facility, and those expectations extend to an environment that facilitates their fitness goals rather than hindering them.

A too-cold fitness center makes it difficult to loosen stiff muscles before or after a workout. Excess heat or humidity can cause even the fittest athlete to suffer from accelerated dehydration and or spikes in body temperature. Plus, extreme changes in heating and cooling can be damaging to expensive electronics and equipment.

In the competitive fitness industry, word can spread quickly when a facility’s comfort and maintenance standards come into question. Members may seek out other options when renewal time comes around, and recommend that their friends and family members do the same.

## THE CASE FOR A PREVENTIVE MAINTENANCE AGREEMENT

Considering the sophistication of today’s HVAC systems and all the things that could go wrong, it’s surprising that many decision makers remain reluctant to invest in a preventive maintenance agreement. Why?

- Agreements are hard to understand or loaded with hidden exclusions.
- They feel that staff members can handle maintenance issues.
- Contracting with an outside firm is perceived to be too expensive.
- They’ve had a bad service experience with a less-than-honest contractor.
- They plan to deal with repairs when the need arises.

Murphy’s Law: What can go wrong, will go wrong

### THE LINK BETWEEN ENVIRONMENT AND BOTTOM-LINE GROWTH

The Center for Building Performance and Diagnostics (CBPD) along with Advanced Building Systems Integration Consortium (ABSIC) at Carnegie Mellon University reviewed and assessed the existing research on building design attributes and workplace productivity. Among their findings:

- 8 case studies linking the benefits of providing individual temperature control for each worker to measured productivity gains, demonstrating up to a 3% increase in overall productivity.
- 15 studies linking improved ventilation with up to 11% gains in productivity, as a result of increased outside air rates, dedicated delivery of fresh air to the workstation, and reduced levels of pollutants.

The inherent risk in all of these scenarios is that an emergency will invariably happen at the worst possible time for your company – during your busy season, a holiday period, a high-profile event or a weather disaster when repair professionals may be booked for days or weeks.

Most reputable service providers prioritize their service contract clients, especially during busy periods like last summer’s heat wave. With a preventive maintenance contract in place, you’re less likely to be one of many fighting to secure a repair appointment.

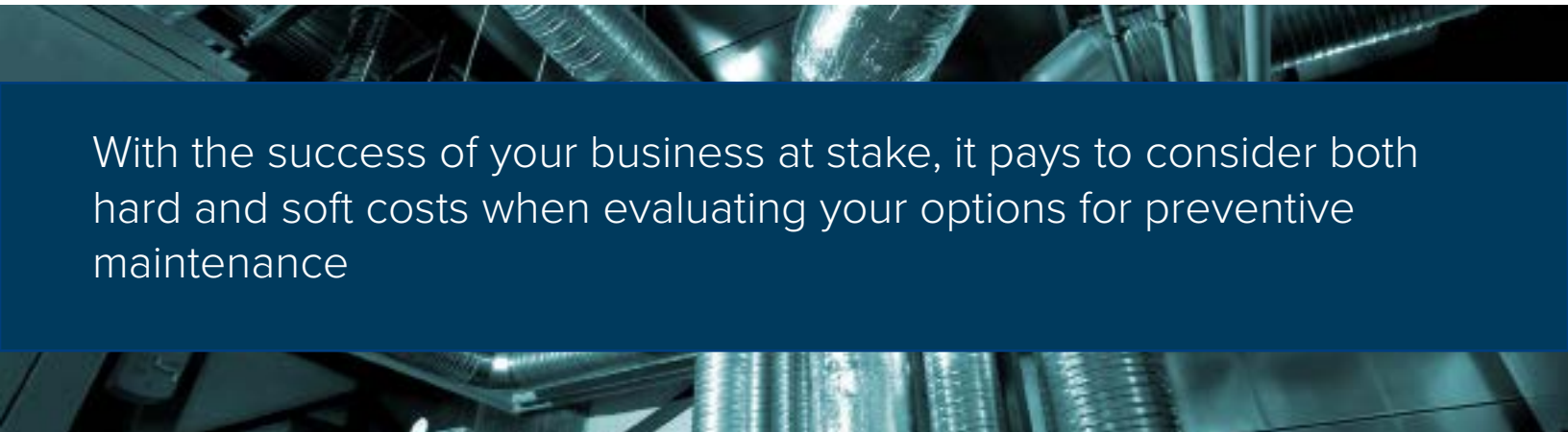
When you take into consideration all of the benefits that arise from a more comfortable environment — from more productive workers to more satisfied customers — it’s not unrealistic that the savings and revenue generated by a reliable system could cover the cost of an annual preventive maintenance agreement and then some.

## TURNING SOFT COSTS INTO HARD DOLLAR SAVINGS

A growing body of research shows that the right indoor environment can improve workforce output as well as the experience of customers or guests, directly resulting in savings for your business, your property or your buildings’ tenants.

With the success of your business at stake, it pays to consider both hard and soft costs when evaluating your options for preventive maintenance — including the wisdom of an annual maintenance contract that can deliver benefits like these:

- A well-maintained system runs more efficiently and greatly helps to reduce energy consumption expenses.
- Regular service prolongs the useful life of HVAC equipment, which can add up to thousands of dollars over the life of your building.
- Regular service from a skilled professional can



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help identify and offer proactive solutions to problems, preventing HVAC equipment failure or downtime and avoiding expensive repairs.

Every business has its own key performance indicators (KPIs) to gauge success — from the number of meals served or patients cared for to a measurable increase in worker productivity or the size of your membership base.

If your business is among those whose success is directly linked to its physical environment, the stakes are high when it comes to the risk of equipment failure. A comprehensive preventive maintenance agreement for your HVAC system can mean the difference between a robust bottom line and sweating out next month's revenue projections.





# ARISTA

## **ABOUT ARISTA AIR CONDITIONING CORP.**

Whether you're responsible for the installation of a new HVAC system or inherited legacy equipment, Arista has the experience to service and maintain any system throughout its lifecycle. Across the tri-state area, we're recognized as one of the region's most respected and referred HVAC experts. When you purchase a preventive maintenance service agreement from Arista, you're backed by an industry leader with that has earned its reputation through decades of trustworthy business conduct and quality service.

### **Peace of mind at a fair price**

Your account is managed by a senior Arista technician and backed by an expert staff of over 160 highly trained professionals. Arista boasts a comprehensive program of continuous staff training and professional development on state-of-the-art practices and processes.

### **Arista clients also enjoy these benefits:**

- Quick-to-respond, accessible workforce and a fleet of 100+ vehicles
- 24/7 emergency standby service
- 30,000 sq. ft. corporate warehouse facility stocked with over 55,000 parts

- Industry recognition as the only NY state company to earn both the prestigious MSCA STAR and GreenStar designations
- LEED Accredited Professionals to assist in making smarter HVAC choices

### **Questions? Call Arista today.**

We hope you've found this guide to be a handy reference as you evaluate the types of service contracts available to you.

We invite you to call us for a quote on your equipment purchase or service needs. We think you'll agree that hearing what we have to say will be one of the best decisions you make in researching HVAC maintenance contracts. Reach an Arista HVAC specialist today at 718-937-4001 or email [info@aristair.com](mailto:info@aristair.com).

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