Finance for Public Sector FM

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Before I can discuss Finance for the Public Sector Facility Managers, there are some obvious questions that need to be addressed relevant to this subject. They are:

- Did you know that after personnel, facilities are the largest cost to an organization? Why do you think the Financial Officer is always questioning your costs?
- Do you have difficulty communicating with your Financial Officer? Often, this is the case for public sector facility professionals
- Do you know how your daily activities impact your agency's bottom line? After you have read this paper you will know and will be able to apply this information.

The objectives of this paper are:

- Understand and become familiar with basic finance terminology
- Learn to speak to the Financial Officer utilizing finance jargon
- Understand how facility management impacts the agency's finances

Public sector facility professionals (FM) are responsible for any thing to do with agency assets including buildings, furniture, equipment, etc. FM's are constantly changing subjects and responding to various issues. Sometimes FM's are utility workers, putting out fires, getting bombarded by requests from our tenants and sometimes feel that we are in a three ring circus. Due to constantly changing demands on time, FM's speak facilities jargon and do not realize that we are speaking a foreign language to a Financial Officer. For example: You wanted to install variable speed drives on the building's building management system to increase the air flow, you would probably present it to your Financial Officer by stating you wanted to install a VAV system on the BMS system to increase the CFMs. After those acronyms, the Financial Officer's eyes would glaze over.

Financial officers are traditionally accountants or bean counters, who speak financial language. Their response to your request to install a VAV would be: What is the IRR? What is the NPV? What is the Payback? Would you be able to answer their questions or know what is being requested?

What does that mean to you? Financial Officers express everything in terms of numbers and money. This is because they must operate within the uniform financial reporting standards and methods frame work. Every finance professional throughout the world, both private and public, utilize a common vocabulary and are required to use uniform accounting methods along with full disclosure on their financial reports.

These broad accounting guidelines are known as *Generally Accepted Accounting Principles (GAAP).* These create broad scale uniformity in accounting methods for all businesses. All companies must adhere to these guidelines. Then there is the *Financial Accounting Standards Board (FASB*) who issue rulings on the GAAP. However, government financial staff must also abide by the rulings of the *Governmental Accounting Standards Board (GASB*) who also issue findings on the GAAP.

Ratios

Ratios can be utilized to justify the project that you are trying to get approved. Financial officers and their staff understand financial ratios because they are dealing with activities in monetary terms. There are several different types of ratios utilized to determine the financial health of a firm or governmental agency. Since we do not have access to the agency's financial statements we need to develop ratios based on facility information that we already have available.

Facility Ratios

As a facilities professional, we all shy away from numbers. We leave the numbers game to the CFO. Did you know that you can develop meaningful company ratios based on facilities information that you have at hand?

All facilities professionals have information at hand that can be utilized to develop meaningful facilities ratios. These ratios can be used to benchmark against other companies to determine how efficient you are. By converting this information into ratios, senior management can comprehend how efficient we are.

I know what you are thinking! You think I am really crazy. Okay let's look at what information you have that can be converted into ratios. You have the following information:

Total square feet of your building
Number of occupants
Number of custodians to clean the building
Number of building engineers
Number of building management staff
Utility costs
Total facilities budget

All of these numbers can be converted into meaningful ratios.

Some easy ratios that come to mind right away are:

- Rentable square foot per person – That is where you take total rentable square feet divided by total occupants.
- Usable square foot per person – total usable square feet divided by total occupants

These two ratios indicate the occupancy of the building per rentable and usable square foot. It indicates if you are using the building wisely and are at full occupancy or if you have vacant space which is a waste of not only occupancy costs such as: rent (upkeep), utilities, etc.

- Amount of area for each custodian to clean – total square feet divided by number of custodians

This ratio reflects if the custodial staff are efficient. The more square foot that a custodial staff can clean the more efficient they are. This is also a very good ratio to benchmark.

- Cost per occupant – total occupancy divided by utility costs

This ratio reflects the cost per person in the building for utilities. Since utilities is one of the largest expenses in a facilities department, this reflects if facilities have done what they can to conserve utilities. This is also a very good ratio to benchmark.

Are there any other occupancy ratios that you can develop?

How about operational ratios? Below are listed some that you can develop:

- Square foot utility costs – total utility cost divided by total square feet
- Repair costs per square foot - Total repair costs divided by square feet
- Service efficiency – total demand maintenance work orders divided by number of occupants

These ratios show if we are operating the building efficiently or not. If our repairs costs are high per square foot, it reflects that preventive or predictive maintenance is not being completed. This might also be reflected in the service efficiency ratio. All of these ratios can be benchmarked with other companies and organizations.

Are there any other operational ratios that you can develop?

Then you can develop budget ratios to assist you. Yes you can develop ratios based on the budget. Some are:

- Total facilities budget divided by the number of facilities staff
- Budget variance divided by the total facilities budget
- Percentage of company budget - Facilities budget divided by total company budget
- Total utility costs divided by square feet

These ratios again reflect how efficient we are along with our staffing levels.

Are there any budget ratios that you can develop?

Everyone is going green and trying to be sustainable. There are several ratios that you can develop that deal with sustainability.

- Tons of paper recycled per occupant – number of tons recycled divided by total occupants
- Percentage of items recycled – total tons of paper recycled, cans recycled, bottles recycled, light bulbs, and cardboard recycled divided by total tons recycled (each item divided by the total)

These are great ratios to benchmark with other companies. Also, if your company wants to be sustainable, these ratios will help quantify the efforts that you have made.

Are there any sustainability ratios that you can develop?

Then there are the maintenance ratios that can be developed to determine your maintenance efficiency. They are:

- Custodial cost per square foot - Custodial costs divided by square feet
- Custodial cost per occupant - Custodial costs divided by total occupants
- Grounds ratio – Cost of maintaining grounds divided by number of acres
- Maintenance cost per square foot – Maintenance costs divided by square foot
- Maintenance costs per occupant – Maintenance costs divided by total occupants
- Maintenance staffing per square foot – Number of maintenance staff divided by square foot
- Maintenance staffing per occupant – Number of maintenance staff divided by total occupants

All of these ratios can indicate efficiencies and can be benchmarked against other companies or organizations.

Are there any other maintenance ratios that could be developed?

If you are big on safety like most of the rest of the public sector there are some environmental/Safety Ratios that can be developed. Only a few are listed below:

- Number of staff/Number of injuries

- Workers compensation claim costs/Number of staff

- Cost of hazardous waste removal/Number of incidents

These ratios are fun and challenging to develop. Once established you can benchmark your own ratios from several years. You can compare them to other agencies in your local area. These can be compared to those of like agencies along with like facilities. As an example, I am the building manager of a high rise building in downtown Los Angeles. I can contact building managers from the other high rises downtown to be able to compare what there ratios are like versus the ratios for the building I manage.

You can also take these ratios and compare to the benchmarking reports issued by IFMA or the Experience Exchange report issued by BOMA.

These numbers along with the results of benchmarking can be developed into information that you can present to your senior management to indicate how efficient you and your department are. Remember the CFO is always looking at ways to save money.

You can use this as an argument for how you contributed to the agency's bottom line by avoiding costs. Remember the CFO is always looking at ways to save money.

Also quite important is that with some of these ratios you can show how your support the agency mission.

Below are listed several other ratios that you can develop that do not require the information from the agency's financial statements. These are:

- Total occupancy cost /sf
- Total occupancy cost/total staff
- Average lease/sf
- Leased costs/owned costs
- Total utility cost/sf
- Total utility cost/total staff
- O&M costs/sf
- O&M costs/total staff
- Moving costs/staff moved

How does that affect FM? It reflects the costs of maintaining and operating the facilities. These ratios will help you justify requests for additional staff members, additional supplies, additional equipment, or additional contracted services. It also tells the Financial Officer how efficient the facilities department is and allows them to make decisions on facilities related requests.

The Financial Officer relies on the organizational ratios to determine whether to recommend or reject facility related capital projects as well as ongoing operation of the department. Be sure to justify your capital project requests in financial terms utilizing ratios and other financial analysis to make your point.

Budgeting

Senior management usually views facilities as a cost center that depletes resources and creates liabilities. It is up to us as facilities professionals to demonstrate the real property value under our control. We must demonstrate how we provide workplace support and how efficient we are. It is the FM's responsibility to know how much every activity related to facilities cost. How is that determined?

A budget is nothing more than assigning potential costs to various proposed projects or translating projects into costs. They are built around anticipated expenses, which are both known and unknown.

Costs and budgets are broken down into 1) operating, which are the day to day costs of running the facility and 2) capital, which are costs that are large and the project will take more than one accounting period to complete. All potential costs are included in one or the other of these budgets.

We not only need to budget for the short term, approximately a year (operating budget), we also need to develop long term or capital budgets. These are for replacements of the buildings or equipment or for construction of another fixed asset.

Operating Budgeting

Budgeting is taking the facilities tactical plan that was developed from the agency strategic plan, determine what can be completed within in the accounting period and putting costs to the various projects identified. In other words, the budget translates plans and projects into costs and responsibilities. The budget is built around anticipated expenses to complete the projects indicated on the tactical facility plan. Thus the budget is integrated into the organization's business plan. The budget must support the agency strategic plan. Lastly, the budget consists of estimated costs that are known and unknown. It is important to include all items in the budget even though the costs might not be clearly identified.

The budget helps establish goals for the facilities department along with indicating the projects that need to be completed. By constantly reviewing the budget you will need to constantly compare the actual expenses and schedule of the project to ensure that the actual project coincides and matches the approved budget. If you are constantly comparing where you are at and where you should be, you will be revising your goals many times to accommodate the variances found while completing the projects.

There is no doubt about it but facilities budgets are usually large because of the fixed assets that we are responsible for and they are very diverse. Most departmental budgets concentrate in one area. However, in facilities we need to budget for salaries, fringes, cleaning, repair, maintenance, depreciation, plus any outsourced services that are necessary keep a facility safe and healthy for occupants and visitors. Each area or category requires a different method of projection. While some costs can be determined by unit rate, some are fixed, and some are variable.

When developing a facility budget, we need to deal with all kinds of government regulations, including ADA, fire, life, safety codes, elevator codes, and any federal, state or local mandates for public places.

On top of everything else, we need to respond and react to emergencies. How do you budget for emergencies? Hopefully, you can request a contingency in your budget for emergencies but usually that does not happen. I know when I have to react to emergencies, I need to "borrow" or "steal" monies from somewhere else.

Portions of our budget are non-discretionary which means you need to include the expense in your budget even if you do not want to. The most common non-discretionary expense is depreciation. Even though there is no cash outlay, it still needs to be reflected in our budget. Sometimes depreciation can be one of the highest expenditures of our budget.

There are several steps to constructing an operating budget; 1) determine the projects that your department will complete during the next accounting period, 2) determine the cost (all costs) associated with that project, 3) justify the project and cost.

There are various different types of costs involved in constructing a budget. In constructing you public sector budget you might utilize some of all of the follow costs:

- Variable – Increase or decrease directly and proportionately with changes with volume
- Fixed – Do not vary
- Mixed – Semi-variable costs
- Unit – Relate resources consumed to outputs or outcomes provided by those resources in the form of a ratio

Let's develop an operating budget for the T & P Municipal Railroad. We first must ask ourselves what activities, products or services are required based on the facilities tactical plan? What is the cost of these activities, products or services? Then we must justify each request.

Some basic items that must be included are:

- Salaries and fringe
- Supplies and tools
- Utilities
- Asset acquisition
- Building Maintenance
- Equipment Maintenance

How do I determine how much each of these areas will cost? There are several tools that can assist you to obtain these costs. They include:

- Prior Years budget (s)
- IFMA Benchmarking Survey
- BOMA Experience Exchange Report
- Public Sector List Serve
- RS Means
- Management Directive

Once the operating budget is approved, it should not be placed in a drawer only to be referenced when developing the new upcoming year budget. The various budget line items should be reviewed at least monthly to determine if there is a variance. A *variance* is defined as a difference between the budget approved line items and the actual expenditures incurred to date.

Is the variance favorable? This means that the actual cost is less than anticipated. This is good and bad. Most of the time, you will be required to justify why there is a favorable budget variance. Sometimes, the project is taking longer than anticipated. Sometimes, the cost is less than anticipated.

Is the variance unfavorable? This is where the line item or projects are costing more than budgeted. An unfavorable variance must be justified. This is where keeping detailed listing of how you determined your budget really comes in handy. When dealing with budgets, the more detailed information, the better.

Senior management will probably only complete an entire agency budget review on a quarterly or mid year basis. But again it is good to review the budget on a monthly basis. That way you will be fully prepared to answer senior management's questions.

During the mid year review some questions that might be asked are:

- Variance?
- Favorable & why
- Unfavorable & why
- Projects on time?
- Project within budget?

The end of the year review might include the above plus the following:

- Have we met our objectives?
- Did we overspend or under spend?

Capital budgeting

Capital budgets are defined as budgets for projects that will take over one accounting period to complete, usually longer than one fiscal year. There are several types of capital budgets, which are:

- Expansion
- Asset replacement
- Asset renewal
- Asset Acquisition
- Cost Reduction
- New Service
- Compliance

There are several factors to consider when developing a Capital budget. All of the follow must be considered:

- Initial cost
- Cost of capital
- Life expectancy
- Time related project elements
- Future costs
- Risks associated
- Economic environment

The Capital Budget Process requires several quantitative analyses to provide answers to the above factors. Some things you must do are:

1) Define the problem,
2) Determine possible solutions,
3) Quantify all decision factors,
4) Identify non-quantifiable decision factors,
5) Weigh all factors for each decision, and 6) Make the accept/reject decision

There are several Capital Budget Quantifiable Methods available for you to use and it is possible for each to provide a different measurement to support or not support your hypothesis.

Cost Benefit Analysis

Cost benefit analysis refers to a process that helps appraise the case for a large project. It weighs the total expected costs against the total expected benefits of one or more actions to choose the best or most profitable options. The analysis finds, quantifies, and adds all the positive factors, these are benefits. Then it identifies, quantifies, and subtracts all the negatives, the costs. The difference between the two indicates if the proposed project is advisable. All costs and benefits need to be included and quantified to ensure that the cost benefit analysis is as accurate as possible.

To be as accurate as possible, cost benefit analysis includes costs and benefits that are less amenable to being expressed in financial or monetary terms, such as: environmental damage, goodwill, etc. as well as monetary terms.

Benefits and costs are expressed in money terms and adjusted for the “time value of money” so that all flows of benefits and flows of projects costs over time are expressed on a common basis in terms of their “present value”.

Cost benefit analysis is performed to determine how well a planned action or project will turn out. It relies on the addition of positive factors and subtraction of negative ones to determine a net result.

A cost benefit analysis finds, quantifies and adds all the positive factors; benefits. Then it identifies, quantifies, and subtracts all the negatives; costs. The difference between the two indicates whether the planned action or project is advisable. When performing this analysis be sure to include all costs and benefits (profits, cost avoidance, etc.)

Cost benefit analysis attempts to put all relevant costs and benefits on a common temporal footing.

Since all benefits and costs, (quantifiable and not) must be included, the accuracy of the analysis depends on how accurately these costs and benefits have been estimated. Since the unquantifiable benefits and costs are estimated, there is a margin for error when utilizing this method. Not only is it difficult to estimate costs and benefits, it is equally difficult to determine which costs and benefits to include in the analysis. The reason it is so hard to quantify the benefits and cost is that you are trying to quantify intangible costs and benefits.

I suggest going to Wikipedia to read all about cost-benefit analysis.

- Finds, quantifies and adds all the positive factors of pursuing the project
  - Benefits
- Finds, quantifies and subtracts all of the negatives
  - Costs
- Difference indicates whether the planned action is advisable
  - Include all costs & benefits & properly quantify

It is a simple calculation that depicts the total financial return for every dollar invested. The cost benefit ratio is always express as a decimal figure. Any result over one would be a viable project. For competing projects, the project with the highest cost benefit ratio would be the one chosen.

Please go to www.mindtools.com/pages/article/newTED to review the cost benefit analysis example. If you want to read more about cost benefit analysis you can go to www.sjsu/faculty/watkins/cba/htm for a white paper from the San Jose State University Department of Economics on cost benefit analysis.

Cost Benefit Example

CBR = Financial Benefits of project/Cost of Project
CBA = Benefits - Costs

- T & P Railroad is proposing to purchase a machine at a cost of $150,000 that will increase output and increase sales by $10,000 and replace three people at a salaries savings of $50,000.

- Benefits
  - Increase output & replace 3 people
  - $100,000 additional sales, $50,000 salaries savings
  -
- Cost
  - Initial cost & electrical
  - $50,000 cost + $150 electrical
  -
- CBA of $99,850 = $150,000 - $50,150

Life Cycle Costing

Life cycle costing is a methodology for calculating the whole cost of a system from inception to disposal (cradle to grave). Most facility professionals that perform these analyses on an ongoing basis utilize specialized software. This type of analysis includes all of the following elements:

- Design
- Construction
- Repairs – materials and labor
- Major items of cost will be defined through its life

Definition

- Economic method for assessing total cost of facility ownership
- Involves translating all expenses associated with building ownership over a prescribe 'life cycle'
- All costs arising form owning, operating, maintaining, and ultimately disposing of a facility
- Cradle to grave

Example of life cycle costing

- Buying a color printer
- XYZ brand cost $150
  - Cartridges cost $50 each and last 500 pages
- ABC cost $500
  - Cartridges cost $25 each and last 1,000 pages
- Which one would you buy?

By reviewing this example the choice is apparent the ABC life cycle cost is definitely lower than XYZ brand. It is not that easy when wanting to obtain a chiller or a large piece of equipment. Be sure to include all costs, including labor to repair the equipment when performing the life cycle cost analysis.

Return on Investment

Return on Investment (ROI) analysis is one of several approaches to building a financial business case. Decision makers evaluate the investment by comparing the magnitude and timing of expected gains to the investment costs. Decision makers will also look for ways to improve ROI by reducing cost, increasing gains, or accelerating gains. Recently, this approach has been applied to asset purchase decisions.

ROI is a measure of cash generated by or lost due to an investment. It measures the cash flow or income stream from the investment relative to the amount of invested. Return on investment is derived as the "return" incremental gain from an action divided by the cost of that action. Thus:

ROI equals gains minus investment costs divided by investment costs

According to Wikipedia Return (or rate of return or rate of profit) on Investment (ROI) is defined as: Rate of return or the ratio of money gained or lost (realized or unrealized) on an investment relative to the amount of money invested. The amount of money gained or lost may be referred to as interest, profit/loss, or net income/loss. The money invested may be referred to as the asset, capital, principal or the cost basis of the investment. ROI is usually expressed as a percentage rather than a fraction.

Payback period

Time it takes to recoup the project costs from the savings obtained from the capital project

Cost of project/annual cash inflow = payback period

Let's go back to the original VAV system that we want to obtain and install. Installation of the VAV for BMS will:

- Cost $20,000
- Save $2,000 a year on energy
- Take 10 years for the savings to match the cost of the capital improvement

Usually if the payback is more than three years, senior management will not approve this project. They do not want to tie a significant amount of money up with long term capital improvements.

Lease vs. Buy

There are several factors to the Lease vs Buy analysis. They are:

- Lessor costs of capital vs. user costs of capital
- Residual value benefits that accrue to the owner
- Obsolescence costs
- Increased credit opportunities from leasing
- Operational expense vs. capital expense

One reason to lease is to budget and spend the money out of the operating budget rather than the capital budget. In some agencies, getting capital budget approval can be very difficult. Leasing is sometimes a good alternative.

Another reason to lease is that long term debt is not tied up in paying for a piece of equipment of building. Companies that are strapped for cash will usually opt to lease equipment rather than entering into additional debt. Additional debt might lower their bond rating and their ability to borrow money.

Net Present Value (NPV)

The NPV takes future benefits & costs, which are then converted into present values. This analysis considers the time value of money. The purpose of this analysis is to find the present value of the project in “today’s dollars” of the future net cash flow of a project. The NPV takes into consideration “discount rate”.

This type of analysis is commonly utilized in the Real Estate arm of facility management. This is a very handy tool to determine whether is it is more feasible to rent new space, build a building, or buy an existing building. Most facility professionals that perform this analysis utilize financial calculator that has all the formulas programmed into the calculator.

However, if you wanted to figure it out by hand the formula is:

- PV=CF0*CF1/(1+r)1+ CF2/(1+r)2+ CF3/(1+r)n
- CFX=+cash flow in period X
- N= number of periods
- R=discount rate

How does all that I have discussed affect the facility manager? You can not be successful in presenting your proposals to the CFO unless you can express your ideas, justifications and proposals in numerical terms.

When requesting capital projects, it is imperative that you utilize one or more of the capital budgeting techniques mentioned above.

Conclusion

You need to know how much it costs to operate and maintain your facilities. It is up to you to let the CFO know how much it costs to maintain the high expense facility. It is not good enough to request funding for

upgrading or repairing equipment included in your central plant, you need to in money terms indicate how much it will cost if you do the repairs and how much it will cost the agency if the repairs are not completed. It is important to indicate that the costs optimize the facility's value and will extend the life of the facility.

Do you know how efficient your facilities staff are? By utilizing ratios and benchmarking you can find out very quickly. This information is great to share with the CFO. It will show where you are deficient or where you are better than average. These really help to justify additional resources for your operations and maintenance.

My recommendation to you is to become fiscally responsible. Know how much your department costs and how efficient you are by benchmarking.

I would suggest utilizing ratios for benchmarking and providing information to the CFO along with assisting to justify your budget. You must track both your operating and capital budgets to ensure that you are safe guarding the tax payers money.

This paper has provided ways that you can develop and impart facilities information to your agency's financial officer in their terms, numbers and money. You now have some tools to use to develop meaningful facility based ratios to present to the financial officer.

As I indicated you need to be part of the team to develop the both the facilities strategic and tactical plan. These plans are derived from the agency's strategic and tactical plan. The operating and capital budgets that you develop should be based on your facility tactical plan.

You also have tools to develop both operating and capital budgets.

- You now know that after personnel, facilities are the largest cost to an organization and how you can relate those costs to the CFO.
- You can now communicate with your Financial Officer utilizing financial jargon of numbers and money.
- You now know how your daily activities impact your agency's bottom line and how we need to be fiscally responsible.

You now have the tools to accomplish the following:

- Understand and become familiar with basic finance terminology
- Learn to speak to the Financial Officer utilizing finance jargon
- Understand how facility management impacts the agency's finances

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