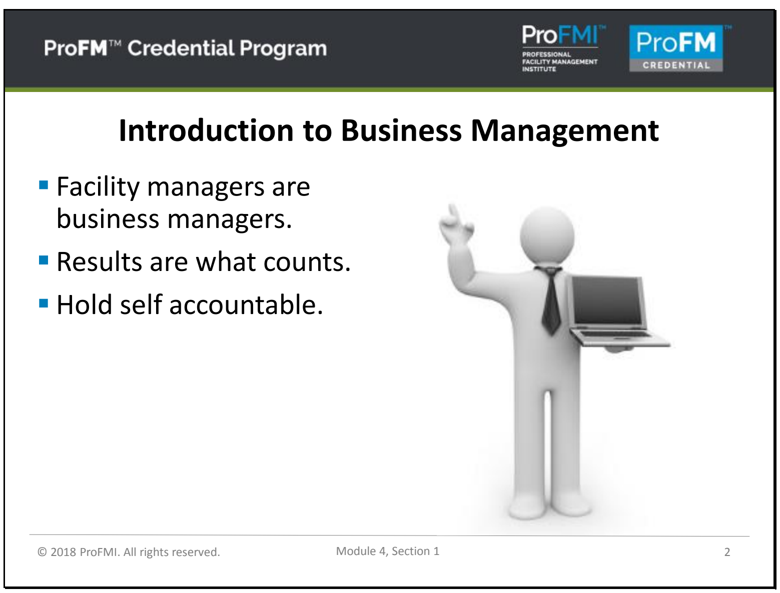
Module 4: Business Management

Section 1: Introduction to Business Management



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Developing Metrics and Selecting Standards

- Is success a moving target?
- Measurable objectives: All can agree and can be proven.
- You get what you measure.
- Purposes of measurement system:
  - To direct and motivate human capital while minimizing unintended consequences.
  - To monitor actual performance against business objectives.
  - To control system by comparing results to goals or standards, analyzing information, and then developing responses.
- Measure efficiency, or "doing the thing right."
- Measure effectiveness, or "doing the right things."

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Performance Management

- A waste if measuring wrong things or not using results
- What you need:
  - Metric or standard
  - Goal
  - Measurement
  - Analysis and presentation

Set performance objectives.

Find metrics or standards to measure objectives.

Measure results, communicate objectives, and report.

Analyze data and correct course or recognize good work.

Refine to address unintended consequences or need for control.

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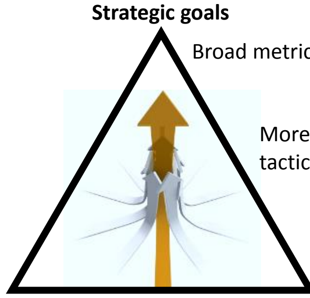
Linking Metrics to SMART Objectives and Goals

- Metrics and standards must link back to organization's strategic goals.
- SMART:
  - **S**pecific
  - **M**easurable
  - **A**chievable
  - **R**elevant
  - **T**ime-bound



Aggregate the metrics or the inputs to the metrics.

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Data Collection, Preparation, and Use

- GIGO: garbage-in, garbage-out:
  - Bad advice if inputs in error or biased
  - Misunderstanding what is being measured
  - Different people using different data but still comparing
  - Wrong numerator or denominator
  - Order-of-operations errors
- Clearly communicate exact inputs to use, where to find.
- Format for compatibility (e.g., sum up certain line items).
- Visual scan for gaps, anomalies, and reasonableness.
- Building information systems and ERP data sources.
- Automated reports save time and reduce errors.
  - Ensure that correct account codes are being used, etc.

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Key Performance Indicators (KPIs)

- Focus energy: Essential information about performance.
- Strategic goals: Critical success factors (CSFs) or value drivers.
- KPIs are measures that prove CSF achievement.
  - CSF: Proper record retention; KPI: records audit discrepancies.
  - CSF: All stakeholders sign off on SLAs; KPI: number of SLAs finalized or renewed in period.
- Financial or nonfinancial, but tied to strategy.
- Should not contradict other objectives or measures.
- About 8 to 10 KPIs. Can have others; they just aren't "key."

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KPI Examples for FM Function

- Customer satisfaction survey results
- Per square foot/meter
  - Property cost
  - Operating revenue/chargeback revenue/rental revenue
  - Kilowatt-hours consumed
  - Gallons or liters of water consumed
  - Full-time equivalent (FTE) workers
- FM administrative costs as % of operational cost
- Maintenance backlog as % of annual maintenance expenditures
- Waste recycled to total waste collected
- Space allocation efficiency (e.g., workstations per FTE)
- Workplace accidents
- Average number of years facility staff employed
- Regulatory infractions
- % of work completed versus plan

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Service Level Agreements (SLAs)

- Demand organization and service provider
- Performance, measurement, and conditions of service delivery
- Objective means for performance measurement
- Effectiveness
  - Customer satisfaction: Surveys, focus groups, unsolicited feedback
  - Quality, cost, timeliness
- Methods or results
  - Methods to use (hard to innovate), frequency, quality
  - Results or outcome but not how to achieve

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Benchmarking

- Compare to practices of same nature, same circumstances, and similar measures.
- Whether FM is competitive or deficient.
- Internal data set up for true comparisons (e.g., overhead allocation by program).
- Examples: Property costs, facility maintenance costs, cleaning, energy, end user productivity, water.

- Types:
  - Against competitor
  - Against best-in-class service provider or process
  - Against industry averages
  - Against internal business units or facilities
  - Against one's own results over time

Preventive maintenance shows impact on breakdown maintenance.

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Preparing and Presenting Quantitative Data

- Tailor information to audience needs:
  - Level of detail
  - Subject matter: What you can do for them, not what you need
  - Visually appealing, easy to use, and consistent
  - One page with KPIs and white space (details on request)
- Right-justify numbers.
- Present at right level of precision (e.g., thousands).
- Aggregate to summary level as appropriate.
- Slides: Talking points, not reading points.
  - Spreadsheets: Much less detail than in print.
  - Be prepared to discuss information sources.

Keep it legible: This is 20 point font.

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Questions?

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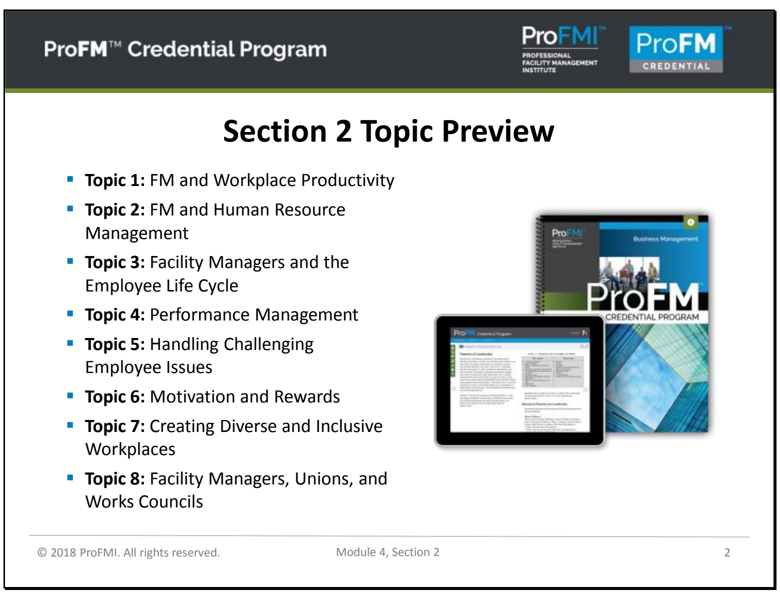
Section 2: Human Capital



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Human Capital

Human capital: Knowledge, skills, and abilities possessed by individuals or groups of employees that can be used to create value for the individual, the organization, or both

- Usually largest expense category.
- FM enhances human capital by:
  - Creating more productive work environment.
  - Managing FM staff performance.

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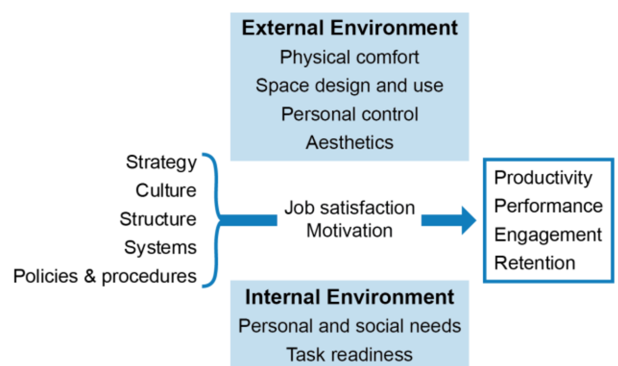
FM and Human Capital



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Challenges in Managing Human Capital

- Facilities have different activities and different occupant "norms."
- Third-party relationship with occupants makes it more difficult to shape occupant behavior.
- Diverse occupants and staff challenge facility managers' communication and other competencies.

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Factors Affecting Productivity

- Distraction
- Environmental services
- Office layout
- Interaction
- Designated areas
- Comfort
- Informal interaction points

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Discussion Question

What can FM do in different areas of its work to promote productivity?

Improve physical conditions.	
Improve use of space.	
Increase occupant control.	
Improve aesthetics.	
Use technology.	

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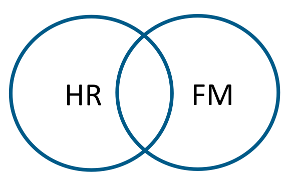
Role of Human Resources

- Staffing
- Talent development
- Compliance
- Processing employee complaints
- Representing employer in union relations
- Managing compensation and benefits



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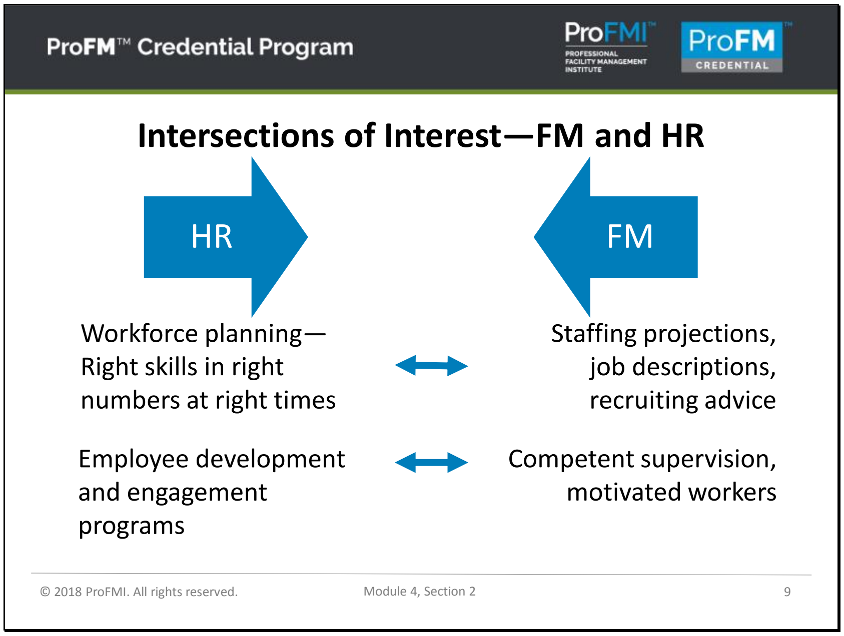

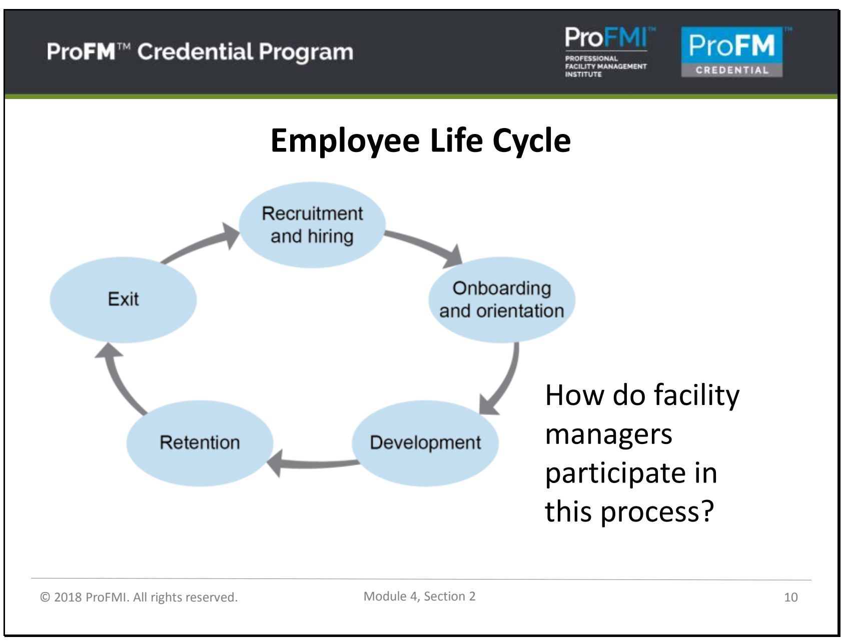

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Recruitment and Hiring

Goal is to hire people:

- Who can do the job.
- Who will stay at least long enough to recoup hiring costs.

FM recruitment sources

- In-house
- Retired and ex-military
- University programs
- Conferences and meetings
- Contractors and consultants
- Previous employees

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How FM Can Strengthen Employer's Brand

Employer's brand: Image of employer in hiring marketplace.

Strong brand means more effective and efficient recruiting and hiring.

- Realistic job previews
- Respectful and fair interview experiences
- Selecting employees who fit strategy and culture
- Communicating choices promptly

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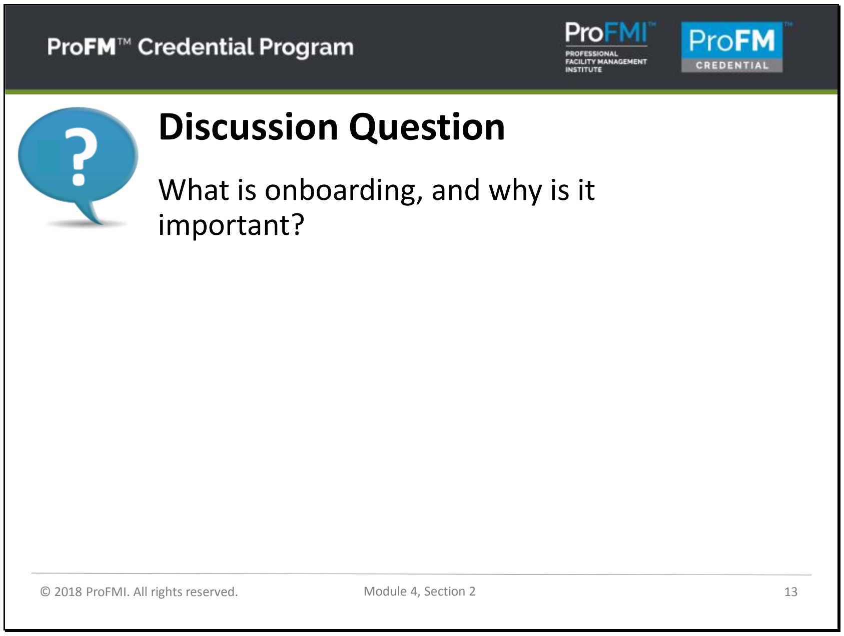
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Discussion Question
What is onboarding, and why is it important?
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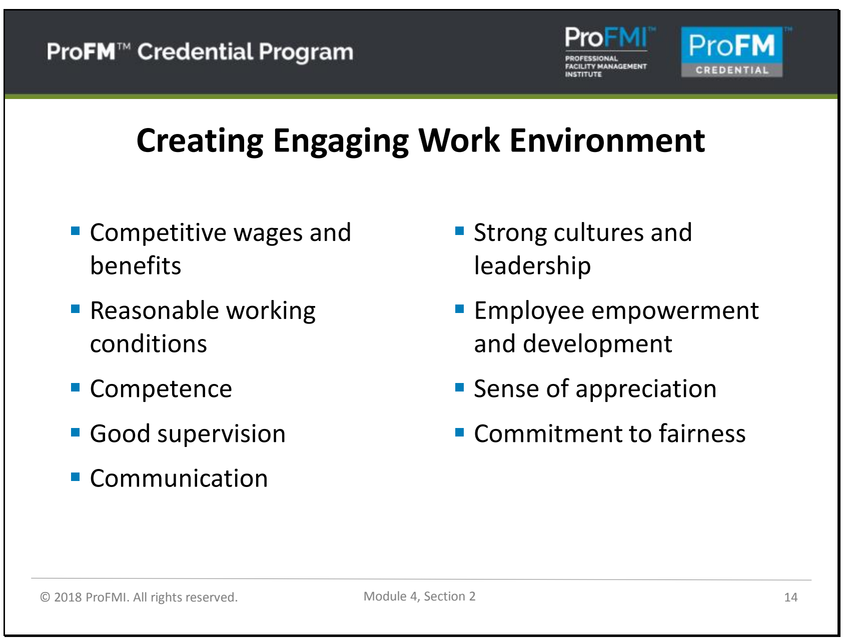
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Creating Engaging Work Environment
Competitive wages and benefits
Reasonable working conditions
Competence
Good supervision
Communication
Strong cultures and leadership
Employee empowerment and development
Sense of appreciation
Commitment to fairness
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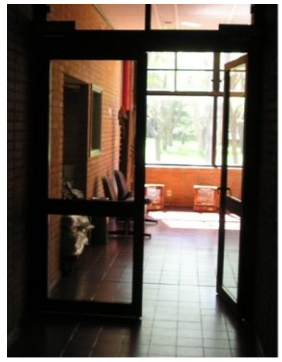
Employee Exit

Why be concerned about departing employees?

- Reasons can help organization improve.
- Good impression strengthens employer's brand.
- They may return some day…with more experience.



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Performance Management

Performance management: Systematic, organization-wide process in which an organization and its individual employees work together to improve organizational effectiveness by improving individual performance

Goals:

- To align individual performance with organization's strategic goals
- To help employees measure and correct their own performance
- To remove organizational and individual barriers to performance

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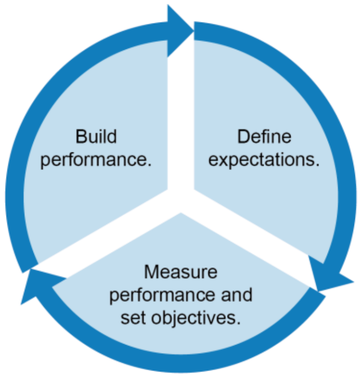
Performance Management Process



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Define Expectations

Performance standards are:

- Based on performance expectations at defined levels of experience in position.
- Aligned with organization’s strategy and values.
- Observable and measurable.

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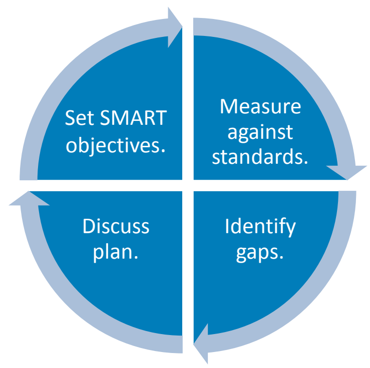
Measure Performance and Set Objectives



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Discussion Question

How often should you review performance?

a) Annually
b) Monthly
c) Simultaneous with pay increases
d) It depends.

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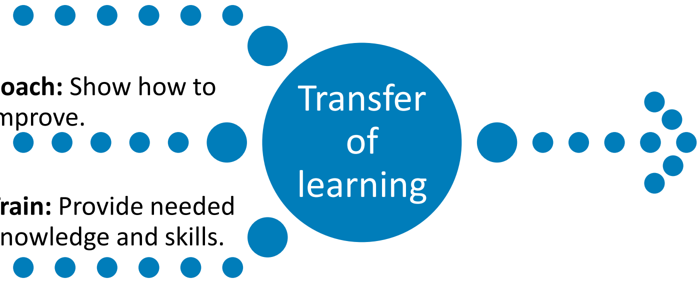
Build Performance

Model: Show how to perform.

Coach: Show how to improve.

Train: Provide needed knowledge and skills.



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Career Development

- Tool for employee engagement and retention but ultimately employee's responsibility
- Tactics:
  - Career paths with required training and experience
  - Formal training
  - Special assignments
  - Mentoring

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Handling Employee Complaints

- Every accused worker deserves due process.
- Everyone involved in a complaint deserves confidentiality and protection from retaliation.

Due process

- Inform employees of expectations and consequences.
- Present factual evidence.
- Allow employee to question and defend.
- Use discipline according to policy and previous disciplinary actions.

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Employee Discipline

Goals of constructive/progressive discipline:

- To correct problematic behavior
- To document communications and actions

Dialogue and problem solving → First warning → Second warning → Final warning → Termina-tion

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Terminating Employees

- HR responsibility due to compliance risks.
- Managers and supervisors should:
  - Maintain professional, objective bearing in meetings.
  - Alert HR and security to potential for violent behavior.

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Role of Motivation and Rewards

- To fulfill employees' emotional needs
- To shape employees' and occupants' behavior

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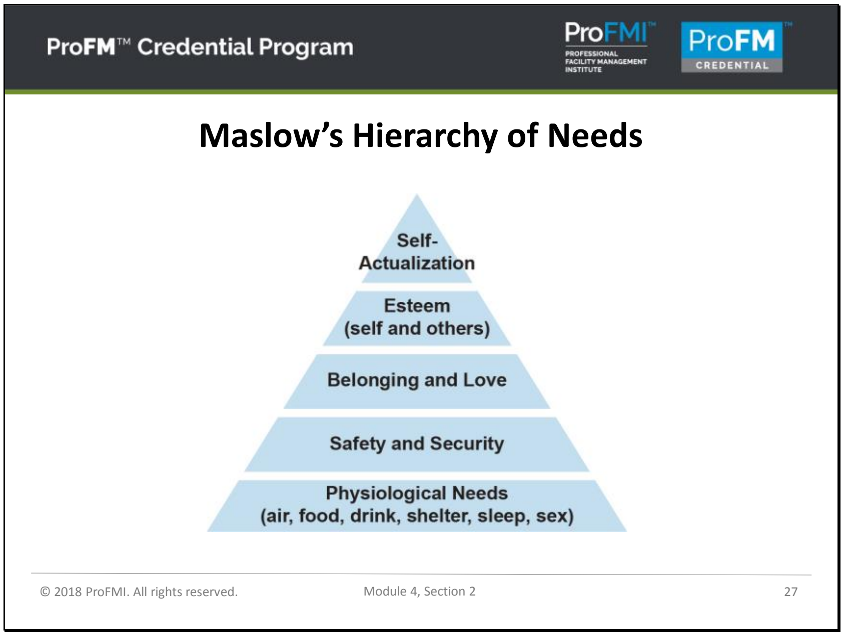

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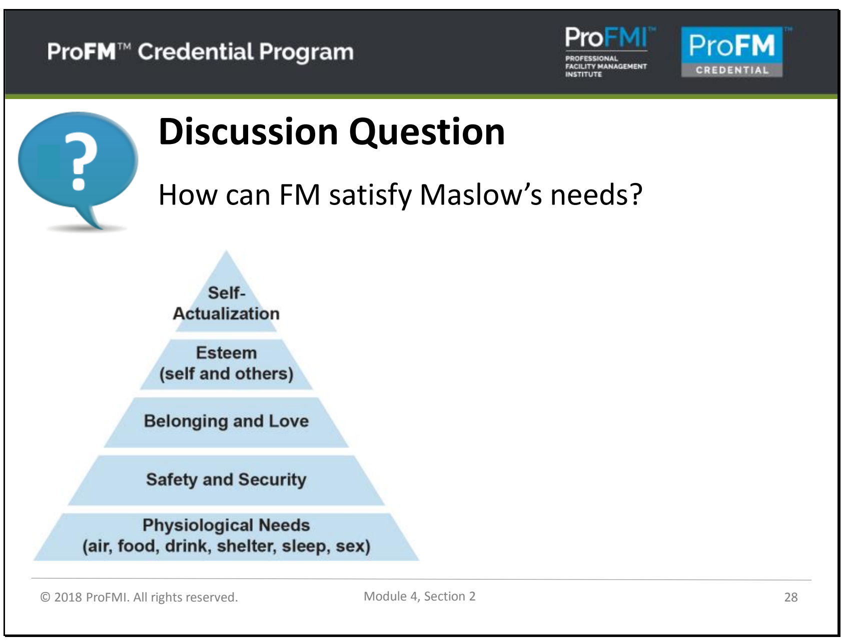

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Hygiene versus Motivation

Being **satisfied** with a job is not the same as being **motivated**.

Hygiene factors

- Policies
- Relationships with others
- Work conditions
- Salary
- Status
- Security

Motivation factors

- Achievement
- Recognition
- Work
- Responsibility
- Advancement
- Growth

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Rewards

- Most effective when:
  - Tailored to individual motivators.
  - Workers have skills to earn rewards.
  - Workers are confident they will be rewarded.
- Can be financial or nonfinancial.

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Diversity and Inclusion

Diversity

- Race or ethnicity
- Gender
- Age
- Marital/family status
- Religion
- Sexual orientation
- Physical ability or disability
- Cognitive style
- Area of experience and level of education
- Job experience level
- Political affiliation

Inclusion

- Respect for differences
- Willingness to adapt to and take advantage of differences
- Fairness in policies
- Welcoming culture

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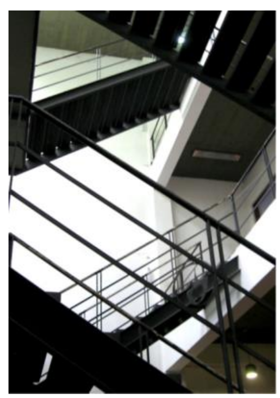
Case for Diversity and Inclusion

- Better understanding of needs of diverse occupants
- More innovative solutions
- Strengthened CSR strategy



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Challenges to Creating Diverse FM Teams

- Recruiting practices
- Integrating diverse employees into teams
- Organization's weaknesses (e.g., multicultural experience)
- Expectations for diverse employees to conform to dominant culture

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Techniques for Creating Diverse Teams

- Secure leadership commitment.
- Raise awareness/ understanding of bias.
- Review policies and procedures.
- Be flexible and supportive.

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Impact of Unionized Workplaces

Union: Organization of workers formed to bargain collectively with employer, usually through third party

- May be more than one union in workplace.
- Managers and supervisors need to understand employer's rights and obligations under contract (e.g., staffing requirements, overtime, disciplinary process).

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Implementing Organization's Labor Strategy

Union acceptance

- Seek collaborative relationship with unions.
- Develop skills in communication, collaboration, and conflict resolution.

Union avoidance

- Avoid conditions that make unions attractive to employees.
- Create positive work environment:
  - Respectful
  - Fair and consistent
  - Competent supervision
  - Competitive

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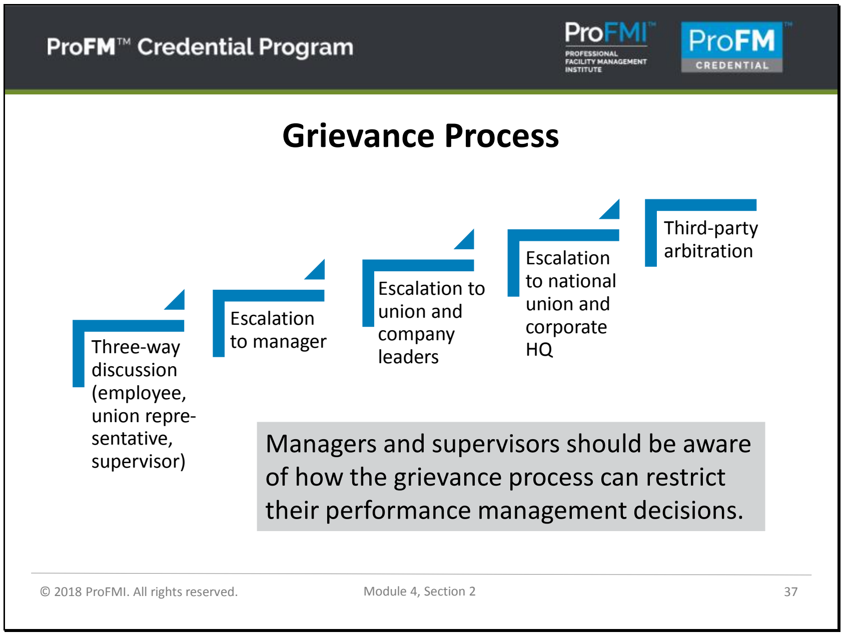

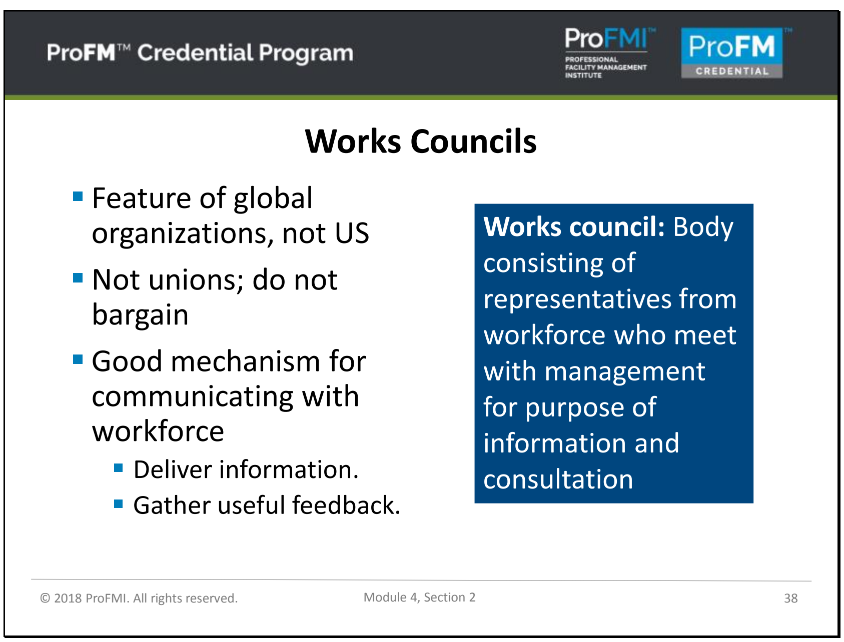

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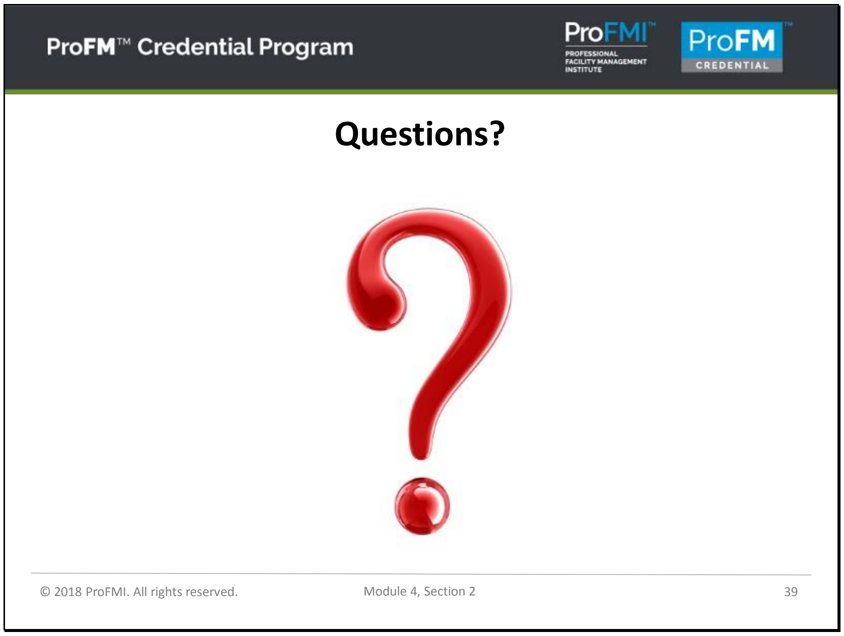

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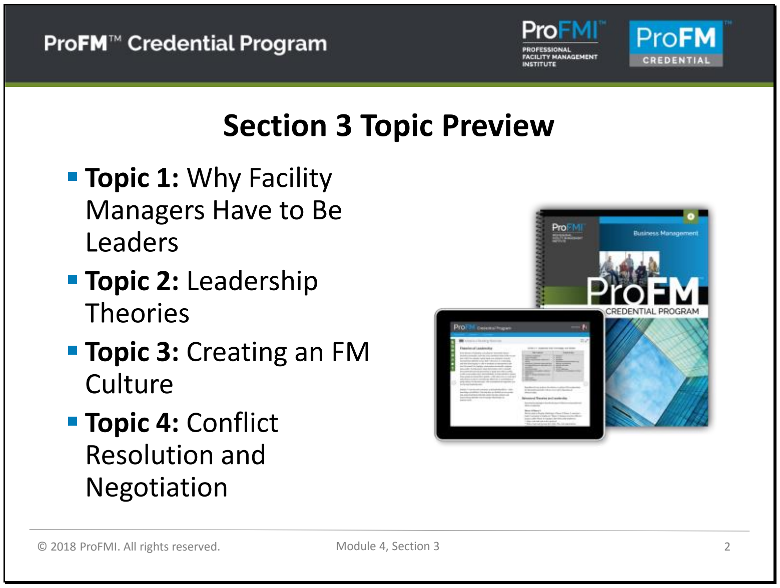
Section 3: Leadership Skills



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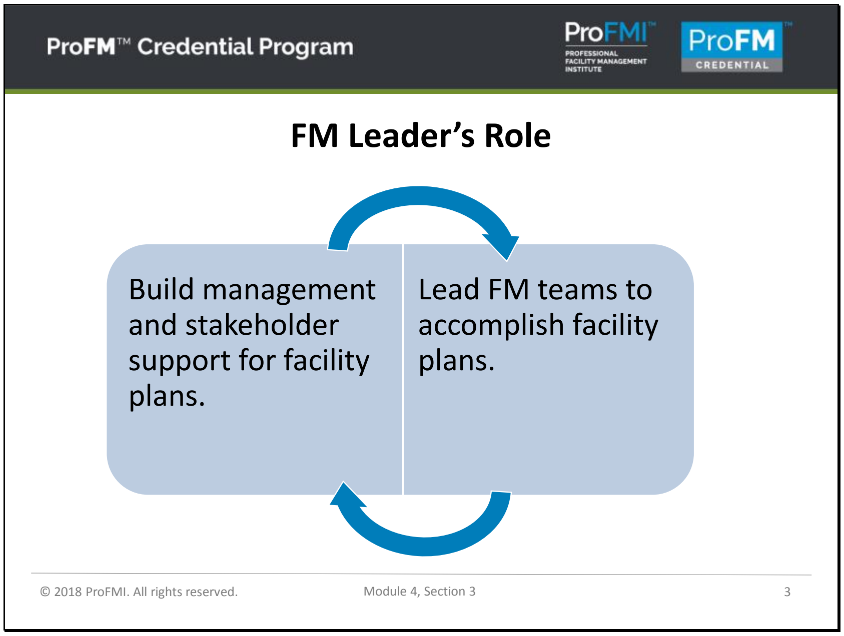

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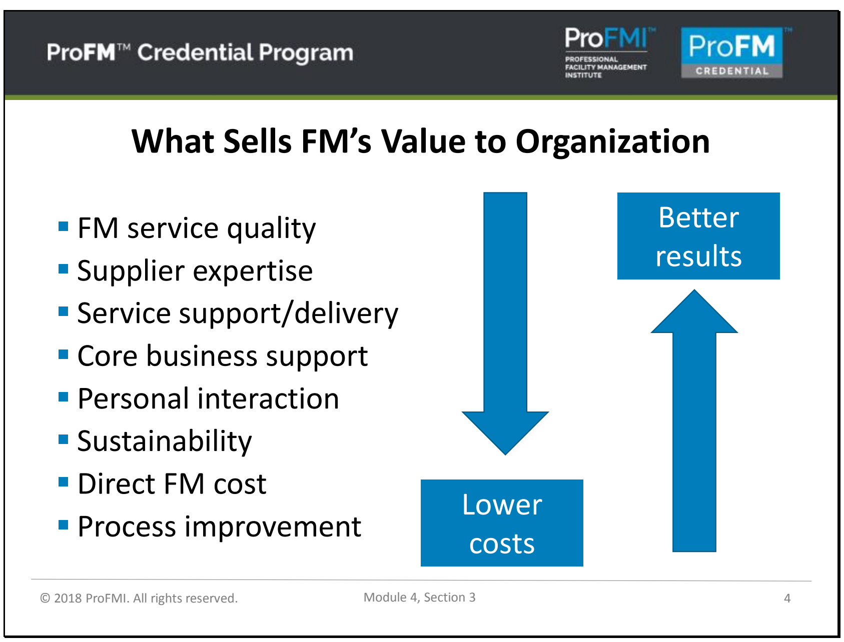

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Influencing and Building Alliances

Observe. Learn the power structure.

Join the culture. Follow the rules and live the culture's values.

Make friends. Find out what you can do to help.

Build trust. Establish your credibility.

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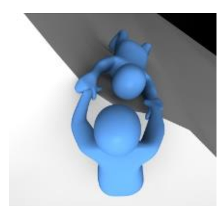
Leadership and Integrity

- Be honest and fulfill promises.
- Admit mistakes and what you don't know.
- Avoid blaming others.
- Share accomplishments and praise others.
- Be open to others' input and feedback.



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Leadership SKAs

Task-Centered	Human-Facing
▪ Technical competence	▪ Assertive
▪ Action orientation	▪ Decisive
▪ Ability to present ideas	▪ Adaptable
▪ Awareness of relevant codes/laws	▪ Interpersonal communication
▪ Conceptualization	▪ Ability to persuade
▪ Financial acumen	▪ Honesty
▪ Quantitative/qualitative analysis	▪ Tact or diplomacy
▪ Multi-tasking	▪ Empathy and consideration of others
▪ Ability to visualize	
▪ Organization	
▪ Service-oriented	

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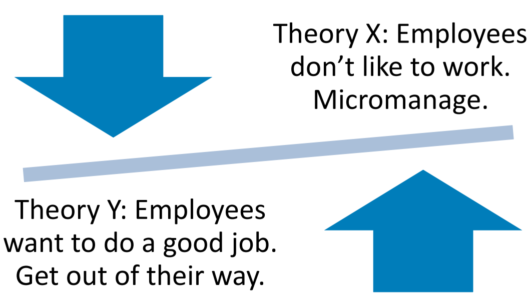
Behavioral Theories of Leadership

Theory X and Theory Y focus on different perceptions of employees' attitudes toward work.



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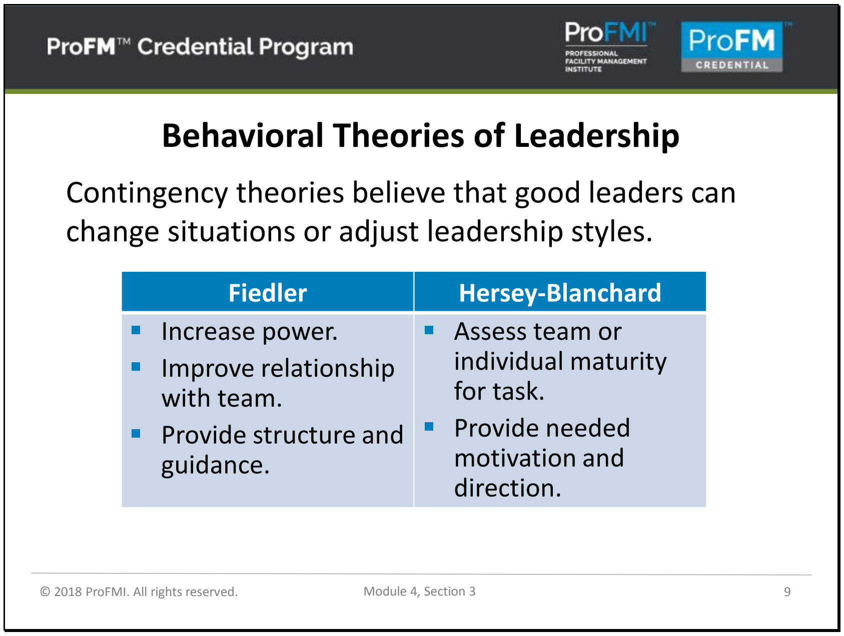

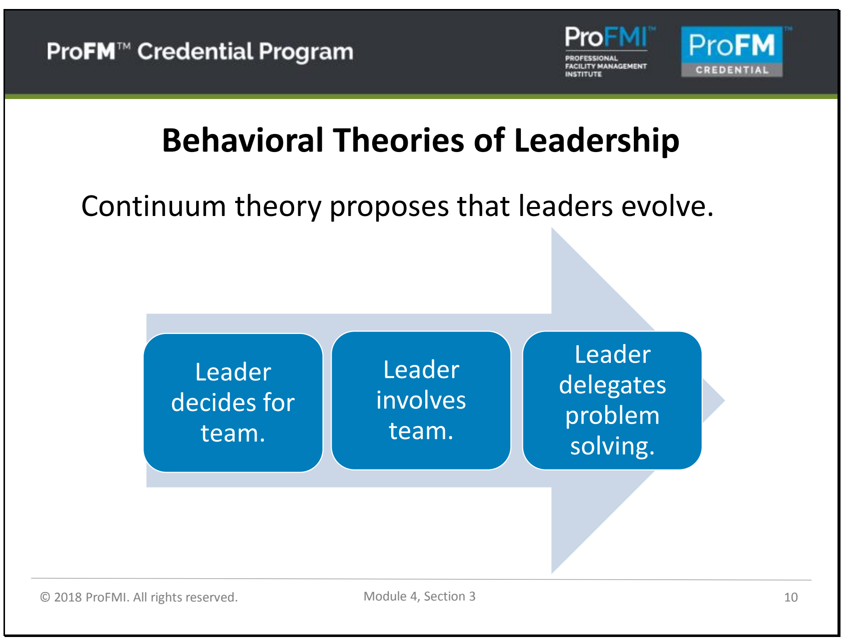

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Action-Centered Leadership

Effective leaders balance three priorities:

- Manage tasks.
- Build cohesive teams.
- Develop and motivate individual team members.

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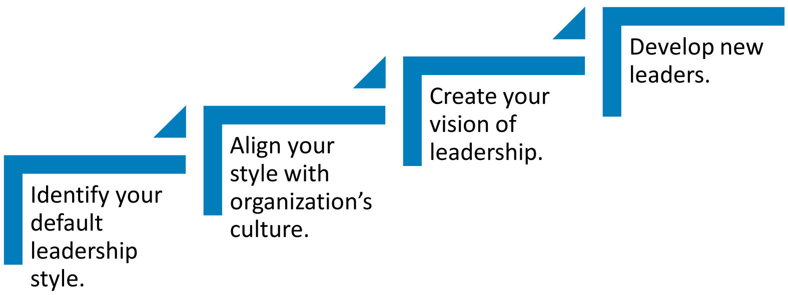
Becoming a Leader



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Creating an FM Culture

Culture shapes:

- How managers interact with staff and how team members interact with each other.
- What we value.
- Who succeeds.
- How we are viewed from outside.

"Culture eats strategy for breakfast."

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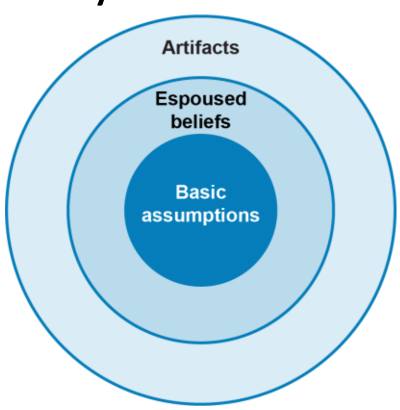
Layers of Culture



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Discussion Question

Give examples of each layer of culture in terms of an FM organization.

Artifacts	
Espoused beliefs	
Basic assumptions	

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Elements of Culture

Communicate the culture to insiders and outsiders.

- **Myths**: Stories we tell
- **Rituals**: Ceremonies that bind
- **Heroes**: People we admire

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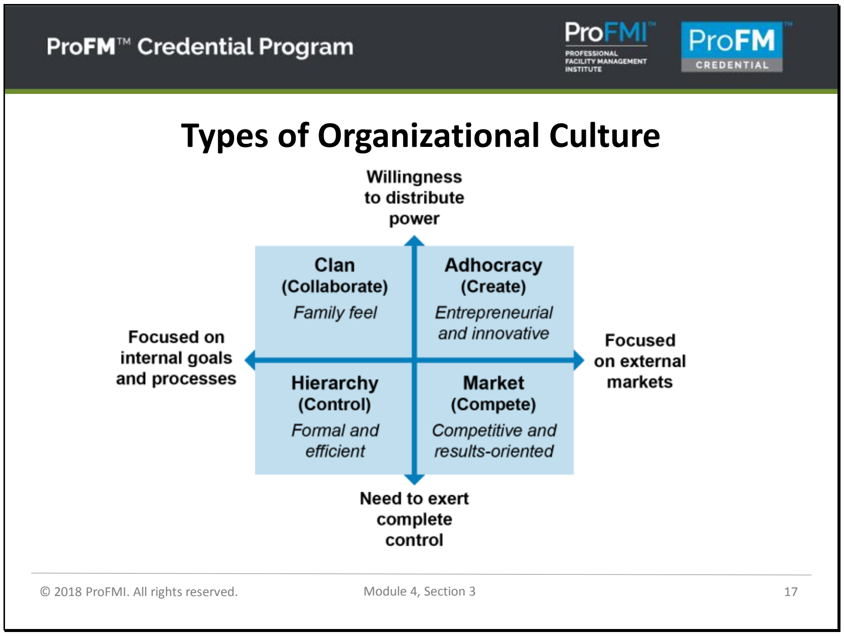
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Types of Organizational Culture
Willingness to distribute power
Clan (Collaborate)
Family feel
Adhocracy (Create)
Entrepreneurial and innovative
Focused on internal goals and processes
Focused on external markets
Hierarchy (Control)
Formal and efficient
Market (Compete)
Competitive and results-oriented
Need to exert complete control
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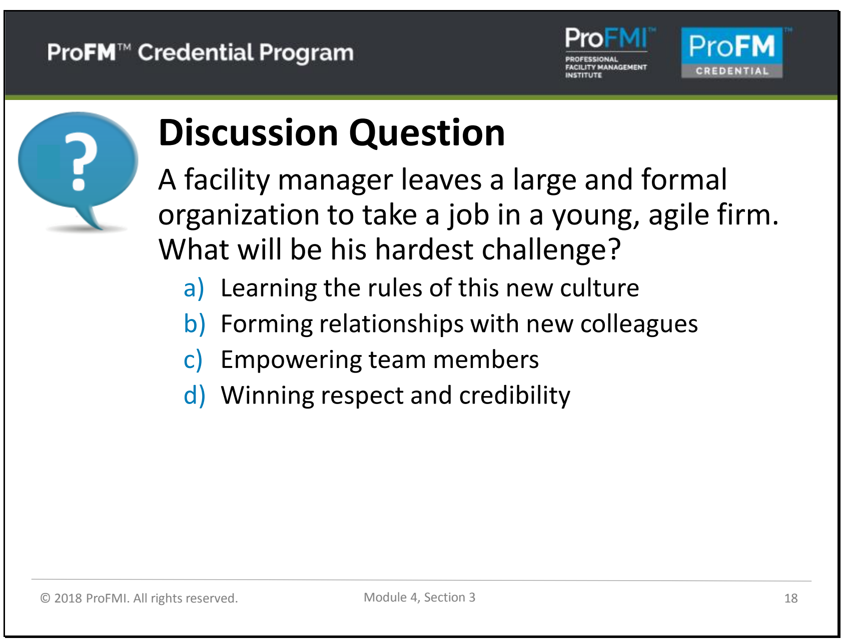
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Discussion Question
A facility manager leaves a large and formal organization to take a job in a young, agile firm. What will be his hardest challenge?
a) Learning the rules of this new culture
b) Forming relationships with new colleagues
c) Empowering team members
d) Winning respect and credibility
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Culture in Global, Diverse Workplace

Effective global leaders:

- Develop a global mindset, a curiosity and open-mindedness about other cultures.
- Lead in an inclusive manner, inviting feedback and empowering team members.
- Communicate effectively.
- Build internal alliances and support from leadership.

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Discussion Question

How can facility managers shape their organizations' cultures?

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Leaders and Conflict Resolution

Survival skill for facility managers leading teams:

- Conflict can derail team progress and weaken team cohesiveness.

Invaluable to facility managers who are members of teams:

- Conflict can block successful implementation of strategy and damage alliances with internal and external partners.

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Types of Conflict

Relationship	Task	Process
Different personalities and styles	Different goals	Different paths to goal
Find common ground.	Frame as problem to be solved.	Communicate and collaborate.

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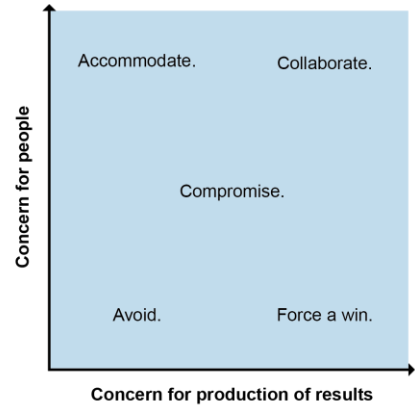
Modes of Conflict Resolution



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Discussion Question

An FM team has a short deadline, and a team member resists working with a difficult client on an important issue—a key responsibility. The team leader decides to "just handle it myself." What conflict management technique is the team leader using? What will be the likely outcome?

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Ways to Minimize Conflict

- Communicate expectations and directions clearly and consistently.
- Treat all team members fairly and consistently.
- Establish and enforce good ground rules.

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Discussion Question

What are examples of useful ground rules for teams?

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Principled Negotiation

Use negotiation to create and sustain **long-term relationships** that are **built on trust and respect.**

- Separate people from problem.
- Focus on interests, not positions.
- Invent options for mutual gain.
- Use objective criteria to assess options and outcomes.

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Questions?

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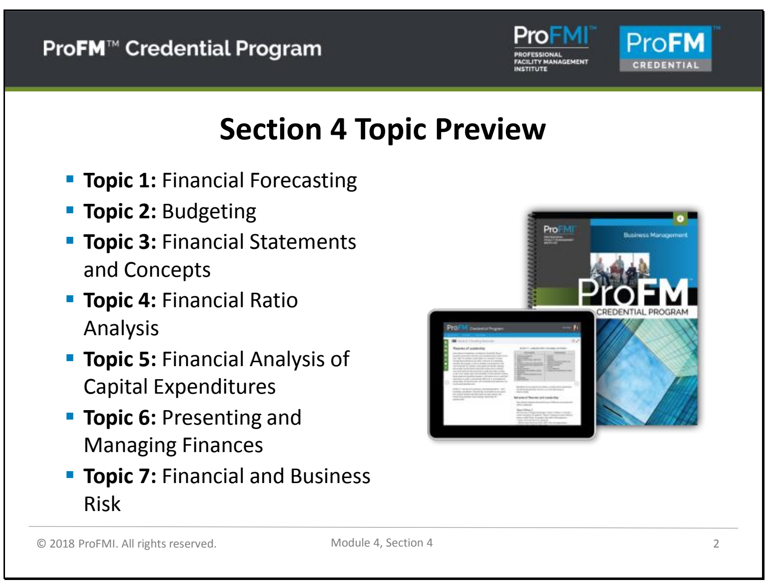
Section 4: Financial Management



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Finance: The Language of Business

- Budgets, business cases, forecasts, reports.
  - Negotiate budgets or discounts from suppliers.
  - Compare against baselines and correct course.
  - Audit utility bills or reduce overhead.
- Fraud or mismanagement controls.
- Presentation can be difference: sufficient/insufficient funds.
- Communicate or collaborate with finance professionals.
  - Right person to approach.
  - Right questions to ask.
  - Right data or inputs to request or provide.
  - Right financial model to differentiate options.

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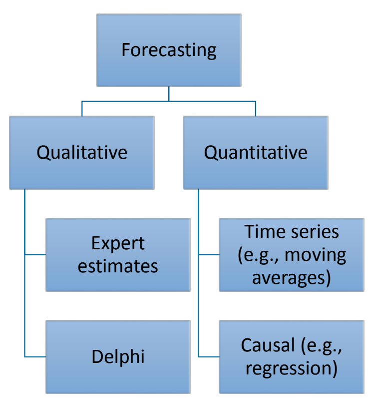
Financial Forecasting

- Prediction: Accuracy not expected, so find error range.
  - 1,000 units ±10 vs. ±100 units?
- Sales forecast is basis.
  - Variable costs directly related
  - Fixed costs reasonable
- Time-series lags trend change.
- Temporarily remove seasonality.
- Longer horizon = less accuracy.
  - Strategic (long term)
  - Tactical (medium term)
  - Operational (short term)
- Forecast to end of budget period.
- Rolling forecasts.



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Facility Management Forecasting

- Volume parameter: Square feet or meters and/or number of full-time equivalent (FTE) persons
- Rate parameter: Cost per unit of volume
- Trend in volume and/or rate
- FTEs based on staffing forecasts
  - Average salary and average benefits costs
  - Several grades of employees?
  - Benefits and one-time hiring/termination costs from HR
- Contractor rate and expected hours
- Utility rates and cost projections from utility

Parametric Estimate = Volume × Rate

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Operations and Maintenance Forecasts

- Preventive maintenance forecasts: Volume × rate
- Breakdown maintenance forecasts: Trend in maintenance orders × average cost per order type
- Noncapital project forecasts
  - Repair: Project cost estimating
  - Alteration: Square feet/meters to be altered × historical project cost factor per square foot/meter
  - Relocation: Persons to relocate × historical relocation cost per person
- Management reserve for emergencies or estimate error

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Cash Flow Forecasting

- Cash pays bills, payroll, debts, and dividends.
- Sales on credit can have temporary cash issues.
- Give input on fixed and variable components of FM future cash receipts and disbursements.
- Cash budget:

  Receipts in Period
  – Disbursements in Period
  = Net Cash Flow
  + Opening Balance
  = Closing Balance
  Versus Minimum or Maximum Account Balances = Surplus/Deficit

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Discussion Question

An organization is projecting a significant cash deficit for the year. This is a good time to

a) propose a capital expenditure.
b) proactively reduce staff.
c) plan which assets might be best to sell first.
d) propose delaying supplier payments beyond the due date.

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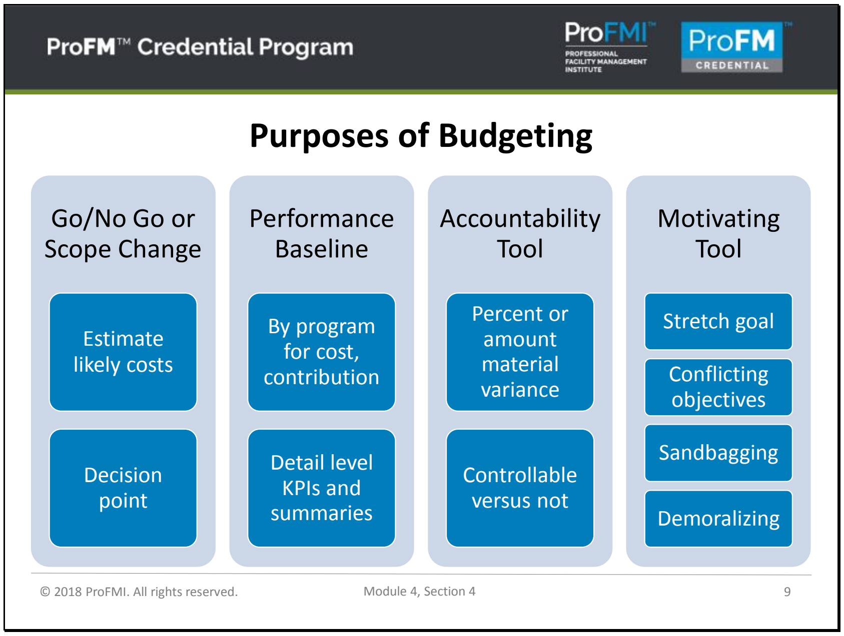

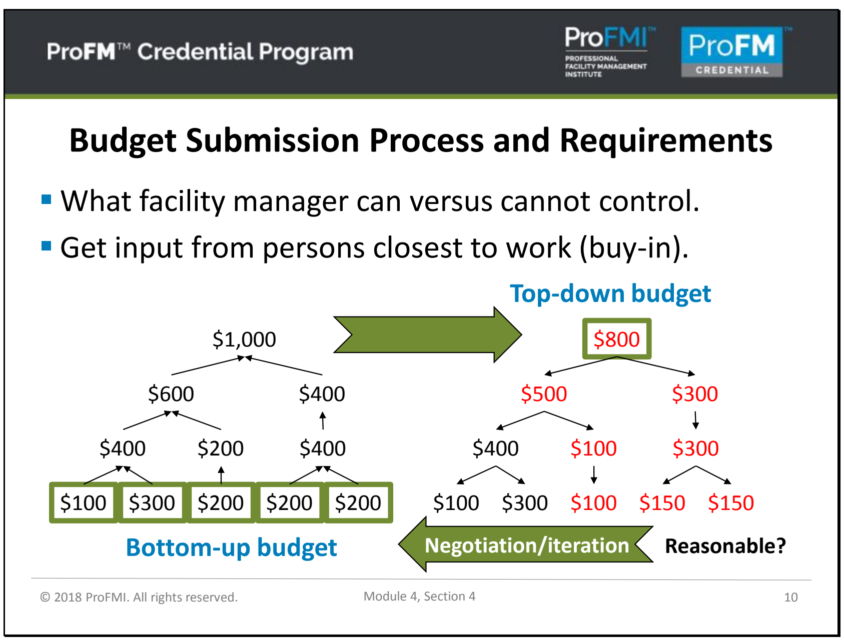

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Budget Inputs

- Strategic objectives for products, services, projects
- Projected sales for variable cost estimates and step up/down fixed costs
- Requirements and work: historical data or standard hours
- Resource skill level and availability
- Other functional areas' budgets for staffing levels
- Volume and rate assumptions (accuracy?)
- Standards such as benefit amounts or task hours
- Contingency amounts

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Budget Format

- Summarize to audience need, e.g., round numbers.
- Separate line items for known versus estimated costs.
  - Lump sum on separate line (in period payment actually made).
  - Detect overcharges.
- Fixed costs fixed over range of capacity.
- Variable costs by volume of activity or workers.
- Direct costs of area's primary activities (fixed + variable).
- Indirect costs to share pain and get feedback.
  - Allocate (fairly?) by usage, square feet/meters, staff levels, activities.

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Programs, Account Types, and Metrics in Budgets

- 1000 Maintenance Budget — **Program budgets**
  - 1100 HVAC Maintenance
  - 1200 Electrical Maintenance
  - 1300 Plumbing Maintenance

  } **Subbudgets**
    - 1310 New Materials
    - 1320 Tool Purchases
    - 1330 Labor

    } **Account types and codes**

} **Collapse as needed**
- KPIs or metrics
- Prior year or competitive benchmark amounts
- Percentage of line item's cost to total cost

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Budget Components

- Capital budget (sum of approved capital projects)
- Administrative budget for FM overhead
  - Support staff, usage fees, IT/telecommunications, printing
  - Salaried staff, contractors, and consultants
  - Benefits, travel, and training
  - Depreciation
- O&M budgets (dominated by lease and rental costs)
- Custodial budgets
- Utilities budgets
- Grounds budgets

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Discussion Question

O&M budgets include what areas that, if reduced, will increase breakdown maintenance costs or require capital expenditures sooner?

a) BIM software fees
b) Costs for noncapital projects like relocations
c) Preventive and condition-based maintenance

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Conventional versus Zero-Based Budgets

Conventional budgets

- Start: last year's budget
- Changes in volume and rate (new parametric)
- Flat rate escalation
  - If $9,000 last year
  - 1 + rate (if 6% = 1.06)
  - $9,000 × 1.06 = $9,540
  - Historical or market rate

Zero-based budgets

- Start: Blank page
- Priority-based
- Eliminates unjustified
- Particulars for accuracy
- Better way?
- Error prevention
- Time-consuming/costly

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Budgeting Tools

- Spreadsheets (useful but error-prone; version control).
- Specialized budgeting software or cloud-based system.
- Computerized maintenance management system (CMMS):
  - Facility assets and maintenance parts.
  - Efficiently schedule maintenance tasks.
  - Preventive vs. breakdown cost comparisons, life-cycle costing.
  - Compliance and purchase records.
  - Accounts can match general ledger accounts.
- Enterprise asset management (EAM):
  - All of the above, plus commissioning/decommissioning and warranty management.

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Financial Statements

- Balance sheet, income statement, statement of cash flows
- Required if publicly traded
  - Most of world: IFRS
  - U.S.: GAAP
- At least two years needed for some ratios and trends
- FM impact on bottom line?
- Pro forma financials

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Balance Sheet

Balance sheet equation

Assets = Liabilities + Owners' Equity

For example:

- Assets $10,000, liabilities $7,000.
- Equity = $3,000.
- If owners initially invested $2,000, firm worth $1,000 more now.
- Pay $1,000 dividend, assets (cash) and owners' equity (value) both $1,000 less:
  - $9,000 = $7,000 + $2,000

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BALANCE SHEETS December 31,

Snapshot at point in time

Sum of annual depreciation for all fixed assets currently on books

Finance: Strongly motivated to minimize noncash assets

Funds reinvested

	In Millions (000,000) 2017	2018	% of TA 2018
Assets			
Current Assets			
Cash and Cash Equivalents	$61.4	$86.8	33%
Inventory			
Raw Materials Inventory	12.4	13.7	5%
WIP Inventory	15.5	17.1	7%
Finished Goods Inventory	30.9	34.1	13%
Inventory	58.8	64.9	25%
Accounts Receivable	47.8	52.8	20%
Total Current Assets	**168.0**	**204.4**	**78%**
Fixed Assets			
Gross Property, Plant, and Equipment	60.0	70.0	27%
Less: Accumulated Depreciation	8.5	13.7	5%
Net Property, Plant, and Equipment	51.5	56.3	22%
Total Assets	**$219.5**	**$260.6**	**100%**
Liabilities			
Current Liabilities			
Accounts Payable	17.0	18.8	7%
Short-Term Notes Payable	6.0	5.0	2%
Total Current Liabilities	23.0	23.8	9%
Long Term Liabilities			
Long-Term Debt	68.0	67.0	26%
Total Liabilities	**91.0**	**90.8**	**35%**
Owners' Equity			
Common Stock (Par Value)	10.0	10.0	4%
Additional Paid-In Capital	53.0	53.0	20%
Retained Earnings	65.5	106.9	41%
Total Owners' Equity	128.5	169.9	**65%**
Total Liabilities and Owners' Equity	**$219.5**	**$260.6**	**100%**

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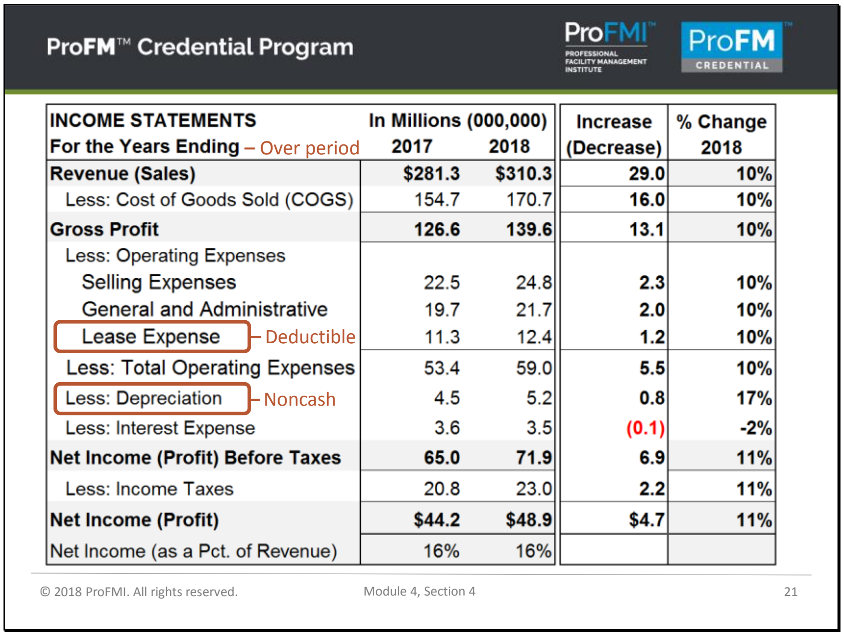

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INCOME STATEMENTS For the Years Ending – Over period	In Millions (000,000) 2017	2018	Increase (Decrease)	% Change 2018
Revenue (Sales)	**$281.3**	**$310.3**	**29.0**	**10%**
Less: Cost of Goods Sold (COGS)	154.7	170.7	**16.0**	**10%**
Gross Profit	**126.6**	**139.6**	**13.1**	**10%**
Less: Operating Expenses				
Selling Expenses	22.5	24.8	**2.3**	**10%**
General and Administrative	19.7	21.7	**2.0**	**10%**
Lease Expense – Deductible	11.3	12.4	**1.2**	**10%**
Less: Total Operating Expenses	53.4	59.0	**5.5**	**10%**
Less: Depreciation – Noncash	4.5	5.2	**0.8**	**17%**
Less: Interest Expense	3.6	3.5	**(0.1)**	**-2%**
Net Income (Profit) Before Taxes	**65.0**	**71.9**	**6.9**	**11%**
Less: Income Taxes	20.8	23.0	**2.2**	**11%**
Net Income (Profit)	**$44.2**	**$48.9**	**$4.7**	**11%**
Net Income (as a Pct. of Revenue)	16%	16%		

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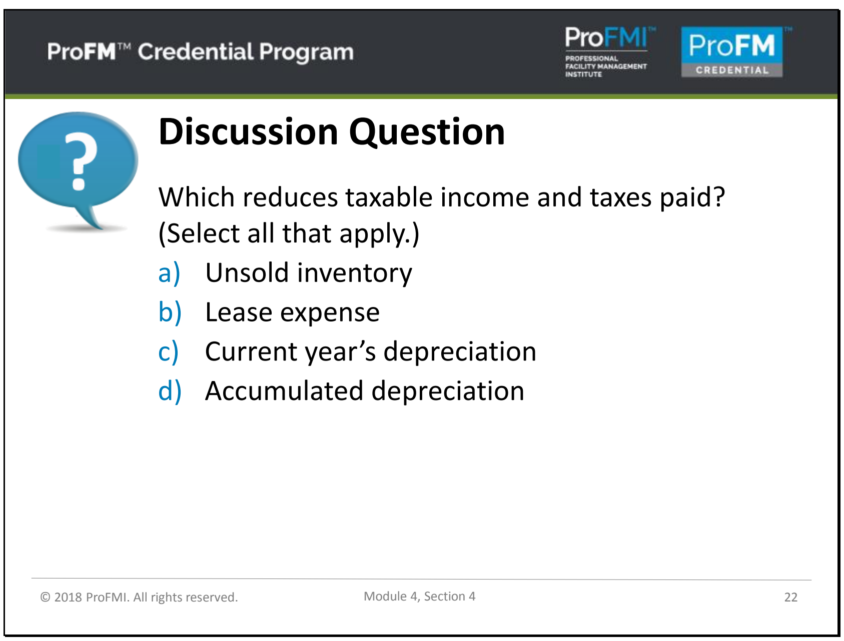

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CASH FLOW STATEMENT

Operating Section In Millions (000,000)	2017	2018
After-Tax Net Income	$44.2	$48.9
Depreciation Add-Back – Because it is noncash	4.5	5.2
(Increase)/Decrease in Inventory	(6.3)	(6.1)
(Increase)/Decrease in Accounts Receivable	(5.1)	(4.9)
Increase/(Decrease) in Accounts Payable	1.8	1.8
Cash Flow from Operations	**39.1**	**44.9**
Investing Section		
Capex Spend (Capital Expenditures)	(10.0)	(10.0)
Cash Flow from Operations and Investment	**29.1**	**34.9**
Financing Section		
Additional Equity Capital	-	-
Less Dividends Paid	(5.0)	(7.5)
Increase/(Decrease) in Long-Term Debt	(1.0)	(1.0)
Increase/(Decrease) in Short-Term Notes	(1.0)	(1.0)
Cash Flow from Operations, Investments, and Financing	**22.1**	**25.4**
Beginning Cash Balance	39.3	61.4
Ending Cash Balance	**$61.4**	**$86.8**

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Accrual Accounting

- Recognize revenue and expenses: Customer obligations "substantially complete."
- Customer pays in advance = liability (must provide).
- You pay in advance = asset (prepaid rent or insurance).
- Spans accounting period: Recognize part in each period.
- Alternative: Cash accounting.
  - Recognizes only cash in and cash out.

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Financial Ratio Analysis

- Is $1 million in debt more significant than $100,000 in debt for a different business unit? Requires details.
- Ratios often divide one number by another:
  - Single value easy to compare to same ratio elsewhere.
  - Removes relative size or currency differences.
  - Trends over time or benchmarking.
- Types
  - Liquidity
  - Activity
  - Leverage
  - Profitability
  - Market value
  - Real estate

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Liquidity Ratios

- How long to convert assets to cash
- Want high but not too high (unproductive)
- Current: Basic
- Quick: More stringent

Ratio		Formula		Data (in Whole Dollars)		Result	Unit
Current Ratio	=	Current Assets / Current Liabilities	=	$204,367,902 / $23,773,150	=	8.60	
Quick (Acid Test) Ratio	=	Current Assets − Inventory / Current Liabilities	=	$204,367,902 − $64,852,700 / $23,773,150	=	5.87	

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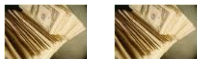

Activity Ratios

- How well organization is managing current assets (cash, receivables, payables, inventory)

Ratio		Formula		Data (in Whole Dollars)		Result	Unit
Accounts Receivable (A/R) Turnover	=	Credit Sales / Average A/R	=	$248,240,000 / (($47,821,000 + $52,751,000) / 2)	=	4.94	times
Days' Sales Uncollected	=	Days in Year / A/R Turnover	=	365 / 4.94	=	73.94	days
Inventory Turnover	=	Cost of Goods Sold / Average Inventory	=	$170,665,000 / (($58,791,700 + $64,852,700) / 2)	=	2.76	times
Days' Sales in Inventory	=	Days in Year / Inventory Turnover	=	365 / 2.76	=	132.22	days

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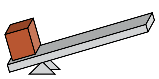
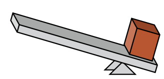


Leverage Ratios



- Relative amount of debt
- Magnifies gains (and losses)

Ratio		Formula		Data (in Whole Dollars)		Result	Unit
Debt Ratio	=	Total Liabilities / Total Assets	=	$90,773,150 / $260,646,302	=	0.35	
Debt-to-Equity Ratio	=	Total Liabilities / Total Owners' Equity	=	$90,773,150 / $169,873,152	=	0.53	
Times-Interest-Earned (TIE) Ratio	=	Income Before Interest and Taxes / Interest Expense	=	($71,896,400 + $3,540,000) / $3,540,000	=	21.31	times

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Profitability Ratios

Ratio		Formula		Data (in Whole Dollars)		Result	Unit
Return on Assets (ROA)	=	Net Income / Total Assets	=	\$48,889,552 / \$260,646,302	=	0.19	
Return on Total Assets Employed	=	Net Income / Average Total Assets	=	\$48,889,552 / ((\$219,502,250 + \$260,646,302) / 2)	=	0.20	
Total Asset Turnover	=	Net Revenue / Average Total Assets	=	\$310,300,000 / ((\$219,502,250 + \$260,646,302) / 2)	=	1.29	times
Profit Margin	=	Net Income / Net Revenue	=	\$48,889,552 / \$310,300,000	=	0.16	
Contribution Margin	=	(Price/Unit − Variable Cost/Unit) / Price per Unit	=	(\$20 − \$12) / \$20	=	0.40	
Breakeven Point in Dollars	=	Fixed Costs / Contribution Rate	=	\$40,000 / 0.40	=	\$100,000	

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Market Value Ratios

- How stock price relates to net income (profit)

Ratio		Formula		Data (in Whole Dollars)		Result	Unit
Return on Common Equity	=	(Net Income − Preferred Dividends) / Average Common Owners' Equity	=	(\$48,889,552 − 0) / ((\$128,483,600 + \$169,873,152) / 2)	=	0.33	
Earnings per Share (EPS)	=	Net Income / Weighted Average Shares Outstanding	=	\$48,889,552 / 10,000,000 shares	=	\$4.89	
Price-to-Earnings (P/E) Ratio	=	Market Price per Share / Earnings per Share	=	\$25 / \$4.89	=	5.11	
Dividend Yield	=	Annual Dividends per Share / Market Price per Share	=	(\$7,500,000 / 10,000,000 shares) / \$25	=	3.00%	

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Real Estate Ratios

Ratio		Formula		Data (in Whole Dollars)		Result	Unit
Loan-to-Value Ratio	=	Mortgage Loan(s) Balance(s) / Facility Cost	=	$7,600,000 / $10,000,000	=	0.76	
Annual Gross Rental Income	=	Potential Rent − Vacacies or Defaults + Other Income	=	$3,000,000 − $600,000 + $120,000	=	$2,520,000	
Net Operating Income (NOI)	=	Annual Gross Rental Income − Operating Expenses	=	$2,520,000 − $856,800	=	$1,663,200	
Debt Service	=	Principal Repayment + Interest Expense + Lease Expense	=	($760,000 + $380,000 + $100,000)	=	$1,240,000	
Debt Service Coverage Ratio	=	Net Operating Income / Debt Service	=	$1,663,200 / $1,240,000	=	1.34	times
Margin of Safety	=	Net Operating Income − Debt Service	=	$1,663,200 − $1,240,000	=	$423,200	
Gross Rent Multiplier	=	Facility Purchase Price / Annual Gross Rental Income	=	$10,000,000 / $2,520,000	=	3.97	

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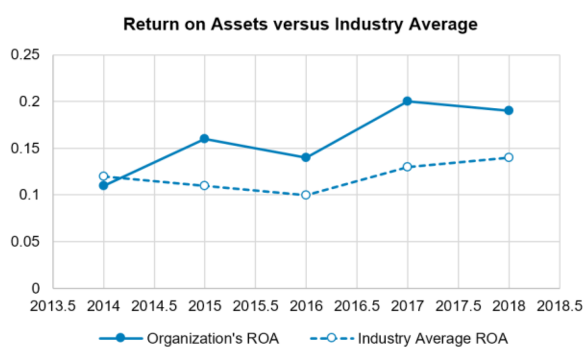
Trend Analysis

- Ratios over time, possibly relative to a benchmark



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Limitations of Ratio Analysis

- Industry average ratios:
  - Better for specialized business units than conglomerate
  - Average rather than best in class
- Gross PP&E at initial cost (distorted over time).
- May not reflect seasonal inventory build-up, etc.
- “Window dressing” leeway reduces transparency.
  - Valuation method
  - Depreciation method
  - Operating versus financial leases

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Financial Analysis of Capital Expenditures

- Compound interest (more pronounced over time):
  - $1.00 at 10% is $0.10 interest in year 1.
  - $1.10 at 10% is $0.11 interest in year 2!
  - Discounting assumes compound interest.
- Discount rate (%) for investment of equivalent risk.
- Opportunity cost.
- Optimistic or erroneous inputs = great on paper only.
- Sunk costs.
- Isolate business risk from financial risk. (Assume equity.)

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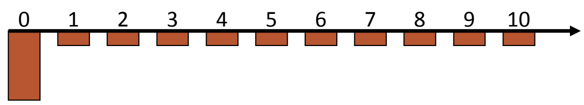
Annual Cost

- Annual expenses will differ each year in actuality.
- Average annual cost for simplicity.
  - Net operating income (NOI) for real estate.
- Initial cost is then only nonuniform expense.
  - Put in period 0 so this hits at start of period 1.
  - All annual expenses start in period 1.
  - Assume that all expenses occur at the end of year.



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Depreciation

- Government incentive to invest in fixed assets.
  - Reduces taxable income.
  - Public: Governments don't tax themselves.
- Tax experts pick method.
  - National tax laws.
  - Current vs. future tax strategy.
  - Match actual rate of obsolescence.
- Initial cost and salvage value.
- Useful life (organization sets), for example:
  - 3 years: software/ computers.
  - 4 years: motor vehicles.
  - 10 years: furniture.
  - 25 to 50 years: facilities. (In US, 39 years for business facilities.)

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Methods of Depreciation

Straight-line Same depreciation each year

- Net Asset Value (NAV) = Initial Cost – Accumulated Depreciation
- NAV = Salvage value in final year

$$\frac{\text{(Initial Cost – Salvage Value)}}{\text{Years of Useful Life}}$$

Declining-balance Accelerated

- Fixed rate to multiply by prior year’s NAV
- Rate used factors in ending at salvage value in final year

Sum-of-the-years’-digits Accelerated

- 3-year example: Y1 + Y2 + Y3 = 6 years for denominator
- Goes backward: First year 3/6, second 2/6, third 1/6

Nation-specific MACRS in US

- Declining balance at first; straight-line later

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Depreciation Methods Compared

Asset Cost	$10.0										
Asset Salvage Value	$1.0										
Asset Useful Life	10	years		All Amounts in Millions							
Year	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Straight-Line											
Balance Sheet Gross PP&E	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0
Accumulated Depreciation		$0.9	$1.8	$2.7	$3.6	$4.5	$5.4	$6.3	$7.2	$8.1	$9.0
Balance Sheet Net PP&E		$9.1	$8.2	$7.3	$6.4	$5.5	$4.6	$3.7	$2.8	$1.9	$1.0
Income Statement Depreciation		$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9
Declining-Balance											
Balance Sheet Gross PP&E	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0
Accumulated Depreciation		$2.1	$3.7	$5.0	$6.0	$6.8	$7.5	$8.0	$8.4	$8.7	$9.0
Balance Sheet Net PP&E		$7.9	$6.3	$5.0	$4.0	$3.2	$2.5	$2.0	$1.6	$1.3	$1.0
Income Statement Depreciation		$2.1	$1.6	$1.3	$1.0	$0.8	$0.7	$0.5	$0.4	$0.3	$0.3
Sum-of-the-Years'-Digits											
Balance Sheet Gross PP&E	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0
Accumulated Depreciation		$1.6	$3.1	$4.4	$5.6	$6.5	$7.4	$8.0	$8.5	$8.8	$9.0
Balance Sheet Net PP&E		$8.4	$6.9	$5.6	$4.4	$3.5	$2.6	$2.0	$1.5	$1.2	$1.0
Income Statement Depreciation		$1.6	$1.5	$1.3	$1.1	$1.0	$0.8	$0.7	$0.5	$0.3	$0.2

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Discussion Question

Compared to straight-line depreciation, declining-balance depreciation

a) has fast depreciation early and the same amount later.
b) results in a larger amount of accumulated depreciation at the end.
c) ends up at a net asset value of zero at the end.
d) has fast depreciation early and slow depreciation later.

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Return on Investment (ROI): Benefits/Costs

$10M project: $1M cash, $7.6M loan (5%, $760k annual principal), $1.4M sale-leaseback ($100k lease expense), 1-year property value appreciation: +$750k; rest on Real Estate Ratios slide.

Ratio		Formula		Data (in Whole Dollars)		Result	Unit
Return on Investment	=	$\frac{\text{Net Operating Income before Depreciation}}{\text{Initial Cost}}$	=	$\frac{\$1,663,200}{\$10,000,000}$	=	0.17	
Return on Investment	=	$\frac{\text{Margin of Safety}}{\text{Cash Equity Investment}}$	=	$\frac{\$423,200}{\$1,000,000}$	=	0.42	
Return on Investment	=	$\frac{\text{Net Operating Income + Annual Principal Repayment}}{\text{Cash Equity Investment}}$	=	$\frac{(\$1,663,200 + \$760,000)}{\$1,000,000}$	=	2.42	
Return on Investment	=	$\frac{\text{Net Operating Income + Annual Principal Repayment + Property Market Value Appreciation}}{\text{Cash Equity Investment}}$	=	$\frac{(\$1,663,200 + \$760,000 + \$750,000)}{\$1,000,000}$	=	3.17	

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Investment Value

- Undiscounted total of all cash inflows over life that must be earned to meet given hurdle rate.
- High level estimate only.
- Use hurdle rate or cost of capital (discount rate) to determine investment value; here 6%.

Ratio	Formula	Data (in Whole Dollars)	Result
Investment Value =	Net Operating Income before Depreciation / Required Rate of Return =	\$1,663,200 / 0.06 =	\$27,720,000

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Present Value and Net Present Value

- PV tables (online), PV formulas, or Excel formulas
  - Excel: =PV(rate,period,payment,future value,type)
  - \$100,000 in 5 years at 8%: =PV(0.08,5,0,-100000) is \$68,058.

$$PV = \frac{\text{Future Value}}{(1 + \text{Interest Rate})^{\text{Number of Periods}}} = \frac{\$100{,}000}{1{,}08^5} = \$68{,}058$$

  - Pay bank \$1,140,000 principal + interest annually for 10 years at 5%: =PV(0.05,10,-1140000) is \$8,802,778 for \$7.6M loan.
- NPV = Add up PV of each cash flow, minus initial cost.
- Any NPV >0 is creating value for organization.

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Project NPV Using After-Tax Cash Flow (Assumes Straight-Line Depreciation) All Amounts in Millions

Asset Cost	$10.0											
Asset Salvage Value	$1.0											
Asset Useful Life	10	years										
Discount Rate	6.00%											
Cash Expenses	34.00%	Percent of revenue.										
Marginal Tax Rate	30.00%											
Project Year	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Totals**
Revenue	$0.0	$2.5	$2.5	$2.5	$2.5	$2.5	$2.5	$2.5	$2.5	$2.5	$2.5	$25.2
Cash Expenses	$10.0	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$18.6
Depreciation Expenses	$0.0	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$9.0
Income Before Tax	($10.0)	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	($2.4)
Income Taxes	$0.0	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$2.3
Income After Tax	($10.0)	$0.5	$0.5	$0.5	$0.5	$0.5	$0.5	$0.5	$0.5	$0.5	$0.5	($4.7)
Depreciation Add Back	$0.0	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$0.9	$9.0
After Tax Cash Flow	($10.0)	$1.4	$1.4	$1.4	$1.4	$1.4	$1.4	$1.4	$1.4	$1.4	$1.4	$4.3
Cumulative CF	($10.0)	($8.6)	($7.1)	($5.7)	($4.3)	($2.8)	($1.4)	$0.0	$1.5	$2.9	$4.3	
Discounted CF	($10.0)	$1.4	$1.3	$1.2	$1.1	$1.1	$1.0	$1.0	$0.9	$0.8	$0.8	$0.6
Cumulative Discounted CF	($10.0)	($8.6)	($7.4)	($6.2)	($5.0)	($4.0)	($2.9)	($2.0)	($1.1)	($0.2)	$0.6	
Discounted Payback Period											9.31	years
PV of After Tax Cash Flows	$10.6	Not including initial asset cost.										
Net Present Value (NPV)	$0.6											
Internal Rate of Return	7.16%		**Payback Period**			6.97 years						

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Discussion of Financial Model

- Starting with revenue per year of $2.5 M, first deduct cash expenses (34% of revenue) and then depreciation.
- Total income before tax is –$2.4M. After taxes deducted, is –$4.7M, but now add depreciation back.
- After-tax cash flow is now +$4.3M.
- Cumulative cash flow starts negative (initial cost), but where it turns positive is the payback period.
- Cumulative discounted cash flow total equals NPV, and where it turns positive is discounted payback period.

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Internal Rate of Return (IRR)

- What discount rate is needed to get NPV to equal 0?
- In Excel: =IRR(range of values,guess)
  - In model, range is "After Tax Cash Flow" row for periods 0–10, resulting in IRR of 7.16%. (Guess was omitted.)
- Manual calculation: Guesswork and complex formula.
- Decision rule: Accept any project with IRR > discount rate (here 6%).
- For real estate, use undiscounted after-tax cash flows. (Amount of discounting is what is being calculated.)

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Payback Period (Simple or Discounted)

- If cash flows same each period:

$$\text{Payback Period} = \frac{\text{Initial Cost}}{\text{Annual Net Cash Flow}} = \frac{\$10{,}000{,}000}{\$1{,}434{,}240} = 6.97 \text{ years}$$

- If cash flows differ each year (e.g., after discounting), make cumulative sum of cash flows, including initial cost:
  - Payback period is year before first year of positive cash flows. (For discounted payback period, this is year 9.)
  - Plus fractional amount of final year = 9.31 years:

$$\text{Fractional Amount} = \frac{\text{Amount Remaining}}{\text{Annual Net Cash Flow}} = \frac{\$244{,}741}{\$800{,}872} = 0.31 \text{ years}$$

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Integrated Analysis and Sensitivity/Scenario Analysis

- Use multiple measures.

All amounts in millions	Project A	Project B	Project C	
NPV	$0.6	($0.1)	$0.5	
IRR	7.16%	4.72%	6.93%	
Payback Period	6.97	7.25	7.84	years
Discounted Payback Period	9.31	N/A	9.75	years
Note: Project hurdle rate is 6%.				

- Sensitivity analysis manipulates just one input to see impact.
- Scenario analysis adjusts many inputs, such as for best- or worst-case scenario or custom FM scenario.

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Uses of Financial Analysis Tools

- Equipment obsolescence studies
- Energy studies
- Operational excellence initiatives
- Sustainability studies
- Long-term impact of preventive maintenance
- Comparing alternative real estate, facility, or equipment
- Lease versus buy analyses
- Insource, outsource, or both?

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Presenting and Managing Finances

Communicating budget

- Compare budget to request.
- Communicate impact and constraints.
  - Preventive shortfall?
  - Larger budget but not per square foot/meter?
- Budget is communica-tions tool.

Managing against budget

- Keeping budget useful.
  - Update static budget after cancelled project.
  - Flexible budget.
- Release in increments to reduce spikes at beginning/end of budget period.

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Budget-Based Facility Information Systems

Leveraging system effectively

- Classify expenses properly.
- Which over- and underbudget accounts can balance out.
- Checks and balances (e.g., release versus approval).

Transaction flow (expedite?)

1. End-user request and requisition.
2. Approval.
3. FM selects supplier/unit.
4. Purchasing sends PO.
5. Controller may open vendor account.
6. Vendor installs and invoices accounts payable, or receiving does three-way match.
7. Accounts payable pays invoice if accepted, after trade credit.
8. Close PO, maybe vendor account.

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Analyzing Variances and Correcting Course

All amounts in thousands	October				
Monthy O&M Budget Report	Budget	Actual	Same Month Last Year	Variance	Same Month Last Year Variance
Operations					
Lease Costs	90.0	110.0	125.0	(20.0)	15.0
Energy Usage	10.0	9.0	12.0	1.0	3.0
Water Usage	3.0	2.5	4.0	0.5	1.5
Sewage Usage	6.0	6.0	7.0	-	1.0

Best practices:

- Categories: operations, preventive, unplanned, noncapital projects.
- Variance as a percentage.
- Keep on one page.

All amounts in thousands	Year to Date Results (January to October)					Full Year Projections					
Monthy O&M Budget Report	Budget	Actual	Same Month Last Year	Variance	Same Month Last Year Variance	Budget	Forecast	Last Year Budget	Variance	Monthly Run Rate to Meet Budget	Last Year Budget Variance
Operations											
Lease Costs	900.0	1,093.6	1,255.9	(193.6)	162.3	1,080.0	1,276.3	1,465.6	(196.3)	(6.8)	189.4
Energy Usage	100.0	97.4	116.0	2.6	18.6	120.0	113.6	135.4	6.4	11.3	21.7
Water Usage	30.0	25.4	41.7	4.6	16.2	36.0	29.7	48.6	6.3	5.3	18.9
Sewage Usage	60.0	50.8	71.5	9.2	20.7	72.0	59.3	83.5	12.7	10.6	24.2

Percent Mandatory Spending (% of O&M Budget) 90.67%

Preventive Maintenance (% of O&M Budget) 5.33%

Repairs and Emergencies (% of O&M Budget) 5.78%

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Changing Priorities and Reallocating Funds

- Midyear and third-quarter-end reviews for reallocation
- Funds allocation and funds release control points
- Once allocated, hard to change (e.g., contracts)
- Brief business cases to reallocate for best use of funds
- Budget updated with approved changes

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Controlling Costs Using Chargebacks

- Functional area feels pain, motivated to reduce cost.
- Allocation method winners and losers.
  - For example, allocating HVAC on basis of square feet/meters unfair for basement vs. sunny.
- Good cost accounting needs subaccounts used properly.
- Directly charge when possible; rest as "rent."
  - External is actual cost; internal has hidden costs.
- Still need sizable discretionary FM budget.

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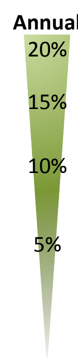
Presenting Financial Results

Entrepreneurial spirit

- Accountable for results
- How have you added value?
  - Competitive advantage
  - Cost cutting raises profit

Ranked opportunities

- AE design for life-cycle cost
- Great forecasting, planning, project management, budgeting
- More efficient/targeted O&M
- Lower property management or utility cost
- Better space planning
- Less disruptive relocations
- Better real estate deals



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Budget Closure: Accruals

- Accrual period: Fiscal end until accounting close.
- Accruals: Funds reserved for use in accrual period.
- Expenses go through normal transactions, approvals.
- Need to be finalized before accrual deadline, or:
  - Lose funds from prior year.
  - Charged against next year's budget, reducing that years' funds.
- Expediting procedures.
- Preapproved but unfunded projects ready.
- Lessons learned from prior budget period.

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Discussion Question

If last year's budget for elevator maintenance was too high because contractors used new technology that sped up the work, what should be included in the lessons learned agenda?

a) Whether budgets balanced and fed to IS correctly
b) Whether budgets are creating poor incentives
c) Whether standard hours need updating
d) Whether standard rates and volumes need updating

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Financial and Business Risk

Financial risk

- More financial leverage (relatively more debt)
  - More tax-deductible interest, less paid in taxes
  - Higher free cash flow (FCF) = more money for owners and lenders
  - Magnifies gains and losses (volatile)

Business risk

- Default risk
- Interest rate risk
- Reinvestment risk
- Market risk
- Capital availability risk
- Exchange rate risk
- Inflation risk
- Price risk

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Exchange Rates

- Exchange rates based on each country's interest rates.
- For example, $1.3222 US dollars per British pound or inverse (1/x): £0.7563 pounds per US dollar.
- Get bill for £1,000 and have dollars: Multiply by first rate or divide by the second, effectively paying $1,322.20.
- When bill due, rate is $1.3537 US dollars per British pound or £0.7387 pounds per US dollar.
- Same invoice but now paying $1,353.70.
- Keep finance informed of FM foreign invoices, projects.

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Escalation Rates and Price Risk

- Annual increase in rate for goods/services, a price risk
- For example, $10,000 at 10% escalation rate in 4 years:

$$\text{Future Cost} = \text{Current Cost} \times (1 + \text{Escalation Rate})^{\text{Number of Periods or n}}$$

$$\text{Future Cost} = \$10{,}000 \times (1 + 0.1)^4 = \$14{,}641$$

- If you know the costs and need the historical rate:

$$\text{Escalation Rate} = \sqrt[n]{\frac{\text{Current Cost}}{\text{Cost at Period n}}} - 1 = \sqrt[4]{\frac{\$14{,}641}{\$10{,}000}} - 1 = 1.1 - 1 = 0.1 = 10\%$$

- In Excel: =RATE(4,0,-10000,14641)

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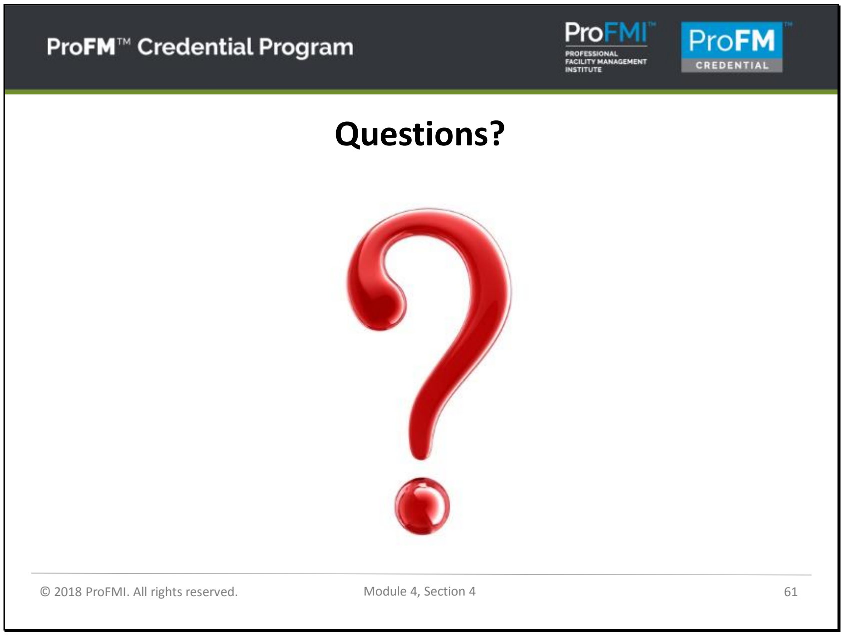
Inflation

- General escalation rate for all goods and services in given economy.
- Hard to predict, so often omitted from analysis.
- For long-term analysis, use conservative rate.
- Runaway inflation in economy can be very severe.
- National banking systems work to regulate inflation.
- Can include inflation same way escalation is calculated.
- Use either inflation rate or escalation rate, not both.



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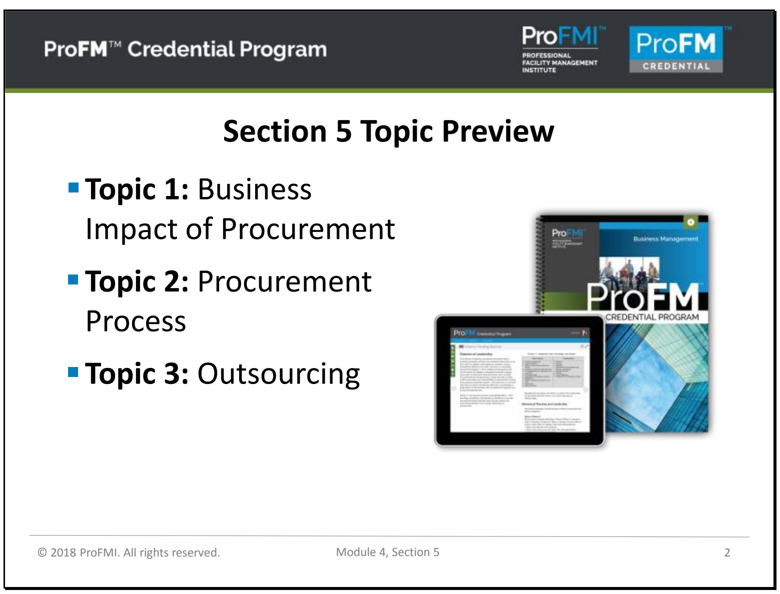
Section 5: Procurement



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Procurement

- **Procurement** is the "activity of acquiring goods or services from suppliers."

Procurement Goals:
Locate appropriate product or service.
Find best price that fits within budget.
Ensure exact quantity and quality.
Use reliable, stable vendor.
Deliver on time to right location.

FM Procurement Efforts Should Include:
Detailed goods or service specifications.
Market analysis of sources.
List of best potential vendors.
Thorough vetting and selection process.
Process for evaluating performance.

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Sourcing

- **Sourcing** is the "practice which identifies, evaluates and engages internal and external service providers to deliver a service or products to meet a specification."

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Service Providers

- Three types of service providers:
  - Single-service providers
  - Bundled services
  - One-stop shops

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Procurement Terms

- Commodity
- Capital purchases
- Contract
- Service contract
- Maintenance contract

Name	Type of Purchase
Printer paper and toner	Commodity
Office supplies and break room supplies	Commodity
Coffee pot, folding table, bulletin board	One-time purchase
Janitorial services	Service contract containing service level agreement
Printer/copiers	Lease with maintenance agreement
Vehicles	Capital purchase with maintenance contract
Services related to major projects	Usually part of capital project budget

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Discussion Question

What other items or services have you had to acquire via procurement, and what type of purchase were they?

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Procurement and Technology

Process	Enhancements
Prequalification	Easy access to information on suppliers' websites and information to validate suppliers' performance.
Assessing vendor quality	Websites can include reviews of vendors' products and performance.
Writing, sending, and signing contracts	Contract templates, email, and signing software potentially shorten process.
Gaining buying leverage	Club sites can bundle orders from small organizations and offer lower costs.
Managing bidding process	Allows organization to contact bidders and gather bids electronically; makes bid rankings available to bidders after contract is awarded.

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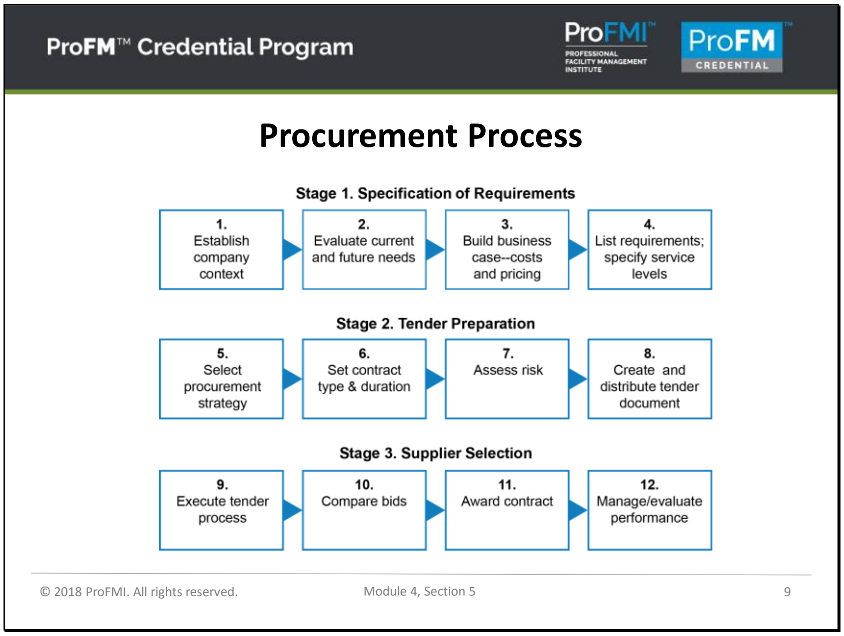

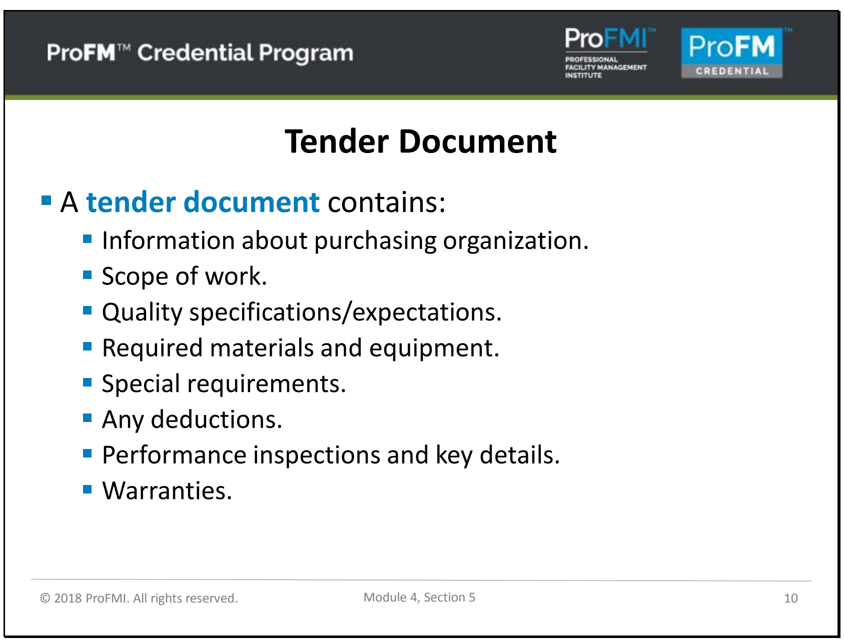

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Types of Bids

- Request for proposal (RFP)
- Request for quotation (RFQ)
- Invitation to tender (ITT)
- Request for information (RFI)

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Bid Selection Criteria

- Best value
- Highest evaluated
- Special service
- Lowest evaluated
- Lowest responsive

Example 2

Factor	Max Points	Bidder #1	Bidder #2	Bidder #3
Cost of services	25	20	33	25
Geographic availability	25	20	20	20
Experience	30	25	30	15
Expertise	20	15	15	15
Total		**80**	**98**	**75**

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Procurement Process Steps

1. Create a vendor questionnaire.
2. Select a committee chairperson.
3. Agree upon final evaluation criteria and evaluation type.
4. Distribute all relevant bids received to committee members.
5. Schedule formal interviews.
6. Carefully monitor how bids are translated into scores.

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Partnering with Procurement

- Goal differences between procurement and FM departments may cause tension.
- Find common ground between departments without compromising quality and service.

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Sustainable Procurement

Areas that benefit from sustainable procurement:

- Operations and maintenance
- Food service
- Janitorial services
- Care of exterior and grounds
- Waste management
- Leased office space

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Discussion Question

In what areas have you pursued sustainable procurement practices at your facility?

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Outsourcing

- **Outsourcing** is when an external organization performs part of another organization's functions or processes.
- Types of FM services firms:
  - Institutional facility management companies
  - Large property management contractors
  - Small property management contractors

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Commonly Outsourced FM Functions

- Food service
- Vending machine stocking and service
- Energy supply
- Architecture, construction, interior design
- Seasonal grounds services
- Cleaning
- Security
- IT services, telephony, internet access
- Mail and courier services
- Window washing

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Benefits of Outsourcing

- Reduce company liability.
- Reduce risks to internal staff.
- Training/job shadowing opportunities for staff.
- Extend department capacity.

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Challenges of Outsourcing

- Requires certain level of expertise

Associated Risks
• Loss of control
• Increased security vulnerability
• Increased liability
• Timeliness and service issues

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Managing Service Provider Relationships

- Expectations of "value-added" behaviors can be included in SLAs.
- Encourage trust between teams.
- Use detailed, accurate, and complete contract to prevent problems.
- Ensure optimal communication and provide feedback either continuously or periodically.

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Key Performance Indicators

- Remove subjectivity and tension through SLA.
- Use scorecard that takes into account:
  - Multiple perspectives.
  - Balance of objectivity/subjectivity and quantity/quality.
  - Balance of financial versus nonfinancial objectives and short- versus long-term goals.

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Balanced Scorecard

- Measure most important activities.
- Measure only what contractor can control.
- Establish early in relationship.
- Allow no duplicate or overlapping measures.
- Use realistic measures.
- Use one measurement system.
- Use all tools and information sources available.

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Questions?

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Section 6: Contract Management

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4 Business Management

Section 6: Contract Management

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Section 6 Topic Preview

- **Topic 1:** Contract Basics
- **Topic 2:** Contract Development
- **Topic 3:** Administering Contracts

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Contracts

- A **contract** is a voluntary agreement under which two parties undertake to exchange a product or service for a payment.
- **Contract management** focuses on the administrative activities of a contract.

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Types of Contracts

- Job order contracting (JOC)
- National purchasing contracts
- Construction contracts
- Operations and maintenance contracts
- Leasing contracts
- Ownership contracts

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Contract Pricing and Rate-Setting Methods

Method	Description	Features
Fixed-price	Project is completed for agreed-upon price.	Final price will not change. Best for well-defined projects that will not change.
Lump sump	Well-defined project with relatively firm price applied to it.	Contract term should equal time needed to complete work. Final price can change, given approved change orders. If contractor's profit margin declines, so may quality.
Cost-reimbursable	Customer pays all charges: labor, fees, materials.	Customer hires contractor to complete project and provides instructions. Controls on quality may be needed. Contractor is under no pressure to finish early.
Time and materials	Customer pays for labor and materials used.	Has risks similar to those for cost-reimbursable contracts. Can be used for contractors who charge hourly rates for general work for facility function under supervision. In other cases, project should be well-defined, quantified, and qualified.

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Contract Pricing and Rate-Setting Methods (continued)

Method	Description	Features
Measured term	Estimated quantity of work to be completed within stated time period.	Quality and time period are specified up front. This may mean that contractor will not complete all work items. When determining payment, quality and quantity are measured against work items that have been completed. Schedule contains prices per work item, and each work item is ordered separately.
Term contract	Based on set time limit by which listed work items must be completed.	Good for planned list of work or one-off items, for example, "Prepare, prime, and paint two conference rooms over three days."
Reimbursable and fixed fee	Client pays contractor's costs and stated profit fee.	Contractor's costs should be independently audited. Removes contractual pressure to finish by arbitrary deadline; reduces risks of poor quality.

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Contract Terms and Conditions

- State what performance is required by contract
- May be general requirements or special arrangements

Common Contract Terms and Conditions

- Term
- Pricing and rate setting
- Subcontracting
- Allocation of responsibility and communication
- Service level agreement (SLA)
- Termination of contract
- Other terms and conditions

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Negotiating Contracts

- Plan on negotiating:
  - Quantity
  - Quality
  - Time
  - Price or rate
- BATNA

Research Questions

- What are similar client companies paying?
- What is the economy like in the demand organization and supplier industries?
- Is the supplier looking to expand the business?
- Does the supplier have plenty of work already?
- Is the supplier short on work?
- Is the demand organization requiring the use of certain products, labor-intensive activities, or prescriptive techniques?
- What is the likely impact of price escalation or inflation on product pricing?

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Contract Administration

- Cost control is major part of FM role in contract administration.
- Reporting depends on SLA.
- Payment is contingent on meeting performance requirements.

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Discussion Question

What method or system do you prefer to use to track financial costs during the lifetime of a contract?

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Monthly Performance Review Meetings

- End user review
- Operational review
- Financial review and payments
- Human resources review
- Statutory and regulatory compliance review
- Action for the coming period

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End-of-Contract-Term Responsibilities

- As contract winds down, FM must make one of three choices:
  - To resume services in-house
  - To contract with new provider
  - To reengage current contractor
- Moving to new provider may take up to a year.

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Alternate Dispute Resolution

- Arbitration
- Mini-trial
- Mediation
- Negotiated rule making
- Neutral fact finding
- Partnering

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Revising Contracts

- Documents that may be added to reflect changes to project, product, or service:
  - Addendum
  - Stipulation
  - Change order
  - Supplementary agreement

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Early Termination of Contract

- Early termination criteria written into contract should include:
  - Points at which KPIs fall below acceptable quality.
  - Event of insolvency by either party.
  - What constitutes breach of confidentiality and anti-corruption laws.

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Questions?

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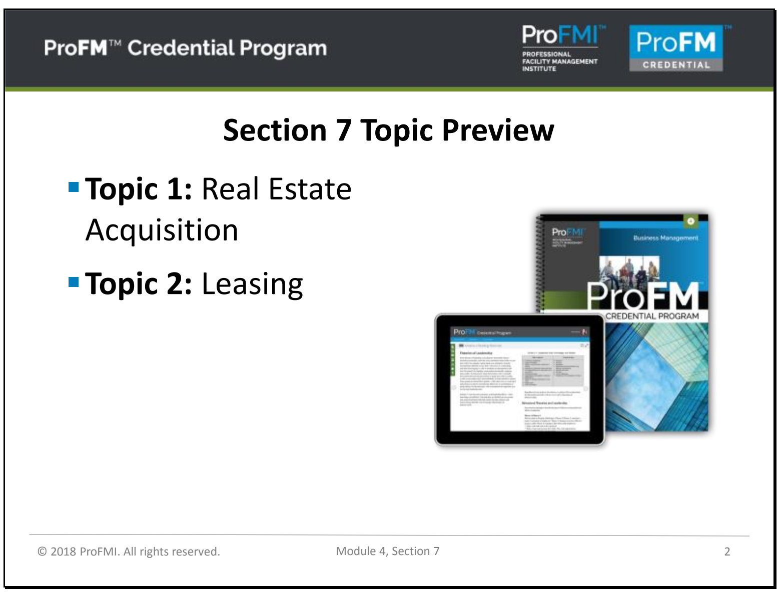
Section 7: Real Estate



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Occupancy Types and Duration

Type	Description	Standard Duration
Turnkey rental space	Owner makes facility business-ready on day one; supplies all furnishings, business equipment, etc.	Up to five years
Half-furnished rental space	Owner supplies furnishings; occupant is responsible for all other internal decor and business needs.	One to five years
Carte blanche rental space	Occupant supplies all business equipment, internal structures like cubicle walls, decor, and furnishings.	Five to 15 years
Short-term building lease	Who supplies what is defined in lease.	Up to seven years
Long-term building lease	Who supplies what is defined in lease.	Seven to 25 years
New construction	Owner designs and builds structure or hires architectural engineering firm and general contractor to design/build it.	25 or more years

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Buy-Versus-Lease Analysis

- Lines up net present value of investment for building against that for leasing.
- Analysis presents:
  - Capital investment in land, construction, and equipment and other outlays.
  - Yearly/monthly lease payments and associated expenses.
  - Cost of capital to organization.

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Advantages of Purchasing and Leasing

Purchasing Advantages

- Complete control for changes.
- Project certain image.
- Accomplish physical changes more quickly.
- Accrue equity in the property.
- Write off depreciation on taxes each year.
- Recoup some value during disposal.
- Costs generally less over span of occupation.
- Property may increase in value.

Leasing Advantages

- Flexibility.
- Ability to write lease payments off on taxes.
- Faster occupancy of newer buildings.
- Minimal start-up time without long-term investment.
- Significantly lower capital expenditure.

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Discussion Question

Does your organization primarily lease or own the facilities that it occupies? Why that decision was made?

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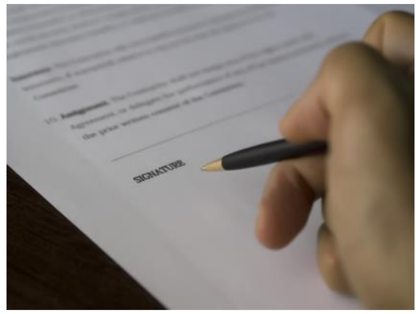
Lease Categories

- Two common categories:
  - Operating
  - Financial
- Classification based on IFRS or GAAP



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Site Selection and Acquisition

In both large and small organizations, use of local financial experts and real estate experts on site selection committee can be essential.

Local Financial Expert Insights
Predicted revenue
Refitting/renovation costs
Amount of working capital needed to conduct business
Equipment prices
Freight costs
Expenses for relocation
Property taxes and any proposed changes
Labor and benefit rates, workers' compensation, unemployment, and other insurance premiums

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Property Condition Assessments (PCAs)

- PCA catalogs all obvious physical and maintenance deficits during site walk-through.
- Resulting PCR pinpoints sources of potential issues, future liabilities, and financial and other risks.

PCAs are used for:

- Due diligence
- Securitization
- Refinancing
- Underwriting
- Disclosure
- Acquisition

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Build-Outs

- A **build-out** is an alteration to a leased space's interior.
- Lessees are usually responsible for repairs after occupancy.
- Type and extent of alterations can be specified by landlord.

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Common Lease Terminology

Term	Definition
Concession	Financial or other inducement used to encourage client to sign lease.
Easement	When person legally requests use of another's property for specific purpose.
Landlord	Person or organization owning real estate that rents it to another; lessor.
Premises	Land and its improvements, such as buildings, shops, parking lots, etc.
Rent	Monetary amount charged to occupy space for specified length of time.
Rentable area	Floor area available for rental, expressed in square units of measure.
Repair	Actions required to return to operating order after breakage or damage.
Sublease	When signed tenant leases space to another party for remaining lease period.
Tenant	Person or organization occupying real estate for payment, based on legal agreement with its owner; the lessee.
Term	Specified time period in contracts or leases.
Usable area	Space occupied by tenant for its exclusive purposes.

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Lease Process

1. Perform needs analysis.
2. Assess market from national to neighborhood level.
3. Select area and engage real estate agent/broker.
4. Find spaces that have potential.
5. Pick and rank top three spaces that fit requirements.
6. Choose best option for identified needs.
7. Prepare for and start initial negotiation.
8. Make an offer.
9. Continue to negotiate terms.
10. Draft lease agreement/contract.
11. Review lease.
12. Renegotiate any problematic terms.
13. Sign lease.
14. Close lease when all conditions are met, money is exchanged, and customer moves in.

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Negotiating Leases

Critical points that assist with bargaining positioning:

- Organization's size/prestige
- Availability of space
- Location of premises in building
- Construction stage
- Term length
- Operating costs and parking
- Tenant's credit

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Lease Negotiations Stages

1. Find out what each side wants.
2. Gather information about other party's underlying needs.
3. Reach compromise or collaborative solution.

Negotiating Tips

- Power is important in negotiations.
- Money is not always the biggest consideration.
- Knowledge is power.
- Never let the negotiation become about just one issue.
- Time is crucial during negotiations.

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Discussion Question

What other negotiating tips have you employed with success?

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Lease Agreement Sections

Sections Defining Parties and Spaces

- Agreement date
- Names, organizations, parties
- Space identification
- Exact location of premises
- Term
- Parking

Sections Related to Rental Rates, Allowed Uses, and Cost Allocations

- Rental rate
- Operating costs
- Common area maintenance (CAM) costs
- Rental escalation
- Use
- Landlord-provided repairs and services
- Tenant repairs
- Tenant improvement costs

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Lease Agreement Sections

Sections Related to Rights and Obligations

- Premises review
- Possession
- Regulatory compliance
- Default
- Exterior signage
- Fixture removal
- Sublet or assign
- Improvements or alterations
- Catastrophic damage
- Eminent domain
- Hold-over

Sections Relating to How Parties Will Handle Legal Disputes

- Subrogation waiver
- Indemnification
- Attorneys' fees

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Lease Agreement Sections

Sections Relating to Overall Rules or Requirements

- Building operation rules
- Notice
- Surrendering premises
- Mortgages

Sections Relating to Fees, Insurance, Options, or Incentives

- Late fees
- Cancellation penalty
- Tenant insurance
- Options
- Deposit
- Rent abatement
- Premises improvement
- Special stipulations and contingencies
- Commission

Final Sections in Lease Agreement

- Changes to agreement
- Signatures
- List of attached exhibits

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Clause Warnings

- Approach these clauses with caution:
  - Expense cap
  - Pass-through expense

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Leasing from Landlord's Perspective

Monitor carefully:

- Landlord's work letter
- Expense allotment, repairs that are landlord's responsibility
- Tenant allowance
- Process for consenting to tenant's work requests
- Signage
- Providing access for tenant's contractors
- Weekend HVAC times and duration
- Any subletting or assignment possibilities
- Escalation language and clauses

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Discussion Question

Have you had to work through lease negotiations from both the lessee's side and the lessor's side? If so, what were the main differences between those two experiences?

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Questions?

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