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**The Prioritisation and Satisfaction on
Thai's Rating Energy and Environmental Sustainability Criteria:
A Case study of Bangkok Green Condominium**

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Background

- There are few studies on the green building index, TREES, in relation to FM in Bangkok condominium projects.
- To identify the criteria of green features that respond to the expectation of condominium's potential buyers as well as the satisfaction of current occupants is important.

Research objective

- To examine the prioritised aspects of TREES criteria from potential buyers and the satisfaction of the criteria from occupants of a case study.

Context



- TREES is based on the USGBC's LEED system specifically modified for Thailand in order to comply with Thailand context.
- FM in multi-unit residential project has been influenced by internal and external factors.

Comparison between
TREES and LEED criteria

TREES criteria*		LEED criteria**	
Item	Points	Item	Points
1.Water Conservation	6	1.Water Efficiency	11
2.Energy & Atmosphere	20	2.Energy & Atmosphere	33
3.Materials & Resources	13	3.Materials & Resources	13
4.Indoor Environmental Quality	17	4.Indoor Environmental Quality	16
5.Site & Landscape	16	5.Sustainable Sites	10
6.Green innovation	5	6.Innovation	6
7.Building Management	3	Not mentioned	-
8.Environmental Protection	5	Not mentioned	-
Not mentioned	-	7.Location and Transport	16
Not mentioned	-	8.Regional Priority	4
Total points	85	Total points	110

Research methods

- Research methods included interviews, document analysis, observations and the use of two questionnaires.
- The Ideo Mobi Sathorn case was chosen because it is the only green condominium in Thailand that has been certified with TREES rating system.



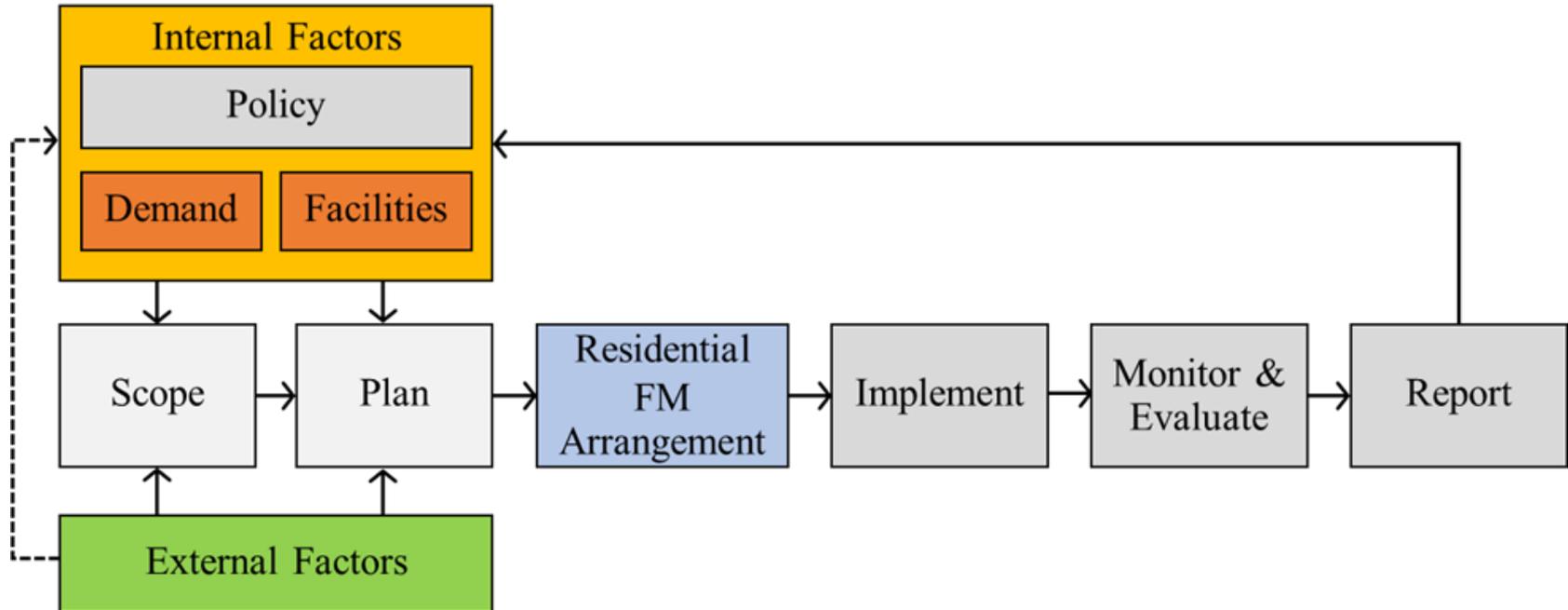
Literature review

The scope of FM functions in multi-unit residential project include:

- Monitor, control and maintenance of buildings
- Facilities services
- Budget control
- Space management
- Energy management
- Safety, Health and Environment
- Data management for facilities
- Long range planning

Literature review

FM in Multi-unit residential project framework (Chotipanich, 2006)



Research findings

1) Ranking of % score awarded by participants showing a particular aspect as being one the three most important aspects of the TREE criteria (N=222)

TREES criteria	Percent
Site and landscape	62
Indoor environment quality	50
Energy and atmosphere	49
Green innovation	42
Environmental protection	32
Building management	28
Materials and resources	23
Water conservation	22

Research findings

2) Percentages of satisfied participants (N=222)

TREES criteria	Percent
Water conservation	98
Site and landscape	97
Energy and atmosphere	96
Materials and resources	93
Indoor environment quality	89
Building management	84
Environmental protection	83
Green innovation	81

Research findings



3) Findings from the interviews

- Both potential buyers and current occupants required the provision of knowledge and information on the green building concept from real estate developers.
- The real estate developer considered factors relating to the development of green building in Thailand such as government policy, economic situation, location, size of the project, and competition in the market.

Conclusions



1) Stakeholder perception:

- provides essential information that can be used to make judgments and to make decisions on policy and how to operate the facilities.

2) Comparison between TREES and LEED:

- shows the differences regarding the assessment criteria that reflect geographically specific contexts between countries and the different objectives of the systems.

3) FM of the case study:

- fits with the FM in multi-unit residential project framework (Chotipanich, 2006).

Recommendations



- Facility managers have to make a connection between green building design and FM functions.
- Real estate developers and facility managers should get other stakeholders involve in the green building development and management process.

Next steps

- More case studies of FM in green condominium projects are required.
- Further research agenda: the added value of FM on green condominium projects.