

What We Know and Don't Know About Decision-Making in Existing Commercial Building Markets

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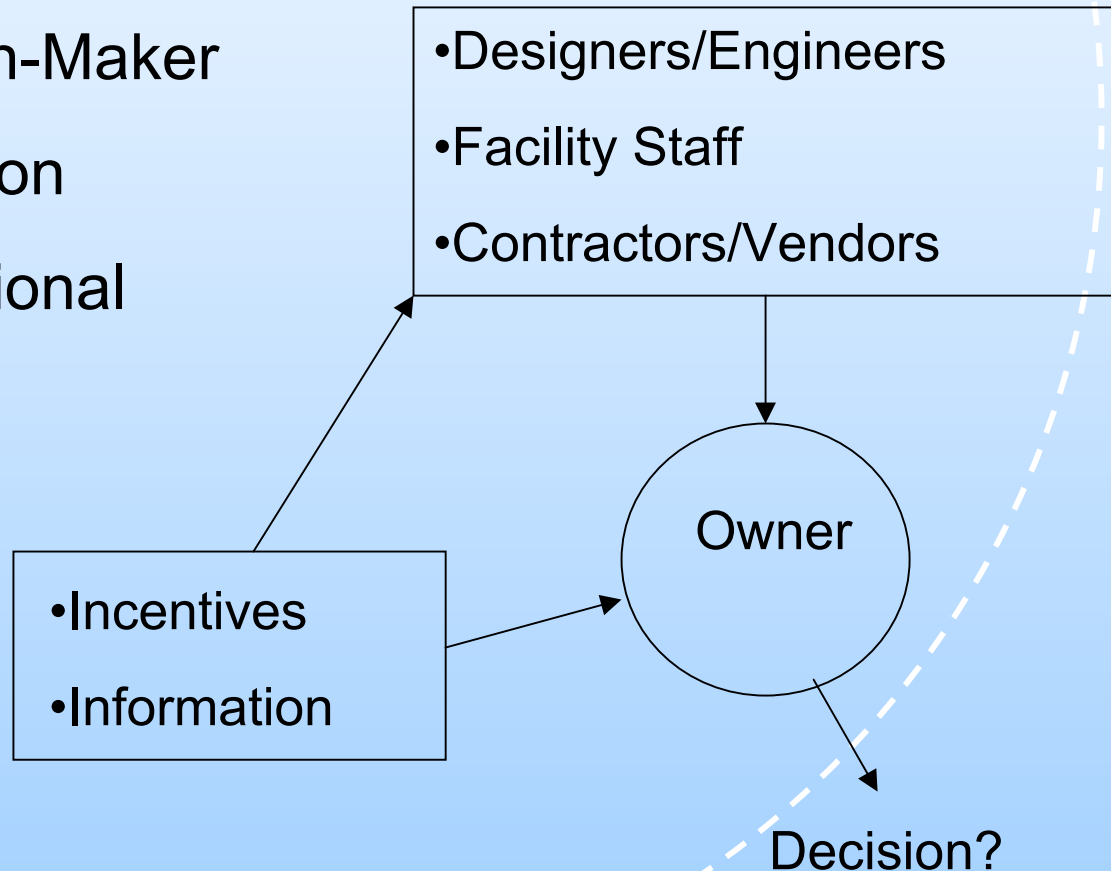
WSU Energy Program

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Models for Decision-Making

- Single Decision-Maker
- Isolated Decision
- Barriers to Rational Decision



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Context for Decision-Making

- Topics
 - Existing Building Markets
 - Market Players
 - Organizations, Models & Decision-Making
 - Influencing Efficiency Choice
 - Some Questions

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Existing Building Markets

- What do we need to understand?
 - Market Segments
 - Macro Influences
 - Buildings as Investments

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Market Segments

	All Buildings (thousand)	Total Floorspace (million square feet)	Total of Major Fuels	Energy Use per Building (million Btu)	Energy Use per Square Foot (thousand Btu)
Education	327	8,651	649	1,982	75.0
Food Sales	174	994	201	1,156	202.2
Food Service	349	1,851	447	1,280	241.2
Health Care	127	2,918	515	4,047	176.4
Lodging	153	4,521	450	2,938	99.5
Mercantile	667	10,398	724	1,085	69.6
Office	739	12,044	1,089	1,475	90.5
Public Assembly	305	4,393	359	1,177	81.7
Public Order and Safety	72	1,168	102	1,407	86.9
Religious Worship	307	3,405	110	357	32.2
Service	478	3,388	421	881	124.4
Warehouse and Storage	603	10,477	461	764	44.0
Other	102	1,222	176	1,729	144.0
Vacant	253	1,908	31	121	16.0

Market Segments

- Nature of Organization
 - Commercial Real Estate
 - Institutions
 - Chains and Franchises

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Macro Influences

- Influence Market Behavior
 - Political Climate
 - Urban Conditions
 - Social/Cultural Characteristics
 - Environmental Issues
 - Economy

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Economy

- Real estate markets are influenced by business activity and job creation
 - Boom Periods
 - Bust Periods

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Buildings as Investments

- Provide predictable income streams to investors
 - Tangible and Modifiable
 - Relatively Stable
 - Long-Term Value
 - Minimize Risk

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Managing the Investment

“Management services must please the tenants and keep the project in good condition to preserve the value of the investment – at a cost that leaves enough of the rental income to pay a reasonable return on the capital investment.”

(Urban Land Institute)

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Understanding the Market Players

- One size does not fit all
 - Different Interests
 - Different Influences
 - Different Capabilities

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Key Players

- Major Existing Building Market Groups
 - Investors
 - Management and Operations
 - Building Service Professionals
 - Real Estate Service Providers
 - Community/Political/Regulatory Interests
 - Users

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Who is the Owner?

- It depends...
 - Investor
 - Developer/Manager
 - Occupant/User

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How Players Organize



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Decision-Making in Organizations

- What's an Organization?
- What does the literature on Complex Organizations have to say about decision-making?
- How this might apply to decisions about efficiency improvement in existing buildings.

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Decision-Making in Organizations

- Org theory = evolution of models & methods
 - Improved understanding
 - Less certainty
- Rational Systems
 - Theory: bureaucracy
 - Admin: scientific management

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Evolving Understandings

- Informal organization
 - Theory: social interaction
 - Admin: human relations
- Competition
 - Theory: conflict
 - Admin: control strategy
- Organizational Environment
 - Theory: institutionalism
 - Admin: leadership

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Evolving Understandings

- Environmental complexity
 - Theory: pop. ecology, org. sets/fields
 - Admin: org. lifecycle, TQM
- Environmental control, macro-systems
 - Theory: industrial clusters, open systems
 - Admin: partnering, supply chain management
- Complexity and isomorphism
 - Theory: org. culture, neo-institutionalism, neo-conflict/rationality
 - Admin: culture, commitment, buy-in

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All Things to All People

“Be faster. More competitive. More global. Higher tech. Learn more. Know more. And don't mess with the bottom line. These are the pressures on the decision-makers involved in the unique buildings marketplace ... They do the most to soften volatile market conditions for building occupants (tenants and/or employees) across a broad array of industries. ... showing their target markets how to best support successful and profitable futures with flexible, adaptable, productive environments and infrastructure.”

BUILDINGS Dec 2001

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What would the literature expect decision-making to look like?

- Bureaucracy and Division of Labor
- Relational Networks
- External Influences
- Competition and Conflict
- Cultural Processes
- Neo-institutional Adaptation
- Power and Imperfect Control

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What Can We Learn from California's "Natural Experiment?"

- The “perfect storm,” with *extreme conditions*
 - Blackouts
 - Prices
 - Media
 - Programs

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Organizational Response in California

- Wide Variation in Observed Response
 - None
 - Minimal or “token”
 - Conservation
 - Efficiency improvements
 - Combination
- Sources of Variation
 - Weakly linked to size, locale, sectoral factors

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Conservation Action Model

- Variation in action can be traced to:
 - Concern/effect of energy crisis
(e.g., energy costs & public opinion)
 - Capacity
(e.g., expertise, org. structure, relationships)
 - Conditions (& constraints)
(e.g., what's possible, planned, needed)

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Effect of the Energy Crisis

- “It has really been a big budget issue. Our energy budget doubled from 6 or 7 million to I think a budget of 12 million for this year.”
(County Administrator)
- “I know I should do more, but I’m just kind of apathetic about it. I pass the energy costs on to my tenants, and the cost just doesn’t matter.”
(Manager, Real Estate Firm)

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Concerns

- Energy Cost
 - Budgets
 - Profitability
 - Absorb costs
 - Pass costs on
 - No price affect
- Blackouts/Shortages
 - Health and safety
 - Public opinion
 - Little concern

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Responding to the Energy Crisis

“There are number of people who have been through this already with the '70s energy crisis. We just threw out a bunch of suggestions. They are not that [complicated] - you have your basic conservation stuff and your facility retrofit stuff. They just came based on people's experiences.”
(County Administrator)

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Capacity

- Rely on Existing Capacity to Deal with Energy
 - Existing Knowledge and Experience
 - Existing Energy Roles and Responsibilities
 - Existing Relationships with Peers/Networks, Utility Representatives, and Contractors

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Taking Action

- “The short term was more cost containment and self-sufficiency. Making sure departments shut off the lights... There is a whole litany of things that we initiated in the short term.” (County Administrator)
- “The one thing I absolutely refused to do was up the temperature in the tenant spaces. You just can’t do that to your customers if they’re Dean Witter and Morgan Stanley.” (Property Manager)

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Conditions

- Short-term Nature of the Crisis
 - Operational/Conservation type actions
 - Planned or needed system improvements/upgrades
- Actions are Constrained by:
 - Energy management system capability
 - Existing leases
 - Diversity of building stock
 - Existing efficiency level
 - Operational requirements

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Refining Our Understanding

crisis → conservation action

crisis → media campaign and programs →
conservation action

crisis → media campaign and programs →
concern + capacity + conditions →
conservation action

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Understanding Conditions

- What opportunities exist for improving energy efficiency?
 - Emergency
 - Tenant Improvement
 - Planned Capital Improvements
 - Operation and Maintenance
 - Procurement
 - Other Energy Relevant Events

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Relevance of Energy in Decision-Making

- Study of energy relevant events in Swiss office buildings
 - 7 percent energy conservation actions
 - 13 percent energy efficiency considered
 - 80 percent energy efficiency not considered

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Understanding Concern

- What influences level of interest?
 - Visibility of Issue
 - Authorizing Environment
 - Different Interests at Different Organization Levels

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Understanding Capacity

- What influences the ability to act?
 - Organization Resources
 - Organization Skills/Knowledge
 - Supporting Networks

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Influencing Efficiency Choice

- Multi-faceted approaches are needed
 - Encourage change in organizations
 - Create Demand
 - Integrate Into Building Market Processes

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Encourage Organization Change

- Three processes for changing organizational behavior
 - Regulatory and Policy Effects
 - Normative and Professional Influences
 - Imitative (Mimetic) Processes

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Influencing Concern, Capacity, Conditions

- How to support a long-term change in organizations
 - Link policies, incentives, programs, and regulations to priority issues
 - Develop relationships w/organizations (trust)
 - Identify ways to reduce uncertainty in the market place
 - Reward good energy management practices
 - Support organizational efforts to be better (more responsive) consumers of energy

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Concern	Conditions	Capacity	Policy approach to increasing energy efficiency (EE)	Price Increases Positive or Negative Influence
Yes	Yes	Yes	Recognize/Encourage EE	+
Yes	No	Yes	Recognize past EE, create future opportunities	+
Yes	Yes	No	Technical assistance, incentives, peer support, education	+
Yes	No	No	Technical assistance, peer support, education, create future opportunities	+/-
No	Yes	Yes	Incentives, non-energy benefits, recognize past EE	+/-
No	No	Yes	Support continuous improvement, identify non-energy benefits, recognize past EE	-
No	Yes	No	Technology assistance, incentives, peer support	-
No	No	No	Mandatory efficiency standards	-

Creating Demand

- Mechanisms for incorporating energy efficiency into buildings
 - Recognize and Take Advantage of Complimentary Trends
 - Engage and Involve Key Building Industry Actors
 - Use and Develop Market Mechanisms

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Complementary Trends

- Link energy efficiency to industry goals
 - Green and Sustainable Buildings
 - Quality Work Environments
 - New Building Technology and Controls
 - Development Process Innovations
 - Progressive Regulation
 - Energy Reliability and Price Volatility

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Integration Into Building Market Processes

- Making energy efficiency standard practice
 - Purchasing Specifications
 - Workspace Specifications
 - Tenant Manuals
 - Quality Processes/Benchmarking
 - Regulations and Standards
 - Technology Adoption

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Some Questions

- What are some other things that need to be considered?
 - Technology versus Practices
 - Operation & Maintenance Practices and Services
 - Property Management Practices and Services
 - Energy Efficiency Industry Capability
 - Creating Long-Term Relationships
 - Synergy of Market Interventions

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Future Research and Evaluation

- Ongoing Improvement
 - Market Operations Research
 - Market Theory
 - Market Indicators
 - Program Theory
 - Program and Market Evaluation

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