Framing behaviour by interior design
Analysis of the role of the Corporate Real Estate Manager

14-4-2016
‘the increasing impact of interior design aspects on human behaviour and activities’
‘the increasing impact of interior design aspects on human behaviour and activities’

‘how the corporate real estate management domain is affected by this trend’
‘the increasing impact of interior design aspects on human behaviour and activities’

‘how the corporate real estate management domain is affected by this trend’
‘the increasing impact of interior design aspects on human behaviour and activities’

Novel, fast developing domain. Wide variety of researches. Growth of neuroscience research.

‘how the corporate real estate management domain is affected by this trend’

Although directly influenced, no literature yet.
Social-scientific trend
own illustration, based on (Heijer and Jonge 2004)
Research approach
Research approach

- Building theoretical framework
  - Trend observation
    - Literature review (5 domains)
    - Case studies review (practice)
  - Problem analysis
- Social-scientific trend
Research relevance

- Social relevance

‘Consumers don’t feel triggered anymore when shopping in wholesales’ (Boex and Groot, 2015)
Research relevance

- Social relevance
‘Consumers don’t feel triggered anymore when shopping in wholesales (Boex and Groot, 2015)

- Scientific relevance
‘There is an emerging increase in multisensory environments, and the unconscious influences of these environments on human behaviour and activities rapidly grows stronger’

Research relevance

1st Conclusion

1. Interior design aspects → 5 senses → Conscious Unconscious

The (unconscious) influence of stimuli by interior design aspects on human behaviour is rapidly growing stronger (Barrett and Barrett 2010).
Problem statement
Problem statement

The literature shows a gap of knowledge concerning how interior design aspects are able to influence the behaviour of its users.

There is currently no state of the art of this concept.

There is no literature on how the corporate real estate management domain is affected by this trend.
Main research question

How can corporate real estate management processes be organized, in order to create organisational value that lies in the emerging potential of interior design influences on user behaviour?
Research question

How can corporate real estate management processes be organized, in order to create organisational value that lies in the emerging potential of interior design influences on user behaviour?

1. How does interior design influence user behaviour and activities?

2. How does the corporate real estate manager deal with a dynamic, evolving environment of external trends and internal interests?

3. How can the corporate real estate manager adapt a strategy that guides the process of translating input into workable output that stimulates intended user behaviour?

4. How can the corporate real estate manager manage the implementation of this output?
Research question

1. How does interior design influence user behaviour and activities?

2. How does the corporate real estate manager deal with a dynamic, evolving environment of external trends and internal interests?

3. How can the corporate real estate manager adapt a strategy that guides the process of translating input into workable output that stimulates intended user behaviour?

4. How can the corporate real estate manager manage the implementation of this output?
Research design
Research design
Research design
Research design

WHAT

Theory on development CREM role with usable toolbox

HOW

- Update construct theory on role CREM
- Case study: evaluate role CREM (interviews)
- Analyze CREM within retail & supermarkets
- Analysis CREM evolution

BUILDING FRAMING DATABASE

- Literature study & case studies review
- Building excellent with empirical studies on framing behaviour by interior design
- Categorize, analyze and summarize
- Program into easy to use toolbox with manual

WHY

- User trends & relation CREM
- Problem analysis
- Literature review (5 domains) & Case studies review (practice)
- Trend observation

DUO

Building theoretical framework
Research design

WHAT

RECOMMENDATIONS

WHY

INDIVIDUAL

Duo

Building theoretical framework

Trend observation

Literature review (5 domains)

Case studies review (practice)

Problem analysis

User trends & relation CREM

Analysis CRE manager function

Analysis CREM evolution

Project influences trends on role CREM

Analyze CREM within retail & supermarkets

Update influences trends on role CREM

Case study: evaluate role CREM (interviews)

Update construct theory on role CREM

Building Framing Database

Literature study & case studies review

Building excell with empirical studies on framing behaviour by interior design

Categorize, analyze and summarize

Program into easy to use toolbox with manual

Theory on development CREM role with usable toolbox
Corporate level
Corporate level

Literature study, 5 domains

- Corporate Real Estate Management
- Environmental Psychology
- Facility Management
- Consumer Behaviour
- Neuroscience
Corporate level

3 major findings:
Corporate level

3 major findings:

(Barrett & Barrett, 2010; Wolfe et al., 2006; Eberhard, 2007; Rolls, 2007; Sutermeister, 2003; Clements-Croome, 2000)
Corporate level

3 major findings:

(Van der Voort, 2003; CIBS, 1999; Woods, 2001; Clements-Croome, 2000; Sutermeister, 2003)
Corporate level

3 major findings:

(Riratanaphong, Van der Voordt & Sarasija, 2012)
Corporate level

Second conclusion:

Own illustration. Based on (Barrett & Barrett, 2010; Wolfe et al., 2006; Eberhard, 2007; Rolls, 2007; Sutermeister, 2003; Clements-Croome, 2000; Riratanaphong, Van der Voordt & Sarasoa, 2012; Van der Voordt, 2003; CIBS, 1999; Woods, 2001)
CREM level
CREM level

‘The process of supporting the organization to achieve its business objectives by managing the corporate real estate asset holdings and their activities’ (Ali, McGreal et al. 2008)
CREM level

- Analysis of the evolution of the role of the CRE manager (literature study)

- Projecting latest trend on current CRE manager profile

- Proposition of updated CRE manager strategy that anticipates on trend
CREM level

Analysis of the role of the CRE manager

Task manager profile

Objective
Supply in the corporation’s need for physical space.

Activities
- Building maintenance
- Engineering
- Facilities administration

Strategy
Orientated on benign neglect. Technical focus.

Trends
Economic and corporate recession, restructuring of business.

Position

Effects on CREM
Role of CRE manager shifted to a financial orientated function, focused on cost reduction.
CREM level

Analysis of the role of the CRE manager

**Task manager profile**

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Supply in the corporation’s need for physical space.

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**Trends**
Economic and corporate recession, restructuring of business.

**Effects on CREM**
Role of CRE manager shifted to a financial orientated function, focused on cost reduction.

---

**Controller profile**

**Objective**
Solve the mismatch between emerging surplus of property and the current demand.

**Activities**
- Minimize costs
- Being transparent
- Benchmarking
- Reengineering

**Strategy**
Focus on efficiency: analytical approach in actively pursuing cost reduction campaigns.

**Position**

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**Trends**
The new economy of the 1990s.

**Effects on CREM**
CRE management focus shifted to one orientated on company growth, change and differentiation.
CREM level

Analysis of the role of the CRE manager

**Dealmaker profile**

**Objective**
Company growth and change accommodation.

**Activities**
- Negotiation
- Real estate problem-solving
- Development of systems for process and service

**Trends**
Economic changes, ICT revolution

**Strategy**
Creating value through standardizing building use, enabling flexible deals in the market.

**Position**
- Strategic
- Functional
- CREM

**Controller profile**

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Solve the mismatch between emerging surplus of property and the current demand.

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- Minimize costs
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**Position**
- Strategic
- Functional
- CREM

**Effects on CREM**
CRE management required a different managerial approach. New values through CREM were sought.
CREM level

Analysis of the role of the CRE manager

**Dealmaker profile**

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Company growth and change accommodation.

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- Negotiation
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CRE management required a different managerial approach. New values through CREM were sought.

**Strategy**
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</table>

**Entrepreneur profile**

**Objective**
Match real estate with business plans of the company units and the market options.

**Activities**
- Actively pursuing profits
- Competing in real estate markets
- Seeking values beyond the core business

**Trends**
Globalisation, internationalisation, personal growth and developments.

**Strategy**
Functioning as internal real estate company, proposing alternatives to business units.

**Position**
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</table>
CREM level

Analysis of the role of the CRE manager

**Business strategist profile**

**Objective**
To add value to the organisation.

**Activities**
- Anticipate business trends
- Identify corporate demands
- Analyze accommodation alternatives
- Implement real estate strategy

**Trends**
Strong increase of multisensory environments, rapid grow influence of interior design aspects on human behaviour.

**Position**
Strategic
Financial
Functional
Physical

**Entrepreneur profile**

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Match real estate with business plans of the company units and the market options.

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- Actively pursuing profits
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- Seeking values beyond the core business

**Trends**
Globalisation, internationalisation, personal growth and developments.

**Position**
Strategic
Financial
Functional
Physical

**Effects on CREM**
Need for distinction arose among companies. The several CRE manager focuses changed to a general one: adding value to the organisation.
CREM level

Analysis of the role of the CRE manager

**Objective**
To add value to the organisation.

**Activities**
- Anticipate business trends
- Identify corporate demands
- Analyze accommodation alternatives
- Implement real estate strategy

**Trends**
Strong increase of multisensory environments, rapid grow influence of interior design aspects on human behaviour.

**Effects on CREM**
Nowadays hard for companies to distinguish themselves. Unconscious influences customers/users through interior aspects significantly affect added value, so focus CREM shifts to user-activity orientation.

**Strategy**
Using corporate property as a means to realize the company’s mission and align future supply with demands.

**Business strategist profile**

**Objective**
To create value for the organisation.

**Activities**
- Strategize like the business strategist
- Analyze desired activities real estate units
- Adopt interior intervention visions in implementation plan

**Trends**
The adoption of interior design aspects in CREM planning has just begun.

**Effects on CREM**
Focus on adding value through influencing behaviour by interior design will increase.

**Strategy**
Using corporate property as a means to realize the company’s mission with a focus on desired user activities.
Current CREM role

Combines theories on:
- stakeholder objectives connected to CREM (Heijer 2011)
- ten ways of adding value to the organisational objectives (de Vries 2007)
- Designing an accommodation strategy (Jonge, Arkesteijn et al. 2009)
- CREM activities (Ali, McGreal et al. 2008)
- CREM decision output (Vijverberg 200)
Proposed CREM role

Value developer focused on:
- Main goal still to create value for the organisation
- User activity focused approach
- Implementation of an activity/interior analysis during (mis)match processes
- Improves the use of interior design
- Changes thinking process on how to formulate organisational goals and mission
Proposed CREM role

Value developer focused on:
- Main goal still to create value for the organisation
- User activity focused approach
- Implementation of an activity / interior analysis during (mis)match processes
- Improves the use of interior design
- Changes thinking process on how to formulate organisational goals and mission
Proposed CREM role

Implementation of an activity / interior analysis during (mis)match processes.
An undoable job became doable. Database enables the CRE manager to perform the analysis, creating more opportunities to add value to the organization.

Activity / Interior analysis

1 Formulate organizational objectives
2 Determine desired user activities
3 Design interior alternatives
4 Weigh and select alternatives

<table>
<thead>
<tr>
<th>Activity / Interior toolbox</th>
<th>Activity A</th>
<th>Activity B</th>
<th>Interior A</th>
<th>Interior B</th>
<th>Influence</th>
<th>Source</th>
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Building level
Building level

- Design of activity / interior database with over 375 research results
<table>
<thead>
<tr>
<th>Domain</th>
<th>Activity / Behavior A</th>
<th>Activity / Behavior B</th>
<th>Activity / Behavior C</th>
<th>Activity / Behavior D</th>
<th>Interior design aspect A</th>
<th>Interior design aspect B</th>
<th>Interior design aspect C</th>
<th>Interior design aspect D</th>
<th>Interior design aspect E</th>
<th>Influence</th>
<th>Effect ($\alpha$)</th>
<th>Type</th>
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<td>Lighting</td>
<td>Reflection</td>
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<td>Productivity decreases by reflection, according to 75% of the employees</td>
<td>$\alpha = 0.05$</td>
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<td>Ref: Hsee, (2002)</td>
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<td>Activity / Behaviour II</td>
<td>Activity / Behaviour III</td>
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<td>Interior design aspect E</td>
<td>Influence</td>
<td>Effect (I = no effect; II = reflect)</td>
<td>Research type</td>
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<tr>
<td>Office</td>
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<td>Lighting</td>
<td>Reflection</td>
<td>Productivity decreases by reflection, according to 75% of the employees</td>
<td>Experimental interviews (2018)</td>
<td>IAD (2007)</td>
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<tr>
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<td>Connection</td>
<td>gamer</td>
<td>A high percentage of employees can be engaged by lighting</td>
<td>Empirical paper (2022)</td>
<td>IAD (2007)</td>
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<tr>
<td>Office</td>
<td>Productivity</td>
<td>Lighting</td>
<td>Reflection</td>
<td>Reflection of variables leads to enhanced productivity</td>
<td>Literature review of studies (2005), refers to Elefants/Lagrange (2005)</td>
<td>IAD (2007)</td>
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<tr>
<td>Office</td>
<td>Productivity</td>
<td>Control settings</td>
<td>Control settings</td>
<td>Control settings significantly increases productivity compared to conventional office</td>
<td>Literature review of studies (2005), refers to Helmholz (1998)</td>
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<tr>
<td>Office</td>
<td>Productivity</td>
<td>Control settings</td>
<td>Control settings</td>
<td>Adjustable control and ergonomic training leads to increased productivity of 35%</td>
<td>Literature review of studies (2005), refers to Helmholz (1998)</td>
<td>IAD (2007)</td>
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</table>

- **Categorization according to theory** (Turley and Milliman, 2000)

**Makes the database usable for practice**
- Categorization according to theory (Turley and Milliman, 2000)

Makes the database usable for practice

- Design of a manual to clarify usage
Building level

- Design of a manual to clarify usage

Activity / Interior Analysis Manual

Use the activity / interior analysis as a guide during all process arrows. It advises accommodation strategies on how to stimulate desired user activity by providing interior design research results.

Current demand
- Corporate policy
- Expected user performance
- Stakeholder interests

Future demand
- Corporate vision
- Company strategy
- Desired user activities
- Stakeholder needs

Process: determine current (mis)match
Process: determine future (mis)match
Process: design, weigh and select alternatives

Current supply
Process: step by step implementation
Future supply

Step 1. Draft your activity profile
Step 2. Stimulate profile emotions
Step 3. Selection of perception
Step 4. Run database
Building level

- Design of a manual to clarify usage
Building level

- Design of a manual to clarify usage

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**Step 2: Select stimulating moods and emotions**

First: select the negative moods or emotions among building users (if present)

Second: select the moods or emotions that would stimulate the activities drafted in step 1.

Selected present negative moods and emotions:

- Frustration / irritation

Selected stimulating moods and emotions:

- Pleasure, arousal / excitement, store satisfaction

---

a. Job satisfaction  
b. Workplace satisfaction  
c. Store satisfaction  
d. Emotion  
e. Complaints  
f. Frustration / irritation  
g. Wellbeing / health  
h. Stress  
i. Commitment  
j. Depression  
k. Motivation  
l. Stimulation  
m. Arousal / excitement  
n. Pleasure  
o. Relaxation  
p. Revisit intentions
Building level

- Design of a manual to clarify usage

Step 3: Select enhancing perceptions

Perceptions and sensations enhance the building users’s emotions.

Select the perceptions and sensations that stimulate the selected emotions in step 2:

Experience, convenience, freedom

- Privacy
- Group cohesion
- Identity / status
- Freedom
- Experience
- Flexibility
- Comfort
- Fitness / tiredness
- Perception
- Convenience
- Image
- Hunger

Step 4: Run database

Run the database on the activity categories, emotions and perceptions selected in step 1 to 3. The database will provide scientific research results that could be valuable advice for the design of real estate strategies.
Test practice, case study

Show and test database
<table>
<thead>
<tr>
<th></th>
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<th>Hearing</th>
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<th>Touch</th>
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<td>Results</td>
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Note: The table above is a placeholder and does not contain actual data or insights.
Test practice, case study

Goal:
- Find out how supermarket organisation translates organizational goals into operational actions on building level.
- Test validity activity / interior analysis toolbox
Test practice, case study

Setup:

Semi-structured interviews

<table>
<thead>
<tr>
<th>Input: interests</th>
<th>Process</th>
<th>Output: interior aspects</th>
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<tbody>
<tr>
<td>Company</td>
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<td>Internal</td>
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<td>External</td>
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Corporate level
CREM level
Building level
Social-scientific trend
Test practice, case study

Results:
Test practice, case study

Results input:
Test practice, case study

Results output:
Test practice, case study

Results process:
Test practice, case study

Results process:

Goals → Draft layout → Final layout → Actions

- Optimization process
- Technical & functional desires
- Focus on target group activities

- Finetuning process
- Visualization and technology
- Focus on specific target behaviour

Corporate level
CREM level
Building level

Social-scientific trend
Conclusion

Organisations are able to create value by stimulating intended user behaviour by interior design aspects.

Based on extensive literature research, a user-focused approach of the CRE manager is needed to anticipate on the social-scientific trend.

The activity / interior analysis toolbox forms a basis state of the art of this domain, and could advice on interior design aspects.
Recommendations

Further research, ‘completing the hot map’

More in-depth analysis on role of the corporate real estate manager. What other trends might affect this domain?

Combination of neuroscience research and interior design, what does the future offer us?
Thank you for listening!