

Finance & Buusiness



Facility managers are central to overseeing the financial aspects of the organization, actively participating in procurement processes for efficient resource acquisition, and skilfully managing the finances associated with contracts to optimize resource utilization.



Finance and Business

✦ Introduction

Role of facility managers as related to *Finance and Business* competency

According to the IFMA global job task analysis:

Facility managers manage/oversee aspects of the entire organization that represent significant financial investment in technology, buildings, structures, interiors, exteriors and grounds. The entire organization may choose to contract for services. Facility managers typically are responsible for the oversight, operation and maintenance of the buildings and grounds as well as service contracts.

Reduced to its essentials, finance and business in facility management involves:

- Overseeing the financial management of the facility organization.
- Administering procurement.
- Administering and managing/overseeing the finances associated with contracts.

A facility manager's role in each of these areas is, of course, shaped by the policies, practices and norms of the organizational environment.

In this *Finance and Business* competency, the goal is to present essential concepts underpinning finance and business appropriate for facility managers.

Overview of *Finance and Business* competency

Although the perspective presented combines descriptive and prescriptive information, this course is not meant to be an end-all in finance and business management for facility managers. Finance and business, as is facility management, is an integrated organizational function, not a stand-alone activity. As such, facility managers will need to engage finance, legal, procurement, risk managers and others in their organizations to make value-maximizing decisions.

This competency aims to provide proficiency and guidance. As you read through the course, reflect on the culture of your organization and consider how this information applies.

A snapshot of competency contents is shown in Exhibit 2-39.



Exhibit 2-39: Overview of *Finance and Business* Competency

Chapter	Content
1. Finance and Business in the Facility Organization	• The importance of finance and business awareness • Financial terminology and accounting concepts
2. Financial Management of the Facility Organization	• Types of budgets and budgeting concepts • Financial statements • Business cases and documentation • Cost terms and cost accounting concepts • Ratio analysis • Cost containment • Chargebacks
3. Procurement in the Facility Organization	• Procurement principles, practices and processes • Outsourcing basics
4. Contracts in the Facility Organization	• Contracting fundamentals and mechanisms • Contract terms • Fraud awareness and prevention • Contract monitoring and closeout • Contract risk management



Chapter 1: Finance and Business in the Facility Organization

After completing this chapter, students will be able to:

- Understand how finance and business management are key ingredients in the success of facility management.
 - Recognize key finance terms prevalent in facility management.
 - Comprehend basic accounting principles and practices that underpin facility management operations.
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✦ Topic 1: The Importance of Being Finance- and Business-Aware

Finance and business play a critical role in every organization. Without money and its successful management, few organizations survive, much less grow and prosper.

Finance is the use, interpretation and management of information related to the financial operation of the facility. This includes the development, use and interpretation of financial data in any form, e.g., reports, spreadsheets, computer printouts, budgets, pro formas, cost statements, ratios and more. Finance is also the ability to provide information to and understand information from the organization within which the facility operation exists. In some cases, this may be two organizations: the client and the facilities contractor.

Business is the use, interpretation and management of documents related to the administration and management of contracts, service providers and leases, including lease agreements, business cases, chargebacks and procurement policies and procedures.

For most facility managers, a key responsibility is to prepare and manage budgets to the standards required by the organization. But the reality is, in any organization, the duties and responsibilities of the facility manager are far-reaching, and almost all facility management decisions have financial and business implications.



Think about it. As building managers, FM professionals are typically entrusted with one of the most expensive assets of an organization—real estate. Managing the vast majority of FM operations without simultaneously considering the related finance and business implications is a potential way to a disaster. With one single decision, a facility manager can save or cost an organization more than that manager makes in annual salary. One ill-advised purchase can cause unnecessary expense for years to come. At the very least, deficiencies in basic finance and business knowledge can impede a facility manager from contributing fully to discussions and conversations about departmental and organizational strategy.

This chapter provides the foundation and explains basic finance terminology and essential accounting concepts for facility managers. With this information we will proceed to explore additional core finance and business topics in facility management through subsequent chapters.

Suffice it to say, understanding finance and business concepts are imperative. Being able to communicate with senior or executive management (sometimes referred to as the “C-suite”) about finance and business is also essential. For your words to be taken seriously, you need to be able to converse on finance and business topics, demonstrate your knowledge and appreciation of current business challenges and be able to introduce ideas that are relevant to organizational business needs. By doing so, you will establish your credibility with organizational executives and the likelihood of them listening to what you say is greatly increased. Learning the language of finance and business and speaking it with confidence can only have a positive impact on your own career development and strategic contributions to the entire organization.

(Note: While the focus of this competency is understanding finance and business topics, the *Communication* competency provides content about the complexities and challenges of “talking the talk” with senior executives.)

✦ Topic 2: Financial Terminology

Facility management is grounded in a clear understanding of property and FM needs—what resources and services are required to have adequate funding for projects, services, operations, maintenance, repairs and the like. Collectively, these needs become the budget requirements for efficient and effective facility management. FM budgets are one of the key discretionary spend areas in non-core business activity and thus offer one of the best options to improve net profitability in the short term.



Just as facility management has its own specialized terminology, so does finance. Thus, we begin with a primer of financial terms. Why? Understanding fundamental terms that are part of senior management's financial vocabulary is a prerequisite to have FM needs and suggestions heard, accepted and funded.

An overview of basic financial terms and definitions follows in Exhibit 2-40. Note that these terms will be explained in more detail in subsequent content. Along the way, additional terms and concepts will be introduced.

The terms are presented in alphabetical order, and the list is not intended to be all-inclusive. Think of the list as a baseline reference of common terms found throughout this *Finance and Business* competency. Also, keep in mind that these terms may be defined slightly differently across organizations. Here we simply lay the foundation for the in-depth content that lies ahead.

Exhibit 2-40: Common Financial Terms for Facility Managers (continued on next page)

Term	Definition
Accounting	A monetary reporting system used to inform interested parties about a firm's business transactions.
Accrual basis accounting	Revenues recorded when earned and expenses recorded when incurred.
Amortization	The systematic reduction of a lump-sum amount; the expense applies to intangible assets (such as patents, franchises, leaseholds and goodwill) in the same way depreciation applies to physical assets.
Asset	Something that retains value for a period of time after purchase such as a building or a piece of equipment.
Balance sheet	A "snap shot" of a firm's financial position at a specific point in time.
Budget	A formal, numerical expression of how an organization expects to operate for a defined period of time. Identifies the resources and commitments needed to satisfy the identified goals over a period as well as the sources of the funding to provide those resources.
Capital asset	A depreciable item whose cost is significant to the company and whose expected life is longer than one accounting period and often much longer.
Capital budget	Shows financial impacts resulting from major, long-term, non-routine expenditures for items like property, plant and equipment.
Cash flow	Net cash before financing, including acquisitions.
Chargeback	Describes the ability of facility management to charge its services to another group that is requesting those services. Also known as cross-charging or recharging.
Chart of accounts	Numerical list of all standard items that an accounting system tracks: assets, liabilities, net assets, revenues, expenses.
Closing fiscal period	Process of transferring account balances from sub-ledgers to trial balance account at the end of an accounting period; typically associated with income statement accounts.



Exhibit 2-40: Common Financial Terms for Facility Managers (continued on next page)

Term	Definition
Cost	The price paid for acquisition, maintenance, production or use of materials or services.
Cost-benefit ratio	Ratio in which the net present value of an investment or project is divided by the investment's or project's initial cost; a ratio of greater than one indicates that the investment or project is viable.
Cost center	An organizational unit in which budgetary funding is used to sustain operations.
Cost of operation	The total costs associated with the daily operation of a facility. It includes all maintenance and repair costs (both fixed and variable), administrative costs (clerical, time-keeping, general supervision), labor costs, janitorial, housekeeping and other cleaning costs, utility costs and indirect costs (e.g., all costs associated with roadways and grounds). Could also include the amortized or depreciation costs of capital assets.
Cost of ownership	The cost to the owner of owning the building, servicing the existing debt, and receiving a return on equity. This also includes the cost of capital improvements, maintenance and repair, operations, and disposal.
Credit	Positive cash entries in a bank account; an amount due to be paid to, or already residing in, an account. The opposite of debit.
Creditor	A lender of money or one to whom funds are owed.
Currency conversion factor	The net rate at which the organization converts revenues and expenses from one currency into another. Often an internally agreed rate set at the start of the budget year so as to remove the effect of currency fluctuations from operational budgets; almost never the same as the nominal exchange rate.
Debit	An amount due to be paid from, or already paid from, an account. The opposite of credit.
Debtor	An individual, company or other organization that owes debt to another individual, company or organization (the creditor). Almost always compensates a creditor with a certain amount of interest, representing the time value of money.
Depreciation	A noncash charge against assets, such as cost of property, plant and equipment over the asset's useful life. An expense associated with spreading (allocating) the cost of a physical asset over its useful life.
Discount rate	The rate at which future cash flows are discounted because of the time value of money; the interest rate used to compute a present value amount.
Double-entry accounting	An accounting system in which each transaction is recorded in at least two places: a debit to one account and a credit to another account. Also known as dual-entry accounting.
Earnings before interest and taxes (EBIT)	A measure of an organization's earning power from ongoing operations, equal to earnings before deduction of interest payments and income taxes.
Earnings before interest, tax, depreciation and amortization (EBITDA)	An approximate measure of an organization's operating cash flow based on data from the organization's income statement. Calculated by looking at earnings before the deduction of interest expenses, taxes, depreciation and amortization.



Exhibit 2-40: Common Financial Terms for Facility Managers (continued on next page)

Term	Definition
Equity	The residual ownership interest in an organization's assets after deducting all of its liabilities. Can also be the issued shared capital of the organization.
Equivalent annual cost (EAC)	The cost per year of owning and operating an asset over its entire life span. This measure facilitates comparisons of the cost-effectiveness of various assets.
Expenses	Money outflow that represents goods and services consumed in the course of business operations.
Feasibility study	Study of a planned scheme or development, the practicality of its achievement, and its projected financial outcome.
Financial accounting	Relates to the preparation of financial statements for the organization as a whole. May be used by owners and other internal parties but primarily intended for external parties such as creditors, investors, government agencies, unions and suppliers. Information is developed according to specific accounting standards.
Financial Accounting Standards Board (FASB)	The primary financial reporting standards-setting body in the United States; an independent, nonprofit group under the authority of the U.S. Securities and Exchange Commission (SEC).
Financial leverage	Refers to the use of borrowed money in acquiring an asset.
Financial ratios	Analytical tools examining the relationship of one quantity to another. Used to show underlying financial conditions and to help judge the financial health of an organization.
Financial reporting	The process of presenting information about an entity's financial position, operating performance, and cash flow for a specified period.
Financial statements	Documents (e.g., balance sheet, income statement, statement of cash flows, statement of retained earnings) that report financial information about an organization.
Fixed asset	An asset, such as property, plant or equipment, that has a long life and cannot be expensed in a single year or cannot be easily converted into cash.
Fixed costs	Costs that remain unchanged in total for a given time period, despite wide changes in the related level of total activity, for example, a licensing fee or taxes.
Fixed expenses	Expenses over which a company has little control.
Generally accepted accounting principles (GAAP)	In the United States, rules, procedures and conventions used to help govern an organization's accounting operations and the preparation of financial statements.
Income statement	Accounting document that represents the company's revenue and expense transactions for the reporting period.
Incremental budgeting	A budget method that extrapolates from historical data; next year's budget is constructed by starting with the current year's budget as a baseline and then adjusting each line item for expected changes.
Insurance	A system to protect persons, groups or businesses against large financial loss by transferring the risks to an insurance company or other large group who agrees to share the financial losses in exchange for premium payments.



Exhibit 2-40: Common Financial Terms for Facility Managers (continued on next page)

Term	Definition
Intangible assets	Assets that have no physical substance. Intellectual property (items such as patents, trademarks, copyrights, business methodologies), goodwill and brand recognition are all common intangible assets.
Internal rate of return (IRR)	The interest rate at which lifetime dollar savings equal lifetime dollar costs, after the time value of money is taken into account. This rate is then compared to the minimum acceptable corporate rate of return to determine if the investment is desirable. This is one of the most important tools for facility managers because it is used frequently to compare competing investment proposals.
International Financial Reporting Standards (IFRS)	A set of international accounting and reporting guidelines and rules that organizations can follow when compiling financial statements.
Journal	A daily, chronological record of business transactions.
Journal entry	An entry to the journal, recording a financial transaction (as a debit and then as a credit) by date. Journal entries are eventually posted to a ledger.
Lease	A contract between the owner of real property (lessor) and another party (lessee) for the possession and use of the property for a specified term in return for rent or other valuable consideration.
Ledger	Accounting book of final entry, recording journal transactions under separate accounts. Sub-ledgers provide more detailed information about individual accounts.
Liabilities	Debts a business incurs that are expected to result in future negative cash flows to the firm (for example, salaries and tax liabilities). Can also include an assessment of net risk items (e.g., bad debts).
License	Distinguished from a lease, a license is the degree of real property interest the signer has in a property. A lease provides a higher level of legal interest in a property than a license.
Life cycle	The useable life span of a product, process, facility, tool, system, technology, natural resource and the like. It is based on the presumption that all things go through a continuous cycle beginning with creation, use and disposal, and then ideally start all over again.
Life-cycle costing	Process of determining (in present-value terms) all costs incident to the planning, design, construction, operation and maintenance, and disposition of a structure over time.
Liquid assets	Cash or assets that can be immediately converted to cash (or are easily convertible to cash).
Management accounting	Relates to the provision of accounting information for an organization's internal users, designed to support the information needs of managers. Unlike financial accounting, management accounting is not bound by any specific accounting standards. Also referred to as managerial accounting.
Net present value (NPV)	The monetary value today that an investment project earns after yielding the desired rate of return for each period during the life of the investment.
Operating budget	A short-term budget projecting all estimated income and expenses during a given period (usually one year). Excludes capital expenditures because they are long-term costs.



Exhibit 2-40: Common Financial Terms for Facility Managers (concluded)

Term	Definition
Opportunity costs	Represent “lost” opportunities (measured in monetary units) that could have accrued to the entity by pursuing an alternate course of action.
Payback period	Refers to the length of time it will take to recoup the initial investment cost. In other words, how long it takes to earn back the funds you spent on a project.
Period	Time interval covered by a financial statement; usually one year for external statements but often less (month or quarter) for internal statements.
Present value (PV)	This method is used to compare costs; all cash flows are converted to their present value or the value of past and future dollars corresponding to today’s value.
Profitability index (PI)	The ratio of the present value of the cash inflows to the initial investment cost.
Pro forma statement	A financial statement prepared as a projection of the future. Attempts to present a reasonably accurate idea of a financial situation if present trends continue or certain assumptions hold true.
Property loss	The loss in the book (balance sheet) capital value of an asset due to changes in market conditions, requiring a write-down in the asset values and thus a reduction in the value of the balancing equity value.
Property tax	A tax levied against owner, lessor or occupier of any property based on an assessment of the value of the property, its public infrastructure requirements, or some other determining factor.
Revenues	Cash or properties received in exchange for goods or services.
Statement of cash flows	A financial statement used to show cash levels across the operating period so as to ensure that predicted liabilities due to be paid at any given time do not exceed the ability to pay.
Statement of shareholders’ equity	A financial statement that starts with the balances from the end of the prior period and shows changes due to net income (loss) and dividends for the period or any new issuances or repurchases of stock.
Time value of money principle	A dollar in hand is worth more than a dollar to be received in the future because it can either be consumed immediately or put to work to earn a return.
Trial balance	Total of all debits and credits; if debits do not equal credits, an error has occurred (e.g., mistake in entry, omission, double posting).
Variable costs	Costs that change in total in proportion to changes in the related level of total activity. For example, fuel costs depend on mileage driven.
Variable expenses	Expenses that fluctuate and may be influenced by factors such as occupancy levels.
Working capital	The funds required to service the worst cash flow position plus any contingency provision deemed necessary.
Zero-based budgeting	A budget method in which the continued existence of items must be justified both financially and operationally before they are included in the new budget.



✦ Topic 3: Fundamental Accounting Concepts

Fundamental accounting is the foundation for many FM activities such as forecasting, budgeting and expense review, which, in turn, influence the accuracy of organizational numbers. It helps to ensure efficiency and stewardship over the organization's resources and also satisfy legal and regulatory requirements. Ultimately, sound accounting practices by facility managers influence how the performance of the department is judged.

We begin our discussion with an overview of financial accounting and management accounting. Subsequent information looks closer at accounting standards. We close the accounting content with an overview of a few other basic accounting concepts that can help a facility manager work effectively with organizational decision makers who are focused on financial considerations, purchasing and accounting departments, vendors and others.

Financial accounting and management accounting

Recall how financial accounting and management accounting were defined in the primer of financial terms. As these definitions point out, financial accounting prepares information primarily for *external* use, whereas management accounting includes the design and use of information *within* organizations. A focus of financial accounting is to provide information via financial statements. Management accounting supports the information needs of organizational managers. In that regard, some describe financial accounting as external accounting and management accounting as internal accounting.

Exhibit 2-41 summarizes the basic differences between financial and management accounting.

Exhibit 2-41: Financial and Management Accounting Differences

Financial Accounting	Management Accounting
Provides data for <i>external</i> users.	Provides data for <i>internal</i> users.
Provides objective and verifiable financial information; emphasis on precision of information.	Includes financial and nonfinancial information; may also include subjective information; accuracy is important but the emphasis is on relevance and timeliness of information.
Must follow externally imposed rules.	Not bound by any mandatory rules.
Reflects aggregate, summarized data for the entire organization.	Reflects parts of an organization (measures and internal reports about products and services, departments, managers, employees and customers) as well as the whole organization.
Provides a historical orientation; records and reports on events that have already occurred.	Records and reports on events that have already happened but emphasizes providing information about future events.



Organizational accounting systems should provide both financial and management accounting information.

There are bound to be some variances in the actual accounting systems and specific financial and management accounting practices across organizations. Organizational specifics (e.g., size, sophistication, industry, public, private and other characteristics) will dictate the accounts and detailed records kept.

Some organizations have a single accounting system that supplies information for both financial and managerial needs. Large organizations may have two or more accounting systems for different purposes.

But whatever the practices and conventions, they should be consistently implemented within an organization.

Further, a facility manager should understand what is usual and customary and meet those expectations.

Facility management and management accounting

Facility management numbers are important in financial accounting. Operations are reflected in financial statements through numbers such as property, plant or equipment or other assets and expenditures that have long lives. But the majority of day-to-day accounting in FM is grounded in management accounting.

Management accounting provides a facility manager (as well as other internal managers) information to facilitate the basic management activities of planning, directing and motivating, controlling, and decision making shown in Exhibit 2-42 on the next page. Specific FM examples are included.

As Exhibit 2-42 notes, planning, directing and controlling all involve decision making. And, in practice, these management activities are more cyclical than linear.

For example, in daily operations, a facility manager's management activities are likely to flow from planning through directing and controlling and back to planning again for a wide variety of tasks.



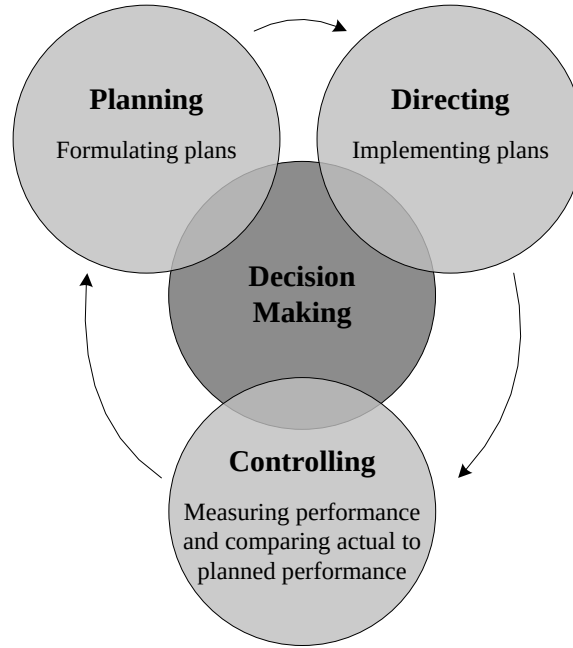
Exhibit 2-42: Application of Management Accounting Information

Management Activity	Description	FM Examples
Planning	Identifying alternatives, selecting a course of action, and specifying how the actions will be achieved	• Reviewing current water consumption reports and water bills for a commercial building • Setting objectives and identifying methods to increase profits by improving water efficiency • Securing necessary organizational approvals and funding
Directing	Mobilizing and motivating people to carry out plans and execute operations	• Assigning related tasks to FM staff • Retraining FM staff in procedures as necessary • Installing aerators for sinks and showers to provide immediate reductions • Initiating programs to collect rainwater and runoff for irrigation systems • Educating customers, users and building visitors about water resource management efforts
Controlling	Controlling operations to ensure that plans are carried out and appropriately modified as circumstances change	• Monitoring water efficiency operations and programs to ensure that they are being carried out as intended • Monitoring program costs • Reviewing performance reports and comparing actual performance and any ongoing savings in water bills with old expenditures, planned reductions and expected savings • Soliciting feedback from FM staff, customers and users about the water efficiency initiatives • Taking corrective actions as warranted to improve plan execution and/or control costs
Decision making	Making a variety of management decisions throughout planning, directing and controlling activities	• Identifying alternatives and choosing among competing objectives and methods to carry out water efficiency plans • Reviewing related expenditures and savings throughout the initiative • Making small and large decisions that affect FM staff, customers, users and building visitors • Answering questions, helping to solve problems and arbitrating any disputes

As depicted in Exhibit 2-43, decision making is an overarching activity throughout.



Exhibit 2-43: Cycle of Management Activities



The cycle of management activities shown in Exhibit 2-43 is akin to other FM process and planning models (for example, the Plan, Do, Check, Act four-step process).

Accounting standards

Accounting standards may be generally defined as benchmarks prescribed for the reporting of accounting data. There are different types of accounting standards, and they can range from basic to extremely complex. Next we look at two sets of accounting standards that a facility manager should be aware of: the International Financial Reporting Standards and the generally accepted accounting principles. (Also, keep in mind that due diligence is required for regional and local accounting standards that may impact FM operations.)

International Financial Reporting Standards (IFRS)

Globally, many countries require, or promote the use of, the International Financial Reporting Standards (IFRS). These international accounting standards are established and maintained by the International Accounting Standards Board (IASB), an independent private-sector body formed from the accountancy bodies of numerous countries.

The adoption of IFRS as a universal financial reporting language is gaining momentum worldwide. Multinational organizations and more than 100 countries and political and economic unions follow IFRS—to name but a few,



the European Union, Hong Kong, Australia, Malaysia, Pakistan, several Persian Gulf states, Russia, South Africa, Singapore and Turkey. The use of the standards allows organizations, investors, governments and others to compare IFRS-supported financial statements with greater ease.

Generally accepted accounting principles (GAAP)

The accounting profession in the United States has attempted to develop a set of standards that are generally accepted and universally practiced. In the United States, generally accepted accounting principles (GAAP) is sanctioned by the Financial Accounting Standards Board (FASB), an independent self-regulating body. All organizations operating in the United States are expected to follow GAAP (and FASB standards) in accounting for transactions and in representing their results in financial statements.

GAAP accommodates variation in applied accounting methods as long as the methods generally adhere to the following basic principles:

- **Relevance.** Relevance means that the information presented in financial statements (and other public statements) should be appropriate and should assist a person evaluating the statements to make educated guesses regarding the future financial state of the organization.
- **Reliability.** Reliability implies that the organization is representing a clear picture of operations. Basically, an organization must confirm that if an independent auditor were to base his or her report on the same information he or she would come up with the same results.
- **Comparability.** Comparability means that statements reflect the use of standards and techniques similar to those used in other organizations so that users can differentiate real similarities and differences from those caused by divergent accounting rules.
- **Consistency.** Consistency means that all information should be gathered and presented the same across all periods. The same standards are applied over time so that financial statements from differing periods can be compared.

GAAP is applicable only in the United States. However, the International Standards Accounting Board is working toward convergence with GAAP. At this writing, whether U.S. public companies will be required to use IFRS is still unresolved. For now, IASB and FASB and continue to work together to develop high-quality, compatible accounting standards for domestic and crossborder financial reporting.



A particular significant change in the works for both IASB and FASB is expected to require that all leases be treated as capital leases. (Under current accounting practices, organizations choose between two methods for classifying leases: operating leases or capitalized leases.) It is projected that the new standards would apply no earlier than the year ending 2015 or 2016.

(Note: There are major financial ramifications associated with this change in lease accounting. The *Real Estate and Property Management* competency includes additional information about the shift to capitalized leases.)

Without standards—whether IFRS or GAAP—each organization could theoretically prepare financial statements according to its own accounting standards and reporting practices, making it problematic—if not impossible—to compare the financial statements of different enterprises, even within the same industries.

Accounting standards guide the conduct to be followed by organizational accountants. As they influence FM financial record keeping, facility managers should also adhere to accounting standards.

Accounting records

Regardless of an organization's unique needs, any accounting system has standard records and practices. We next look at three types of fundamental accounting records facility managers should understand: the chart of accounts, ledgers and journals.

Chart of accounts

A chart of accounts is a numbered list of all standard items that an accounting system tracks. It captures organizational revenues and expenses in a systematic manner. Capturing all financial information through this consolidated system:

- Enables the organization to make sound financial decisions.
- Provides critical data for the preparation of financial reports.
- Allows for accurate financial comparisons.
- Facilitates an organization's ability to respond to requests for financial data from regulatory agencies, lending institutions and others.

Coding can also be used to track costs across projects and matrix work units (e.g., horizontally as well as vertically within business units).

Account categories

A chart of accounts typically covers five categories of financial information: assets, liabilities, net assets (owner's equity or capital), revenues and



expenses. These categories are listed in the order in which they customarily appear in the financial statements.

- **Assets.** An asset is something that retains value for a period of time after purchase such as a building or a piece of equipment. Assets are what an organization owns. Assets may be physical; they may also be financial or intangible resources.

Generally, assets are listed in descending order of liquidity. Cash is listed first, followed by items that are easily converted to cash. Equipment and real estate are usually listed last.

- **Liabilities.** Liabilities are the debts a business incurs that are expected to result in future negative cash flows to the firm (for example, salaries and tax liabilities). Liabilities can also include an assessment of net risk items (e.g., bad debts). An organization's liabilities must be paid with assets or services in the future.

Liabilities are further classified as current and long-term. Current liabilities are obligations due within the coming year. Long-term liabilities are debts with maturity dates that are longer than a year.

- **Net assets.** Simply put, net assets reflect an organization's financial worth. They are the balance that remains when liabilities are subtracted from assets.

An equation often shown for net assets is:

$$\text{Assets} - \text{Liabilities} = \text{Net assets}$$

In the for-profit sector, net assets are considered profits. In not-for-profit organizations, net assets are sometimes referred to as net equity or reserves.

- **Revenues.** Revenues are cash or properties received in exchange for goods or services. Revenues collectively describe an organization's income sources. In addition to income received from goods or services sold, another example is income from investments.



- **Expenses.** Expenses are money outflow that represents goods and services consumed in the course of business operations. Expenses are the costs of assets used up and the liabilities incurred for the purpose of operating the organization.

Chart of account structure and numbering conventions

Various factors influence what information should appear in a chart of accounts. Primary considerations are:

- How will the information be used?
- What level of detail is required?
- What is the capacity of the accounting system to track information?
- What financial reports must be prepared?

All financial information entered in the chart of accounts must be assigned an account code. This numerical designation should correspond with the organization's accounting records so that the information can be tracked through the financial reports, by department, by location, by project, by operation and by building. Further, it is important that items in a chart of accounts are grouped in a consistent manner.

An excerpt of a chart of accounts follows. It is hypothetical and not intended to be comprehensive but rather to provide a simple and general illustration of some common categories and numbering conventions a facility manager may see in a chart of accounts.

In Exhibit 2-44 on the next page, the following numbering conventions are used to assign account numbers:

- **1** for assets
- **2** for liabilities
- **3** for net assets
- **4** or **5** for revenues
- **7** or **8** for expenses

In setting up a chart of accounts, a range of numbers is assigned to each category and unassigned numbers should be left open to accommodate future growth and change.

There are numerous software programs with useful templates and fields that may be used to construct a chart of accounts.



Exhibit 2-44: Sample Chart of Accounts—Categories and Numbering Conventions

Assets		Net Assets	
1000	Cash	3100	Construction revenue
1010	Checking account (name) #1	3200	Professional services
1015	Checking account (name) #2	3250	Property management
1020	Savings account (name) #1	3500	Rental property income
1030	Petty cash		
1040	Temporary cash investments		
1100	Accounts receivable		
1120	Rental property leases		
1300	Loans made to others		
1400	Inventory—land		
1500	Inventory—buildings		
1600	Work in progress		
1700	Other assets		
1710	Prepaid expenses		
1800	Fixed assets—general		
1810	Business vehicles		
1820	Tools and equipment		
1830	Office furnishings and fixtures		
1900	Depreciated assets—general		
Liabilities		Revenues	
2000	Accounts payable	4100	Product revenues
2010	Business taxes	4200	Service revenues
2020	Open purchase orders	5100	Other revenues
2030	Credit card (name) #1		
2040	Credit card (name) #2		
2100	Short-term loans		
2101	Loan (name) #1		
2102	Loan (name) #2		
2200	Construction loans		
2201	Loan (name) #1		
2202	Loan (name) #2		
2300	Other current liabilities		
2400	Payroll liabilities		
2500	Vendor liabilities		
2600	Vehicle/equipment loans		
2601	Loan (name) #1		
2602	Loan (name) #2		
2700	Mortgages owned		
2701	(address) #1		
2702	(address) #2		
2703	(address) #3		
		Expenses	
		7000	Salaries and wages
		7110	Management
		7120	Other salaries and wages
		7300	Payroll taxes
		7320	Unemployment insurance and taxes
		7330	Workers' compensation insurance
		7340	Life and accidental death and disability insurance
		7500	Accounting fees
		7510	Outsourced accounting fees
		7520	Outsourced payroll fees
		7530	Outsourced auditing fees
		7540	Banking service fees
		7600	Office supplies
		7700	Telecommunications
		7710	Local access
		7720	Long distance
		7730	Internet access
		7740	Wireless
		7750	E-mail service
		7800	Postage and shipping
		7900	Printing
		8000	Janitorial services
		8400	Corporate travel
		8410	Airfare
		8420	Lodging
		8430	Taxi/limo
		8440	Auto rental
		8450	Meals
		8600	Repairs and maintenance
		8700	Insurance

Ledgers

A ledger is a presentation of an account or accounts.

Most organizations use computers for accounting (rather than manual recording). Whether done by computer or manually, a ledger compiles accounting records.



A general ledger is a collection of all the organization's financial information by accounts—assets, liabilities, net assets (owner's equity or capital), revenues and expenses. The chart of accounts serves as a table of contents for the general ledger.

Journals

Journals, or books of original entry, systematically organize financial information by transaction types (for example, receipts, disbursements, payroll, accounts receivable and accounts payable). All accounting transactions are chronologically recorded in a journal before being entered in the general ledger.

Types of journals

The simplest journal type is the general journal, a chronological listing of transactions and other events expressed in terms of debits and credits to particular accounts. Some organization use special journals in addition to the general journal that summarize transactions with common characteristics such as (but not limited to) the following examples.

- Cash disbursement journal.
- Cash receipts journal.
- Payroll journal.
- Inventory purchases journal.
- Accounts payable journal and accounts receivable journal.

Some financial accounting software packages will track all bills as accounts payable and all revenue as accounts receivable. This type of software eliminates the need for the cash disbursement and cash receipts journals.

An entry into a journal is called a journal entry or journalizing.

Sample journal entries

Each general journal entry has four parts:

- The accounts and the amounts to be debited
- The accounts and the amounts to be credited
- A date of transaction
- An explanation—usually made up of the creditor/debtor name, the type of transaction (e.g., “goods supplied” or “monthly fee”), and the intended journal title (as a cross-check).

Journal entries may or may not include monetary designations. When journal entries show transactions within the same country, monetary designations are often omitted. However, monetary designations specifying currency assume



particular importance in situations involving cross-border transactions and multinational organizations. The euro (€) is the currency shown in Exhibit 2-45 below and in Exhibits 2-46 and 2-47 in the next section.

Exhibit 2-45 shows an example of a general journal with sample entries for the following transactions.

- February 1: €20,000 water efficiency equipment purchased on account from Aqua Monitoring Systems Company
- February 2: €180 invoice received from Copy Max for brochures promoting water conservation and explaining the facility management water efficiency program
- February 11: €2,400 credit for merchandise return to Aqua Monitoring Systems Company

Exhibit 2-45: General Journal with Sample Entries (No References Shown)

Date 20XX	Account Title and Explanation	Reference	Amount	
			Debit	Credit
February 1	Equipment Accounts payable (Purchased on water efficiency equipment account from Aqua Monitoring Systems Company)		€20,000	€20,000
February 2	Printing Accounts payable (Received invoice from Copy Max for water efficiency brochures)		€180	€180
February 11	Accounts payable Merchandise returns (Returned equipment to Aqua Monitoring Systems Company)		€2,400	€2,400

Posting journal entries

The process used to transfer journal entries to the general ledger is known as posting. Most organizations use the double-entry method, which is discussed next.

Double-entry accounting

As we have seen, an account is simply a record of transactions that fit within a specific category. Double-entry (or dual-entry) accounting is a system in which each transaction is recorded in at least two places: a debit to one account and a credit to another account.



In the financial terminology primer earlier in this chapter, debit and credit were defined as follows.

- Debit is an amount due to be paid from, or already paid from, an account. Debit is the opposite of credit. In double-entry accounting, debits are shown as the left-hand side of a journal entry or an account record, where debts and expenses are recorded. Debit is commonly abbreviated as “Dr.”
- Credit refers to positive cash entries in a bank account. A credit is an amount due to be paid to, or already residing in, an account. It is the opposite of debit. In double-entry accounting, credits are shown as the right-hand side of a journal entry or account record, where payments to the account are recorded. Credit is commonly abbreviated as “Cr.”

In Exhibit 2-46 we see a posting of journal entries for the water efficiency equipment.

Exhibit 2-46: General Journal Postings in Ledger Accounts

Equipment		No. 1800	
February 1	€20,000		
<i>The equipment account debit increases.</i>			
Accounts Payable		No. 2000	
February 11	€2,400	February 1	€20,000
		February 2	€180
Merchandise Returns		No. 2300	
		February 11	€2,400
		<i>The merchandise return account credit increases.</i>	
Printing		No. 7900	
February 2	€180		
<i>The printing account debit increases.</i>			



Debit and credit do not automatically mean a decrease or increase to an account; rather, they describe where entries are made in the recording process.

- Debiting is making an entry on the left-hand side of an account.
- Crediting is entering an amount on the right-hand side of an account.

This double-entry accounting format showing both the debit and credit sides of the account is sometimes called a T-account because the left- and right-side format looks like the letter T.

Double-entry posting ensures that a journal is always in balance. For any transaction, money is moved from one account to another. For assets and expenses, a debit increases the account and a credit decreases the account. For liabilities and revenues, a debit decreases the account and a credit increases the account. For example, the purchase of the water efficiency equipment would initially be entered as a debit for equipment and a credit for accounts payable. When the equipment is paid off, accounts payable would be debited and the cash account would be credited. At any given time, the total value of the debit accounts must equal the total value of the credit accounts.

In the journal postings in Exhibit 2-46, the “No.” notations of 1800, 2000, 2300 and 7900 refer to the ledger accounts to which the respective items are posted. Every organization selects its own numbering system for its ledger accounts. In this example, the “No. 2000” is associated with accounts payable. At the time of posting, these are the numbers that are entered as references in the general journal.

Exhibit 2-47 on the next page is a completed version of Exhibit 2-45. It shows the reference numbers recorded opposite the account titles in the journal, indicating the ledger account number involved and that the posting has been completed for the particular item.

Double-entry accounting is a widely accepted international accounting practice, and it is used by most organizations throughout the world. Various accounting standards, however, allow an organization to record its transactions and post entries using either the double-entry accounting method or a single-entry accounting format (discussed next).



Exhibit 2-47: General Journal with Sample Entries (References Shown)

Date 20XX	Account Title and Explanation	Reference	Amount	
			Debit	Credit
February 1	Equipment	1800	€20,000	
	Accounts payable (Purchased on water efficiency equipment account from Aqua Monitoring Systems Company)	2000		€20,000
February 2	Printing	7900	€180	
	Accounts payable (Received invoice from Copy Max for water efficiency brochures)	2000		€180
February 11	Accounts payable	2000	€2,400	
	Merchandise returns (Returned equipment to Aqua Monitoring Systems Company)	2300		€2,400

Total debits = €22,580

Total credits = €22,580

Single-entry accounting

Businesses that have strictly cash transactions may use a single-entry bookkeeping method instead of double-entry, recording entries once. Single-entry accounting is much like the way people record checks and deposits in a checking account register. The primary form of record keeping in a single entry system is the cash book, which is essentially an expanded form of a check register, with columns in which to record the particular sources and uses of cash.

In a manual accounting system, summary totals from all journals are entered in the general ledger once a month. A year-to-date balance can then be maintained for each account. In a computerized accounting system, account data is typically entered only once. The software then automatically tracks the account number wherever it appears and updates the general ledger. Most software packages also include a general ledger that shows every transaction included in the balance for each account.

Did You Know?

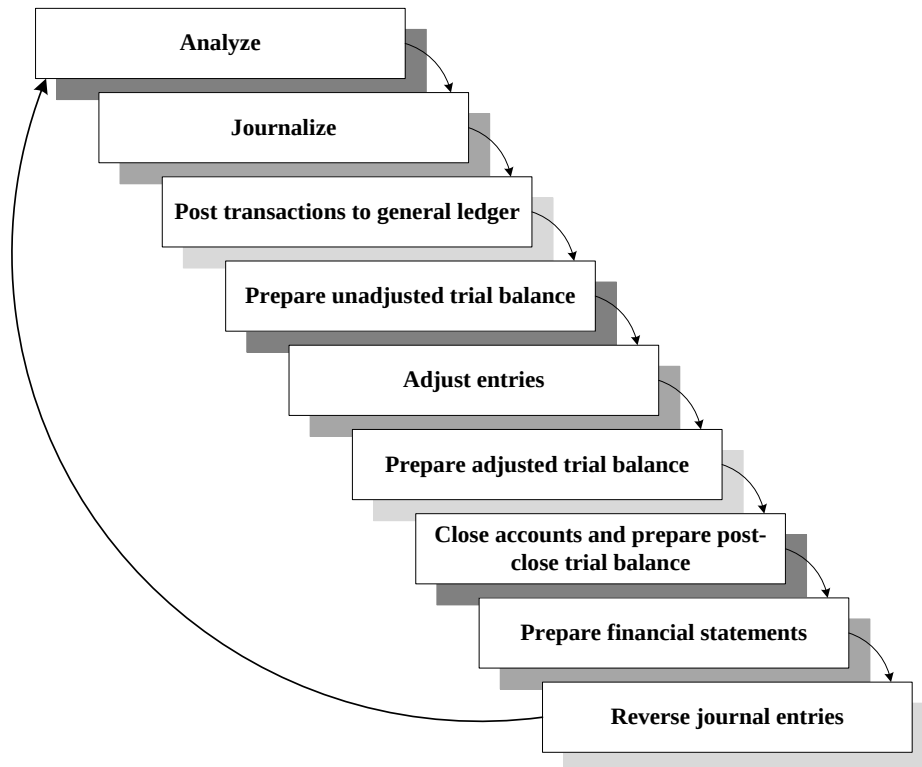
Single-entry bookkeeping does not abide by IFRS and GAAP accounting regulations. Accordingly, small, privately held businesses with limited transactions are more likely to use this type of bookkeeping. It is generally possible to reconstruct a double entry-based set of accounts from single entry accounting records, although the time required to do so may be substantial.



Accounting cycle

The accounting cycle refers to the accounting procedures organizations typically use to record, analyze and summarize financial transactions and events. The accounting cycle is repeated in each reporting period and often referred to as a series of steps. Exhibit 2-48 shows the steps in the accounting cycle. Note that the first three steps (analyze, journalize and post transactions to general ledger) are performed as transactions occur, throughout the accounting period. The remaining steps are performed at the end of the accounting period.

Exhibit 2-48: The Accounting Cycle



All accounting systems use some variation of these steps to record and verify transactions. When the steps in the accounting cycle are completed, the sequence starts over again (in the next accounting period).

Overall, procedures in the accounting cycle help to ensure that financial records are accurate and current and that they reflect appropriate accounting standards (such as IFRS or GAAP). Although a facility manager does not have responsibility for the full accounting cycle, a general awareness of the steps is helpful.



Accounting principles for financial statements

Individuals responsible for preparing financial statements have decisions to make about what, how and when to report activity. Facility managers are not directly involved in these financial accounting activities. But they do need to understand that they take place and that FM has a role in providing timely information to allow close-of-period accounting activities; facility managers should understand how their actions affect and are affected by the close of period.

Some of the accounts shown in organizational financial statements do reflect facility management activities. Organizational assets, for example, include supplies, inventory, buildings, land and equipment. Liabilities encompass items such as mortgages, salaries owed and taxes payable. Revenues earned, interest earned and revenues from repairs are part of revenues. Expenses include utilities, rent, supplies, salaries, taxes, phones and so on.

Given the important financial contributions of FM, a facility manager should be aware of some of the more basic accounting principles that guide deciding what, how and when to review information, who approves the information, and who in accounting records transactions (for example, historical cost, revenue recognition and full disclosure). While these accounting standards and conventions (and others) are primarily the direct concern of the organization's financial accountants and, for the most part, beyond a facility manager's responsibility, you may find it helpful to learn more about them.



Progress Check Questions

Directions: Read each question and respond in the space provided. Answers and page references follow the questions.

1. Providing financial information for internal users is known as
☐ a. financial accounting.
☐ b. accounting for decision making.
☐ c. accounting for transactions.
☐ d. management accounting.

Match the following accounting system components with their record-keeping function.

2. _____ Chart of accounts a. Organizes financial information by accounts
 3. _____ General ledger b. Shows a numbered list of standard items that an accounting system tracks
 4. _____ Journal c. Organizes financial information by transaction types
5. True or false? According to the rules of debit and credit, increases in assets are recorded on the debit (left) side of the account.
☐ a. True
☐ b. False
 6. The process that copies amounts from the journal to the ledger is
☐ a. recording transactions.
☐ b. journalizing.
☐ c. posting.
☐ d. preparing a trial balance.



Progress check answers

1. d (p. 2-154)
2. b (p. 2-159)
3. a (p. 2-163)
4. c (p. 2-163)
5. a (p. 2-166)
6. c (p. 2-164)



Chapter 2: Financial Management of the Facility Organization

After completing this chapter, students will be able to:

- Understand how to develop, recommend and manage/oversee the facility's budget requirements.
 - Identify the basic financial statements an organization prepares and the impact that facility management has on them.
 - Be able to prepare business cases, supporting documentation and financial reports.
 - Apply cost concepts in facility management operations.
 - Understand how to use financial ratios and facility metrics to analyze and interpret financial documents.
 - Recognize cost-containment opportunities to reduce or avoid facility management costs.
 - Describe how chargebacks can help to control facility costs.
-

Topics in this chapter explore the essential concepts of finance and business that facility managers need to know to be intelligent consumers of financial information—how to develop and maintain budgets, judge the financial merits of different investment opportunities, and determine which operations are profit generators and which are not.

✦ Topic 1: Budgets and Budgeting Basics

A budget is a formal, numerical expression of how an organization expects to operate for a defined period of time. It identifies the resources and commitments needed to satisfy the identified goals over a period as well as the sources of the funding to provide those resources. Stated another way, budgets are financial plans for the future. In its simplest form, a budget projects revenues and expenses. Budgeting is the process of gathering information, establishing the financial projections and monitoring progress toward them.

We begin with an overview of the importance of budgeting and a look at what budgets accomplish. Within any organization, there are many types of budgets. Who is involved in preparing and monitoring the budgets also varies across organizations. The content explains various approaches organizations



can use to develop budgets. It then provides details about two types of budgets (operating and capital) that directly affect all facility managers, regardless of organizational specifics. Additional budgeting concepts that a facility manager may encounter, general budgeting guidelines and high-level international budgeting considerations are presented.

The importance of budgeting

Budgets are important for management planning. In that respect, they are similar to strategic plans and forecasting. While they have additional commonalities, budgets have some key distinctions.

Compared to strategic plans, budgets have a narrower focus. Strategic planning encompasses numerous programs undertaken to implement organizational strategies; it precedes budgeting and provides the framework for budgeting. In that regard, resulting budgets portray a slice or segment of a strategic plan.

Forecasting involves planning but lacks the high level of control and accountability that budgets have. Variances in forecasts do not undergo the same scrutiny as they do in budgets (where they are analyzed and explained). Budgets imply that management accepts responsibility and commits to meet the budgeted objectives (whereas the forecaster is not directly responsible for forecasted outcomes).

Budgeting provides an organization with several fundamental benefits, including (but not limited to) the following:

- Improves communication and coordination
- Forces management to plan
- Provides a basis for performance evaluation
- Allows for fine-tuning the strategic plan

Budget approaches

Approaches to budgeting differ across organizations, but all fall somewhere on a continuum between being entirely authoritative and entirely participative. Exhibit 2-49 on the following page provides an overview of these budget approaches. Currency examples are in Canadian dollars (C\$).

The combined iterative budget approach is best practice for most organizations because it provides balance between strategic and tactical inputs. Ownership of budget and thorough review lead to tight budgets that get followed.



Exhibit 2-49: Comparison of Authoritative, Participative and Combined Budgeting

Budget Approach	Description	Advantages and Disadvantages
Authoritative	Senior management sets everything from strategic goals down to the individual items of the budget for each department and expects lower managers and employees affected by the budgets to fulfill these goals. Also known as a top-down budget.	<i>Advantages:</i> - Budget goals reflect strategic objectives. - Better control over decisions. <i>Disadvantages:</i> - Dictates instead of communicates. - Senior management may be out of touch with departmental operations and set unrealistic or unattainable goals. - Can result in employees feeling resentful and/or unmotivated.
Example: Senior management slashes C\$200K allocated for repairs and maintenance for the upcoming year. The facility manager must develop the operating budget with C\$200K less as the expense target and is forced to postpone some preventive maintenance.		
Participative	Managers at all levels and certain key employees cooperate to set budgets for their areas. Top management usually retains final approval. Also known as a bottom-up or self-imposed budget.	<i>Advantages:</i> - Expertise leads to informed budget decisions. - Can result in employees feeling involved and empowered. <i>Disadvantages:</i> - Strategic goals do not receive priority in the budgetary process. - Easy or abdicated approval can lead to loose budgets and budget padding (where managers have incentive to underestimate revenues or overestimate costs).
Example: A facility manager develops a department operating budget with input from purchasing, human resources and administration. Upon completion, the budget is sent to senior financial management for review and approval.		
Combined	The ideal process combines the features of authoritative and participative budgeting and falls somewhere between these methods. Also known as an iterative budget. Characterized by two-way communication: - Senior management understands participants' difficulties/needs. - Participants understand management's dilemmas.	<i>Advantages:</i> - Strategic goals are communicated top-down and implemented bottom-up. - Personal control leads to acceptance, which leads to greater personal commitment. <i>Disadvantages:</i> - Control retained and expertise gained at the cost of a slightly longer process.
Example: Senior management provides FM (and all other department heads) with a clear understanding of strategic goals. A facility manager works in her team to develop an operating budget that incorporates FM tactical goals aligned to the larger strategic goals. Senior management reviews the FM budget, and once any adjustments are negotiated, the budget is approved.		



Certainly, a facility manager will have to understand the budgeting norms and conventions of the organization. Such knowledge is a critical success factor to help ensure that:

- The financial models used to develop budgets are appropriate.
- The format is appropriate and consistent with business requirements.
- The process for developing the budget follows standard management and financial practices of the entire organization.

Setting budget assumptions

Regardless of an organization's unique requirements or budgeting approach, the budget process typically involves developing a set of reasonable assumptions about the future.

Formulating reasonable budget assumptions requires consideration of questions such as (but not limited to):

- What are expectations for revenues in the upcoming year?
- What are projected operating expenses?
- What projects are forecasted?
- Is customer growth (or decline) anticipated?
- How many full-time equivalent (FTE) facility management employees will be needed? How much will employees be compensated?
- What are projected costs for health-care benefits?
- How many contract personnel will be required? How much will the outsourcing cost?
- Are supplier prices expected to increase or decrease?
- How much will rent, insurance and taxes be?

In practice, setting assumptions may also involve a measure of organizational politics and circumstance. For example, budgets in organizations that are financially solvent tend to be more robust and volumes may exceed assumptions compared with organizations where finances are tight. In the latter case, budgets may be set below assumptions.

Discussions with colleagues and other organizational personnel are also valuable activities:

- Senior management—for a clear view of strategic goals
- Finance—for records of past performance and forecasts of future trends
- Human resources—for shifts in the labor market
- Sales—for information about tenant prospects
- Purchasing—for information about suppliers and price trends



Discussions with vendors and landlords are also important.

It's important to realize that the elements behind the questions and assumptions are dynamic. Employment costs and conditions change, the supply of and demand for facility management services varies, laws that affect business and employment change, and a myriad of other factors can shift up or down. To develop reasonable budget assumptions, facility managers need to stay current with what is going on. In the end, the assumptions are educated guesses about the future.

Once assumptions are in place, the budgeting process unfolds according to organizational protocol, culminating in an agreed-upon pact between FM and senior management. Reading about the elements of operating and capital budgets next will provide a sense of additional steps that are generally involved in their preparation.

Types of budgets

Operating and capital budgets are two types of budgets that are extremely important in FM.

Operating budget

Formally defined, an operating budget is a short-term budget projecting all estimated income and expenses during a given period (usually one year). It excludes capital expenditures because they are long-term costs. Operating budgets are also called operational budgets or operational expenditures.

Operating budgets provide an important management planning and control mechanism. At a minimum, development of the budget should take into consideration:

- Management's objectives for the site and facility.
- Trend data (e.g., surveys, demographic research and benchmark reports).
- Probable changes in economic factors—anticipated changes in external factors such as higher utility costs, labor costs/availability, material costs/availability, regulations and new codes.
- Detailed information on the site and facility's age, physical condition and finances.
- Internal customer needs for ongoing services and upcoming projects.
- Organizational initiatives.

True to its name, an operating budget consists of funds that are used to support daily operations. Customarily, an operating budget estimates revenue (income)



and expense items on a monthly basis and includes projections for a one-year period. Specific items contained in an operating budget may vary, but typical categories are shown in Exhibit 2-50.

Exhibit 2-50: Customary Operating Budget Revenue and Expense Categories

Revenues (if any)
Chargebacks (if any)
Expenses—categories such as (but not limited to):
• General and administrative (including salaries)
• Office
• Operations and maintenance
• Noncapital projects
• Design and engineering
• Taxes
• Insurance
• Marketing
• Leasing (including leasehold amortization)
• Depreciation (all capital depreciation)

The operating projections should take into account seasonal variations in expenses and income (e.g., utility costs or snow removal) as well as expenses that are paid on something other than a monthly schedule (e.g., real estate taxes or insurance).

An ongoing challenge in FM is to be proactive regarding assets and avoid getting mired in reactive initiatives of fixing things as they break. Good due diligence in preparing an operating budget enhances asset management and helps to mitigate perpetual reactive maintenance.

Developing an annual work plan (as a precursor to the operating budget) can result in a helpful tool to plan and organize expense information about projects, operations, maintenance and other costs and expenditures for the projected period. The annual work plan (AWP) covers short-term needs, is very specific and based on solid projections.

Exhibit 2-51 shows an example of customary information found in an annual work plan. Note that the list of cost categories reflects the expense categories shown above in Exhibit 2-50.



Exhibit 2-51: Common Cost Categories in Annual Facility Management Work Plan

General and administrative Salaries Employer's taxes Employment insurances Pension payments Health-care insurances Other benefits Office Purchase Rental Clothing and uniforms Car fleet Fuel and oil Maintenance and repairs Office automation Telecommunications Landlines Mobile phone charges Switch maintenance Printing Copier leases/renewals Mail Postage Equipment Couriers Operations and maintenance Utilities Natural gas Electricity Steam Water/sewage Fuel oil Environmental costs Waste management Operations Landscaping and grounds maintenance Health and safety operations Life and safety Emergency and disaster planning Security Guards Systems Fire precautions Detection and alarms Extinguishers Snow removal Employee amenities Vending areas Cafeteria/food service ATM Day care	Operations and maintenance, continued Maintenance Preventive Scheduled Deferred Repair Custodial Cleaning contract Consumables Pest control Moving/porter services Noncapital projects Minor construction Renovation Repair Design and engineering Computer-aided design (CAD) photography and renderings Taxes Insurance Building insurance Liability insurance Marketing Leasing Depreciation (all capital depreciation)
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A software spreadsheet can be used to translate the categories into an actual work plan. Exhibit 2-52 is a work plan excerpt showing the general and administrative costs from Exhibit 2-51.



**Exhibit 2-52: Annual Facility Management Work Plan
Sample Excerpt**

Cost Categories	Amount	Comments
General and administrative Salaries Employer's taxes Employment insurances Pension payments Health-care insurances Other benefits		

Keep in mind, this work plan excerpt is just an example of possible categories. It is not intended to be a ready-made template. Categories and how they are populated is a function of what is appropriate for an organization.

In this sample, there are no entries in the fields. The “Amount” headers should specify the currency being used. Whatever remarks might be helpful to clarify the costs or expenses can be included in the “Comments” column. For example, regarding “Personnel,” if the facility manager is planning to hire one new FTE maintenance person, the comment might be: “Includes one new hire FTE maintenance.”

A work plan had numerous benefits. For example, it can bring money allocated for preventive maintenance to the forefront. Chief financial officers (CFOs) often want to cut preventive maintenance funds until they understand the value of it.

Next, we see how this annual work plan excerpt could be translated into an operating budget. Exhibit 2-53 on the next page shows a sample excerpt of a hypothetical operating budget for general and administrative costs for the calendar month of April. Actual expenses are shown in comparison to budget; variances are also included.

A well-planned operating budget:

- Helps to optimize FM department performance.
- Greatly enhances a facility manager’s ability to recognize patterns and trends.



Exhibit 2-53: Facility Management Operating Budget, April 20XX
Sample Excerpt

Cost Categories	Fiscal Year Budget Amount	Expended Year-to- Date	Budget Year-to- Date	Variance	Expense This Month (Month 8)	Expense This Month Last Year	Change Year on Year	Current Year-End Forecast	Forecast Outturn Against Budget
Salaries	250,000.00	187,500.00	166,666.67	-20,833.33	22,315.00	18,475.22	3,839.78	270,833.33	-20,833.33
Employer's taxes	25,000.00	18,750.00	16,666.67	-2,083.33	2,231.50	1,847.52	383.98	27,083.33	-2,083.33
Employment insurances	81,250.00	60,937.50	54,166.67	-6,770.83	7,252.38	6,004.45	1,247.93	88,020.83	-6,770.83
Pension payments	10,000.00	7,500.00	6,666.67	-833.33	892.60	739.01	153.59	10,833.33	-833.33
Health-care insurances	62,500.00	46,875.00	41,666.67	-5,208.33	5,578.75	4,618.81	959.95	67,708.33	-5,208.33
Other benefits	25,000.00	8,762.25	16,666.67	7,904.42	250.00	1,000.00	-750.00	17,095.58	7,904.42
Total	453,750.00	330,324.75	302,500.00	-27,824.75	38,520.23	32,685.00	5,835.22	481,574.75	-27,824.75



Capital budget

A capital budget shows financial impacts resulting from major, long-term, non-routine expenditures for items like property, plant and equipment.

Two related terms are capital asset and capital expenditures:

- **Capital asset**—a depreciable item whose cost is significant to the company and whose expected life is longer than one accounting period and often much longer.
- **Capital expenditures**—acquisitions of new or expanded long-term plant assets.

A capital budget is a direct, high-dollar response to the organization's business objectives. Capital budgeting requires an organization to reserve substantial funds and resources for use on large investments, oftentimes to realize benefits far into the future. Because of the magnitude of capital expenditures, a capital budget is a multiyear presentation.

The organization's finance department customarily sets organizational rules for capital program development, and finance personnel (e.g., CFO, controller, analysts) are involved in capital budget approval and monitoring. A facility manager has a major role in gaining approval for capital projects and in capital program development.

Organizations may set capital thresholds (cutoff levels) that establish the sphere of influence that finance and operational managers each have for capital projects. For example, finance may delegate more authority and responsibility to a facility manager for capital requirements below US\$50K. That finance department then takes ownership for any expenditure above US\$50K. Facility managers (and all other department managers) must understand organizational rules, policies and procedures for capital budgeting set by finance management, and they must unconditionally observe the protocol.

Capital projects are evaluated internally. The FM department and other departments submit capital requirements for approval. Finance makes go/no-go decisions through a process that assesses, prioritizes, programs and budgets initiatives before releasing them back to the submitting department for execution. Ideally, submissions for capital requirements show long-term economic and operational benefit to the organization. Of course, there can be some situations where capital project justification is driven by another reason—compliance with a new mandatory regulatory requirement, for example.



Gaining approval for capital project can be challenging. A facility manager increases chances for approval by rigorous due diligence. Answering the questions listed in Exhibit 2-54 increases the probability for approval.

Exhibit 2-54: Due Diligence Considerations for Capital Projects

-
- | | |
|---|--|
| • Does the project support organizational business objectives and reflect the priority of those objectives? | • Will this project yield an average return on investment? |
| • What are the boundaries for the project (e.g., what the project will do and what it will not do)? | • Will this project modernize work processes and result in cost savings? |
| • Is the funding needed to complete an ongoing project? | • Is this project needed to ensure the organization's financial integrity? |
| • Does this project involve maintenance or replacement of worn-out equipment? | • Is this project necessary to comply with legal/regulatory requirements? |
| • Will this project yield a high expected return on investment? | • What are the financial risks associated with this project? |
-

By its nature, capital budgeting is complex. Capital expenditures often have a different tax treatment from operational expenditures and are sometimes more or less attractive to the CFO, depending on that tax treatment. However, decisions on whether an expenditure can be treated as capital versus operating are often beyond the control of the facility manager.

The upcoming discussion of business cases (Topic 3) further discusses the justifications related to capital investments.

Additional budgeting concepts

Several important operating and capital budgeting principles have been presented. The following overview of some additional budgeting concepts can help facility managers to better coordinate efforts with upper management and promote their departments in terms that finance- and business-oriented senior management will understand.

Estimating revenue and expense projections

A budget must account for revenue and expense projections.

Revenue projections

Most facility managers do not have any revenue projections—unless they have retail space they are leasing on a regular basis; are leasing property owned by their company, such as a building, or space to a third party; are subleasing property, a building or space to a third party where the facility has a lease with



a landlord; or realize monies from the sale of a facility. There are some FM departments that have a chargeback requirement to their internal customers by which the facility manager would realize revenue from the work provided to internal customers.

If there are revenue projections, it is wise to remember that unpredictable events can and will affect revenues. However, revenues can be projected with some degree of accuracy, based on experience. The key in projecting revenues is to make adjustments as soon as there is sufficient information to anticipate future plans or changes.

Expense projections

Expense projections should consider all the costs required to achieve the organization's objectives—capital expenses (for example, equipment) and general administrative expenses.

As with revenue projections, experience can help determine some of the expenses. But upcoming changes and unknowns must then be factored in, such as (but not limited to):

- Increased personnel costs and associated expenses (e.g., compensation and benefits, training, additional office space and supplies and any additional supervision).
- Rising administrative costs (e.g., increases in rent and insurance premiums).
- Seasonal variations (e.g., temporary increases or decreases in labor requirements, periodic maintenance, utility costs, snow removal and so forth).

Ultimately, revenue and expense projections must be compared, even though there is no rule that says they must always balance. Deficits and surpluses or breakevens may occur. Certainly, large deficits are undesirable. Typically, when revenues and expenses are not at desired levels, FM activities are reevaluated and, in some situations, readjusted.

Fixed/variable budgeting

Fixed/variable budgeting separates costs according to how they relate to other areas of an organization's business.

Fixed costs

Fixed costs are costs that remain unchanged in total for a given time period, despite wide changes in the related level of total activity (for example, a licensing fee or taxes).



The organization is committed to fixed costs for the whole of the accounting period, and (in general) such costs cannot be reduced or deferred without incurring some significant additional risk, business impact or cost of change.

In addition to remaining stable, fixed costs tend to be recurring. Additional examples are rent held constant by a lease, annual liability insurance premiums and depreciation. Short of a major change (such as the renegotiation of a lease), an organization's actual and budgeted fixed costs should be identical month after month.

Although fixed costs remain stable and do not change up or down for the time period, they can and often do change between budget cycles. Taxes, for example, can go up or down but are not activity-driven.

Variable costs

Variable costs are at the other end of the spectrum. Variable costs change in total in proportion to changes in the related level of total activity. For example, fuel costs depend on mileage driven. Variable costs are cost elements that can be changed in the short term with few constraints. (Albeit often there is still some business impact.)

As the name implies, variable costs are not stable—they vary directly with changes to activity in a budget (such as assets and expenses). If a budget activity increases, so will variable costs (and vice versa). A couple of other examples of variable costs are the costs of mail services or printing—expenses that vary according to usage.

Budget periods

Organizations must prepare budgets for a set time period. A budget is typically established for the one-year period that corresponds to the fiscal year of the organization (although the organization's fiscal year may not be the same as the government's tax year or the calendar year).

Annual budgets are often broken down into quarterly and monthly time periods, allowing managers regular opportunities to compare actual data with budgeted data. This process can highlight any problems and allows managers to remedy the problems more quickly.

An increasingly popular budgeting method is continuous budgeting (also called a rolling budget), which is a 12-month budget system that rolls forward one month (or quarter) as the current month (or quarter) is completed. A continuous budget has a month, quarter or year basis. As each period ends, the upcoming period's budget is revised and another period is added to the end of the budget.



Budget methods

There are several different budgeting methods an organization may use. Budget methods a facility manager may encounter may include any one of the following.

Incremental budgeting

Incremental budgeting is a budget method that extrapolates from historical data. Next year's budget is constructed by starting with the current year's budget as a baseline and then adjusting each line item for expected changes.

Zero-based budgeting

Zero-based budgeting is a budget method in which the continued existence of items must be justified both financially and operationally before they are included in the new budget.

Most budgeting methods incorporate some review of historical data. Zero-based budgeting incorporates a unique perspective regarding historical records. Zero-based budgets help to avoid situations in which ineffective activities continue to exist simply because they were in the prior budget. While the traditional incremental budget focuses on changes to the past budget, the zero-based budget focuses on a critical review of every assumption and cost justification for all proposed expenditures.

Activity-based budgeting

True to its name, an activity-based budget (ABB) focuses on activities. ABB includes the use of activity-based costs to make a clear connection between resource consumption and output. This allows managers to better understand how resource demands are affected by changes in activity.

The ABB approach emphasizes value-added activities and expresses budgeting units in terms of activity costs. By identifying value-added versus non-value-added activities, ABB provides opportunities for cost reduction and elimination of wasteful activities.

ABB proponents maintain that traditional incremental budgeting focuses on departments or products and services and obscures the relationship between costs and outputs by oversimplifying the measurements and grouping them into broad categories. Because traditional budgets rely on past (historical) budgets, there is more potential to continue funding items that would be cut if their cost-effectiveness (or lack of) were known. ABB proponents further



General budgeting guidance

think that the activity-based budgeting approach coordinates and synchronizes activities of the entire organization to better serve customers.

Many factors characterize an FM budget, but no single factor can lead to a successful operating or capital budget. FM is a major consumer of organizational resources. For this reason, the reality is that FM budgets are subject to closer scrutiny than those of most other departments. Facility managers do not need to be budget experts, but the high-level visibility of their budgets necessitates that they be able to knowledgeably contribute to the budget process, answer resource questions with FM and business knowledge using the financial language/words that management understands, and demonstrate the department's efficient and effective use of resources.

Finance and business personnel who review and approve FM budgets are often unfamiliar with department practices and principles. Given that, the budget process provides a facility manager with the opportunity to educate those individuals about what FM does to accomplish the following:

- Support the organization's core business.
- Control costs.
- Outline anticipated cost increases and/or decreases for the budget period.
- Quantify the impact of any capital requirements on the operating budget.

The overall goal of the budget process is to produce accurate and detailed financial projections and provide for fiscal accountability. A proactive FM budget process facilitates the preparation of both operating and capital budgets. Exhibit 2-55 on the next page offers some general guidelines appropriate for facility management across all types of organizations.

Budget monitoring

Monitoring expenses against budget levels is a core management activity for a facility manager. "Periodic review" is a term often used interchangeably with budget monitoring.

The frequency—weekly, monthly, quarterly, midyear or annual—is determined by the detail required, organizational practices and personal preference. Regardless of timing, each review provides a facility manager with important data. Periodically monitoring the budget by reviewing reports and accounting records helps to determine if allocated funds have been spent as specified. If deviations appear between the approved budget and actual spending, variations can be analyzed and, if warranted, appropriate adjustments made.



Exhibit 2-55: Guidelines for Effective Facility Management Budgeting

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- | | |
|---|---|
| <ul style="list-style-type: none">• Know the organization's strategic plan, core business and operational objectives. Make budget decisions that align FM to them. Demonstrate that alignment to external reviewers and stakeholders.• Understand the organization's budgeting process—the guidelines you need to follow, the timing of the process, and how the organization will use the budgets.• Understand all line items in the budgets FM contributes to. If you don't know what something means or how the number is derived, ask questions to find out.• Foster buy-in from decision makers. Understand the concerns of the people making decisions about the FM budget. Be sure to address those concerns in the department budgets.• Establish rapport with finance staff involved in the budgeting process. Regularly communicate and coordinate FM requirements. Ask questions about points you don't understand. As appropriate, seek advice about the assumptions being made in the FM budgeting.• If other FM personnel are to participate in the budget process, make sure that everyone involved understands elementary accounting principles. | <ul style="list-style-type: none">• Design the FM budget process to be consistent and easy to understand. Clarify everyone's roles in the budget process.• If time permits, draft a preliminary budget that estimates revenues and expenses. If they are not within senior management parameters, look for ways to make adjustments.• Once a budget is implemented, regularly monitor expenses against budget levels to track progress toward budget goals.• If budget problems arise, be prepared to correct them through formal plans of action and to offset negative budget variances.• Have ongoing discussions with those involved in FM budgeting. The better the communications and planning, the increased chance of handling and responding to unplanned contingencies.• Have several contingency projects and activities identified should spending levels be lower than anticipated. |
|---|---|
-

Data analysis and statistical analysis software has greatly increased the amount of data and information that budget analysis can compile. Spreadsheets, databases and financial analysis software can produce accurate, up-to-date information for review. In addition, many organizations incorporate enterprise resource planning (ERP) programs and integrated work management system (IWMS) or computer-aided facility management (CAFM) systems into their budgeting process.

ERP programs have the ability to consolidate all of an organization's operating information into a single computer system. For example, a facility manager and finance personnel could use ERP data to estimate and then track the effects that an FM budget alteration has on other parts of an organization.

An IWMS or CAFM system has the capability to monitor and manage budgets for buildings and equipment. As such, an IWMS or CAFM system can implement the ERP budget in more detail.



Budget closeout

The accounting systems that organizations and FM use to monitor budgets may vary. Regardless of how it is done, there is a clear message for a facility manager: If you do not regularly monitor expenses against budget levels, it is possible (even highly probable) that you won't properly understand FM budget status and there is a greater likelihood for wrong decisions based on misunderstanding. Remember that for some organizations, capital expenditures can be a direct cost to a business unit and a wrong decision can result in a direct loss to that business unit versus profit for the year or longer.

Budget closeout coincides with the end of the fiscal year. As with many aspects of budgeting, budget closeout can be simple or complex. Some organizations may have formal authorization requests to close; others may have a more informal closeout process, signaled when all administrative actions have been completed and expenses have been posted to accounts. Simple or complex, the process typically requires coordination between the facility manager and the finance department.

Legal and financial requirements and even simple tasks may differ across organizations. For example, in most government sectors, there is a rigorous closeout of purchase orders. With few exceptions, the government closes out its books at the end of every fiscal year since the authority to obligate those funds normally expires at the end of that year. Expenses are simply accounted for based on the obligation incurred during the fiscal year in which the funds were appropriated. Customarily, this is followed by a financial audit. FM must follow the rules prescribed by the organization and its environment.

In the private sector, accruals are a part of the year-end closeout process. An accrual refers to either accrued revenues (which are earned revenues yet to be received as cash or recorded) or accrued expenses (which are incurred but unpaid expenses yet to be recorded).

There are two ways to account for receiving cash or paying expenses.

- **Cash basis** (or cash basis accounting) accounts for cash when it is received or spent. Items promised to be paid or received, such as accounts payable and receivable, are ignored.

Example: When a work order has been issued and the work has been carried out but not yet invoiced, the work order value may be used to calculate the accrual.

Cash basis accounting is not allowed under IFRS or GAAP.



- **Accrual basis** (or accrual basis accounting) records the revenue or expense when it can be reliably measured.

Example: Utilities accruals may be based on meter readings and self-calculation of the sum due, as utility invoices are often too late in being issued by the provider for year-end purposes.

Accrual basis accounting is the accepted norm for most organizations.

In FM, accruals are funds that a facility manager estimates to be expended by a certain date because of obligations made before that date. At fiscal year-end, a facility manager estimates what he or she can obligate, although those items may not be expensed until the first quarter of the next fiscal year. For example, a bill is coming due and a facility manager needs to accrue against that amount. There are issues associated with “over” or “under” accruing.

Budget closeout ultimate reveals how well a facility manager has managed the budget. Whether it is one percent or less, within five percent, or some other percent, the number is an indicator of performance—good or bad.

Multinational budgeting considerations

Multinational organizations have additional considerations in budgeting. Operating and capital budgeting theory does not change, but the process is more complicated. Furthermore, there are many additional complexities in global investment analysis.

Even though a facility manager cannot directly influence global budgeting practices, it is wise to have a general awareness of the major issues and challenges such as (but not limited to) those listed in Exhibit 2-56. These same issues and challenges prevail when evaluating global investments.

Exhibit 2-56: Impact of Select Global Factors on Budgeting

Global Factor	Potential Budget Implications
Legal and regulatory requirements	Country-specific factors must be carefully researched, documented and understood. Government policies and regulations can affect acquisitions and purchases, taxation and other budget items.
Currency	Unpredictable events can sometimes result in rapid changes in rates of inflation and monetary exchange rates.
Collective bargaining, employee representation and government mandates	Employees in most parts of the world are protected from actions that impact their wages and employment conditions. The implications for minimum wages, severance packages and pensions must be understood.
Culture	Cultural differences necessitate involving local contacts to understand usual and customary practices.
Risk management	There are many potential issues that can pose high levels of risk to the safety and well-being of employees and other organizational assets.



State or cross-border benchmarking and budgeting

There is general international acceptance that standards are a proven business facilitator and standardization increases consumer confidence, lowers costs and otherwise supports the growth of economies.

The European Committee for Standardization (CEN) is such a business facilitator in Europe. Through its services, CEN provides a platform for the development of European Standards and other technical specifications that become the national standards in each of its member countries. CEN along with its American counterpart, ANSI (the American National Standards Institute), are both member organizations of ISO (the International Organization for Standardization).

CEN's benchmarking standard identifies many factors that can impact finance or business in state or cross-border benchmarking such as (but not limited to):

- National rules and regulations.
- Currency exchange rates.
- Taxation and value-added tax.
- Accounting rules.
- Rental basis and service charges.
- Labor costs.
- Level of outsourcing.
- Subletting.
- Spare capacity (temporarily/short-term vacant space).
- Effect of internal recharging.

The impact of these factors (and others) cannot be ignored but must be understood when deciding whether to use benchmarking or which factors to benchmark.

In general, cross-border benchmarking should be used with extreme care and should include careful analysis of all relevant factors. It is likely to be a valid exercise when the objective of the benchmarking is to establish at least one of the following comparisons:

- Real operating costs within an organization so as to make an informed decision on relocation
- The cost/benefit/risk of potential investment in a new operation in a new territory
- Resource usage or effectiveness within existing operations in two or more different territories to assess best practice within the organization
- Resource usage or costs per output unit to assess the impact of best practices on outputs between organizations in the same or similar industry but in different locations



✦ Topic 2: Financial Statements

Financial statements portray the current financial health and recent financial history of an organization. An organization prepares financial statements from accounting records once it is confident that all accounting data is accurate. In turn, all data presented in a financial statement should be:

- Clear—appropriate for the intended audience.
- Accurate—free of errors.
- Complete—including any additional information the intended audience might need to understand the statement (for example, reporting variance against the actual budget and comparative data from the previous year or including text-based notes).
- Consistent—fulfilling any applicable accounting standards or requirements.
- Timely—prepared and distributed so well-thought-out action can correct any problems.

Provisions of the Sarbanes-Oxley Act of 2002 (often shortened to SOX) have important implications for FM. Key provisions of SOX:

- Define the responsibility of boards and senior management to provide accurate and complete financial reports and address conflicts of interest by auditors and stock analysts.
- Extend whistleblower protection—legal protection for employees reporting fraudulent practices (including U.S. workers overseas).
- Apply to all companies listed in the United States and their auditors, both foreign and domestic.

For a facility manager, any significant changes from FM capital or expense projections must be brought to the attention of finance to ensure that the organizational financial statements accurately reflect operations.

Since SOX applies to organizations trading in or with the United States (no matter where they are based), it also applicable to facility managers internationally. Multinational organizations, however, can face considerable challenges with Sarbanes-Oxley compliance. Employees in some countries may not be familiar with the concepts of risk and control, let alone Sarbanes-Oxley. In fact, due to cultural differences, risk and control ideologies are less accepted in some parts of the world.



Did You Know?

In the United State there are no legal restrictions associated with having employees sign a code of conduct or blow the whistle on company wrongdoing. But this is not the case in all parts of the world.

U.S. management at a multinational enterprise (MNE) faced a dilemma when it tried to implement U.S.-based standard policies and procedures across continents.

The MNE realized that its whistleblower policy could not be implemented in its entirety in France due to legal limitations, and that the code of conduct needed to be translated to French so that it could be enforced in France and Belgium.

In Spain, employees are not required to sign a code of conduct. Therefore, although the code of conduct was available in Spanish, the MNE was also unable to get the employees in Spain to sign the code's acknowledgement slip to evidence that they had reviewed the code (evidence is a key element of Sarbanes-Oxley compliance). The organization had to maintain a register of attendees at a code of conduct training session to evidence that all Spanish employees had been issued a code booklet.

MNEs need to understand any home country laws or regulations that may affect Sarbanes-Oxley in the regions where they conduct business. Some countries and regions, for example, have their own versions and adaptations of SOX provisions. Due diligence is required.

Financial statement categories

Organizations may prepare two sets of financial statements—one for internal purposes and a second set for external disclosure. Publically traded companies have an additional requirement for their external financial statements—they are required to produce external *audited* financial statements.

Internal financial statements

Internal financial statements are produced on a regular basis (usually monthly) and made available to senior management, staff management and others with operating or oversight responsibilities. They may present information about the organization as a whole, or they may report on data for each department or units within departments. Periodic review of this type of data provides a management control mechanism and alerts an organization to any necessary remedial actions.

Many organizations internally audit their financials. The specific scope of internal audits varies, but they customarily consider items such as compliance with the organization's policies and procedures, the efficacy of operations, the reliability of financial reporting, potential fraud, safeguarding assets, and



compliance with laws and regulations. Such internal organizational audits are different from financial statement audits required for compliance with accounting standards (discussed next).

External financial statements

Publically traded companies are required by law to produce external financial statements that are prepared in accordance with accounting standards—IFRS or GAAP and FASB. Full disclosure (mandated by regulatory bodies such as the Securities and Exchange Commission in the United States) requires that external financial statements be made available to regulatory bodies, banks, lending institutions, the public and other interested parties. Even though companies that are not publically traded do not have a similar mandatory requirement, they still typically produce external financial statements for their private owners, banks and lenders.

Audited financial statements

Audited financial statements are prepared and certified by an auditor. The credentials of the auditor may vary. In the United States, an independent certified public accountant (CPA) is the auditor; in the United Kingdom, a chartered accountant serves as the auditor. The outcome is a professionally prepared set of audited financial statements that the organization can then present to interested parties.

Audited financial statements include a document that is referred to as an opinion. It is the responsibility of the auditor to provide either an unqualified opinion (the highest level of assurance an auditor can supply regarding the accuracy of the financial statements) or a qualified opinion (which suggests that there is a material problem with one or more aspects of the financial statements).

In extreme cases, the auditor may express no opinion on financial statements. When an auditor declines to issue an opinion, it is an indication that the financial statements are unreliable and unpredictable. Such a disclaimer of opinion also indicates that the organization needs to examine and retool its internal accounting procedures so it can operate according to customary and proper accounting standards.

Increasingly, not-for-profits undergo similar independent financial statement audits, examining the accuracy and completeness of information presented in their financial statements. These audits may be voluntary or they may be legally required (for example, as a result of tax exemption regulations, terms of the organization's bylaws and funding requirements).

Next we take a closer look at the types of financial statements a facility manager may encounter. Very basic hypothetical examples are included to



augment the discussion of each statement. The currency shown in all the financial statement examples is U.S. dollars (USD).

Types of financial statements

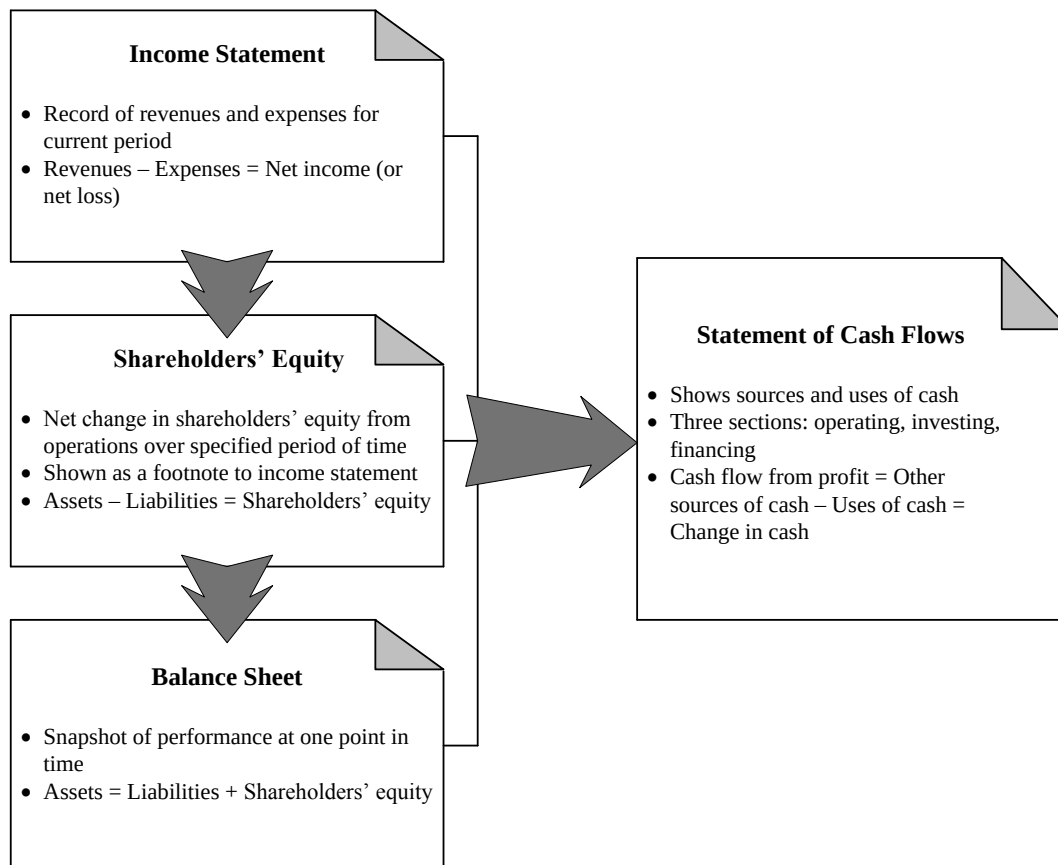
In accounting, the core set of financial statements includes the:

- Income statement.
- Statement of shareholders' equity.
- Balance sheet.
- Statement of cash flows.

Collectively, these four external financial statements capture transactions that reflect the operations and activities of an entity. All transactions are supported by appropriate source documents.

Exhibit 2-57 provides the general order and process used to generate the statements and includes brief notes about each one. Of the four financial statements, the three essential ones that a facility manager should have a fundamental awareness of are the income statement, the balance sheet and the statement of cash flows.

Exhibit 2-57: External Financial Statements



As you review the sample financial statements, keep in mind two points:

- In most organizations, financial statements are prepared by a stand-alone financial accounting division or department.
- Much of the content of financial statements comes from departments or divisions outside the FM arena.

It is important, however, that a facility manager have a working knowledge of organizational financial statements. A facility manager must be able to track and report supporting information that financial managers need to prepare the statements.

Income statement

The income statement is an accounting document that represents the company's revenue and expense transactions for the reporting period. Also called the profit and loss (P&L) statement or the earnings statement, it shows the profitability of an organization for a *specific* period. In other words, the income statement indicates cumulative business results within a defined time frame. However, it does not reflect the organization's financial solvency. An income statement is comparable to the statement of activity (SOA) prepared by not-for-profit businesses.

Exhibit 2-58 shows a simple version of an income statement (an adapted excerpt), reporting revenues and expenses and the results of operations.

Exhibit 2-58: Sample Adapted Income Statement

XYZ For-Profit Organization USD in Millions

	Current Year	Prior Year
Revenues	US\$8,380	US\$7,757
Expenses:		
Cost of operating expenses	4,982	4,594
Cost of goods sold	2,300	2,109
Interest expense	173	172
Depreciation and amortization	39	24
Income before income taxes	886	858
Income tax expenses	269	275
Net income	<u>US\$617</u>	<u>US\$583</u>



The sample income statement excerpt presents collective information, capturing data for different departments, programs and other cost centers on one statement. However, there may also be separate income statements prepared for FM operations or other departments, programs and cost centers.

In this adapted income statement, FM would principally impact the operating expenses.

In addition to serving as a budgeting tool, the income statement helps management to understand the financial condition of the organization. For example, comparing results from one annual period to a previous year will show what items affect the bottom line.

The next rendition of the adapted income statement, in Exhibit 2-59, shows the dollar and percentage changes through a comparative horizontal analysis.

**Exhibit 2-59: Sample Adapted Income Statement
Comparative Horizontal Analysis**

**XYZ For-Profit Organization
USD in Millions**

	Current Year	Prior Year	Increase (Decrease)	
			Amount	Percentage
Revenues	US\$8,380	US\$7,757	US\$623	8.0%
Expenses:				
Cost of operating expenses	4,982	4,594	388	8.5
Cost of goods sold	2,300	2,109	191	9.1
Interest expense	173	172	1	0.6
Depreciation and amortization	39	24	15	62.5
Income before income taxes	886	858	28	3.3
Income tax expenses	269	275	(6)	(2.2)
Net income	US\$617	US\$583	US\$34	5.8

A simple horizontal analysis that studies the percentage changes in these comparative statements reveals the following.

The dollar change was US\$623, computed as follows:

$$\text{US\$8,380} - \text{US\$7,757} = \text{US\$623}$$



Revenues in the current year increased by 8 percent, computed as follows:

$$\text{Percentage change} = \frac{\text{Dollar amount of change}}{\text{Base-year amount}}$$

$$\text{Percentage change} = \frac{\text{US \$623}}{\text{US \$7,757}} = 0.080 = 8\%$$

While revenue increased by 8 percent in the current year, the bottom line grew by only 5.8 percent. This may be attributed to the fact that expenses grew faster than revenues (the cost of operating expenses by 8.5 percent and the cost of goods sold by 9.1 percent).

Depreciation and amortization had the largest percentage increase (62.5 percent), but this should not be a cause for concern because the dollar amount is low.

Many decisions in an organization hinge on the trend of revenues, income, expenses and so on. In addition to the simple horizontal analysis shown here, finance will perform a variety of additional trend analyses that are critical in management planning.

Our sample adapted income statement shows comparative figures on the same page (e.g., current year to prior year). There are different variations of income statements. For example, a two-column format may be prepared showing current month totals and a second column with year-to-date figures. Or income statements may show only a singular period. Generally, analysis is greatly aided in a multiperiod format, allowing the reader to spot trends and turnarounds.

Balance sheet

A balance sheet is a “snap shot” of a firm’s financial position at a specific point in time. It reports on an organization’s assets, liabilities and net assets at a specified date. The statement illustrates an organization’s solvency and cash position; it does not reflect profitability. The balance sheet is comparable to the statement of financial position (SOFPP) prepared by not-for-profit businesses.

A balance sheet is usually divided into two sections, with assets on top and liabilities and shareholders’ equity (owners’ equity or net assets) listed below.

- **Assets** are resources obtained, owned or controlled by an organization as a result of past transactions or events that will probably result in future economic benefits to the organization. Assets are generally divided into categories and shown in the order of their liquidity—arranged from most to least liquid.



- **Liabilities** are what the organization owes to others. They are listed in order of the time frame in which they are due, usually as current and long-term. Current liabilities, or accounts payable, are expected to be settled within the normal operating cycle or one year of the balance sheet date and include the portion of long-term debt expected to be paid in this period.
- **Equity** is the ownership interest in an organization's assets after deducting all of its liabilities (the difference between the assets and the liabilities, or net worth).

As implied by its name, in the balance sheet assets must always equal liabilities plus equity. You will see in Exhibit 2-60 that total assets equal total liabilities and shareholders' equity. The balance sheet also indicates:

- The amount the organization has invested in assets and where the money is invested.
- The amount of the monetary investments in assets that comes from creditors (liabilities) and shareholders (equity).

Analysis of a balance sheet indicates how efficiently an organization is utilizing its assets and managing its liabilities. A balance sheet is prepared by accountants, but it has important implications for managers relative to working capital and financial leverage.

- **Working capital** is the amount of money tied up in short-term investments. Too little working capital can indicate that the organization may be unable to pay bills or take advantage of profitable opportunities; too much working capital reduces profitability because it must be financed in some way, usually through loans.
- **Financial leverage** is the use of borrowed money in acquiring an asset. A high percentage of balance sheet debt relative to the capital invested by owners indicates that the organization is highly leveraged. Interest paid on loans may be deductible but can be negated if the asset doesn't retain value (e.g., drops in value or fails to produce anticipated revenues).

To provide a context for decision making, a current balance sheet should be compared to previous ones. A comparative balance sheet shows a second set of figures for another reporting period. As with other multiyear presentations, a comparative statement allows some interpretation of how the organization has changed over time.

A simple version of a balance sheet (an adapted excerpt) is shown in Exhibit 2-60.



Exhibit 2-60: Sample Adapted Balance Sheet

XYZ For-Profit Organization
December 31, 20XX and 20XX
USD in Millions

	Current Year	Prior Year
Assets		
Current assets:		
Cash and cash equivalents	US\$192	US\$130
Short-term investments	15	27
Accounts receivable, net	169	168
Inventory	67	63
Prepaid expenses and other	363	342
Total current assets	806	730
Plant, property and equipment, net	3,280	3,037
Intangible assets	878	849
Other assets	656	784
Total assets	US\$5,620	US\$5,400
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable and other current	US\$1,213	US\$1,166
Income tax payable	238	208
Short-term debt	10	146
Total current liabilities	1,461	1,520
Long-term liabilities	2,056	2,299
Other liabilities	983	987
Total liabilities	4,500	4,806
Shareholders' equity:		
Common stock	916	1,046
Retained earnings (accumulated deficit)	414	(203)
Accumulated other comprehensive (loss)	(210)	(249)
Total shareholders' equity	1,120	594
Total liabilities and shareholders' equity	US\$5,620	US\$5,400

In this adapted balance sheet, FM would principally impact the plant, property and equipment asset.

Every accounting transaction affects an organization's balance sheet. In particular, capital projects can have significant implications. What constitutes capital costs are determined by tax law and organizational policy, both of which are complex and can vary widely across nations and organizations.



The next rendition of the adapted balance sheet, in Exhibit 2-61, shows the dollar and percentage changes.

Exhibit 2-61: Sample Adapted Balance Sheet

XYZ For-Profit Organization December 31, 20XX and 20XX USD in Millions

	Current Year	Prior Year	Increase Amount	(Decrease) Percentage
Assets				
Current assets:				
Cash and cash equivalents	US\$192	US\$130	US\$62	47.7%
Short-term investments	15	27	(12)	(44.4)
Accounts receivable, net	169	168	1	0.6
Inventory	67	63	4	6.3
Prepaid expenses and other	363	342	21	6.1
Total current assets	806	730	76	10.4
Plant, property and equipment, net	3,280	3,037	243	8.0
Intangible assets	878	849	29	3.4
Other assets	656	784	(128)	(16.3)
Total assets	US\$5,620	US\$5,400	US\$220	4.1
Liabilities and Shareholders' Equity				
Current liabilities:				
Accounts payable and other current	US\$1,213	US\$1,166	US\$47	4.0%
Income tax payable	238	208	30	14.4
Short-term debt	10	146	(136)	(93.2)
Total current liabilities	1,461	1,520	(59)	(3.9)
Long-term liabilities	2,056	2,299	(243)	(10.6)
Other liabilities	983	987	(4)	(0.4)
Total liabilities	4,500	4,806	(306)	(6.4)
Shareholders' equity:				
Common stock	916	1,046	(130)	(12.4)
Retained earnings (accumulated deficit)	414	(203)	617	303.9
Accumulated other comprehensive (loss)	(210)	(249)	39	15.7
Total shareholders' equity	1,120	594	526	88.6
Total liabilities and shareholders' equity	US\$5,620	US\$5,400	US\$220	4.1

Horizontal analysis reveals:

- Total assets grew by 4.1 percent.
- Total liabilities fell by 6.4 percent.
- Retained earnings turned from a deficit to a positive balance (indicating growth of operations in the current year).



Statement of cash flows

A statement of cash flows is used to show cash levels across the operating period so as to ensure that predicted liabilities due to be paid at any given time do not exceed the ability to pay. The statement provides relevant information about cash receipts and cash disbursements—where the organization’s cash came from and how it was used—during the time interval specified in its heading. The specific time frame may vary (e.g., a quarter), and multiperiod or multiyear presentations may be prepared.

As we see in the simple cash flow statement in Exhibit 2-62, uses of cash are recorded as negative figures and sources of cash are shown as positive figures.

Note that this sample provides the traditional (financial accounting) view of cash flow—a year-end annual statement—a “snap shot” of the year-end. Nevertheless, a facility manager should be generally aware of the statement and the implications. Later in this chapter, in Exhibit 2-65, the FM perspective of cash requirements at each period end over the year is shown.

Exhibit 2-62: Sample Statement of Cash Flows

ABC For-Profit Organization
Year Ended 20XX
USD in Millions

Operating activities:

Net income		US\$35,000
Adjustments for noncash items		
Depreciation	US\$14,000	
Net increase in current assets other than cash	(24,000)	
Net increase in current liabilities	8,000	(2,000)
Net cash flow from operating activities		33,000

Investing activities:

Sale of plant, property and equipment	US\$91,000	
Net cash flow from investing activities		91,000

Financing activities:

Borrowing	US\$22,000	
Payment of long-term debt	(90,000)	
Purchase of treasury stock	(9,000)	
Payment of dividends to stockholders	(23,000)	(100,000)
Net cash used for financing activities		(100,000)
Net increase (decrease) in cash		US\$24,000



Some of the analysis findings from this statement of cash flows reveal:

- Operations provides less cash than net income; this may be harmless or it may signal difficulty collecting receivables or selling inventory.
- The sale of plant, property and equipment is the major source of cash; due to the amount, it is probably a one-time situation or a sell-off of unproductive assets. However, sale of plant assets should not persist or the organization could go out of business.
- There was more payment of long-term debt than new borrowing—a positive indicator.

Cash flow statements routinely include a section of supplemental information, reporting the exchange of significant items that did not involve cash and the amount of income taxes and interest paid.

Cash flow statements are prepared by rearranging items on the balance sheet and income statement. Much like a bank statement for a checking account, a cash flow statement shows where the organization's money went and how much is left for the given period. Further, the statement portrays how an organization is able to turn accounts receivable into cash. It provides a reasonable indication of solvency and the ability to pay bills as they come due.

Statements of cash flow are important in understanding investment and credit decisions. To many investors and creditors, the beginning and ending cash balances on the statement are the primary barometer of an organization's financial well-being.

In large organizations, changes in cash flow do not typically impact day-to-day FM operations. But cash flow projections may be important considerations during the annual budget process. If cash is limited, budget spending should be appropriately conservative. Conversely, good cash levels may present opportunities for new purchases or investments. Cash flow for small organizations typically has great significance both for day-to-day operations and the longer-term outlook.

Notes to financial statements

Notes are an important part of financial statements because they help to portray an organization's finances beyond the actual numbers. Notes to financial statements for a publically traded organization generally start with highlights of significant accounting policies and proceed to describe matters of importance such as (but not limited to):

- Major acquisitions.
- Changes in operations.



- Pension requirements.
- Any pending litigation.
- Any special contracts or major agreements.

Not-for-profits may have different supplemental notes about contributions receivable, investments, joint fundraising costs and so forth.

Auditors review notes and footnotes as part of the annual audit process. Other interested parties should also carefully review notes and footnotes for the relevant information they contain.

Accurate assessment of an organization's financial health requires a thorough analysis of all financials plus any supplementary notes. It is prudent for a facility manager to understand some of the managerial issues implicit in the income statement, the balance sheet and the statement of cash flows. As we will see in the discussion of ratios in Topic 5, data for standard financial ratios is derived from an organization's financial statements.

Depreciation

Depreciation is a noncash charge against assets, such as cost of property, plant and equipment over the asset's useful life. It is an expense associated with spreading (allocating) the cost of a physical asset over its useful life.

For most assets, depreciation is a way of showing reduced value as a result of wear and tear, age or obsolescence. With the exception of land, most assets lose their value over time (in other words, they depreciate) and must be replaced once the end of their useful life is reached. Land rarely declines in value; this is why land is not depreciated. In the case of buildings, they may depreciate or they can appreciate in value. What depreciates is the investment in the fabric, fittings, fixtures, plant and equipment in the building. But in any case, revaluation is very often undertaken to offset tax liabilities and "mop up" excess profits.

To a certain extent, the concept of depreciation may be counterintuitive. For example, a portfolio may include a priceless historical building that was long ago depreciated to zero on the financial books but may still be a very valuable property.

In the United States, GAAP allows organizations to set their own guidelines for defining certain expenses and assigning them to assets to be depreciated. There is also no prescribed time frame for depreciation, leaving that decision up to the organization, but requiring the organization to do it the same way



every time. The bottom line for a facility manager is to learn and know the rules of the organization and ensure that the FM organization adheres to those rules in every way.

In accordance with standard accounting practices, the cost of a fixed asset initially recorded in financials is not just the cost of acquiring the asset. In addition to purchase price, the amount recorded includes all additional expense necessary to get the asset ready for intended use. For example, the figure for a new piece of maintenance equipment should include all additional expenses for delivery and installation. In some countries, costs incurred for employee training would also be included.

Depreciation reduces the balance sheet value of the asset over time. To depreciate an asset, it is necessary to start with the original cost and then determine the asset's depreciable base. The depreciable base is the asset's original cost less its salvage value. Salvage value (sometimes called residual value or scrap value) is the estimated value of an asset if it is sold at the end of its depreciation period or service life. Salvage value can be zero. The difference between the cost and the salvage value is the depreciable cost.

Why depreciate assets?

Generally speaking, there are two reasons to depreciate an asset—for accounting purposes and for tax purposes.

From the accounting perspective, expenses incurred in producing revenue should match the revenue they helped to earn for that period. This embodies two accounting principles: revenue recognition (recognizing revenue at the time the transaction is completed) and matching (recording each expense item related to revenue earned in the same accounting period as the revenue it helped to earn).

The second reason for depreciation is for tax purposes. Tax authorities may have guidelines with defined depreciation rules per asset class. Some nations tax the depreciated value of an asset using a flat rate. Based on other taxation rules, organizations may be allowed to depreciate assets according to accelerated schedules—rates faster than their useful life—or methods that write off assets over a predetermined amount of years that has nothing to do with the asset's useful life.

Depreciation methods

Different depreciation methods exist. Common methods include:

- Straight-line depreciation method
- Activity method



- Accelerated depreciation
- Modified Accelerated Cost Recovery System (In the United States, the Internal Revenue Service allows a “MACRS” method.)

Facility managers do not have discretion in choosing between depreciation methods; rather, they follow organizational protocol. Accountants generally choose the method that fits the usage pattern and service life of the asset most closely. Taxation also influences depreciation methods in different ways. Depreciation is an important concept to be aware of because facility managers often manage assets that necessitate depreciation.

Capitalization versus expense

Whether an asset should be capitalized or expensed is defined by tax law and organizational policy. Typical considerations in making the determination are:

- The useful life of the asset (e.g., less than or longer than one year).
- The cost of the item (e.g., whether it exceeds the organizational capitalization cutoff point).

This capitalization cutoff point is a designated limit (or floor) for capital requests under which an item is expensed in the period purchased and over which it will be capitalized and depreciated for the length of its useful life. If an item is capitalized, it is recorded among the fixed assets of the organization and depreciated according to the organizational depreciation policy. This is yet another demonstration of the importance of a facility manager knowing an organization’s rules.

Lease or purchase considerations for capital assets

Whether an organization is public or private, the CFO, finance director or senior finance management will have established specific financial considerations and recommendations for acquiring capital assets. These financial considerations related to lease or purchase often vary depending upon the asset (e.g., equipment, land, buildings and vehicles).

Lease or purchase considerations for capital assets should involve life-cycle cost analysis. Generally speaking, the influencing factors between lease and purchase decisions are tax implications, the organization’s cash position and the cost of alternative decisions.

There are myriad financial, legal and tax issues that enter into lease versus purchase decisions. The outcomes influence the organization’s financial statements, FM budgets, cash position and many other factors. We will examine this complex issue further in subsequent content on business cases and financial analysis.



Pro forma statements

In the realm of finance, the term “pro forma” generally describes financial statements (income statement, balance sheet, and cash flow statement) that have one or more assumptions or hypothetical conditions built into the data. They predict how the income statement, the balance sheet and the cash flow statement will look in the future if expected events occur.

Pro forma statements are the end result of the budgeting process. An individual pro forma statement is a budgeted financial statement based on forecasted data—historical documents adjusted for events as if they had occurred. Pro formas portray financial conditions for the end of the specified budget period if events happen according to plan.

Exhibit 2-63 provides basic descriptions of each type of pro forma statement.

Exhibit 2-63: Pro Forma Financial Statements

Statement	Description
Pro forma income statement	Summarizes various component projections of revenues and expenses for the budget period. It indicates the expected net income for the period. Also called a budgeted income statement.
Pro forma balance sheet	Used to project how assets will be managed in the future. Starting with the beginning balance sheet, the figures are adjusted for expected events during the coming fiscal year. The adjusted balances comprise the pro forma balance sheet of the end of the fiscal year. Also called a budgeted balance sheet.
Pro forma cash flow statement	Provides an idea of what average cash flow may look like during a given period. Classifies cash receipts and disbursements depending on whether they are from operating, investing or financing activities (as does the regular statement of cash flows). Also called a budgeted cash flow statement.

Pro forma statements are used routinely in preparing “what-if” scenarios, formulating business plans, estimating cash requirements or submitting financing proposals. Most pro formas are prepared for one year.

Forecasting cash flows

Cash flows are influenced by the collection of accounts receivable and the payment of accounts payable. Speeding up the collection of receivables and postponing the payment of payables can have a positive short-term effect on cash flows.

Cash flow effects can be projected by estimating ending balances in the receivables and payables accounts and calculating the changes in those



balances from the beginning of the year. The following relationship is illustrated in Exhibit 2-64.

- When accounts receivable increase and accounts payable decrease, less cash is available.
- When accounts receivable decrease and accounts payable increase, more cash is available.

Exhibit 2-64: Estimating Cash Flow Effects

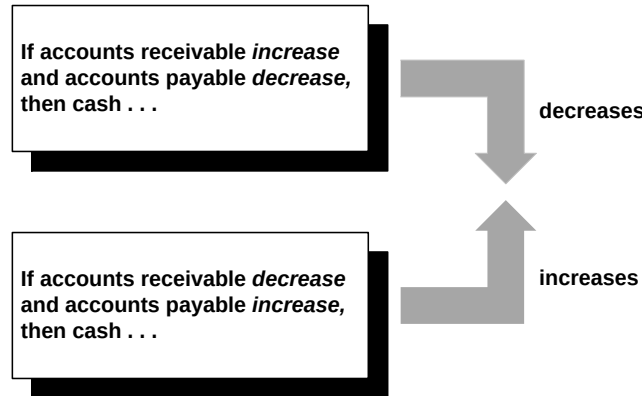


Exhibit 2-65 provides a sample cash flow forecast showing the monthly effects over a six-month period.

Exhibit 2-65: Sample Cash Flow Forecast

**XYZ For-Profit Organization
Six-Month Period**

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
Cash bal B/F	500.00	470.50	477.00	-72.50	-21.50	-21.00
Revenue						
Month of receipt of payment due	500.00	600.00	600.00	600.00	600.00	750.00
Working capital						
Salaries	200.00	200.00	250.00	250.00	250.00	250.00
Employer's tax payments	50.00	50.00	55.00	55.00	55.00	55.00
Other staff costs	1.50	1.50	2.00	2.00	2.50	2.00
Expenses	3.00	2.00	2.50	2.00	2.00	2.00
Operating costs	200.00	250.00	250.00	150.00	200.00	250.00
Capital expenditure	0.00	0.00	500.00	0.00	0.00	0.00
VAT/sales tax	75.00	90.00	90.00	90.00	90.00	112.50
Total outgoings	529.50	593.50	1,149.50	549.00	599.50	671.50
Surplus (deficit) for month	-29.50	6.50	-549.50	51.00	0.50	78.50
Capital available (required)	470.50	477.00	-72.50	-21.50	-21.00	57.50



**“Smoothing”
facility
management
investments**

Why are pro forma statements important? Organizational financial statements measure performance. Pro formas predict how financial statements will look in the future. Collectively, these budgeted pro forma financial statements are instrumental in the allocation of resources.

If senior financial management has serious concerns about the pro formas resulting from the FM budgeting process or cash flow forecasting, a facility manager may have to revisit the budget process and re-create the pro forma statements. This reiterative process may continue until senior management finds them acceptable or is convinced there are no better alternative plans.

Planning is critical in FM. But the reality is that FM decisions exist in a resource-constrained environment.

Forecasting and other financial analysis techniques can provide voluminous information. But many times decision making comes down to what can or should be afforded and when. Financial statements, pro formas and other cash flow forecasting helps to quantify FM investments. Yet organizational management tends to bristle at sudden spikes in FM budgets.

Critical and noncritical projects are generally obvious. For example, major building renovations might be mandated to comply with the passage of new occupational safety and health regulations. But in FM, there's often a struggle for funding and resources for many mainstream middle-ground items.

A simple way to avoid this problem is to develop a five-year plan to keep track of assets.

A computer spreadsheet can facilitate the task. The spreadsheet format easily and quickly communicates assets and their costs and the date of scheduled replacement. It can provide a logical way to augment financial planning and decision making.

Exhibit 2-66 on the next page provides an example of a five-year plan.



Exhibit 2-66: Five-Year Capital Plan Example

Facilities/Security/Environmental, Health and Safety (EHS) Proposed Five-Year Capital Plan (2006–2010)						
Priority	Center	Year	Description	Capital US\$K	Associated Expense US\$K	Reason
1	x	2006	Roof replacement—Building Z	\$550.00	\$20.00	25-year-old roof system; leak issues
2	x	2006	Boiler replacement—Building Y	\$250.00	\$25.00	30-year-old antiquated equipment
3	x	2006	Firm alarm upgrade	\$325.00	\$15.00	Outdated system; safety; asset protection
			Subtotal 2006	\$1,125.00	\$60.00	
1	x	2007	Lighting system upgrade (third floor)—Building Z	\$300.00	\$30.00	Energy conservation; rebate potential
2	x	2007	Parking lot upgrade (Lots 2 and 3)	\$350.00		Employee safety and aesthetics
3	x	2007	Access control system upgrade (Buildings X, Y, Z)	\$255.00		Antiquated system; enhanced security
			Subtotal 2007	\$905.00	\$30.00	
1	x	2008	Roof replacement—Building Y	\$750.00	\$35.00	22-year-old roof system; leak issues
2	x	2008	15KV electrical switchgear	\$355.00	\$15.00	Aging equipment; reliability; safety
3	x	2008	1500 KVA transformer replacement—Building Z (SE electrical room)	\$60.00	\$5.00	Replace 35-year-old equipment
			Subtotal 2008	\$1,165.00	\$55.00	
1	x	2009	Fuel tank replacement—Building Y	\$275.00	\$50.00	Aging single wall tank; environmental risk
2	x	2009	Security cameras	\$125.00		Replace 10-year-old obsolete equipment
3	x	2009	Cooling tower replacement—Building X	\$175.00	\$10.000	20-year-old equipment; reliability; efficiency
4	x	2009	HVAC replacement (2 units)—Building S	\$250.00	\$18.00	Replace aging units; improve efficiency
			Subtotal 2009	\$825.00	\$78.00	
1	x	2010	Restroom upgrade (first floor)—Building Z	\$275.00	\$45.00	Outdated facilities; quality-of-life issue
2	x	2010	Maintenance equipment	\$25.00		Replace aging equipment
3	x	2010	Carpet replacements	\$350.00	\$30.000	Building aesthetics
4	x	2010	EMS upgrade	\$225.00		Obsolete system; energy conservation
			Subtotal 2010	\$875.00	\$75.00	



Summary guidelines for effective and efficient financial operations

Simply stated, facility managers must have efficient and effective financial systems and procedures in place. Reflecting back on the content just presented, we conclude with the general guidelines in Exhibit 2-67 that facility managers should keep in mind. Organizations may vary in how information is gathered, implemented, monitored, adjusted and the like, but the guidelines that follow are appropriate in all environments.

Exhibit 2-67: Guidelines for Effective and Efficient FM Financial Operations

- | | |
|---|---|
| <ul style="list-style-type: none">• Understand the organization's mission and how the FM budget and financial decisions move the organization toward that mission.• Establish rapport with organizational finance personnel and external customers.• Clearly define roles in the FM budgeting process (top-down versus bottom-up and the approval process).• Understand fundamental accounting practices and organization-specific practices.• Maintain clear, well-understood and documented financial handling processes. | <ul style="list-style-type: none">• Keep accurate financial records.• Compile accurate historical data for evaluating trends and forecasting.• Prepare accurate and timely operational and capital budgets.• Monitor budgets and take appropriate actions/adjustments required to correct/offset negative budget variances.• Know how to discern the managerial implications of external and internal financial statements. |
|---|---|

Thus far, we have examined some of the primary documents in finance (accounting records, budgets, financial statements and pro formas) as well as several important accounting principles. We continue with concepts critical to FM success and informed decision making.

✦ Topic 3: Business Cases, Supporting Documentation and Financial Reports

Selling facility management in business terms

Facility managers need to be conversant with business terms that upper management and colleagues understand. They also need to sell facility management projects and initiatives. A business case is a marriage of the two.

As the name implies, a business case explains how a specific project or initiative will add value to an organization. It captures the reasoning for a project or initiative and how fulfilling specified needs is aligned with the organization's strategic plan and/or can support specific organizational strategies and objectives. As most organizations are ever-mindful of the



bottom line, a business case should also define how much money will be involved in the project or initiative and how much the organization will make (or save) through the change. It should demonstrate an understanding of the organization's concerns for profits, reduced costs and similar financial concerns. Additional considerations for winning funds for FM may include positioning how the project or initiative may improve the lives and welfare of people or fulfill compliance with legal and mandatory requirements.

Business cases are customarily required whenever significant resources such as money and personnel time and effort are to be consumed. In different settings, business cases can range from comprehensive and highly structured to informal and brief.

While “business case” is commonly accepted nomenclature, the document is employed across all types of organizations—not just for-profit businesses. In some environments, other terminology may be used.

Typically, a business case is presented as a structured written document, but sometimes a case may be made through a short verbal argument or presentation. Some situations require a written document in combination with a presentation.

Whatever the format or level of sophistication, a business case should be compelling and should adequately capture the quantifiable and unquantifiable (qualitative) characteristics of a proposed undertaking.

Components of a written business case

Similar to a good news story, a well-crafted written business case tells readers about the what, when, where, how and why of the proposed initiative.

All relevant narrative and financial data should be linked together into a cohesive presentation to justify resource and capital expenditures.

As with so many other documents that a facility manager prepares, a business case should follow the preferred or approved organizational format and include the expected elements. Thus, these materials cannot provide a prescriptive list of items that a business case must include. However, in Exhibit 2-68 we see a list of components often found in many written business cases.



Exhibit 2-68: Common Components of a Business Case

Component	What It Provides
Executive summary	A high-level overview of the proposed initiative, including why it is necessary and key recommendations.
Current status	A description of the current situation, the requirement for the proposed initiative and recommendation, and how the effort will fulfill organizational objectives.
Assumptions	Recognition of what major assumptions are behind the proposed initiative.
Business analysis	Financial analysis results: Initial cost estimates (funding required and related expenses), projected cash flows and financial payback. Nonfinancial results: Qualitative aspects of the proposed initiative (e.g., improved customer satisfaction, increased retention of tenants, improved reputation for the organization). Rationale for change: A discussion of how the solution addresses issues or opportunities. • Potential benefits, such as improved customer satisfaction or reduced maintenance costs. • Compliance with mandatory regulatory requirements, such as standards for accessible design or legislation related to health and safety at work.
Risk analysis	An overview of: • What will happen if the effort is not undertaken (also referred to as the do-nothing scenario); where the organization would be without the project. • Risks involved in the proposed initiative. • Alternative options as well as a ranking of those options demonstrating the optimum solution.
Recommendation	Content describing the recommended solution(s).
Goals and timeline	Estimates about money, people and time that will be needed to deliver the solution and realize the benefits.

There are various ways to capture and convey this information in a business case. Proposed capital investments in facility management have to compete for capital funding. Finance and other senior management review FM business cases and prioritize them against the many other initiatives that may require capital investment.

Several concepts and techniques that are useful in developing a solid business case are examined next. A sample business case is included at the end of this topic.



Quantifying the costs and benefits

Financial information and performance information are important components in a business case. To compile such information involves:

- Researching the problem or opportunity.
- Identifying the alternative solutions available.
- Quantifying the benefits and costs of each solution.

The level of due diligence required to quantify costs and benefits and secure the necessary funding will vary depending on the specific business case need. The concepts and techniques that follow may not apply in every scenario, but a facility manager should understand their potential utility.

Concept of best value

In business, value is generally described as an amount of goods, services or money considered a fair and suitable equivalent for something else. Value is often equated to satisfaction with the cost of a good or service for the given quality received.

In *Total Facilities Management*, authors Brian Atkin and Adrian Brooks discuss best value. They note that best value extends the conventional wisdom pairing value and money and instead implies a need to continually strive for something superior at the lowest practicable cost.

Authors Atkin and Brooks make succinct points underpinning best value decisions:

- Value is about the relationship of cost or price and quality or performance.
- Ideally, cost and quality should both be considerations in FM decisions.
- Cost should take sole priority only when financial constraints are severe and dictate so.

An organization may think it is achieving best value when it pays less for goods and services. Costs are typically easier to measure and by their nature more readily quantified. But to equate value with a mere reduction in cost can be shortsighted. According to Atkin and Brooks, value for money encompasses the quality of a service and the economy, efficiency and effectiveness with which it is delivered.

Life-cycle costing

Life-cycle costing (LCC) is the process of determining (in present-value terms) all costs incident to the planning, design, construction, operation and maintenance, and disposition of a structure over time. LCC involves the analysis of the costs of a system or a component over its entire life span. The term “whole-life costing” is synonymous with life-cycle costing.



Because life-cycle costing considers all of the costs incurred during the service life of an asset, it facilitates making economically sound decisions. Compiling all costs related to creation and operation for facility system components (costs related to planning, design, construction, operations, maintenance and disposal) provides a basis to compare the relative merits of competing project implementation alternatives. The economic consequences of mutually exclusive project alternatives (where the acceptance of one capital budgeting project precludes the acceptance of others) can be evaluated over a period of time.

In practice, there are different methodologies for LCC. It is beyond the scope of our discussion here to present and endorse any specific methodology, but the basic considerations inherent in most approaches are:

- Identifying alternatives.
- Estimating costs.
- Computing life-cycle costs for each alternative.
 - Making cash flows time-equivalent by converting them to present values.
 - Totaling all costs.
- Conducting appropriate risk and uncertainty assessments.

There are different ways to test assumptions made and “what-if” scenarios for high-cost items (such as what happens if maintenance costs are 15 percent more or less than planned). Sensitivity analysis, scenario analysis and other ways of assessing and mitigating investment risks will be covered later in this topic.

In conjunction with a life-cycle cost analysis, supplementary measures of economic evaluation (such as net present value, internal rate of return and payback methods) are often calculated. LCC is consistent with these other common valuation measures if they use the same parameters and length of study period. (We explain these additional capital investment analysis techniques in just a bit.)

LCC is an analytical process. The concepts underlying LLC are fairly straightforward, but their application can present some challenges—most frequently related to uncertainty as to when and how LCC should be employed and what assumptions should be made during the analysis. There are many variables that are key to the assumptions made in the process.



As a facility manager, if you have control for the go/no-go decision for a capital project, LCC is a useful decision-making tool. But even if you do not have sole authority for the decision, LCC is valuable for ranking (prioritizing) projects when making recommendations to a CFO, finance director or other finance personnel.

A facility manager's recommendation may take into account the organization's strategic plans and other environmental factors. The lowest LCC may not be the best recommendation based on market economics and the long-term outlook. For example, ownership of a real property asset may have the lowest life-cycle cost, but leasing may be a better financial decision for other reasons.

Benchmarking

Benchmarking describes the continuous, systematic process of measuring products, services, costs, quality and practices against the best levels of performance. Many people think of benchmarking as capturing best-in-class information, but the practice has a much wider application. Quite often, best levels are comparisons to external benchmarks of industry leaders. However, they may also be based on internal benchmarking information or measures from other organizations (outside an industry) that have similar processes. Measuring effectiveness of activities may be enhanced through benchmarking with peers.

Capital investments and time value of money

Capital is a limited organizational resource. Organizations often have great difficulty recovering money tied up in bad capital investments. Given these two simple facts, all FM capital projects or initiatives must be carefully evaluated.

To understand how to analyze capital investments first requires an understanding of what constitutes a capital expenditure (versus an operational expense) and an appreciation of the concept of the time value of money.

Capital expenditures and operational expenses

Earlier content provided information about operating and capital budgeting. Let's begin with a recap of a few salient points to establish the basic distinctions between operational expenses and capital expenditures.

Operational expenses (also called operating expenses or current expenditures) are short-term in nature; they are considered current investments that can be written off in the same year that the expenses occur. Wages, salaries and many administrative expenses are all examples of operating expenses. The operating budget provides a plan for the operating expenses and revenues associated with activities for the current time period.



Capital expenditures (or capital investments) are long-term. A capital investment results in a current cash outlay with the expectation of future benefits. The value of the initial cash outlay is gradually reduced (amortized) over a period of years according to tax regulations. Examples of capital investments include major expenditures for new or replacement equipment, construction and renovations. A capital budget provides a plan of proposed outlays for acquiring long-term assets and includes the means for financing the acquisition.

An organization's stability and future success often depend on its capital investments as they require a significant commitment of funds in the present with the expectation of future returns through additional cash inflows or reduced cash outflows.

Time value of money

The time value of money principle recognizes that:

- A dollar (or any other monetary unit) is worth more today than a dollar received tomorrow because that dollar can be invested today to earn a return.
- A dollar tomorrow is worth less than a dollar today because of the interest foregone.

If finance grants FM funds for a capital project, the organization loses the potential to invest that money in an interest-bearing account.

Time value of money leads to a discussion of two additional capital investment concepts: present value and future value.

Present value (PV) is the method used to compare costs; all cash flows are converted to their present value or the value of past and future dollars corresponding to today's value. PV is the amount that a given future amount is worth today at a specific rate of interest.

Future value (FV) is the amount that a given amount, invested today at a given rate of return or interest rate, will be worth at some designated future time.

There's a simple formula used in finance to calculate the time value of money.

$$\text{Present value} \times \text{Future value interest factor} = \text{Future value}$$

Business calculators and electronic spreadsheets have the interest factors and formulas preprogrammed. If you know the variables, the time values are easy to determine.



Understanding future value is fairly intuitive—you invest money and you collect interest. If the investment is secure, you can reasonably expect the future value to increase.

Understanding present value is bit more involved but not overly complex. Present value is the monetary value today of a future payment that is discounted at some appropriate interest rate. As with future value, there are present value interest factors for calculating the present value of money received in the future.

The formula used in finance to calculate the present value is:

$$\text{Future value} \times \text{Present value interest factor} = \text{Present value}$$

Two final points about future value and present value:

- The operation of evaluating a present value into the future value is called capitalization.
- The reverse operation—evaluating the present value of a future amount of money—is called discounting.

In many organizations, finance is responsible for time value calculations. Facility managers may have little (if any) responsibility related to calculating the numbers. The basic point here is that you should understand the terms and the concepts because it is part of the language of senior management.

There are, of course, different sources of money for capital investments. Money for an FM capital project may be internal; capital investments may also be funded externally through numerous ways (e.g., bank loans, private loans, venture capital, public offerings of shares of company stock to investors and so forth). Depending on the source of the funding, a facility manager may have different responsibilities.

Capital investment analysis

There are four key questions that finance typically considers when evaluating potential capital investments.

- **Are the projects independent or mutually exclusive?** Acceptance or rejection of an independent project has no impact on the acceptance or rejection of other projects under consideration. Mutually exclusive projects are situations where the acceptance of one capital budgeting project precludes the acceptance of others.
- **Do the projects have the same or different size, cash flow pattern and life?** Size is self-explanatory. Cash flow is the income from all sources less expenses, indicating how much cash is available at a given time. It



refers to the actual flow of cash into cash receipts and savings and out of cash payments of an organization during a given period of time “Life” in this context generally refers to the duration of the project or the stages of a project over time (from initiation to completion).

- **Are the projects subject to capital rationing?** Capital rationing is the allocation of investment funds among multiple projects when senior management places an upper limit on the size of the capital investments or the organization lacks sufficient money.
- **Do the projects have the same risk?** Risk is the possibility that the actual benefits provided by the investment will deviate from the investor’s initial expectations; the chance of loss.

There are various capital budgeting techniques to evaluate and select independent and mutually exclusive projects and make decisions under capital rationing. Next we look at some of the more commonly used techniques and the meaning of their results. (We will deal with risk in a separate discussion.)

Such analyses can become quite involved. Here we merely provide an overview of a few techniques a facility manager is likely to encounter—net present value (NPV), internal rate of return (IRR) and payback period. Typically, a facility manager works with finance professionals on capital investment analysis. Thus, no formulas or calculations are shown in the discussions.

Exhibit 2-69 summarizes key characteristics of net present value, internal rate of return and the payback method. Facility managers need to understand enough of the principles to know what information finance needs from them. A discussion comparing the three methods following the exhibit.

Both the NPV and IRR methods have gained widespread acceptance as decision-making tools. In comparing the two methods, it is important to keep in mind that:

- The NPV method is often simpler to use because the IRR method requires a process of trial and error. However, computer spreadsheets can be used to automate the IRR method.
- The NPV method makes a more realistic assumption about the rate of return that can be earned on cash flows from a project. If the NPV and IRR methods disagree about the worthiness of a project, it might be wiser to use the data from the NPV method.



Exhibit 2-69: Comparison of Capital Investment Analysis Techniques

Definition/Description	Advantages and Disadvantages
Net present value (NPV) <i>A discounting method that determines the monetary value today that an investment project earns after yielding the desired rate of return for each period during the life of the investment.</i>	
- Compares the present value of an investment project's cash inflows (benefits) to the present value of the investment's cash outflows (costs). - Yields a monetary value. - Reference point for NPV for accepting or rejecting projects is zero. - For independent projects, if the NPV is zero or greater, an investment project is acceptable. - For mutually exclusive projects, the investment with the highest positive NPV should be accepted.	<i>Advantages:</i> - Recognizes the time value of money. - May be used to evaluate investments with uniform net cash flows and uneven cash flows. - Provides theoretically correct accept/reject decisions. <i>Disadvantages:</i> - Does not provide any indication of relative profitability. - Present value monetary value can be difficult to understand.
Internal rate of return (IRR) <i>A discounting method that determines the rate of return promised by an investment project over its useful life. It is sometimes simply called the yield on a project.</i>	
- Estimates the discount rate that makes the present value of net cash inflows equal to the initial investment—a discount rate that will make the NPV of an investment zero. - Yields a percentage showing the return on each dollar invested. - Comparing the estimated internal rate of return for a capital investment to a predetermined criterion. - The criterion rate (hurdle rate) serves as a cutoff point. Projects below this cutoff rate are rejected, unless they are mandatory projects. - For independent projects, accept if IRR is equal or greater than the criterion rate; reject if IRR is less. - For mutually exclusive projects, the investment with the highest positive IRR that exceeds the criterion rate should be accepted.	<i>Advantages:</i> - Recognizes the time value of money. - The percentage rate of return facilitates comparisons with the organization's minimal acceptable rate of return or hurdle rate. - May be used to evaluate investments with uniform net cash flows and uneven cash flows. <i>Disadvantages:</i> - Requires a process of trial and error. - Delivers only a percentage rate of an investment's potential earnings, not the magnitude or duration of cash flows.
Payback <i>A nondiscounting method that determines the time required for an organization to recover its original investment—the speed of recovering the initial investment.</i>	
- Based on a target payback period (PP)—the maximum cutoff considered to be an acceptable length of time for a project. - Projects with a PP shorter than the target are accepted; those with PPs longer than the target are rejected. - For independent projects, accept if the PP is less than or equal to the maximum payback period; otherwise, reject. - For mutually exclusive projects, accept the shortest PP that is less than or equal to the maximum payback period.	<i>Advantages:</i> - Easy to understand. - Provides an indicator of liquidity and risk. <i>Disadvantages:</i> - Ignores time value of money. - Based primarily on experience and judgment; no firm guidelines for setting the maximum payback period. - Does not measure profitability, only speed of recovering original investment.



A major difference is that the end result of NPV is a monetary value whereas the final computation for IRR is a percentage. Therein is an advantage for NPV, as the NPV values of individual projects can be added to estimate the effect of accepting combinations of projects. Because IRR yields a percentage, multiple projects cannot be added or averaged to evaluate any combination of capital investment projects. However, some people have difficulty understanding the NPV measure of present value monetary return (as compared to IRR's percentage return).

Another advantage of the NPV method is its usefulness in evaluating a project in which the required rate of return varies over the life of the project. The total present value of the cash inflows can be determined and compared with the total initial investment to evaluate the attractiveness of a project. Again, it is not possible using the IRR method to infer if the project is unattractive. Different required returns for each year means that there is no single rate of return or a single IRR value.

Both methods have some reliability cautions:

- NPV is only as reliable as the discount rate that is selected. An unrealistic discount rate can result in an erroneous decision to accept/reject a project.
- A capital investment project should not be accepted solely on the basis of a high IRR value. A high IRR result must be looked at further to assess if an opportunity to invest cash flows at such a high IRR is realistic.

But among all the various methods to analyze capital investments, the discounted cash flow methods are theoretically some of the most reliable. The NPV and IRR methods will typically yield similar results as long as there are no differences in:

- The project size (the amount of the initial investment).
- The net cash flow pattern.
- The life of the project.
- The cost of capital over the life of the project.

Compared to the NPV and IRR discounting methods, the nondiscounting payback method ignores the time value of money; this is a critical deficiency. The payback method can lead a manager to choose investments that do not maximize profits.

However, the payback method is useful as a screening measure and can help identify investment proposals that managers should consider further. If a proposal doesn't provide a payback within some specified period, the potential project can be rejected without additional consideration.

Because discounting and nondiscounting techniques have distinct strengths and weaknesses, organizations should and often do use multiple criteria for evaluating investment projects. Collectively, multiple methods mitigate the



potential for estimation errors and/or incorrect decisions that are not in the best interests of the organization.

Minimizing risk in capital investments

By definition, risk implies uncertainty and instability. Fundamentally, there are no risk-free capital investments. There are different ways to minimize the risk in capital investments. Sensitivity analysis and scenario analysis are two useful approaches that you should be aware of in FM.

Sensitivity analysis

Sensitivity analysis measures the change in one variable as a result of a change in another variable. It helps determine which variables have the greatest impact on a capital project's outcome.

As it pertains to capital investments, sensitivity analysis is a “what-if” technique evaluating how NPV, IRR and other indicators of the profitability of a project change if the discount rate, labor or materials costs, sales or some other factor varies from one case to another. The purpose is to assess how sensitive the NPV, the IRR, or another specified profitability measure is to a change. Spreadsheet programs facilitate the “what-if” analysis.

The principal merits of sensitivity analysis are its ability to pinpoint forecasting errors and the fact that computer spreadsheet programs eliminate many tedious manual calculations. However, sensitivity analysis does not account for the probability of any of the outcomes or the impact of simultaneous changes in variables, and it does not provide a decision rule for accepting/rejecting projects.

Scenario analysis

Scenario analysis examines what happens to profitability estimates such as NPV if a certain set of events (called a scenario) arises. Probability estimates are examined against different sets of assumptions or conditions.

Scenario analysis is a variation of sensitivity analysis. But where sensitivity analysis measures the change in one variable as a result of a change in another, scenario analysis measures the impact of simultaneous changes and reflects a range of outcomes as reflected by a probability distribution.

An infinite number of assumptions or conditions exist, but scenario analysis often are:

- **Optimistic**—the outcomes of some variables are better than the most likely variables.
- **Pessimistic**—the outcomes of some variables are worse than the most likely variables.
- **Most likely**—the most likely scenario results from the range of possible optimistic and pessimistic values for each variable.



Did You Know?

In some cases, both sensitivity and scenario analysis are used together to evaluate the “best possibly investment eventuality.” Understanding the details associated with sensitivity analysis vs. scenario analysis helps to determine which one carries more weight for evaluating a particular investment. In the end, it comes down to the investor's level of comfort with a particular investment. This level, of course, will vary from organization to organization.

Handling risk

Certainly, it is unwise for even the most solvent organizations to make a blind investment decision. Every organization typically has a level of risk with which they are most comfortable. One of principal advantages of sensitivity and scenario analyses is that they help an organization maintain their risk comfort level. For example, once an organization makes projections concerning a specific investment, scenario analysis can help to decide if the risk that they may be taking on in the pessimistic (worst-case) scenario is acceptable.

Ideally, the worst-case scenario will be manageable, making the optimistic (best-case) or most likely scenarios that much better. Whatever the projected outcomes are, it comes down to what level of risk the organization is comfortable with.

Business case sample

Excerpts of a sample business case are shown on the following pages. This example compares the choice between two different investment options. The presentation highlights a comparison of the long-term financial implications for a purchase decision.

As you review this business case sample, keep in mind that this scenario is hypothetical and only business case excerpts are shown. This is not a complete case example. The spirit of this information is to describe some of the likely components of a business case. Content presented here would vary with the organization's needs and expectations.

As noted back in Exhibit 2-68, “Common Components of a Business Case,” other information would logically be included in such a business case.

Remember that most organizations or agencies have a required format for their business cases and specify the type of financial analysis required. It is incumbent on a facility manager to ensure facility management business cases follow organizational protocols. Here we simply provide some of the most significant business case information necessary for this scenario.



Executive Summary

In the organizational strategic plan, the mandate is: “Strive to become more competitive and effective and provide the best workplace possible for employees.” Facilities are a vital component in this strategy.

In terms of the critical comfort needs of the people and the things in a building, a high-performance heating, ventilating and air conditioning (HVAC) system makes a building a more desirable work environment. To continue to provide air conditioning and sustain a competitive and pleasant workplace, a chiller must be replaced. The current chiller is beyond its useful life.

This proposal for capital funding is based on the analysis of two mutually exclusive investment choices. The recommendation is a new 300-ton chiller. The new chiller will play a significant role in creating the right comfort environment. Not only will a new chiller provide the right temperature, humidity and ventilation; it will also help reduce the building cost of operation, provide energy efficiency, and minimize environmental impact.

Current Status

Keeping the HVAC system running at maximum efficiency is one of the best ways to minimize service calls, eliminate surprises and control total cost of operation. The reliability of the current chiller is declining, and repairs are both expensive and problematic.

This proposal for capital funding analyzes two mutually exclusive investment choices:

- Option 1: 300-ton chiller
- Option 2: Six 50-ton package units

Based on a life-cycle costing analysis that considers all of the costs incurred during the service life of an asset, the economically sound choice between the two alternatives is option 1, the 300-ton chiller.

Assumptions

The following assumptions support the choice of the 300-ton chiller:

- There are no physical constraints to installing the recommended 300-ton chiller.
- There is adequate space to accommodate the chiller.
- The 300-ton chiller model is one of the latest and most reliable products on the market and will enhance the reliability of the building HVAC system.



Business Analysis

The financial analysis shown here outlines the initial cost estimates for the two options under consideration.

Option 1: 300-ton chiller

The first table that follows represents a running total of expenses for option 1 (the 300-ton chiller).

The last column (PV\$) identifies the present value in dollars. That number is derived using an annually decreasing factor (PV factor) based on a discount rate of 10 percent. The PV factor is a discount factor that establishes future costs in today's dollars.

It is also important to note that both the maintenance and utility costs are subject to an annual four percent increase (FV factor in column three). The annual adjustment is included in this analysis and is totaled in column six.

Note that in year 10, an expense of US\$170,000 is identified. This expense is for a major overhaul of the chiller system based on the manufacturer recommendations.

Option 1 (300-Ton Chiller): Present Values (PV) of Annual Cash Flows

Year	Initial Cost	FV Factor	Maintenance	Utilities	Total M&U	Total Cost	PV Factor	PV\$
0	US\$(295,000)	1.0000	US\$(1,725)	US\$(20,000)	US\$(21,725)	US\$(316,725)	1.0000	US\$(316,725)
1		1.0400	(1,794)	(20,800)	(22,594)	(22,594)	0.9091	(20,540)
2		1.0816	(1,866)	(21,632)	(23,498)	(23,498)	0.8264	(19,419)
3		1.1249	(1,940)	(22,498)	(24,438)	(24,438)	0.7513	(18,361)
4		1.1699	(2,018)	(23,398)	(25,416)	(25,416)	0.6830	(17,359)
5		1.2167	(2,099)	(24,334)	(26,433)	(26,433)	0.6209	(16,412)
6		1.2653	(2,183)	(25,306)	(27,489)	(27,489)	0.5645	(15,517)
7		1.3159	(2,270)	(26,318)	(28,588)	(28,588)	0.5132	(14,671)
8		1.3686	(2,361)	(27,372)	(29,733)	(29,733)	0.4665	(13,870)
9		1.4233	(2,455)	(28,466)	(30,921)	(30,921)	0.4241	(13,114)
10	(170,000)	1.4802	(2,553)	(29,604)	(32,157)	(202,157)	0.3855	(77,932)
11		1.5395	(2,656)	(30,790)	(33,446)	(33,446)	0.3505	(11,723)
12		1.6010	(2,762)	(32,020)	(34,782)	(34,782)	0.3186	(11,081)
13		1.6664	(2,874)	(33,327)	(36,201)	(36,201)	0.2910	(10,533)
14		1.7317	(2,987)	(34,634)	(37,621)	(37,621)	0.2633	(9,906)
15		1.8024	(3,109)	(36,047)	(39,156)	(39,156)	0.2405	(9,415)
16		1.8730	(3,231)	(37,460)	(40,691)	(40,691)	0.2176	(8,854)
17		1.9494	(3,363)	(38,988)	(42,351)	(42,351)	0.1988	(8,417)
18		2.0258	(3,495)	(40,516)	(44,011)	(44,011)	0.1799	(7,917)
19		2.1085	(3,637)	(42,169)	(45,806)	(45,806)	0.1643	(7,524)
20		2.1911	(3,780)	(43,822)	(47,602)	(47,602)	0.1486	(7,074)
								US\$(636,364)



Option 2: Six 50-ton package units

In this second table, we identify the life-cycle cost of option 2 (six 50-ton package units). In year 10, an expense of US\$392,253 is identified. This expense is for replacement of the six package mount units. The present-day price of this replacement is US\$265,000, but we are escalating this cost four percent per annum to accurately reflect the rising cost of inflation, parts and labor; hence, the larger cost of US\$392,253.

Option 2 (Package Units): Present Values (PV) of Annual Cash Flows

Year	Initial Cost	FV Factor	Maintenance	Utilities	Total M&U	Total Cost	PV Factor	PV\$
0	US\$(265,000)	1.0000	US\$ (1,600)	US\$(18,750)	US\$(20,350)	US\$(285,350)	1.0000	US\$(285,350)
1		1.0400	(1,664)	(19,500)	(21,164)	(21,164)	0.9091	(19,240)
2		1.0816	(1,731)	(20,280)	(22,011)	(22,011)	0.8264	(18,190)
3		1.1249	(1,800)	(21,092)	(22,892)	(22,892)	0.7513	(17,199)
4		1.1699	(1,872)	(21,936)	(23,807)	(23,807)	0.6830	(16,260)
5		1.2167	(1,947)	(22,813)	(24,760)	(24,760)	0.6209	(15,373)
6		1.2653	(2,024)	(23,724)	(25,749)	(25,749)	0.5645	(14,535)
7		1.3159	(2,105)	(24,673)	(26,779)	(26,779)	0.5132	(13,743)
8		1.3686	(2,190)	(25,661)	(27,851)	(27,851)	0.4665	(12,992)
9		1.4233	(2,277)	(26,687)	(28,964)	(28,964)	0.4241	(12,284)
10	(392,253)	1.4802	(2,368)	(27,754)	(30,122)	(422,375)	0.3855	(162,826)
11		1.5395	(2,463)	(28,866)	(31,329)	(31,329)	0.3505	(10,981)
12		1.6010	(2,562)	(30,019)	(32,580)	(32,580)	0.3186	(10,380)
13		1.6664	(2,666)	(31,244)	(33,910)	(33,910)	0.2910	(9,866)
14		1.7317	(2,771)	(32,469)	(35,240)	(35,240)	0.2633	(9,279)
15		1.8024	(2,884)	(33,794)	(36,678)	(36,678)	0.2405	(8,819)
16		1.8730	(2,997)	(35,119)	(38,116)	(38,116)	0.2176	(8,294)
17		1.9494	(3,119)	(36,551)	(39,670)	(39,670)	0.1988	(7,884)
18		2.0258	(3,241)	(37,984)	(41,225)	(41,225)	0.1799	(7,416)
19		2.1085	(3,374)	(39,533)	(42,907)	(42,907)	0.1643	(7,047)
20		2.1911	(3,506)	(41,083)	(44,589)	(44,589)	0.1486	(6,626)
								US\$(674,585)



Recommendation

The recommendation is the purchase of option 1, a new 300-ton chiller.

As shown in the following table, when initially comparing two options in a total cost analysis, the projections for the initial capital costs and annual maintenance costs and utility costs for option 1 (300-ton chiller) are higher than for option 2 (six 50-ton package units).

Annual Net Cash Flow (Disbursements)

	Option 1 300-Ton Chiller	Option 2 Six 50-Ton Package Units
Initial capital cost	US\$295,000	US\$265,000
Maintenance costs*	US\$1,725	US\$1,600
Annual utility costs*	US\$20,000	US\$18,750
Useful life span	20 years	10 years

* Subject to four percent escalation per year

While the inclination may be to select option 2, the package units, because it is initially less expensive, this is not the best choice. A decision based solely on the initial purchase price is a short-term tactical one.

Note that the service life of the option 2 package units is 10 years, compared to the 20-year useful life span for the option 1 300-ton chiller.

Based on life-cycle costing that considers all of the costs incurred during the service life of an asset, the economically sound choice between the two alternatives is the option 1 300-ton chiller. The decision to purchase the 300-ton chiller is based on a long-range strategic evaluation.



✦ Topic 4: Fundamental Cost Concepts

The importance of costs to an organization cannot be overstated. In for-profit organizations, for example, profits are the result of total revenue minus costs. Even in not-for-profit organizations, costs are at the heart of the organization's vitality and survival. Revenues come in and cost expenses go out. As in any other business, there must be more money in cash reserves at the end of the day than was spent. Should expenses consistently exceed reserves and revenues, the organization fails.

In *The Facility Manager's Guide to Finance and Budgeting*, authors David Cotts and Edmond P. Rondeau define costs as "the price paid for acquisition, maintenance, production, or use of materials or services." The text makes several critical points about costs as they pertain to facility management. Among the comments are:

- Facility managers manage a huge cost center within an organization.
- Costs are the most highly scrutinized aspect of FM performance.
- Facility managers must understand their costs of doing business.

In this topic we examine some of the principal cost terms and cost accounting concepts encountered in FM. Understanding basic cost terminology and concepts facilitates communications with other managers and organizational finance personnel. It also facilitates effective and efficient management, accurate cost accounting, proper financial analyses, and sound recommendations to senior management.

Cost terms and classifications

Quite often, it is necessary to predict how a particular cost will behave. Cost behavior doesn't refer to good or bad behavior but rather how a specific cost will behave in response to changes in business activity levels. Costs may stay the same or may change proportionately (rise or fall) in response to a change in activity.

In FM, understanding cost behavior is helpful in a variety of situations such as creating a budget, preparing a forecast, or determining which of two alternatives should be selected.

Variable costs

Recall from the primer of financial terms that variable costs are costs that change in total in proportion to changes in the related level of total activity. For example, fuel costs depend on mileage driven. Stated another way, a variable cost routinely increases and decreases proportionately with changes in activity level.



Utilities, waste disposal, costs of materials and supplies, travel expenses and billing costs are customary examples of variable costs in FM.

Fixed costs

Fixed costs remain unchanged in total for a given time period, despite wide changes in the related level of total activity.

In FM, rent, depreciation, insurance, property taxes, licensing fees, supervisory salaries and administrative salaries are all examples of fixed costs.

There are some additional points to understand about fixed costs. Fixed costs remain constant in total unless they are influenced by some outside force (such as a price change). Also, to say a cost is fixed means that it is fixed within some relevant range.

Relevant range is the range of activity within which the assumptions about fixed costs (and variable costs) are valid. Relevant range is typically expressed as specific cost drivers for a specific duration of time.

Cost drivers are those activities that have a direct and causal relationship to the incurring of overhead costs. A cost driver (also called allocation base) can be any factor that has a cause-and-effect relationship on costs. A change in a cost driver will result in a change in the total cost of a related cost object.

A cost object is anything for which cost data is accumulated. A cost object is used to determine how much a particular thing or activity costs. In FM, items or activities such as customers, projects and services are considered as cost objects.

The following example puts all these concepts together to illustrate fixed costs and relevant range.

Example: The assumption that the rent for an FM copier is US\$200 per month is valid within the relevant range of 0 to 20,000 copies per month. But a significant increase in the demand for copy services that skyrockets the monthly copy count would mean renting an additional copier. The fixed cost of monthly rent for reprographics will increase because of the second copier.

Most fixed costs do not have cost drivers. However, fixed overhead is allocated to cost pools using an allocation base.

A cost pool is an aggregation or grouping of cost objects, defined any way that is meaningful to management for assigning accountability.



Example: Cost objects such as a trenching machine used for modifying a landscape irrigation system and the labor for a maintenance employee may be included in the maintenance department cost pool, which is itself a cost object for FM.

Mixed costs

Mixed costs (also called semivariable costs) are costs that vary with changes in volume or activity, but not by a direct proportion. Many mixed costs are a combination of fixed and variable costs. They change in response to a change in volume and activity but by less than a proportionate (equally corresponding) amount.

The time horizon is important for determining cost behavior, because costs can change from fixed to variable depending on whether the decision takes place over the short run or the long run. All three cost patterns (fixed, variable and mixed) are found in most organizations.

Total costs

As the name implies, total costs are all the fixed and variable costs for a cost object.

Assigning costs to cost objects

Assigning costs to a cost object is pertinent in many FM applications including pricing, profitability studies, control of spending, and chargebacks (discussed later in this chapter). When assigning costs to cost objects, costs are classified as direct or indirect.

Direct costs

Direct costs are costs that can be specifically traced to an item or activity (for example, repairing a hole in the roof). They can be easily and accurately traced to a cost object (usually direct labor and direct materials).

Example: To reduce water usage outdoors, the standard automatic timer that turns on irrigation controller systems at set intervals is replaced with a “smart” controller that uses weather data and site information (such as plant type and sprinkler controller system output) to adjust watering times and frequency. The maintenance labor and material costs directly related to that activity are direct costs.

Indirect costs

Indirect costs are costs that are spread over a period of time, regardless of specific activities (for example, yearly insurance premiums).

Indirect costs are related to a cost object but cannot be easily and accurately traced to a cost object (such as overhead). In other words, indirect costs are related to an item or activity but not directly and solely associated with that item or activity. In addition to annual insurance premiums, other examples of indirect costs in FM include some maintenance costs, utility costs for a building, or salaries.



Indirect costs are allocated (assigned to a cost object) through reasonable estimation.

Example: A FTE corporate concierge will have multiple and varied responsibilities for building occupants and visitors. To say that a concierge's salary should be assigned to any one service provided (e.g., document delivery, catering, event planning) is not reasonable. It is a cost incurred supporting a variety of activities. The concierge's salary would be allocated.

How senior management perceives FM is often measured in terms of cost-effectiveness. Facility managers must be relentless in evaluating past cost performance and continually look for ways to reduce necessary costs and eliminate unnecessary expenditures. Building on all of the fundamental cost concepts and terms just presented, we next look at cost measurement systems and how they support cost control efforts.

Cost measurement systems

The purpose of measuring costs is to manage them. A good cost measurement system (or cost allocation system) allows a facility manager to understand how resources consumed in creating and delivering products and services to customers contribute to FM costs and what factors cause them to change. In addition, a well-designed cost system provides a facility manager with information to estimate the cost of adding new products and services or additional features to existing ones. Simply put, a cost measurement system helps a facility manager track and quantify costs and provide customers with high-quality products or services, at reasonable costs, in a timely fashion.

There are different cost measurement systems that organizations can implement. They are often broadly categorized as traditional and contemporary. Contemporary is generally synonymous with activity-based.

Before explaining characteristics of traditional and activity-based cost measurement systems, some related baseline terminology needs to be clarified. (These terms will be used throughout the discussion of the various cost systems.)

- **Cost accumulation.** Cost accumulation collects and organizes cost information in some organized way through an accounting system. Whenever a cost is incurred, such as a purchase of equipment or supplies or performance of a service, that cost is accumulated over the accounting period.



- **Cost assignment.** Cost assignment *precedes* an activity or takes place without measurement of the activity, as it makes assumptions about the proportion of costs that are assumed to relate to an activity. It is normally done where either:
 - The costs are too small to be worth accurate allocation.
 - The data collection would be too expensive or difficult relative to the cost.
 - There is reliable historical data on which the assignment can be based.
- **Cost allocation.** Cost allocation determines the proportional share of a total cost that belongs to a particular cost object based on data about the proportions of the total resource cost consumed by the cost object.
- **Cost tracing.** Cost tracing assigns direct costs to a particular cost object.
- **Unit costs.** Unit costs relate resources consumed to outputs or outcomes provided by those resources in the form of a ratio.

There are different schools of thought about the use and merits of traditional versus activity-based cost measurement systems. For the most part, organizations use different cost systems because they produce different outputs. Most facility managers do not have a choice in the matter, so the point of our discussion here is to provide an overview of how traditional and activity-based systems differ and then explain the basics of how each cost measurement system converts data into information of interest to management.

Traditional and activity-based costing both start with the same basic cost elements. But as shown in Exhibit 2-70 on the next page traditional and activity-based cost measurement systems are built on conceptually different foundations.

Using costs in decision making

Costs are an important part of many business decisions in FM. Consider but a few:

- What sorts of property, plant and equipment should the organization hold?
- Should the organization modernize or sell an old property?
- Should the organization upgrade mechanical systems at a property?
- Should services be reduced to save cost, or could they be improved with little or no cost impact?
- Should a service be done in-house or outsourced?

When making FM decisions such as these, it's important to understand the following cost concepts.



Exhibit 2-70: Comparison of Traditional and Activity-Based Cost Measurement Systems

	Traditional Costing	Activity-Based Costing
Basic cost elements	Include salaries and wages, utilities, depreciation, materials and supplies, and taxes.	Include salaries and wages, utilities, depreciation, materials and supplies, and taxes.
Cost object selection and procedures for tracking cost flows	Use responsibility centers (e.g., departments or functional areas) as the key cost object in tracking flows.	• Use activities and operations* as intermediate cost objects in tracing costs to final cost objects. • Assign costs to final cost objects based on cost drivers.
Cost allocation rules	• Use a single base for allocating indirect (common) costs. • Limit what is included, primarily to materials (and direct support costs). • Focus attention on who does the work.	• Include all traceable activities (e.g., marketing, customer support, business support) and nontraceable indirect activities. • Focus attention on the process of the work. • Provide comprehensive information by functions, resources, activities and cost drivers.

* An activity is generally described as a series of related tasks performed by a person; an operation is a series of tasks performed by a machine. Sometimes the distinction is not totally definitive.

Differential costs

The differential cost concept implies that costs and revenues differ depending on the conditions. Incremental costs and relevant costs are other names for differential costs.

Differential costs are relevant to a decision maker because they are costs that differ between two or more possible uses of funds.

Example: A facility manager is considering the purchase of a replacement machine. The replacement machine will have depreciation of US\$100,000 per year, while the current machine has depreciation of US\$65,000. The differential cost would be US\$35,000 of depreciation per year.

Differential costs are used to evaluate and choose between alternative courses of action. When assessing differential costs, a facility manager should ignore those costs that are the same for all of the alternatives under consideration; only changing costs are considered relevant to the decision-making process.

Opportunity costs

Opportunity costs represent “lost” opportunities (measured in monetary units) that could have accrued to the entity by pursuing an alternate course of action.



Opportunity costs are the potential benefits sacrificed when choosing one alternative over one or more other possibilities.

Example: When investing time and funds in a major renovation project, the maintenance employees cannot work on anything else, and even if there are no other viable projects, the funds could have been invested to earn a return.

IFMA's *Finance Competency Course—Finance for Facility Managers* offers another example of opportunity costs related to investments.

Example: Instead of implementing plan A, which could have netted us US\$X, we chose to go with plan B, which will probably cost us US\$Y. Our cost of passing up alternative A in favor of alternative B will mathematically cost us X minus Y dollars. Perhaps we expect alternative B to result in greater returns than alternative A in the long run. Regardless of the reasoning or the eventual outcome, opportunity costs are an important factor to consider in business decision making, especially when resources are constrained (limited). The yield on the best alternative is known as its opportunity cost. The alternative that offers the best investment opportunity is preferred. If another investment is chosen over that one, the opportunity to invest in the first alternative is given up.

Sunk costs

Sunk costs are money that has already been spent on decisions that cannot be changed. A sunk cost should be ignored in a decision-making process because the cost was incurred in the past and cannot be changed. The money is history and therefore irrelevant to decisions made about any future business activities.

Example: Three years ago, the organization made a significant capital investment in a wastewater system. Due to new environmental regulations, the system has been rendered obsolete. Looking back, the decision may have been unwise, but no amount of regret can change or undo the decision. The money paid is gone and cannot be applied as a differential cost in the purchase of a new system or any other future investment decision.

Sometimes facility managers erroneously include sunk costs in investment analysis in order to justify continued expenditures in a particular area.

On occasion in real estate, sunk costs warrant some consideration.

Example: Following the purchase of a property and money spent to engineer the site, the property cannot be used. The property acquisition costs, attorney fees and engineering costs become sunk costs. If management directs that the property be disposed of, these sunk costs would be included to understand the total investment made in the property and help to set a sales price. Ideally, it would be best to sell the property for what was paid for it, plus the sunk costs.



Summarizing these cost concepts as they relate to investment decisions in FM:

- Differential costs and revenues always relate to future outcomes and are critical to accepting or rejecting alternative capital budget projects that are also future-oriented decisions.
- Opportunity costs must be included in an investment decision and are typically treated as a cash outlay at the onset of the project.
- Sunk costs are ignored because they are historical costs that are not relevant to the investment decision.

✦ Topic 5: Analyzing and Interpreting Financial Documents

The goal of financial analysis is to assess organizational performance in the context of stated goals and strategies. Ratio analysis is the principal tool organizations use for financial analysis. In FM, specific facility management metrics and ratio analysis are also used.

Financial statement ratio analysis

Financial statement ratio analysis assesses how various line items in financial statements relate to one another. Such ratio analysis is a more useful exercise than discovering the dollar amount spent because of the variables affecting an organization's spending that uniquely apply to it.

Many organizations use ratios to analyze budget and financial report data. However, ratios are useful at any given point in time.

Many different ratios can be used to analyze financial data. We examine the following that are most relevant to facility managers:

- Liquidity/short-term debt ratios
- Asset management ratios
- Profitability ratios
- Return-on-investment ratios

Note that in practice, some ratios may have different formulae. The point here is to understand what the ratio measures.

Liquidity/short-term debt ratios

Liquidity ratios primarily show an organization's solvency—its ability to pay bills and other short-term obligations without undue hardship. For each of the following liquidity or short-term debt ratios, the higher the ratio, the stronger the liquidity.



Current ratio

The current ratio answers the question, “Does the organization have sufficient current assets to pay its bills during the year?” It indicates the general availability of cash to pay off liabilities (debts) as they come due.

The equation for the current ratio is shown below.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

The current ratio cannot provide data on cash flow timing, however. Lowering current ratios over time shows declining liquidity but if too high could show that the organization has too much invested in low-yield short-term assets.

Quick (acid-test) ratio

The acid-test ratio provides a quick measure of an organization’s immediate liquidity. It is generally considered a more rigorous test of liquidity than the current ratio. It eliminates inventories and prepaid expenses (for example, insurance premiums) from the current assets and then compares these quick assets to the current liabilities (excluding long-term liabilities, other liabilities and net assets) to assess the organization’s ability to pay the current liabilities.

The equation for the quick ratio appears below.

$$\text{Quick ratio} = \frac{\text{Cash} + \text{Cash equivalents} + \text{Receivables}}{\text{Current liabilities}}$$

The quick ratio may be a more accurate indicator than the current ratio of an organization’s ability to meet its financial obligations in a short span of time. Since the quick ratio excludes the least liquid current assets, primarily inventory, comparing it to the current ratio shows the effect of inventory on liquidity. A stable current ratio plus a declining quick ratio imply increasing inventory that could be temporary or permanent.

Asset management ratios

Asset management ratios measure how efficiently an organization’s assets are used to generate income—in other words, how well the organization uses resources to generate revenue.



Average inventory turnover

Average inventory turnover is a ratio showing how many times an organization's inventory is sold and replaced over a period.

The formula for average inventory turnover is shown below.

$$\text{Inventory turnover} = \frac{\text{Sales}}{\text{Average inventory}}$$

If relatively high, the inventory turnover ratio shows that the inventory is efficiently managed, while a declining ratio could show excess inventory due to poor sales or obsolescence. Too high a ratio could mean lost sales due to stockouts (ineffective buying).

Average inventory turnover is generally calculated using sales, but it may also be calculated with cost of goods sold (COGS). Although the first calculation is more frequently used, COGS may be substituted because sales are recorded at market value, while inventories are usually recorded at cost. Also, using average inventory instead of the ending inventory levels helps to minimize seasonal factors.

Profitability ratios

Profitability ratios measure an organization's earning power. They help judge operating performance (sales versus related expenses), leverage and risk. Profitability ratios answer the question "How well did the organization operate during the period?" They indicate the effectiveness of management in controlling expenses and earning a reasonable return for owners (and shareholders in public companies).

Gross, operating and net profit margin are three measures often compared to each other. For example, if compared to industry averages over several years gross profit margin has been holding steady but operating profit margin and net profit margin have been declining, then the cause must be from indirect costs since gross profit equals net sales less COGS while operating profit and net profit deducts COGS and a number of indirect items.

Gross profit margin

This ratio relates sales to production costs and is calculated as shown below.

$$\text{Gross profit margin} = \frac{\text{Gross profit}}{\text{Net sales}}$$



Operating profit margin

Operating profit margin is net sales less cost of goods sold and selling, general and administrative expenses. This ratio provides a measure of operating efficiency.

The operating profit margin is calculated as shown below.

$$\text{Operating profit margin} = \frac{\text{Operating profit}}{\text{Net sales}}$$

Net profit margin

Net profit margin provides an indication of how effective an organization is at cost control. The higher the net profit margin, the more effective the organization is at converting revenue into actual profit.

The net profit margin is calculated as shown below.

$$\text{Net profit margin} = \frac{\text{Net income}}{\text{Net sales}}$$

Normal net profit margin depends on the industry; a relatively low margin could mean that competitors are forcing price cuts or that the organization has poor cost controls.

Return-on-investment ratios

Return on investment (ROI), or return divided by investment, has a number of alternate formulae depending on how the user defines return and investment. Common variations on ROI include the following.

Return on assets

A return-on-assets (ROA) ratio indicates how profitable an organization is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings; it is displayed as a percentage.

The return-on-assets ratio is calculated as shown below.

$$\text{Return on assets (ROA)} = \frac{\text{Net income}}{\text{Total assets}}$$

The ROA percentage gives an idea of how effectively the organization is converting the money it has to invest into net income. The higher the ROA number, the better, because the organization is earning more money on less investment.



Return on equity

Return on equity (ROE) reveals how much profit an organization earned in comparison to the total amount of shareholder equity found on the balance sheet. The ratio is usually expressed as percentage.

The equation for the ROE ratio appears below.

$$\text{Return on equity} = \frac{\text{Net profit}}{\text{Equity}}$$

This 13.3 percent is the return the organization is earning on shareholder equity. An organization that has a high return on equity is more likely to be capable of generating cash internally.

Return on capital employed

Return on capital employed (ROCE) measures the profitability of an organization by the pretax profit (earnings before interest and taxes, or EBIT) achieved on an organization's capital employed. The capital employed is taken to be EBIT as a percentage of the net of current assets minus current liabilities.

The equation for the ROCE ratio appears below.

$$\text{Return on capital employed} = \frac{\text{EBIT}}{\text{Current assets} - \text{Current liabilities}}$$

The ROCE ratio measures the efficiency and profitability of capital investments undertaken by an organization. An organization acquires capital assets such as vehicles, computers and so forth to help make its operations more efficient, cut down on costs and realize greater profits or acquire more market share. Return on capital employed also indicates whether the organization is earning sufficient revenues and profits in order to make the best use of its capital assets. The higher the percentage, the better.

Ratios such as the ones described highlight organizational strengths and weaknesses. They either provide assurance of financial health or detect early warning of any significant financial difficulties. However, ratios should not be relied upon as sole indicators for decision making. There are many other evaluative measures that may be used in conjunction with ratio analysis. Balanced scorecards, best practices and surveys are a few of the possibilities.



Financial ratios can be extremely useful as benchmarks by which to compare financial performance with industry averages for organizations of similar type, scope and size and even key competitors. Benchmarks from comparable organizations enable facility managers to identify areas of conformity and variance from the norm with similar or competing organizations. For example, knowing that your organization spends a certain percentage of revenue on external building maintenance allows for a comparison to the roof, skin (siding, masonry, sash, glazing, window washing, etc.) and exterior signage expenditures of any other comparable organization.

A note of caution about using ratios as benchmarks: Keep in mind that every organization's circumstances are different. When using ratios for benchmarking, consider any mitigating circumstances that might explain variance or conformity with a norm. Ratios themselves have many variations. Even though they share a common name, one organization may use different numerators or denominators than another in performing the calculation.

Facility management metrics and ratio analysis

Demonstrating the bottom line performance of facility management to senior management can be challenging, but nonetheless it is a critical task for a facility manager. Facilities do not generate sales, so facility managers have to be creative in promoting the financial contributions of FM. Documenting cost avoidances and cost savings (which we cover next) are two ways this can be accomplished. Developing specific facility metrics (ratios) to relate, compare or measure performance against quantifiable standards is another.

It is challenging to apply metrics across all FM departments. Initiatives such as the European benchmarking standards processes are developing metrics for real estate and facility management across states and borders.

While no universal metrics exist per se, several possibilities are shown in Exhibit 2-71. Computer software can be used to accumulate and process the required data and calculate ratios. The metrics chosen to track and report should be appropriate to the organization and whatever senior management considers important to financial well-being. The use of metrics also provides the opportunity for a facility manager to teach their customers about themselves and also to help change customer behaviors.



Exhibit 2-71: Sample Facility Management Metrics

General FM metrics • Total occupancy cost/square meter or square foot • Total occupancy cost/total staff • Total occupancy cost/FM staff • Budget variance/total budget • Total FM budget/FM staff • Total FM budget/total staff • FM salaries/FM staff • FM budget/total organizational administrative budget Leasing FM metrics • Average lease cost/square meter or square foot • Leased costs/owned costs (for various aspects of FM)	Operating and maintenance FM metrics • Total utility cost/square meter or square foot • Total utility cost/total staff • Individual utility costs/square meter or square foot • Operations and maintenance costs/square meter or square foot • Operations and maintenance costs/total staff • Custodial costs/square meter or square foot • Grounds costs/acre (paved and planted) • Garage costs/parking space • Cost/service request Relocation FM metrics • Moving costs/staff moved (box move only, with construction, and with construction and furniture moved) • Cost/workstation provided or cost/square foot (administrative personnel, professional staff, managerial and executive)
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✦ Topic 6: Cost-Containment Strategies

Cost containment in FM is hardly new. No matter what the type of organization, the size, the industry, for profit or not-for-profit, few organizations function successfully without controlling their costs. Exacerbating the situation of constant cost pressures is the time-proven reality that more costs rise than fall. Thus, as a large consumer of organizational financial resources, facility managers have a never-ending challenge to contain costs.

In this topic, we look at some practices that support positive cost-containment actions no matter what your unique organizational demands. We first consider ideas for cost containment in FM, and we conclude with guidelines for implementation.

Cost-containment opportunities

Cost containment requires maintaining organizational costs within a specified budget and controlling expenditures so that they meet financial targets. Cost-containment strategies often involve reducing expenditures or the rate of growth of expenditures.



There are many possibilities for FM cost-containment initiatives. In Exhibit 2-72 several self-explanatory suggestions based on the collective experience of numerous practitioners are listed.

Exhibit 2-72: Cost-Containment Opportunities in Facility Management

• Implement zero-based budgeting. • Promote efficiency programs—to reduce resource units consumed in each activity. • Work on supply chain consolidation: • Reduce costs of buyer administration and management through managing fewer suppliers. • Remove duplication of supply chain management, administration and overhead costs. • Leverage volume purchasing opportunities. • Develop multiskilling staff—to reduce total resource requirements, program out slack time and so forth. • Reduce staffing levels to meet norms, not peaks of activity, and procure temporary resources for peak activity periods. • Subcontract services—to remove margin-on-margin pricing markups and replace with transparent costing for costs of procurement and administration. • Implement service level reviews—to understand and act on opportunities to reduce service levels, activity frequencies and so forth to save materials and other resource usage. • Implement process reviews—to remove unnecessary stages in processes and thus remove time or cost.	• Market test—to check value for money from current service delivery structures (whether internally or externally sourced). • Consider opportunities for activity deferral—to delay expenditure to another budget period. • Invest in planned maintenance so as to reduce reactive maintenance costs (e.g., planned revamping rather than reactive replacement). • Review risk profiles and consider accepting heightened risk on some facilities or services. • Invest in productivity improvements (e.g., energy-efficient plant). • Change core business activity cycles or processes that create high facility costs (e.g., replan space allocations, contribute to production planning decisions). • Revamp property disposal through improved space usage effectiveness: • Sublease vacant leased space. • Sell vacant property. • Sell used furnishings and equipment. • Analyze risk sharing with vendors. • Introduce effective chargeback practices to service users.
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Cost-containment implementation

Some cost-containment initiatives may be transparent to employees and customers. But for those that necessitate employee or customer buy-in, provisions should be made to remove any fear of change and resistance issues should be resolved. At a minimum, these types of undertakings necessitate clear communication about the purpose and the opportunity for two-way communication with employees and customers. And management needs to “walk the talk” and set the example. Management can verbally promote cost-containment strategies but if their actions fail to confirm this, the initiatives will suffer. Without these basic provisions in place, the likelihood of cynicism and mistrust increases. Cost-containment initiatives can derail, damage morale, and even damage the organization’s growth, performance and reputation in the marketplace.



Successful cost-containment implementation has its challenges, but it need not be elusive or difficult. Exhibit 2-73 offers simple guidelines that enhance the chances for success.

Exhibit 2-73: Guidelines for Cost-Containment Implementation

- | | |
|---|--|
| <ul style="list-style-type: none">• Institutionalize cost reduction, especially in decision-making processes.• Identify areas with high cost-containment potential and act on those first.• Minimize waste.• Mitigate fraudulent practices.• Generate specific savings ideas.• Develop a methodology to track actual savings.• Discern relevant change management needs in order to optimize cost containment strategies. | <ul style="list-style-type: none">• Integrate cost containment as part of the FM departmental objectives, job descriptions, performance reviews.• Provide a format to gather cost-containment suggestions that promote employee involvement and buy-in.• Establish a procedure to ensure that accepted suggestions are implemented.• Provide incentives for meaningful and accepted cost-containment suggestions.• Celebrate successes.• Lead by example. |
|---|--|

When implementing cost-containment initiatives, keep in mind:

- Strategies need to fit the organization.
- Actions should be quantifiable and measureable.
- Strategies should be chosen carefully to mitigate any harm to the business or people.

Perhaps the best cost-containment strategy of all is to plan ahead. Ultimately, your goal should be to focus on being proactive instead of simply reactive. What does that mean? Being proactive implies that you have anticipated, as best you can, the opportunities for improvement. And, in the long run, being proactive costs a lot less than being reactive.

★ Topic 7: Chargebacks

What is a chargeback?

A chargeback (also known as cross-charging or recharging) describes the ability of facility management to charge its services to another group that is requesting those services. A chargeback system is a system where companies require service departments to charge other departments for services rendered.

A chargeback system is an accounting practice that allows facility management to apply the expenses for goods and services where they are actually used. A chargeback is a cost control that requires the requesting



party to pay for work done to its area, a service provided, or some allocation of costs to tenants or end-user departments in an organization.

In a budget, a chargeback is recorded as either revenue or expense recovery to FM. If the chargeback is for another department within an organization, it is recorded as a cost or expense by the department occupying the facility and using the FM services.

In most chargeback systems, FM still budgets and controls funds for building services such as heating, ventilation and air conditioning (HVAC), grounds maintenance, and janitorial services, and end users are charged an allocated fee for them. Typically, discretionary FM goods and service requests such as space alterations, signage and furniture must be performed or purchased through FM to ensure compliance with applicable standards. Customers may have the option to obtain optional services such as picture framing or catering at a competitive cost from facility management or the ability to purchase from an outside vendor.

Chargeback systems

Chargebacks are not done in every organization. If they are, the practices must be tailored to the organization.

Systems for administering chargebacks may be broad or quite specific. FM may:

- Charge actual direct costs.
- Charge actual direct costs plus an overhead charge.
- Charge an allocation based on specified criteria (such as space occupied or number of employees).
- Use flat fee (tiered or negotiated) rates tied to internal service-level agreements that define objectives.
- Use a combination of these approaches, or use different ones.

Internal lease contracts may be put in place to manage chargebacks. Unique terms are defined in a lease such as a percentage charge (of an amount), a fixed amount, no charge, and/or lower cap restrictions. These terms can then be incorporated into the chargeback process. For example, if a tenant signed a lease that included a provision for paying a fixed amount for electricity, the chargeback system will generate the fixed amount to be paid by that tenant regardless of the actual electricity costs.

Even more complex chargeback methodologies are based on external market-based or industry-wide pricing. The possibilities are endless.



Facility manager's role in chargebacks

Managing a chargeback system is challenging at best; facility managers need to be able to calculate true costs for products and services, including overheads.

If a facility manager is required to implement and administer a chargeback system, he or she will need to ensure that the department has software and hardware to administer a chargeback budget. Further, the facility manager will need to define, justify and apply chargeback procedures so that:

- What costs to charge back, on what basis the charges are computed (square foot or per use, for example) and on what terms services will be provided are determined, documented and communicated.
- Agreements with customers on what services to deliver are tracked and charges incurred during the course of the agreements are documented and communicated.
- The system used to do the chargebacks is in keeping with the entire organization's philosophy and policies regarding chargebacks.
- Actual operational costs are determined.
- A standard method for defining and charging occupied and vacant space is determined and communicated to the appropriate parties.
- Business units understand the financial implications of facility-related requests.
- The method used to determine and calculate what is charged back and at what rate is documented and communicated to the relevant business unit or operation.
- The services to be charged back are adequately communicated and agreed to by the customer.
- Where appropriate, a contract or service level agreement is entered into with the customer.
- The true cost of the space and services is reflected in the profit and loss statement of the business unit.

If an organization determines that chargebacks are to be used, a businesslike system is required to make it effective and minimize any perceptions about unfair or unrealistic allocations or charges. It is common for business units in an organization or clients to challenge the fairness of a chargeback model or to dispute invoices. A bit facetiously, it has been said that chargebacks are 20 percent reporting and 80 percent politics. But also keep in mind that when chargebacks are planned and well-implemented, the FM organization can use them to assess the true costs to various tenants and divisions to be better at sharing the infrastructure.



Progress Check Questions

Directions: Read each question and respond in the space provided. Answers and page references follow the questions.

1. True or false? The treasurer's office prepares a forecast to help in FM cash flow planning. The facility manager takes the forecast into consideration when preparing the operating budget. Because the forecast was the first planning document, the treasurer has responsibility for keeping the cash expenditures in line during the budget period.
☐ a. True
☐ b. False
2. Which budgeting method requires a facility manager to justify all budgeted expenditures, not just changes in the budget from the previous year?
☐ a. Incremental
☐ b. Continuous
☐ c. Zero-based
☐ d. Activity-based
3. When reviewing a financial statement, what is the primary distinction between a current liability and a long-term liability?

4. True or false? When estimating cash flows, beginning accounts receivable and payable balances are US\$40,000 and US\$20,000. The facility manager estimates ending balances for accounts receivable and payable as US\$50,000 and US\$10,000, respectively. Based on these projections, cash available will decline.
☐ a. True
☐ b. False

Match each term with its application.

- | | |
|----------------------------------|--|
| 5. _____ Present value | a. Estimates the discount rate that makes the present value of net cash inflows equal to the initial investment |
| 6. _____ Net present value | b. The monetary value today that an investment project earns after yielding the desired rate of return for each period during the life of the investment |
| 7. _____ Internal rate of return | c. The equivalent dollar value today of future net cash inflows |



8. All of the following statements accurately characterize sunk costs **except**
- ☐ a. They can be eliminated in whole or in part by eliminating an activity.
 - ☐ b. They are the same regardless of the alternatives being considered.
 - ☐ c. They cannot make a difference in any future profit levels.
 - ☐ d. They should be ignored in decision making.
9. An organization has a declining current ratio. This **most likely** indicates a problem with
- ☐ a. equity financing.
 - ☐ b. collecting accounts receivables.
 - ☐ c. liquidity.
 - ☐ d. operating profits.
10. How do chargeback systems help with cost containment?



Progress check answers

1. b (p. 2-173)
2. c (p. 2-185)
3. A current liability is a debt to be paid within 12 months of the financial statement date; a long-term liability is money owed but not due to be paid within the coming year (p. 2-198).
4. a. This statement is true.
A/R = 40,000 to 50,000 (A/R increases)
A/P = 20,000 to 10,000 (A/P decreases)
The result is that cash decreases. (p. 2-207)
5. c (p. 2-216)
6. b (p. 2-219)
7. a (p. 2-219)
8. a (p. 2-233)
9. c (p. 2-235)
10. Specific answers may vary. Generally, chargeback systems provide the discipline for end users to keep costs of services under control because they are paying for services rendered. (p. 2-242)



Chapter 3: Procurement in the Facility Organization

After completing this chapter, students will be able to:

- Administer procurement procedures that comply with the policies and guidelines established by the finance or procurement departments.
 - Describe the fundamental aspects of customary facility management outsourcing relationships.
-

✦ Topic 1: Procurement Procedures

What is procurement?

Procurement is the systematic process by which an organization reaches formal agreements for the purchase of the supply of goods and/or services. When dealing with members of a supply chain, the procurement process may be called supply management. The terms procurement and purchasing are sometimes erroneously interchanged. Purchasing is different; it refers to the specific buying activity or the placing of orders under the umbrella of a procured goods or service contract.

Procurement policies and procedures are designed to govern the purchase of goods and services of the right quality, in the right quantity, at the right time, at the right price and from the right sources. Procurement rules are intended to maximize cost-effectiveness and to protect unwary would-be purchasers. Procurement is customarily achieved through open competition processes that promote fair and equal treatment of all bidders.

A procurement officer must follow procurement procedures. But in some situations, a facility manager may struggle with procurement rules if they seemingly hinder his or her ability to expeditiously deliver a product or service. Keep in mind that procurement processes exist to protect both the buying manager (the facility manager in this case) and the organization from fraud and corruption by creating a clear, agreed-upon, and auditable process for the procurement and purchase of goods and services.

To avoid conflict and be effective, a facility manager should have good rapport and an excellent working relationship with the procurement officer.



Even though procurement and FM priorities may sometimes differ, the basic management practices of negotiation and a willingness to explore alternatives together can often address both parties' needs and requirements.

Typically, FM procurements take time to complete and involve collaboration and cooperation between facility management, procurement and others. Each party has an important role:

- The facility manager provides the technical input and defines the requirements.
- Procurement manages the form and process.
- Purchasing and legal contribute expertise as required.

Procurement principles

All procurement actions should be based on conformance with all applicable laws and regulations.

Examples:

Some countries and regions have public procurement legislation that must be addressed.

In the United Kingdom (UK), for example, the Public Works, Supply and Services Contract Regulations 1995 is intended to ensure that in service contracts above a specified threshold:

- Specifications are fair and non-discriminatory.
- Prospective suppliers are objectively selected for tender lists.
- The tendering process is transparent.

In the European Union (EU), the purchase of goods and services and the ordering of works by a public authority such as a national government, a local authority or their dependent bodies are public contracts. Legislative provisions allow competition and facilitate the award of contract process, thereby reducing prices and guaranteeing better quality of services for citizens.

Transparency, fairness and interoperability are facilitated through tools such as:

- The Tenders Electronic Daily (TED) database.
- The single classification system (evidenced by the common vocabulary for the public contracts).
- The System of Information on Public Procurement (SIMAP).

In the EU, there is also a signed multilateral Agreement on Government Procurement (AGP) and a negotiated international award procedure within the World Trade Organisation (WTO).

In procurement, all prospective suppliers and their representatives should be treated fairly and impartially.



Additional general procurement principles include (but are not limited to):

- Achieve the best value for money on all procured goods and services.
- Reduce procurement process costs and ensure continuous improvement.
- Ensure that all procurement activity adheres to organizational policies (such as sustainability, diversity, equality and workforce issues).
- Ensure that procurement is undertaken in accordance with high professional standards and ethics.
- Ensure that procurement activity is organized in an effective, structured way and is embedded in the organization.
- Develop management information and the use of performance measures of procurement.

Procurement practices should consider ability, capacity, integrity, financial status, performance, reliability, quality of product or service, and delivery when evaluating prospective contractors.

Traditionally, procurement activities were paper-based. The use of e-enabling tools and services to share information is now generally considered a good business practice.

Sustainable procurement practices

To optimize sustainable practices, environmental considerations should become part of normal purchasing practice. Facility managers should seek to minimize environmental damages associated with their purchases by increasing the acquisition of environmentally preferable products. From a sustainability standpoint, the first guiding principle in procurement is:

Environment + Price + Performance = Environmentally preferable purchasing

In the practice of sustainable facility management and good corporate citizenship, procurement should consider rapidly renewable resources, embedded energy, virtual water, packaging and the effect of materials on indoor environmental quality. Consideration should be given to the life cycle of resources from harvest through manufacture/production, transportation, use and disposal of materials.



Did You Know?

“Sustainable procurement” has been described as the process whereby economic development, social development and environmental protection are balanced against business needs. Success with sustainable procurement typically provides benefits such as (but not limited to):

- Cost control by adopting a wider approach to whole-life costing.
- Improved internal and external standards through performance assessments.
- Compliance with environmental and social legislation.
- Management of risk and reputation.
- Development and support of a sustainable supply chain for the future.
- Involvement in the local business community.

Procurement process

Procurement practices differ across different organizations. Whether the procurement is government or private sector, preselection or open bid are all factors.

Consider but a few distinctions between the following calls for bids.

- **Request for proposal.** The request for proposal (RFP) is an official statement to vendors about the business activity in works, supply or service required. Prospective suppliers are invited (often through a bidding process) to submit a proposal. Vendors typically try to respond, point by point, to the RFP when they make their proposals.

The RFP may dictate to varying degrees the exact structure and format of the vendors’ response. The creativity and innovation that suppliers choose to build into their proposals may be used to judge proposals against each other. At the risk of failing to capture consistent information between bidders, suppliers are allowed to make their best efforts in their response. Effective RFPs typically provide sufficient details upon which suppliers will be able to offer a matching perspective.

- **Invitation to tender.** An invitation to tender (ITT) process (or tender process) is a special procedure for generating competing offers from different bidders looking to obtain an award of business activity in works, supply or service contracts. This method for managing the supplier selection process typically involves creating a suite of formal tender documents and specific instructions to suppliers for compiling and submitting information. The intent is to help interested third parties



produce a competitive tender with information requested in the specified format. Using a formal ITT process helps to ensure that all parties are given equal consideration and that the preferred supplier was selected fairly.

- **Request for quotation (RFQ).** A request for quotation (RFQ) is used when discussions with bidders are not required (mainly when the specifications of the business activity in works, supply or service are already known) and when price is the main or only factor in selecting the successful bidder. An RFQ may also be used as a step prior to going to a full-blown RFP to determine general price ranges.

The type and complexity of the acquisition and the level of the expenditure also influence the practices and process. Along a continuum, simple procurements with a low monetary value generally take a lot less time and rigor than procurements of high monetary value or those that require a public bidding process.

Even though organizational procurements vary, most FM procurement processes conceptually involve the activities described in Exhibit 2-74 on the next page. (The activities as they are listed in the exhibit provide a general sense of customary order and are not intended as prescriptive steps.)

Award selection criteria (which are specified early on in the procurement process) can range from lowest price to unique service aspects.

- Lowest responsive bid
- Evaluated/best value for money bid
- Unique service

The monetary value of the procurement may require the involvement of a formal procurement review committee or team.

Depending on the scope and scale of the procurement, consideration should be also be given to:

- Life-cycle costs.
- Best-value judgments of quality and costs.
- Risk assessment.

Care should be taken to ensure the procurement process is not more expensive than the contract awarded. The process must fit the volume.



Exhibit 2-74: Typical Activities in Procurement

Activity	What It Involves
Identify the need.	• Clarify the need. • Review current arrangements (if any exist) or similar previous procurements. • Identify stakeholders and other parties who have an interest in the procurement and should be involved in the process (e.g., FM staff, other organizational personnel, customers, providers and suppliers, statutory authorities, the general public). • Perform due diligence to identify employment or public procurement legislation and other compliance requirements (e.g., internal and standards).
Prepare the request.	• Develop applicable service specifications and service level agreement(s). • Identify specifications that should be included the bidding process and/or contract terms and conditions. • Prepare evaluation criteria (e.g., how vendor submissions will be rated or scored).
Finalize the request and submit it to procurement.	• Review evaluation criteria. (If necessary, involve stakeholders for verification and buy-in.) • Revise request as necessary.
Review the request.	• Determine the scope and scale of the procurement request. • Identify the monetary value.
Draft contract.	Prepare the contract, involving FM, finance and legal as necessary.
Supply market assessment (market survey).	• Compile a long list of potential bidders. • Issue a request for information (RFI), which is also known as a prequalification questionnaire (PQQ), to the bidders on the long list. • Screen for basic conditions and proof of competence and experience, financial stability and adequate resources. • Select a short list of bidders to be issued the RFP or ITT.
Solicit bids.	• Open the contract for bids. For the private sector, a prequalified list of selected bidders is a usual practice. For the public or government sector, bidding is almost always open to any qualified vendor. • Hold a briefing, if warranted. (Depending on the procurement scope, scale and monetary value, this may require a briefing of prospective vendors. Such information may also be done with e-enabled tools.)
Evaluate bids.	• Review submissions. In the private sector, bids and evaluations are usually performed in private. In the public or government sector, bid openings are generally performed in public. • Schedule formal interviews with bidders as necessary. • Use the evaluation criteria to assess bids and convert to scores.
Award contract.	• Select the best bid. • Hold a precontract meeting (if necessary) to review items such as: • The vendor's plan for contract initiation. • Insurance coverage with respect to statutory requirements and eventualities. • Contract administration—payments, meetings and other key events. • Assign and generate purchase orders (POs).



No matter how the procurement process is executed, it should be carried out in compliance with organizational policies and existing laws and regulations. Exhibit 2-75 provides general tips to help ensure procurement success.

Exhibit 2-75: Tips for Successful Facility Management Procurement

- | | |
|--|---|
| <ul style="list-style-type: none"> • Do not try to outsource known problem areas without resolving them first. • Ensure that you understand completely the current levels of contracted and actual expenditure on the services. • Ensure that you understand all constraints, especially: <ul style="list-style-type: none"> • Existing contract end dates. • Ownership of materials and equipment. • Ownership of software used in the services. • Data ownership and location. • Planned process of transfer between contractors. • Any key staff whom you might want to retain (and who employs them). • The roles and availability of client team members, especially decision makers and signatories. • Labor unions or work councils • Assemble all the information that bidders will need to know to provide a complete and accurate price. • Create a complete service specification that lends itself to objective measurement through performance indicators. • Provide suggested performance indicators, based if possible on current performance. • Do not prescribe service methodologies or specialist subcontractors unless it is absolutely essential; focus on the outputs (performance) you require. | <ul style="list-style-type: none"> • Be clear about any elements of a normal service specification that you don't require (for example, if they are provided by internal teams). • Make clear the resources (accommodation, IT, storage facilities and so on) that will be available to the contractor. • Set out a clear pricing model to allow comparison between proposals/bids. • Be clear about the evaluation criteria before issuing the solicitation (e.g., RFP, ITT or RFQ), and tell the bidders what they are. • To get the best out of the bidders, offer an opportunity for alternative proposals as well as (but instead of) a compliant proposal. • Ensure that you request a mobilization plan and mobilization costs from the bidders. (Mobilization is the initial phase of implementation; it puts in place the necessary physical and organizational arrangements needed for the activity.) • Establish and publish the process for management during the bid process preparation phase, including: <ul style="list-style-type: none"> • The overall timetable. • A bidder briefing. • Sample site visits. • How you will manage questions and clarification requests. • What the process for returning the proposals to the client is. • The period allowed for negotiation (if any). • The period allowed for mobilization. • Establish clear variation and change control processes. |
|--|---|

✦ Topic 2: Procurement and Facility Management Outsourcing

Before concluding our discussion of procurement and beginning our coverage of contracts, a baseline discussion about outsourcing is appropriate. The three topics are intertwined, because procurement often leads to outsourcing and outsourcing agreements require contracts.



Outsourcing generally describes the process of contracting with another company or person to do a particular function. Stated another way, outsourcing encompasses anything not done with in-house labor. In facility management, the terms “outsourcing” and “contracting out” are often used interchangeably.

Forms of facility management outsourcing

Facility management outsourcing can take many forms. Organizations may hire a full-service, single-source vendor to provide many services bundled together, or an organization may “out-task” and hire individual, specialized vendors to provide one or more functions.

Example: FM may out-task and hire an outside firm to handle all grounds maintenance including landscaping, irrigation systems and snow removal. Or multiple outside firms may be hired to perform each distinct process.

Other examples of out-tasking include discrete processes such as cafeteria/food service operations, janitorial services, and heating, ventilation and air conditioning (HVAC) maintenance.

Additional forms of outsourcing in FM include:

- Management contracting.
- Managing agent.
- Principal contractor.
- Total FM contractor.

Why outsource?

There are many reasons to outsource in FM. Outsourcing offers cost reduction opportunities. Other reasons include (but are not limited to):

- Access to expertise not available in-house.
- Improved resource flexibility.
- Improved cost flexibility.
- Improved career opportunities for FM staff.
- Access to investments or systems that would require capital that cannot be justified in the host organization (as noted in the business case issues raised previously).
- Management time freed up to focus on strategic issues and planning.

From a finance and business perspective, outsourcing provides a cost-containment opportunity. Outsourcing—in whole or in part—is the difference between fixed and variable costs.

There are also qualitative reasons to outsource. Facility customers may be demanding more in terms of services and amenities than the department can



provide. Outsourcing offers smaller departments the resources and expertise for capabilities they may not have internally. Even in larger departments, outsourcing can improve specific functions.

Many times, the function being outsourced is considered non-core, and outsourcing it allows the organization to concentrate its activities and resources on its core competencies. Outsourcing allows an organization to capitalize on the expertise of other firms that are more efficient, effective or knowledgeable at specialized tasks that are peripheral to those core competencies.

Outsourcing benefits and cautions

Although outsourcing offers many attractive advantages, it may not be the answer for all activities or functions. In the U.S. federal government, for example, certain functions described as “inherently governmental” may not be outsourced. These functions are typically found in jobs that require decisions about the use of resources (e.g., spending money, accepting work, management, and ownership/landlord functions).

At best, outsourcing has some potential cautions. Exhibit 2-76 lists notable advantages and disadvantages.

Exhibit 2-76: Common Advantages and Disadvantages of Outsourcing

Advantages	Disadvantages
• Can save FM administration and management time • Increases FM ability to focus on core and strategic revenue-generating activities • Provides flexibility (by allowing staff to complete other projects) • Can improve efficiency and effectiveness (by gaining access to staff and skill sets) • Can reduce operational expenses (extends staff capabilities without incurring fixed staffing/benefit costs) • May lead to sharing of savings with the outsourced firms on a risk/shared reward basis • May improve the quality and/or timeliness of FM services • May provide FM staff hired by the outsource company with training and career paths that would not be available in the FM department • May provide specialized FM services or best practices that the FM department cannot provide or would not have the financial resources to provide	• May cost more to go outside for specific expertise • Potential loss of control • Potential for poor staff morale • May necessitate a learning curve by the outside organization • Managing the relationship may require different supervisory skills than used for internal staffing and a change management approach with customers, staff and management • Potential for privacy and confidentiality issues



It is also important to realize that some national laws and regulations and standards and legal conventions set forth by international organizations such as the International Labour Organization, the Organisation for Economic Co-operation and Development, and the European Union have implications for outsourcing.

Example: In the United States, there are liability cautions in hiring contract employees. Government regulations are very specific in terms of what characteristics differentiate an external contractor from staff. In the European Union, the Acquired Rights Directive specifies several points about business transfers from one entity to another (as in a sale of a business unit or a merger); there are liabilities for all statutory rights and claims arising from contracts of employment, including the transfer of services (e.g., office cleaning, catering, security).

In addition to be potentially regulated by law or regulations, outsourcing people may also be regulated by agreements with trade unions.

For multinational organizations, national laws in many countries apply to internationally owned subsidiaries operating within a nation's borders. The lesson behind this: A facility manager should be aware that hiring and employment laws in the countries in which the organization operates as well as employment laws developed by global and regional bodies can impact outsourcing. Human resource practitioners and/or employment law specialists in the organization should be consulted to ensure compliance.

Setting the stage for outsourcing

Facility managers have responsibility for developing, managing and overseeing contracts. But even before reaching the point of contract, the facility manager needs to spend up-front time on properly defining the outsourcing objectives and requirements and the quality needed to meet those requirements. To do so helps to mitigate problems in the procurement process and performance execution of the contract terms.

This often involves having secured approval from senior management and working with procurement personnel and possibly legal counsel in the organization. To be prepared to do so, a facility manager should have invested due diligence regarding items such as (but not limited to):

- Definition of objectives and key attributes of services required (including description of the current arrangement and identification of stakeholders).
- Adequate documentation of direct and indirect costs for in-house delivery and outsourced services to facilitate comparison and decision based on best value.
- Identification of special demands (uniqueness) of the service.



- Identification of high-priority services (and risk assessment of these areas so the consequence of failures is documented and the speed of response can be planned).
- Consideration of flexibility and variability in demands.
- Consideration of management implications (effort and involvement required to manage service providers).
- Appropriate bid evaluation criteria (soft and hard measures and comparison of all costs, not just lowest price).

Having discussed procurement and covered basic information about outsourcing, we now move to contracts in the next chapter.



Progress Check Questions

Directions: Read each question and respond in the space provided. Answers and page references follow the questions.

Match the following procurement terms with their description.

- | | |
|--------------------------------|--|
| 1. _____ Request for proposal | a. A special procedure for generating competing offers from different bidders |
| 2. _____ Invitation to tender | b. An official statement to vendors about the business activity in works, supply or service required |
| 3. _____ Request for quotation | c. Procedure used when discussions with bidders are not required |
-
4. A facility manager is working with the procurement officer to secure a new provider for janitorial services. At what point in the procurement process should a service level agreement be drafted?
- () a. While FM prepares the procurement request
- () b. At the time the contract is drafted
- () c. While the bid is out for solicitation
- () d. After contract award but before a PO is assigned
-
5. Facility management decides to outsource administrative services. Which of the following potential advantages is the organization most likely to realize?
- () a. Greater flexibility, because the vendor will be able to customize employee benefits
- () b. Improved staff morale by gaining outside expertise
- () c. More technically competent level of service
- () d. Greater leverage to secure employee benefits at reduced costs



Progress check answers

1. b (p. 2-251)
2. a (p. 2-251)
3. c (p. 2-252)
4. a (p. 2-253)
5. c (p. 2-256)



Chapter 4: Contracts in the Facility Organization

After completing this chapter, students will be able to:

- Comprehend the principles involved in the development, management and oversight of facility management contracts.
 - Administer contracts.
 - Analyze and interpret financial contract elements.
 - Resolve vendor conflicts.
-

✦ Topic 1: Contract Development, Management and Oversight

Contracts and facility management

Contracts are one of the primary vehicles through which organizations identify and define opportunities for products or services procured from external providers. In a complex, globally networked world, many believe that the quality of contract management has become a key indicator of an organization's performance and integrity. Ideally, the contracting process provides a framework for regulatory compliance, reputational risk management and effective change control as well as offering a source for added value and innovation. Added value has the potential to go much further than simple price cuts or cost reduction to drive measures such as improving the safety and reliability performance of contractors or ensuring continuous upgrading of speed and quality of services.

A contract allows all parties to know exactly what is involved and expected of them. Facility managers must address many contract issues to ensure that their organization receives the right quality, in the right quantity, on time, with the right services, at the right price. Thus, we begin this chapter on contracts with an overview of fundamental contract elements. Customary types of contracts and terms found in FM contracts are discussed. The topic concludes with a discussion of fraud and irregularities in contracts.

Contract fundamentals

A contract is a legal device used by two or more persons to indicate they have reached an agreement. It implies a meeting of the minds, with terms and conditions that describe the agreement and constitute a legal obligation.



To be deemed valid, a contract typically requires the following elements.

- Mutual agreement
- Consideration
- Competent parties
- Proper subject matter
- Mutual right to remedy
- Agreement to enter into the contract

Contract administration is an important responsibility for facility managers. Contracts establish agreements between an organization and landlords or tenants, suppliers and customers as well as other businesses. They are legal documents developed and negotiated for a wide variety of products and services with the direct or indirect review and input of lawyers/solicitors. In a successful contract, both parties feel that they have done well.

Even simple contracts, however, have legal jargon. The content that follows should enable you to achieve far better negotiated results on behalf of FM and help in contract administration and management.

Contract classifications

Contracts are classified in a variety of ways.

- **Express and implied.** An express contract is one in which all elements are specifically agreed upon; they are stated either orally or in writing.
- **Bilateral and unilateral.** A bilateral contract is most common and is one in which both parties make a promise. In unilateral contracts, one party makes a promise (such as an insurance contract).
- **Void, voidable and unenforceable.** Void contracts are considered never to have come into existence (such as being based on an illegal purpose). A voidable contract is one in which one of the parties has the option to terminate the contract (such as a contract with a minor). An unenforceable contract is one in which neither party may enforce the other's obligations (if it violates the statute of frauds, for example).

An informal verbal agreement can be as binding and legally valid as a written contract. It is also possible to bind yourself to a contract through e-mail, either deliberately or inadvertently. For example, if an e-mail or chain of e-mails clearly states an offer for entering into a deal with all of the material terms, and the other side responds by e-mail accepting the terms, there is a



high probability that a valid contract has been formed—even though no signatures were exchanged up to that point.

When the intent is solely to negotiate the issues through e-mail leading to a formal written and signed contract, that should be clearly stated in the e-mail correspondence. During contract negotiations, “subject to contract” wording should be included in any document exchanged by parties (e-mails or hard copy). The expression “without prejudice” is often used when “subject to contract” is meant; it denotes that the document is not an offer or acceptance and negotiations are ongoing.

Types of contracting mechanisms

Facility managers may be involved with the administration, management and oversight of contracts in many different areas. Contracts may be performance-based or prescriptive. How much flexibility to allow a contractor can be problematic.

Prescriptive contracts outline the exact specifications expected or acceptable ranges; they are less flexible than performance-based contracts. While prescriptive contracts are appropriate for some situations, experience has shown contractors may have little incentive or motivation to do anything beyond what is specified.

On the other hand, performance-based contracts describe expected results but leave flexibility for the vendor regarding achievement of those results. With a responsible contractor, performance-based contracts have the potential for cost efficiencies and improvements. The contractor may take more pride in work and look for ways to increase effectiveness and efficiencies and add value.

(The prescriptive and performance-based categories of contracts will be discussed further in the explanation of service specifications in Topic 2 in this chapter.)

Contract documents typically specify the following information to potential suppliers:

- The scope of services
- The conditions of delivery (detailed specifications)
- Terms and time frame of delivery and/or performance
- Basis for compensation
- General and special conditions and/or clauses



Individual contract terms will be covered in more detail later, but general and special conditions merit further explanation here.

- **General conditions** provide the legal framework for the relationship between the organization and the vendor. Purchasing drafts them. As necessary, legal counsel reviews them. These pre-established terms and conditions are incorporated directly in the contracting document. Typically, general conditions do not change.
- **Special conditions** relate to a specific procurement. They define items such as working hours, security requirements, special access, safety rules and so forth. Purchasing drafts special conditions based on requirements defined by FM. In simple contracts, special conditions may be incorporated directly in the contract. For complex procurements, special conditions may be put in a performance work statement.

In FM, materials, supplies, labor and services may be obtained through a variety of agreements. It is not possible to explain in depth all the different types of contracts possible in FM. The content that follows is an overview of some of most widely used types.

Purchase orders

A purchase order (PO) is a written contract between an organization and a vendor using a preprinted standard form. One-time purchase orders and blanket purchase orders are common practice in FM.

One-time purchase order

A one-time purchase order expires with the individual delivery of a finite good or service.

At a minimum, a one-time purchase order should state:

- The quantity and quality of the items being ordered (as above).
- The agreed unit price.
- Any discount from list price (if agreed).
- The agreed total price net of any sales taxes.
- The total price, including taxes.
- A reference purchase number to be quoted on the invoice for the sale.
- Date of the purchase order.
- The name, signature and contact details of the person raising the PO.

“Errors and omissions excepted” (or “E&OE”) is usually included in the United Kingdom.



Blanket purchase order (BPO)

This type of purchase order allows a stream of procurements over a length of time and/or within a dollar ceiling. BPOs should contain all of the same information as a one-time PO, plus usually some form of maximum periodic commitment for the year plus each supply period, above which a variation order is required.

Fixed price contracts

A fixed price contract (also called a fixed sum or lump sum contract) requires a contractor to successfully perform the contract and deliver supplies or services for a price agreed to up-front. A firm fixed price contract is appropriate for supplies and services that can be described in sufficient detail to ensure that both parties completely understand the contract requirements and the inherent risks associated with performing the contract as written.

Fixed price contracts often include:

- Economic price adjustment factors to allow for situations where costs fluctuate frequently.
- Various incentives that can be used to reward good performance or to impose provisions to deduct for poor performance.
- Repricing provisions that permit issuing an order on a fixed price basis and allow for revisiting the reasonableness of that pricing later during the contract performance.
- A specified level of effort.

Cost-reimbursement contracts

A cost-reimbursement contract (also called a reimbursable or variable price contract) allows for payment of all incurred costs within a predetermined ceiling that can be allocated to the contract, that are allowable within cost standards, and that are reasonable. This type of contract places the least cost and performance risk on the contractor and requires the contractor only to use his or her best efforts to complete the contract. It is appropriate when the uncertainties of performance will not permit a fixed price to be estimated with sufficient accuracy to ensure that a fair and reasonable price is obtained.

The following are cost-reimbursement contracts:

- Cost type
- Cost sharing
- Cost plus fixed fee
- Cost plus incentive fee
- Cost plus award fee



The last two cost-reimbursement contract types require considerable monitoring and are usually reserved for the larger dollar value, more visible procurements.

Indefinite delivery quantity, line item contracting

Indefinite delivery quantity, line item contracting (known as IDQLI) is one way to deliver certain FM services and also significantly reduce procurement time. They are actually very similar to BPOs except that the IDQLI is more often for services and the BPO is typically for goods.

The IDQLI contract system is composed of small, separate, trade-specific contracts that can be called upon by the facility manager over and over again as needed. Distinct line item services and tasks are precisely specified, but delivery times and quantities are left unspecified at the time of award of the base contract.

The most essential element of the IDQLI contract is the line item menu of FM goods and services to be provided. Very specific component tasks that are normally required to complete common, trade-oriented work requests are listed individually. Each of these line item tasks is then unit-costed according to an accepted measure of quantity such as:

- Dollars per linear foot (conduit, wire, etc.).
- Dollars per square foot (painting, floor covering, etc.).
- Dollars per item (receptacle, valve, etc.).
- Dollars per service (clean restroom, assemble workstation, etc.).

Whenever possible, the line item cost is a complete cost. It includes labor, material, overhead, profit and so forth. Execution delivery times and required quantities for these line item tasks remain indefinite or on call. They are contracted for by purchase order on an as-needed basis only and at the discretion of the facility manager. Only the overall IDQLI base contract itself has a specific start and expiration date.

A key thing to understand about the IDQLI contract system is that it is more than just a contract document. In administering IDQLI contracts, the FM function acts as a general contractor to execute single trade tasks or to coordinate multi-trade projects requiring more than one IDQLI contractor. A fully operational system, therefore, includes a full-time, in-house contract management staff to provide dedicated contractor control.

National buy contracts

National buy contracts are specialized procurement contracts, primarily applicable to large organizations. They may also be called national purchasing contracts, or they may be referred to as framework contracting.



National buy contracts can provide favorable, below-retail costs in exchange for an extended agreement to purchase from a sole source provider. Systems furniture vendors commonly provide national buy contract options to large customers with distant and dispersed regional offices. Local dealers generally get a fair share of the profits as they are the party performing the ongoing service for the group.

Additional contract types

There are still other types of contracts, such as the following:

- Open book contract—the cost of the delivery is passed on in the price, with a profit margin (percentage) agreed on top.
- Labor hour/time and materials—pay for services rendered at fixed rates and for materials at cost plus a handling fee.

Some public authorities may require a specific pre-defined contract type.

Appropriate contracts help to ensure that the organization successfully meets its strategic objectives and FM fulfills departmental objectives. Furthermore, valid contracts avoid the risks associated with excessive costs, project delays, quality issues and similar problems. Evaluating the soundness of the contracts is an important aspect of a facility manager's job.

Contract terms

Notwithstanding legal constraints that make a contract valid, the form and substance of an FM contract will vary. Exhibit 2-77 on the next page provides a checklist of customary terms found in FM contracts. Not all of these provisions will be included in every contract, and some contracts will have additional inclusions that relate specifically to the particular subject matter. A facility manager must review all terms of a contract, understand what they mean, and be able to execute the various terms.

Some contracts may require translation into multiple languages.

Additional information is often put in appendices to the contract. Resumes of staff employed, request for proposal (RFP)/tender documentation, invitations to bid, prequalification questionnaires, contracting party's responses, and similar documents are all possible inclusions in appendices.

A guiding principle in FM contract management is that payment is dependent upon performance. A facility manager must ensure that service providers and other contractors perform according to their commitments. Contracts should clearly specify how payments will be adjusted when performance deviates. Service specifications and service level agreements are two mechanisms that help to achieve required results. They will be covered in more detail in Topic 2 in this chapter.



Exhibit 2-77: Checklist of Facility Management Contract Terms (continued on next page)

	Item	Provisions to be Covered
☐	Date of agreement	
☐	Identity of the parties	• Individuals or business entities? • If businesses, what type (e.g., partnership, corporation, other)? • Name of person signing on behalf of the business and indication he or she has authority to bind the business • Signer's official title
☐	Addresses of the parties	
☐	Purpose(s) of the contract and relevant definitions	Locations to be serviced
☐	Underlying assumptions	
☐	Respective roles and responsibilities	• Duties of each party • Rights of each party
☐	Description of the work involved and outcomes expected	Reports (types and frequency)
☐	Performance levels and how quality will be judged	• Service specifications and service level agreements • Monitoring
☐	Terms for incentives and penalties	
☐	Staffing levels	
☐	Personnel requirements (certifications, bonding, insurance, security clearances, criminal record checks and so forth)	The organization's right to check qualifications and competencies of contractor personnel and approve the use in advance
☐	Schedule	• Timelines and deadlines • Other relevant dates
☐	Duration	Term of the contract
☐	Rights of access to locations	
☐	Protocols when on location	• Hours of operation, dress, badges, where to eat and so forth • Use of physical property (for example, computers and office space)
☐	Communication	• How communication with facility staff and occupants is to be done • Reports and liaison meetings
☐	Restrictions on subcontracting	
☐	Novation/contract transfer provisions	Provisions regarding the substitution of a new contract in place of the original
☐	Payment terms and pricing mechanisms	• Lump sum, COD, installments? • Payment due dates • Length of period from invoice issue to due date • Taxes • Interest • Late fees
☐	Termination options	Default, bankruptcy, escape clause and other dissolution procedures
☐	Service suspensions	What disruptions in service (not excused by a <i>force majeure</i> clause) are allowable, such as server failures, software glitches, disputes with copyright owners, licensor labor disputes
☐	<i>Force majeure</i> provisions	What unforeseen or planned events suspend contract time limits, such as: • Natural disasters (earthquakes, hurricanes, floods) • Wars, riots or other major upheaval • Performance failures of parties outside the control of the contracting party (e.g., disruptions in telephone service attributable to the telephone company or labor actions)
☐	Dates by which performance obligations are scheduled to be met will be extended for a period of time equal to the time lost due to any delays	



Exhibit 2-77: Checklist of Facility Management Contract Terms (concluded)

	Item	Provisions to be Covered
☐	Contract variations	• The handling of changes in the organization's requirements • Change order request/change proposal process • Contract amendments
☐	Severability of individual provisions	
☐	Audit rights	
☐	Dispute resolution clause	Mechanisms for dispute resolution and how disagreements or disputes are to be handled
☐	Ownership	Copyright issues, patents and intellectual property specifications
☐	Confidentiality and restrictions on information obtained/learned	
☐	Arrangements for transfer of assets at start/end of contract	
☐	Arrangements for handover to succeeding contractor at end of contract	
☐	Contingency arrangements	
☐	Liquidated damages	Also referred to as liquidated and ascertained damages, the specified monetary amount the parties designate during the formation of a contract should one of the parties breach the contract (e.g., late performance)
☐	Indemnification agreement	Documentation of who is liable for what and to what extent in the liability clauses (e.g., which party agrees to pay for any losses that arise; limitations on liability)
☐	Safety	• Safety gear • Special health and safety hazards • Accidents to contractor personnel
☐	Antidiscrimination policy	
☐	Drug-free workplace policy	
☐	Quality assurance	Provisions related to quality management systems/continuous improvement
☐	Statement that contract constitutes entire agreement	
☐	Signatures of authorized signatories	
☐	Notarization	If required by applicable law
☐	Governing law	Which country or regional laws apply to the contract

Prevention of fraud and irregularities in contracts

Fraud is generally defined as an intentional deception made to gain an advantage or damage another individual. It encompasses a variety of illegal acts characterized by deceit, concealment or violation of trust. These acts are not dependent upon the application of a threat of violence or physical force. Frauds are perpetrated by parties and organizations to obtain money, property or services; to avoid payment or loss of services; or to secure personal or business advantage.

Good procurement practices, valid contracts and preventive controls help to deter and prevent contract fraud.

Types of contract fraud

Fraud as it relates to contracts can take many forms. The primary ones are described below.



Collusion between personnel or agents

Collusion generally encompasses a variety of behaviors that would not reflect the application of care or skills expected of a reasonably prudent, competent and honest individual.

A reasonably prudent person is alert to the possibility of intentional wrongdoing, errors or omissions, inefficiencies, waste, ineffectiveness and conflicts of interest. Most organizations have protocols about accepting gifts, including meals. To ignore such things may be construed as collusion. In particular, discretion and care needs to be taken regarding the acceptance of gifts, hospitality and other perquisites to prevent any conflict of interest in the awarding of contracts.

Price fixing

Price fixing in contracting describes an agreement among competitors to raise, fix or otherwise maintain the prices at a specified level. It is not necessary that the competitors agree to charge exactly the same price.

If you believe that price fixing is taking place between your bidders or suppliers, you should consider contacting your legal department to ask for direction. Also, you might want to include this and related topics as part of your regular ethics training for FM staff.

Noncompetitive pricing of contracts

Also known as bid rigging, noncompetitive pricing describes how conspiring competitors effectively raise prices when the organization acquiring goods or services solicits competing bids. Essentially, competitors agree in advance who will submit the winning bid on a contract being let through the competitive bidding process; even the lowest bid (tender) will be overpriced.

Bid rigging may take many forms. However, almost all forms of bid rigging schemes have one thing in common: an agreement among some or all of the bidders that predetermines the winning bidder and limits or eliminates competition among the conspiring vendors. The goal is to win a contract and share in the award.

Irregularities during execution of contracts

Fraud may be perpetrated in several ways during the execution of contracts, ranging from failure to perform to specifications, to deliberate falsification of records and invoices, to overstatement of work completed. All of these activities can lead to overpayments. The unauthorized or illegal use of



confidential or proprietary information is another type of fraud possible during contract execution.

Payments for work not carried out

Sometimes called phantom charges, this type of fraud is commonly perpetrated through charges for expenses not incurred or work not performed. It may also involve the misrepresentation of status and/or progress in order to continue receiving funds.

Cartels

A cartel is a formal (explicit) agreement among suppliers, producers or other organizations that agree to coordinate prices and/or production. Cartels are typically found in markets that are dominated by a small number of sellers and usually involve homogeneous products.

Most countries have laws intended to repress cartels and promote competition among entities. However, identifying and proving the existence of a cartel even with such regulations can be difficult. The effectiveness of cartel regulations and antitrust laws and the assessment of fines and penalties for cartel activity is challenging. If a facility manager suspects and/or must deal with known cartel activity, the organization's legal department or counsel should be involved.

Principles of contract fraud control

In *Total Facilities Management*, authors Brian Atkin and Adrian Brooks offer the following succinct points about fraud and control:

- Fraud should be deterred.
- Prevention is preferable to detection.
- Strong preventive controls should be applied.

Controls generally describe procedures designed to promote sound management practices. Internal controls are used in many areas of an organization to promote effective management.

Preventive controls—proactive controls—that can deter and prevent fraud risks in FM contracting include:

- Segregation of duties
- Shifting staff around
- Proper authorization
- Competitive bidding/tendering
- Documentation and record keeping



- Change order controls
- Budgetary controls

Effective fraud controls:

- Increase the likelihood that all financial information in contracting is reliable.
- Promote adherence to organizational policies and procedures.
- Help to protect an organization's assets from misuse.
- Lessen the opportunity for dishonesty, fraud, collusion and the like.

Fraud indicators

Facility managers should be able to recognize fraud indicators in the bidding/tendering process and the award of contracts. They are signs that indicate both the inadequacy of controls in place to deter fraud and the possibility that some perpetrator has already overcome these weak or absent controls to commit fraud. Such indicators are often referred to as red flags.

Certain patterns of bidding or pricing conduct seem at odds with a competitive process and suggest the possibility of collusion and fraud. It is important to realize that while these indicators may arouse suspicion, they are not definitive proof. Red flag indicators are only warning signs; they are not proof that fraud has been committed. Consider the following examples.

Examples: Bids that come in well above the estimate may indicate collusion, or they may simply be an incorrect estimate. Also, a bidder can lawfully submit an intentionally high bid that it does not think will be successful for its own business reasons (such as being too busy to handle the work but wanting to stay on the bidders' list).

Fraud is perpetrated only when a company submits an intentionally high bid because of an agreement with a competitor. Thus, red flag indicators merely signal caution and the potential need for further evaluation to determine whether fraud exists or whether there is an innocent explanation for the events in question.

Fraud can occur in almost any contracting situation, but it is more likely to occur in some scenarios than in others such as when there are.

- Few providers
- Little product differentiation
- Standardized products
- Repetitive purchases
- Strong ties (if the competitors know each other well)



Organizations stand to derive many benefits from recognizing where fraud may occur during bidding and award of contracts. But awareness and preventive controls are not enough to ensure the successful execution of a contract. Facility managers need to provide ongoing assurance, and that is our next topic for discussion

✦ Topic 2: Contract Administration

Broadly defined, contract administration is any action from the time a contract is awarded until its closeout. It is the process of ensuring that the intent, requirements, and terms and conditions of the contract are met. Once a contract is signed and in place and work has started, a facility manager will have some level of responsibility for contract administration (implementation and monitoring).

Ideally, a facility manager is involved with the bidding process and has firsthand knowledge of the contract terms. In situations where the facility manager was not involved from the outset, he or she should begin by reading the contract to become familiar with all terms. In this situation, it may be appropriate to review with purchasing any major issues that took place during the procurement and negotiation process of the contract award. This collaboration with purchasing will help in understanding the tone of the relationship and the requirements for the completion of a successful contract.

If the terms of a contract are complete and clear, contract administration should be relatively straightforward. The primary goals in contract implementation and monitoring are to:

- Assess contractor performance.
- Evaluate whether the provider is complying with the terms and conditions of the contract.
- Document the outcomes.
- Ensure the continuing relevance to organizational needs.

Such contract oversight increases the probability that expectations associated with a project, product or service are fulfilled in a responsible fashion. Monitoring also helps to ensure successful completion of a contract; it should uncover difficulties which, left unattended, could lead to project or product failure or to unsatisfactory service.



Contract monitoring

A facility manager's involvement in contract administration can range from the simple acceptance of a delivery and payment to the contractor to extensive involvement throughout the contract term. General factors influencing the degree of contract administration include the nature of the work, product or service, the type of contract, and the experience and commitment of the contractor personnel involved.

Contract performance monitoring and contract cost monitoring are the two areas for which a facility manager typically has some level of responsibility. Collectively, implementation and monitoring activities in these areas cost-effectively measure the contractor's performance and provide documentation to pay accordingly.

Contract performance monitoring

To assess compliance with contract performance provisions, common criteria include monitoring of items such as (but not limited to):

- Actual progress against work schedules.
- Fulfillment of time frames and adherence to milestones.
- Fulfillment of quality and quantity objectives.
- Conformance to specifications.
- Conformance to baseline operational performance metrics.
- Conformance to service/quality levels outlined within the contract.
- Conformance to standards.
- Conformance to any warranties of the contractor.

There are various ways to obtain vendor performance. Documentation formality and format also vary. Different tools may be used for monitoring activities such as:

- Project software.
- Spreadsheets.
- Custom applications.
- Work management center management information systems.
- Computer-aided facility management (CAFM).

Done properly, contract performance monitoring:

- Facilitates early resolution of any vendor performance issues.
- Identifies planned and unplanned modifications that may arise throughout the contract term.
- Facilitates negotiating and processing contract change orders.



Use of service specifications and service level agreements in performance monitoring

A facility manager has management and oversight responsibilities for services provided to tenants (whether the service is outsourced or performed by internal FM staff.) All services must be fulfilled according to expected performance and time standards. The inclusion of service specifications and service level agreements in a service contract or as an addendum are extremely helpful in contract administration.

What is a service contract?

A service contract is an agreement for the performance of various labor-oriented services, funded on a periodic basis.

All service contracts should be in writing. Customary contract terms were covered in detail previously. Even in the simplest service contracts, the following are important contract terms to include:

- Identity of the parties
- Description of the service to be performed, where and how often
- Performance standards and measurement metrics
- Costs (specifying hourly, weekly, monthly and annual)
- Contract initiation and termination (start and end dates)
- Special provisions (such as insurance coverage, safety gear, emergency response and overtime)
- Termination provisions
- Signatures of authorized parties

Inclusions of additional terms are contract-specific. Typically considerations are:

- Escalation clauses for contracts that involve substantial labor.
- Right to audit the contractor's records regarding labor and material costs.
- Copies of the contractor's licenses, liability and workers' compensation insurance certificates and fidelity bonds.

What is a service specification?

Service specifications are part of the service contract. Typically, service specifications are included in a separate document developed and agreed upon in order to clarify and give further detail on expected service levels and quality.

A service specification establishes the minimum level of service acceptable to meet customer requirements. It also provides a framework for monitoring actual services. Service specifications are often used as benchmarks to assess the standard and quality of service provided.



A service specification is a precursor for a service level agreement. At a minimum, service specifications cover:

- Internal standards—relevant organizational or FM standards and/or standards that may have been part of previous contracts.
- External standards—conformance to regulatory requirements, international standards, health and safety laws and regulations, industry standards and manufacturers' recommendations.
- Procedures—specifications about what the contractor must do to fulfill any required technical standards.

The level of detail in a service specification naturally varies, depending upon the complexity and importance of the service or asset item.

A primary consideration when developing a service specification is the choice between a prescriptive, performance-based or output based specification.

- **Prescriptive specifications.** True to their name, prescriptive specifications dictate exactly what will be done, how the tasks will be performed and the frequency. Prescriptive specifications are restrictive; they are based on specific inputs. Usually, they cannot be modified once the contract is running.
- **Performance-based specifications.** A performance-based specification typically sets quality-related targets that allow the service provider some flexibility in determining the most appropriate response. Compared to prescriptive specifications specifying inputs, performance-based specifications are focused more on outputs.
- **Output-based specifications.** An output-based specification notes what service is required, but not how it should be provided. The focus is on what the deliverables are in business terms rather than how they should be delivered. For output-based specifications to be effective, FM must clearly define what their key business terms are and allow the service provider to perform its obligations with the minimum of constraints.

A risk in developing prescriptive specifications is that they can become overly prescriptive and regimented. The challenge in performance-based specifications is being able to convey the quality expectation in terms the contractor understands and can execute in practice.



It is a best practice in procurement to focus on describing required outputs rather than inputs. Prescriptive specifications should be used only when there is a clear risk-related reason to do so.

Contents found in a service specification should:

- Describe the objectives of the service.
- Provide a general description of the service.
- Explain the service outputs required.
- Explain the service input requirements (if any).
- Explain any priorities and constraints (e.g., delivery times).
- Provide details of any specific exceptions or exclusions to the service requirement (e.g., geographical or items that would normally be included but are not in the particular specification).

Service specifications often describe performance requirements in terms of factors that are critical to the successful provision of the service. Known as key performance indicators (KPIs), they are related to the criticality and importance of the service (not the level of the service).

What is a service level agreement?

A service level agreement (frequently abbreviated as SLA) is a part of a service contract where the level of service is formally defined. SLAs are a negotiated agreement between the service provider (in-house or outsourced) and the customer.

In an SLA, the service provider commits to deliver an agreed-upon level of service. Levels of availability, serviceability, performance, operation or other attributes may be included as formal requirements and targets. Time is a common SLA metric. The level of service time may be specified as targets and minimums.

The key in SLAs is to define the level of service that the provider should deliver. SLAs also specify incentives and financial penalties. Once defined, the levels can serve as benchmarks across multiple locations. They may also be used to compare service delivery between an in-house department and an external service provider.

Service level expectations should be reasonable and realistic. If, for example, the building security system breaks down, a facility manager would have a greater sense of urgency for a service provider to respond than for a photocopier malfunction. When developing SLA targets for outsourcing, it is



prudent for a facility manager to solicit input from the service provider to ensure that the expectations are practical.

The service contract may involve the right to terminate if SLAs are consistently missed. Termination is normally only against specific failures to achieve the agreed target KPIs (which is implied by the inclusion of the word “key” in “key performance indicators”). But SLAs should also retain flexibility to accommodate changes in customer requirements. In outsourcing, they are often utilized as one of the primary tools for contract governance.

Service level agreements are formal documents. Increasingly it is best practice to split SLA issues between the specification and the performance targets.

Service level agreement terms mirror aspects of contracts. Typical inclusions in an SLA are:

- Agreement details (identification of the parties, effective date of the agreement and duration).
- Definitions.
- Description of the scope of services to be provided.
- Quality and performance-related targets.
- Time targets—service priority categories and times.
- Pricing—fees and payment terms.
- Monitoring—performance measures and performance reports.
- Meetings—customer/service provider communication.
- Subcontracting provisions.
- Incentives and penalties.
- Procedures for revising the SLA.
- Customer rating and feedback mechanisms.
- Dispute resolution.
- Default.
- Transfer of responsibility.

Both parties should sign the SLA.

Facility managers’ roles in service specifications and SLAs

During the development of service specifications and SLAs, a facility manager’s responsibilities may include (but are not limited to):

- Identification and clarification of stakeholder interests relative to the types of services required and the levels of performance considered acceptable.
- Definition of critical success factors and key performance indicators.



- Consideration of other elements, such as:
 - How service effectiveness will be tracked.
 - How information about service effectiveness will be reported and addressed.
 - How service-related disagreements will be resolved.
 - How the parties involved will review and modify the specification or agreement as necessary.

Once service specifications and SLAs are in place and operational, a facility manager's responsibilities may include (but are not limited to):

- Serving as the point of contact for problems or concerns.
- Coordinating and implementing modifications.
- Periodically assessing the effectiveness of mechanisms selected for service tracking and reporting.
- Planning and coordinating service reviews.
- Regularly assessing and reporting on how the two parties can further strengthen their working relationship and extend it to other areas.
- Facilitating or participating in conflict resolution processes.

Contract cost monitoring

Cost monitoring goes along with performance monitoring. Monitoring of contract expenditures includes activities such as (but not limited to):

- Ensuring that there are sufficient funds to pay for all services rendered as required by contract.
- Ensuring that invoices are paid consistent with the most favorable contract payment terms.
- Identifying low spending levels and reassignment of funds, if appropriate.
- Ensuring that vendor payments are commensurate with the level of goods and services received.
- Reviewing vendor invoices and following the organizational and departmental standard procedures for processing vendor payments.

Frequency of performance and cost monitoring

Contract work is checked and monitored frequently enough to confirm that the conditions of contract are satisfied and actual costs are tracked. Activity levels are dictated by terms of the commitments and responsibilities as laid out within the contract agreement. The driving factors in frequency are the complexity and value of the contract.



Monitoring should be done so that:

- Any discrepancies in the quality or timeliness of the work can be quickly addressed and resolved.
- Situations in which the contractor requires unanticipated support (utilities, space) or access to buildings, structures or grounds can be arranged to minimize negative impact.

As circumstances warrant, monitoring may be daily, weekly, monthly, quarterly or annually. Special monitoring activities may be appropriate as well as site visits and audits.

Organizations customarily prepare reports to ensure that performance and costs are monitored and controlled systematically. There are many ways to compile performance and cost information. The specific ones implemented must be appropriate for the contract being managed. They should be realistic and flexible and aligned to internal financial controls.

With performance scorecards, for example, the overall performance score could be used in conjunction with a performance payment scale to reward the service provider for scores that exceed expectations. Conversely, low scores might be tied to penalties for not meeting minimum requirements. It should be clear as to what triggers any adverse actions.

An organization's accounting system and the various spreadsheets and database management programs can be used to prepare cost monitoring reports.

Facility managers should own the performance aspects of FM contracts and the supplier relationships. Specific responsibilities may vary, depending on the contract and the organization's norms and policies. Facility managers should also have at least some level of involvement in managing and overseeing the legal and financial aspects of a contract. Under no circumstances, however, should an outsourced vendor be responsible for tracking their own performance.

Contract closeout

Contract closeout occurs when the termination conditions of the contract have been met (and notice of termination served). It involves the completion of all administrative actions, settlement of any disputes and resolution of any residual liabilities, arrangements made for transfer of any continuing responsibilities and actions, and approval for final payment.



Closeout represents the complete settlement of a contract. As with other aspects of contract administration, the specific nature of the contract and organizational norms will dictate the formality of the closeout and the facility manager's level of involvement.

During closeout, the contract terms should be reviewed to identify closeout actions and any requirements for specialized activities (e.g., special property issues, special payment issues, transfer of routine services). A facility manager might well have responsibility for certification that all milestones have been satisfactorily completed and that all deliverable items/reports have been accepted. Review of expenditures and verification of the amounts as appropriate is another typical responsibility. Closeout responsibilities will vary from contract to contract.

Whatever the organizational and contract specifics, it is essential that a facility manager have a clear understanding of requirements and responsibilities and correctly execute any assigned closeout tasks. For example, outsourced contracts would have some variations and a different process involving transfer of, for example, equipment, data, records and (in some cases) staff carrying out the service. Transfer requirements occur routinely in the European Union under the Acquired Rights Directive.

Topic 3: Analyzing and Interpreting Financial Contract Elements

Facility management contracts involve legal documents, and those documents have financial implications. Managing the financial elements in procurement contracts presents both risks and opportunities.

Terms of a contract are intended to frame a contract relationship and poise it for success. But a contract alone cannot guarantee performance accountability or the success of an outsourcing relationship. Relationship management skills and understanding of the terms underlying the agreement (so as to achieve the outputs the buyer requires while allowing the vendor to make a fair profit) are important as well.

Most organizations have risk management departments or an individual with assigned risk management responsibilities. Typically, a facility manager supports the process by analyzing and interpreting financial contract elements (lease agreements, service contracts, cost statements and so forth). To do so, the facility manager needs to develop a clear picture of potential contract risks.



Risk management

This topic first explores the basic elements of risk management—how to assess the likelihood that potential financial risks and other risk exposures have been identified. As we will see, applying a systematic risk management approach can help to identify and prioritize financial contract risks while improving the collaboration between the organization and contractors. We then look at several types of procurement contract management risks a facility manager should understand.

Risk as it applies to contracts is the possibility of an event occurring that will have a negative impact on the achievement of contract objectives. Just as no two organizations are identical, individual contracts have different types of risk.

Further, risk does not present a single point estimate; it represents a range of possibilities. Without a single outcome, the range is what creates uncertainty when understanding and evaluating risk. Risk may relate to preventing bad things from happening or failing to ensure that good things happen. Risks may present threats to an organization or be the failure to achieve positive outcomes.

Risk management provides a process to identify, assess, manage and control potential events or situations that threaten the achievement of contract objectives. When applied correctly, risk management provides a structured approach that can help an organization:

- Save money.
- Improve decision making.
- Protect or strengthen its reputation.
- Reduce the possibility of personal accidents.
- Reduce the chances of litigation.
- Ensure that business continuity is maintained whenever possible.

Applied specifically to contracts, risk management facilitates the bidding and award process. It gives service providers and suppliers a clearer picture of potential risks and allows the organization to select the prospective service provider or supplier that represents the best value to the organization. During contract implementation and monitoring, risk management provides better control. It increases the likelihood that contract objectives and goals will be achieved and projects delivered on time.

Specific risk management approaches can vary. In addition to internal risk management departments or personnel, there are many consultants and organizations that offer risk management services as well as a variety of risk management software applications. Invariably, risk management approaches



all have the same elements. While a facility manager is not directly involved in or responsible for the entire risk management process, it is beneficial to understand the principles of risk identification, categorization, assessment and response.

Risk identification

Risk identification answers the question, “What are the contract risks?” The objective of risk identification is to search for and capture those risks that, if they occurred, could threaten the business or specific projects, or simply where uncertainty of outcome exists.

Risk identification starts before contracting begins with analyses of desired contract outcomes, likely costs and risk vulnerabilities. The identification of risks is ongoing and can occur at any point during contract execution.

Risk categorization

Categorization groups the identified FM contract risks into categories such as (but not limited to) scope of services and nature of work, subcontracting, geography and vendor delivery capability, pricing and costing options, contract duration and renewal options, service and resource flexibility, vendor company failure, service failure, reputational risk and change and transition.

Categorizing risks in this manner facilitates subsequent assessment and response. (We will examine these FM contract risks further in just a bit.)

Risk assessment

Risk assessment (or risk analysis) is the identification and measurement of risk and the process of prioritizing it.

Risk is often assessed in terms of likelihood and impact:

- Likelihood is the probability that a given event will occur.
- Impact is the result or effect of an event; it relates to the magnitude of risk (such as the materiality and potential dollar loss, potential reputation or brand damage, or the importance of the related contract objective).

Risk events are rated in terms of the likelihood and impact using:

- Qualitative terms—continuums such as high to low or almost certain to improbable and catastrophic to negligible.
- Quantitative measures such as numerical scales of 1 to 5, percentages, frequency of occurrence or other metrics.

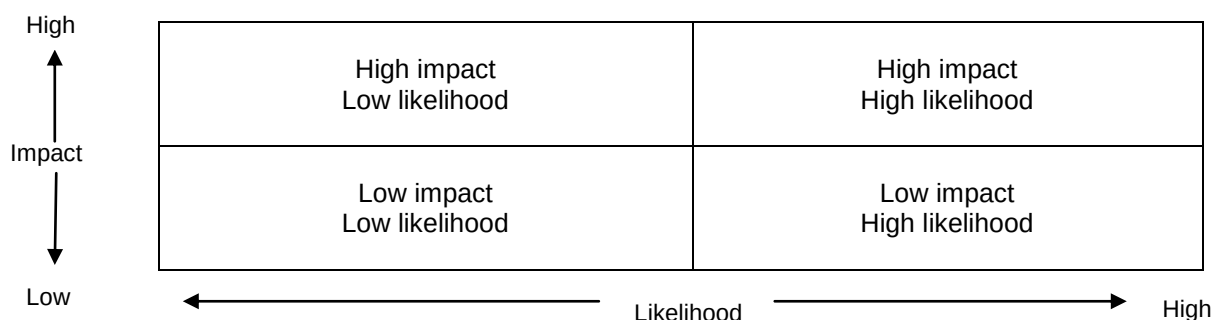
Ratings may combine words and numbers in a risk rating as shown in Exhibit 2-78.



Exhibit 2-78: Sample Risk Rating

Likelihood Rating		Impact Rating	
<i>Likelihood</i>	<i>Score</i>	<i>Impact</i>	<i>Score</i>
Almost certain	5	Catastrophic	5
Likely	4	Critical	4
Moderate	3	Serious	3
Unlikely	2	Marginal	2
Improbable	1	Negligible	1

Sometimes organizations portray the risk factors in a graphical representation such as the four-quadrant matrix shown in Exhibit 2-79.

Exhibit 2-79: Risk Map for Likelihood and Impact

Variations of the risk rating scales or the risk map are possible. Format and specific terminology are not as important as developing an effective risk assessment to evaluate risk events pertaining to contracts.

Contract risk assessment should answer three important questions:

- To which party does the contract assign the risk of extra costs or time for a particular event?
- What is the likelihood of the event occurring?
- What is the economic exposure to the risk-bearing party if the event occurs?

Estimating likelihood and impact can be challenging; the process involves professional judgment and a consistent application of rating factors. No matter how risk assessment is done, the key is to objectively assess risks in order to identify those that require management focus.

Risk response

Once risks are identified and prioritized, the next step is to consider the best response to manage the risk. Risk response (sometimes called risk



mitigation) refers to the measures taken to avoid or reduce the impact of a risk or to control the effects of a risk.

Risk can be managed in different ways. Customary risk responses are:

- **Acceptance**—accept and absorb the risk by identifying ways to manage it such as establishing contingency plans.
- **Control (or reduce)**—reduce the likelihood and potential negative impact of the risk.
- **Transfer**—share or transfer the risk to insurance or to other parties (such service providers or suppliers through a contractual arrangement).
- **Avoidance**—identify ways to prevent risk exposure or exit the activities giving rise to the risk.

Risk management can help to address a broad range of risks that a contractual arrangement can create for the buying (client) organization. The more diverse and complex an organization's contracts, the more challenging risk management becomes. But following a structured approach like the one just presented will usually identify many commonalities.

Risks in facility management contracts

Next we revisit the list of risks customarily associated with FM contracts. In an outsourcing relationship, a facility manager must understand the nature of the contract risks in order to ensure that the vendor relationship is successful.

Scope of services and nature of work

Whether a contract is for a single service or full service, the scope of services and nature of work must be well-defined at the outset. These terms and conditions specify what the contractor will do, by when and for how much. The terms and conditions should also specify the measures and indicators to be used to monitor the contractor's performance. Contractors should have sufficient time and information to assimilate the detail in the bid phase.

Single service situations with multiple individual contractors exponentially multiple potential risk scenarios. Full-service contracts reduce the FM interface required but present other contract concerns (such as potential loss of control).

Subcontracting

Some service providers may contract with third parties. FM can benefit from the specialization of subcontractors, but there are risks associated with subcontracting when services are distributed among parties with whom FM has no direct relationship.

FM should be aware of and approve all subcontractors. To provide accountability and reduce contract risk, the primary contracting service



provider should be designated in the contract. The contract should also specify that the primary contracting service provider is responsible for the services outlined in the contract regardless of which entity actually conducts the operations. FM should also consider including notification and approval requirements regarding any changes to the service provider's significant subcontractors. The fundamental objective is to hold the primary service provider to the same standard regardless of who performs the work.

Did You Know?

A contract should normally reserve the organization's right to terminate it in the event of a change in the controlling interest of the contractor. Further, it should ensure that the contractor cannot assign any part of the contract to another party without the organization's agreement.

Geography and vendor delivery capability

In all locations, competent and reliable vendors must be found. A contractor is expected to provide services or complete the work with certain operator/own/industry performance targets.

The nature of this risk can vary significantly in cross-border situations, as vendors and their employees may have different attitudes and potential cultural conflicts. Compliance with local laws and regulations and even political and social unrest in some areas of the world also shape and influence vendor delivery capability.

Pricing and costing options

When an organization procures services from a contractor, the type of contract and the basis for payment influence the allocation of risks. Recall the two broad categories of fixed price contracts, which are for items or tasks that can be defined fully, and cost-reimbursement contracts, which are for those that cannot.

Within the fixed price and cost-reimbursement categories, specific contract types range from firm fixed price to cost plus fixed fee. Along this continuum:

- In firm fixed price contracts, the contractor has full responsibility for the performance costs and the resulting profit (or loss).
- In cost plus fixed fee contracts, the contractor has minimal responsibility for the performance costs and the negotiated fee (profit) is fixed.
- In between, various incentive contracts (e.g., fixed price incentive fee, cost plus) are based on the contractor's responsibility for the performance costs and the profit or fee incentives offered are tailored to the uncertainties involved in contract performance.

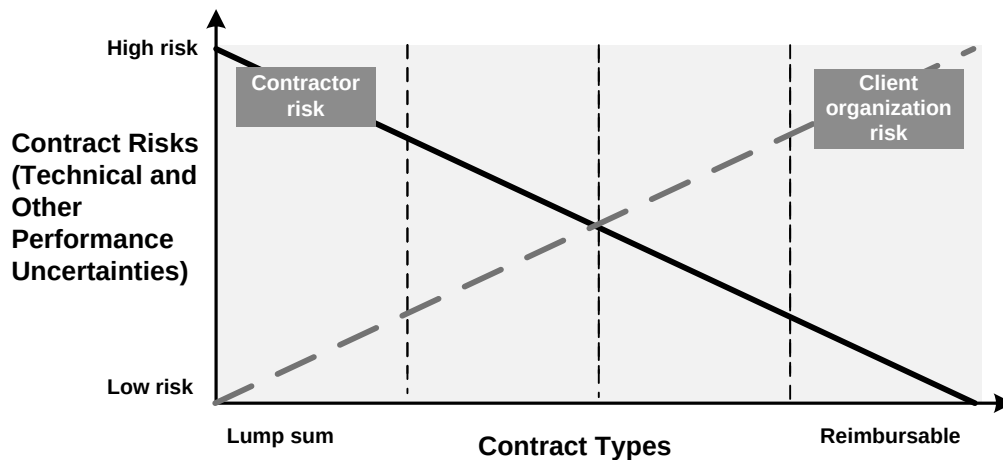


Contract type reflects:

- The degree and timing of the responsibility assumed by the contractor for the costs of performance.
- The amount and nature of the profit incentive offered to the contractor for achieving or exceeding specified standards or goals.

In Exhibit 2-80 we see a graphic representation of contract types and the risks associated with pricing and costing options.

Exhibit 2-80: Contract Types and Risks



Ideally, the contract type and price (or estimated cost and fee) results in reasonable contractor risk and provides the contractor with the greatest incentive for efficient and economical performance.

Contract duration and renewal options

This type of contract risk involves understanding specifics about the contract term—whether it has a specific end date and termination, automatic renewal provisions, or continuance contingent on performance (as evaluated by the client organization). Many risk considerations are a part of contract duration, such as vendor learning curves, capital investments and amortization.

Service and resource flexibility

Regarding the product or service provided, FM needs to consider what things might change during contract duration. Are there foreseeable external events that may warrant additional people on standby? Will there be extra associated costs? Can there be substitutions in labor categories? (Or do labor regulations prohibit substitutions?)



Vendor company failure

If contractors have consistently low or negative profit margins and/or accumulated losses, the result is a viability-threatening situation. An effective prequalification process can help to establish a vendor's financial solvency and mitigate this risk.

Service failure

Minor mistakes or problems can (and do) happen in service execution. For example, an individual piece of equipment (e.g., a single printer or desktop computer) may break down. These do not necessarily constitute a service failure. However, the consistent inability to manage a contract, repeated poor performance versus the contractual intent, or an entire service becoming unavailable (e.g., the entire printing service, Internet access and e-mail) are service failures that pose potential serious risks.

Vendors should have a process with defined goals for response to service failures. Contingency plans should be in place. For some situations, an organization may need business continuity insurance.

Reputational risk

Bad press and a tarnished organizational image can result from inappropriate vendor actions and noncompliance or from sourcing and contracting failures. There are many reputation risks such as (but not limited to):

- Discrimination against minorities.
- Unequal treatment of men and women.
- Violations of a drug-free workplace policy.
- Noncompliance with immigration laws.
- Occupational health and safety violations and/or inappropriate corrective actions.

Contracts statements should specify that all duties are to be performed in compliance with governing laws and regulations as well as the policies of the organization.

Change and transition

Contracts should have an appropriate mobilization process. There should be provisions for the transfer of assets at the contract start and end as well as mechanisms for dispute resolution and arrangements for transition to a succeeding contractor at the end of the contract. Some transitions are subject to regulatory requirements.

Good transition management should provide for a seamless implementation with minimal disruption. Typically, considerations to facilitate a smooth transition to a new contract commence during the planning stage of the



procurement and continue throughout the procurement process. The process continues following the awarding of the contract.

Large, complex contracts, with significant transitional issues or where major change is involved, may necessitate a contract transition plan to identify key issues, risks, tasks, responsibilities, resources, time frames, policies and procedures and so forth.

A contract should be flexible enough to accommodate client-approved changes. But it should also describe what will happen should the vendor default on any terms of sufficient magnitude that require the organization to change from that vendor to another. In other words, the contract should plan for an exit and transition process (e.g., the change and transition procedures for poor performance).

Communication is also important in any contract change and transition. A facility manager should be prepared to facilitate communications regarding new contract arrangements with all stakeholders, including:

- The new contractor.
- The previous contractor (if relevant).
- Staff impacted by the change.
- Clients impacted by the new contract arrangements.

The organization's finance and legal personnel would, of course, be involved to ensure that appropriate details are in place. Communication helps to ensure that all stakeholders are aware of the changes, that any issues are identified early, and that the new arrangements are implemented as smoothly as possible.

Importance of examining financial contract elements

The establishment of any contract creates a range of issues and potential risks that need to be managed. A facility manager needs to review contracts to understand the conditions, what potential risks exist, and how much risk the organization can accept.

When facility managers analyze and interpret financial contract elements (lease agreements, service contracts, cost statements and so forth), it allows:

- The terms of the agreements to be clearly understood in reference to their financial, risk and security implications.
- An understanding of the controllable and variable items in the contract to aid cost and resource flexibility.



- Identification and prevention of situations or requests that violate the terms of the agreement.
- Identification and improved control over (or avoidance of) situations or requests that may impact the budget through increased costs due to unplanned time, usage or additional services.
- Appropriate review of situations or requests that may reduce costs to determine that all contracted services have been met satisfactorily and that a reduction in billed services is appropriate.

Analyzing and interpreting financial contract elements in the context of a systematic risk management strategy helps to address a broad range of issues and risks in contract relationships. In fact, it has been said that a good risk management program is not about holding a vendor's feet to the fire but rather sharing the warmth of the fire. It can facilitate collaboration rather than "policing."

There is great potential for many mutual benefits through systematic risk management. Among the possibilities are:

- Reduced contract risks.
- Increased revenues.
- Reduced costs and fewer cost overruns.
- Improved contract performance.
- Improved compliance.
- Strong communication and trust between all parties.

✴ Topic 4: Resolving Vendor Conflicts

Nature of vendor conflicts

As we have read, a facility manager may have a variety of administration, management and oversight responsibilities associated with contracts. It's certainly in the best interest of all parties involved—the organization, the contractor and the facility manager—if conflicts can be prevented.

Conflict can generally be described as the perceived absence of a prominent alternative. When two or more parties are in conflict, they tend to believe that what each wants is fundamentally incompatible with what the other wants. From this belief stems a common misunderstanding: that conflict is inherently negative. This is not necessarily the case.

Constructive and dysfunctional conflict with vendors

Conflict is an inevitable part of interactions with vendors. Resolving conflict is seldom easy. But the way conflict is handled is what distinguishes between constructive experiences and dysfunctional ones for both parties.



As the name implies, constructive conflict (or positive conflict) leads to beneficial results. Constructive conflict can transform the ways in which individuals interact and improve the quality of conflict outcomes. Examples of such positive outcomes include:

- Surfacing important problems during contract execution so they can be addressed.
- Thorough problem analysis and decision making.
- More effective collaboration and partnering and contract outcomes.

Conversely, dysfunctional conflict (or destructive conflict) leads to experiences that erode relationships and derail progress toward goals. It is detrimental to both parties and ultimately has a negative impact on contract execution and outcomes. In situations where dysfunctional conflict surfaces, a facility manager needs to take quick action to diffuse the situation and minimize the impact and any negative consequences that can result.

Some organizations may try a partnering process such as a conflict dispute avoidance strategy to minimize conflict occurrences. Through partnering, a neutral individual facilitates exchanges to help parties anticipate likely sources of potential disputes in order to prevent them.

Even very carefully drafted contracts do not always succeed in preventing contract disputes. The key is to proactively manage conflict when it arises and mitigate escalation. Discussion of the issues at hand and negotiation can sometimes help the parties resolve the matter and achieve an agreeable outcome. If not, there is contract dispute resolution.

Contract dispute resolution

The potential scope of disagreements involving some aspect of a vendor contract can range from small claims to large litigious situations and appeals. Most organizations and vendors do not want to become involved in lawsuits. Litigation can entail lengthy delays, high costs, unwanted publicity and ill will. Reflecting on the earlier content explaining contract terms, vendor contracts should have a dispute resolution clause—a specified alternate protocol for handling any claims that may arise during the contract term.

Alternative dispute resolution (commonly referred to as ADR) is a term encompassing a variety of techniques for resolving disputes without litigation.



Common ADR procedures found in facility management vendor contracts include management escalation, mediation, arbitration or some combination.

- **Management escalation.** It is generally thought that the quality of the contract management is often the difference between issues being quickly and easily resolved and issues swirling and turning into a major dispute. A provision for escalation to senior management in both parties is often the first action to deal with issues as they arise. Resolving issues through private management discussions is preferable to allowing them to grow into something larger.
- **Mediation.** Mediation is a method in which the parties to a dispute reach a voluntary settlement with the help of a skilled facilitator. Mediation proceedings are confidential and private. Mediation may be binding or not.

In nonbinding mediation, the mediator's role is advisory. The mediator may offer suggestions, but resolution of the dispute rests with the parties themselves.

A binding mediation process allows the parties to directly participate in the mediation process from beginning to end with the assistance of a trained mediator. If at the end of the mediation session, any issues remain unresolved, the mediator makes the final and binding decision(s). An advantage of binding mediation is that it is carried out without the formality, extra expense and extra time needed for arbitration.

- **Arbitration.** Arbitration is submission of a dispute to one or more qualified and impartial persons for a final and binding decision. Arbitrators may be attorneys or persons with expertise in a particular field. In arbitration, the parties control the range of issues to be resolved by arbitration, the scope of the relief to be awarded, and many of the procedural aspects of the process.

Arbitration is less formal than a court trial. The hearing is private. Few awards are reviewed by the courts because the parties have agreed to be bound by the decision of their arbitrator. In some cases, it is prearranged that the award will be only advisory.



Sometimes a contract dispute resolution clause will specify graduated terms and certain processes for specified dollar amounts. A graduated clause might specify binding mediation to settle all disputes under a specified dollar amount and arbitration for all disputes over a specified dollar amount. Again, the goal of all of these alternatives is to address the needs of parties involved in contract disputes and avoid court proceeding.

An additional caveat about the dispute resolution clause in the contract deals with the selection of the mediator and arbitrator. Many think that there is a definite advantage to have a mediator or arbitrator who has extensive experience in the particular field. As an example, if the dispute is of a specialized nature such as green building/remodeling, it would be wise to have a mediator or arbitrator who has experience in the construction industry and sustainability.

Dispute resolution is often described as a continuum:

- At one end of the continuum (although not very common), disputes never arise.
- At the other end of the continuum, a solution is imposed upon the parties to a dispute by the public courts.
- The various dispute resolution alternatives are found in between.

What is drafted in the actual clause is key. In the United States and many other countries, when parties agree to an ADR process to settle all disputes they give up their right to a trial by a judge or jury. All contract dispute clauses generally include verbiage acknowledging that the parties are knowingly forfeiting their right to use the court system.

Alternative dispute resolution allows parties to customize the process. A facility manager needs to understand the specific terms of the dispute resolution clause in a vendor contract. Should the situation arise that a contract disagreement necessitates dispute resolution, the facility manager should work to ensure that:

- The resolution process complies with the terms in the agreement.
- The cause of the dispute is clarified and confirmed.
- The dispute is resolved with little or no negative impact on the work schedule or inconvenience to occupants.
- The dispute does not negatively impact other work being done.

Dispute resolution provides the potential for a simpler, more expeditious, and less expensive process than litigation through the court system. Well executed, it has the potential to yield a more fair and equitable decision or award than would be rendered through litigation.



Progress Check Questions

Directions: Read each question and respond in the space provided. Answers and page references follow the questions.

1. True or false? To be deemed valid, a contract must include legal provisions to mitigate risk.
☐ a. True
☐ b. False
2. A contract where both parties promise to do something—one promise is given in exchange for another—is described as
☐ a. open book.
☐ b. bilateral.
☐ c. fixed.
☐ d. unilateral.
3. Which of the following items would **not** be part of the general condition clauses in a construction contract?
☐ a. Change orders
☐ b. Specifications control over drywall drawings
☐ c. Terms of progress payments
☐ d. Alternate dispute resolution mechanisms
4. Which type of contract would be used for frequently required trade tasks and not one-time annual services?
☐ a. Prescriptive contract
☐ b. Unique service award
☐ c. IDQLI contract
☐ d. Evaluated bid award
5. A labor strike has disrupted a construction project. Which contract provision suspends or excuses a contract party's performance?
☐ a. Novation clause
☐ b. Terms for incentives and penalties
☐ c. Indemnification agreement
☐ d. *Force majeure* clause



6. A facility manager is assessing a contractor's performance for an elevator maintenance contract. All of the following would be valid performance evaluation criteria **except**
- ☐ a. car speed.
 - ☐ b. receipt of an industry award.
 - ☐ c. service level expectations.
 - ☐ d. door operation.
7. True or false? Service level agreements reflect expectations for the quality, performance and value of service; service specifications reflect standards of service required.
- ☐ a. True
 - ☐ b. False
8. Which of the following statements describes risk assessment?
- ☐ a. Ongoing management activities that set the basis for how risk is viewed
 - ☐ b. Identification of measures to control the effects of a risk
 - ☐ c. The analysis of risks, considering likelihood and impact
 - ☐ d. Defining ways to transfer ownership of a risk to a third party

Match the dispute resolution technique with its application.

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| 9. _____ Binding mediation | a. Any dispute over US\$10,000 but less than US\$50,000 in value shall be subject to mediation followed by binding arbitration. |
| 10. _____ Arbitration | |
| 11. _____ Graduated processes | b. A binding award is rendered upon the parties that is enforceable in any court of competent jurisdiction. |
| | c. This final resolution process will allow the parties to work together with the assistance of a trained facilitator. |



Progress check answers

1. b (p. 2-262)
2. b (p. 2-262)
3. b (p. 2-264)
4. c (p. 2-266)
5. d (p. 2-268)
6. b (p. 2-274)
7. a (p. 2-275)
8. c (p. 2-283)
9. c (p. 2-292)
10. b (p. 2-292)
11. a (p. 2-293)

Next Steps

You have completed this competency of the IFMA Facility Management Learning System. Next, check your understanding by completing the online competency-specific chapter quizzes and case study to help you identify any concepts that need additional study. Check your understanding another way by selecting the competency-specific eFlashcards, or visit the Resource Center to download printable flashcards.

Once you have completed the chapter quizzes, reviewed the eFlashcards, completed the case study and feel confident that you have mastered the information, you can advance to the next competency.

