

Q for Management:

Are Profit Dollars Slipping Through Your Fingers?

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In today's business climate profitability is a topic of endless discussion. Management gurus pen book after book outlining new strategies and concepts for businesses to explore. At the same time, Wall Street repeatedly tells many corporations that they are not paying consistent or large enough dividends to shareholders.

At one time revenue growth, corporate image or longevity may have influenced analyst recommendations to investors, but no more. Companies, even traditionally sound Fortune 500 organizations will be passed over for better short term investments if they don't return dividends to share holders. So with all the study focused on profitability, is it possible that a simple and thoroughly effective approach has been missed by many companies?

The simple approach I am referring to is cutting operating costs for energy by investing in efficiency. Reducing operating budgets is certainly not a new idea, but it seems that other line item expenses are typically the target for such cuts. It is common to see advertising budgets get slashed, as well as salary and fringe area cuts through outsourcing and downsizing of staff, to name a few. The interesting thing about energy costs, is that managers tend to view them as fixed costs, like a mortgage, and assume that they cannot be cut.

During the 1980's many organizations discovered this was not true, and they liberated profit dollars by putting emphasis on energy costs. Since then, though, many have lost sight of the opportunity available to reduce costs in this way. Yet the term itself "efficiency" says it all.

To improve the efficiency of a business means providing equal or

more output (products or services) for the same amount of input. Unlike other cuts in operating cost, this means that the mission of the organization need not suffer. It is never the intent of any company to diminish its ability to meet customer needs by reducing costs, yet when efficiency is the goal it clearly not even a possibility. This article is intended to point out how any business can succeed in increasing profits by taking a hard look at energy costs, and get some unexpected benefits. Of equal interest, the topic of how to finance these projects will also be discussed.

WHERE ARE YOU NOW?

Sometimes it is hardest for companies to assess their current position with regard to efficiency. Some businesses have taken their lead from manufacturers, who have long included every aspect of the production process in the unit cost to build a product. Identifying and measuring cost components such as energy is essential to continuously improving profitability.

As a result, we have started to see fast food companies measure operating costs with energy terms such as Btu's per hamburger. A Btu, "British Thermal Unit" is the universally accepted measurement of energy consumption, and is equal to about the amount of heat given off by a single match. Property Managers routinely measure both dollars and Btu's per square foot of office space for energy efficiency, but many businesses completely overlook this element of the balance sheet. This Btu per unit of product measurement is similar to the miles per gallon rating on your car. Yet the importance of the measure is that it gives managers a way to compare one restaurant, plant or office building to another based on energy cost. This is called **comparing energy intensity of one process over another**.

Energy intensity information makes it possible to evaluate which buildings or processes hold the greatest potential for cost reductions. It is also possible to rank which are the best investments to make within a given building. The result can be dramatic considering that energy can make up from 5 to 10% of the total operating cost, depending on the energy intensity of a business.

Do you think a business could be more competitive while still meeting profit goals by reducing these costs by 20%? Table 1 shows the relative cost of lighting, heating, cooling, etc. for an office building.

Again, managers can make direct cost comparisons between like facilities based on cost and efficiency, thus targeting the best investments. What's really exciting is that energy intensive facilities or processes can be made more profitable by applying technology, or simple actions, to improve efficiency.

Table 1. Energy Cost by Use for an Office Building

<u>Use Area</u>	<u>% of Cost</u>
Lighting	35%
Heating	20%
Air Conditioning	35%
Office Equipment	5%
Misc.	5%

EFFICIENCY IMPROVEMENTS

Energy professionals analyze efficiency in every type of facility from very high energy intensity, manufacturing plants and hospitals, to low energy intensity, seasonal businesses and schools. To illustrate the value of these efforts, consider a 112,000-square-foot facility built in the late 1960's. The owners are concerned about operating cost and targeted this facility for efficiency evaluation. The building was operating at \$1.50 per square foot. Its owners knew that building efficiency could be improved because their trade association, the Building Operators and Managers Association (BOMA), publishes dollar per square foot utility costs nationally. A simple comparison between the BOMA's numbers of less than \$1.25 per square foot for an energy efficient building, and actual operating costs for this building, showed room for improvement. The next step was to evaluate specific opportunities.

The office environment, like other buildings and processes, has some inherently energy intensive areas to address. Office building energy bills are typically split, with electricity accounting for approximately 60% to 70% and natural gas the remainder. Electricity, a high cost energy source with complex pricing structures, is used for lighting, air conditioning and sometimes heating. Other equipment, personal computers, printers and copy machines, can also make up a portion of the electric bill.

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Any action that can be taken to reduce electric cost will have quick and noticeable results. Sometimes little or no investment is required to generate savings, like this example in the custodial area. How many times have you gone past an office building at night and seen all the lights on? It is not uncommon for lighting to be on throughout a building from 6:00 PM to 10:00 PM or later while it is being cleaned. Usually a small number of people are in the building and they are only in one or two rooms, or floors, at a time.

Yet every light is burning for four hours, equal to perhaps 15% of the occupancy and electric cost! How much could be saved with a simple policy, or some low cost technology, to turn the lights off in all areas except when they are being cleaned? There are many opportunities like this, and even more impact may be made on operations when an investment is made. Table 2 shows some typical paybacks for investments in different areas of building operation.

Table 2. Energy Project Investment Simple Payback

<u>Use Area</u>	<u>Years</u>
Simple changes in operation	0
Lighting	1-3
Automation & Controls	1-4
Air Conditioning	2-7
Electric Generation	5-7
Heating	4-8

Lighting is a great target area because it often accounts for up to 35% of the energy bill. Lighting efficiency upgrades have moderate costs, good Return on Investment (ROI) and can reduce your energy bill by up to 20 percent. Again, those dollars go straight to the bottom line after the investment is returned.

Are there other benefits? Yes, most lighting improvements enhance the aesthetics of the facility while improving employee productivity as well. At our sample building, the heating and air conditioning (HVAC) was targeted first with emphasis on the other major components of energy cost. The owner was driven by another important statistic that is published by BOMA, the second most common reason that tenants look for new office space is poor comfort. HVAC energy efficiency projects, as a rule, also enhance comfort. So the project reduces cost while also helping keep building tenants. Profitability is enhanced while keeping a major emphasis on the corporate mission, maintaining fully leased properties.

This kind of thinking with regard to building operations is critical to long-term profitability. In fact some building managers have realized another benefit, using efficiency investments in building automation to develop a new profit center. The lease is rewritten to say that the tenant has the space for 24 hours a day, but only lighting, heat and air conditioning during regular working hours. A system that was installed to operate the building efficiently, and allow access through a card reader, tracks when tenants come and go after hours. The lease sets an hourly rate for energy and each month the system prints out a billing.

Again, this turns a liability for the owner, high energy bills when tenants work after normal hours, into a profit opportunity. It is key to know your business, the greatest combination of benefits can be achieved by looking at the big picture. Look for synergy in projects, like the building manager who elected to improve efficiency and comfort thus avoiding a key reason for losing tenants while enhancing profitability.

FINANCING

A final question that always enters into these discussions is, how do we pay for it? Companies have limited borrowing capacity, and there is always a priority on reinvesting to grow the business rather than buy any products, even energy efficient ones. The best return on investment will always come with a project that can be paid for now, since the cost of money is not an additional factor. Yet a number of financing options exist to aid companies in pursuing these projects. There are several types of leases, loans and also creative financing approaches like performance

contracting.

Leases and loans are a familiar option, and they have become common for many types of equipment purchases, including energy-efficiency projects. For companies that are highly leveraged, off balance sheet financing is also an option. Under this scenario the company doesn't take title to the equipment until it becomes an asset. Yet with all these scenarios there is up front cost and staff time required to develop projects. An exciting alternative vehicle is Performance Contracting.

Performance Contracting finances energy efficiency projects and guarantees savings. No up front capital is required, and owners can finance energy efficient improvements for an extended period of time. This approach allows customers to buy equipment over time without spending any more money than they would have budgeted for utilities.

Consider this approach for the office building example. A Performance Contractor would begin by performing an energy analysis to present the owner with the most cost effective investment options. The owner selects top priorities and the contractor pulls these together in to a final package including: study report, financing, a performance guarantee and a service contract. The financing is extremely competitive and the guarantee bond ensures that the owner has no risk of cost overruns. An office building similar to the sample above, that recently wrapped up one of these projects, had a guaranteed savings of \$97,800 over three years. That project met its guarantee after 25 months of operation, and all cost reductions that followed went directly to the bottom line.

The answer to the question posed in the title of the article is "yes" for many companies. The long-term impact of neglecting energy efficiency is just as dangerous as ignoring competition or losing a major customer. Armed with this information, managers have another important tool to use in meeting profitability goals and ensuring the long-term success of their businesses.

ABOUT THE AUTHOR

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