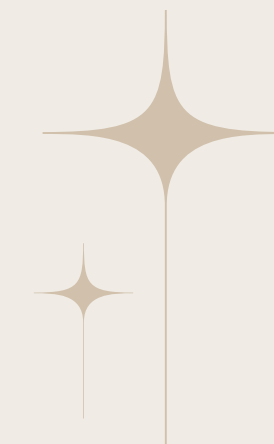# Revisiting Metaphor as an Analytical Tool for Design Research

楊心芳| D11330007

Author Introduction

Elif Sen Himaki

Industrial Design, Istanbul Technical University, Istanbul, Tu€rkiye, Industrial Design, Bahcesehir University, Istanbul, Tu€rkiye

Ozge Merzali Celikoglu

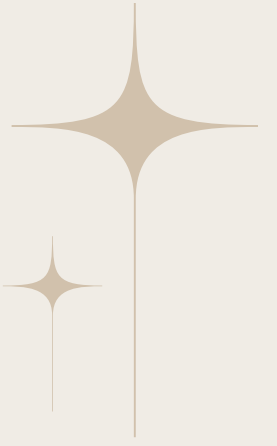Industrial Design, Istanbul Technical University, Istanbul, Tu€rkiye

Klaus Krippendorff

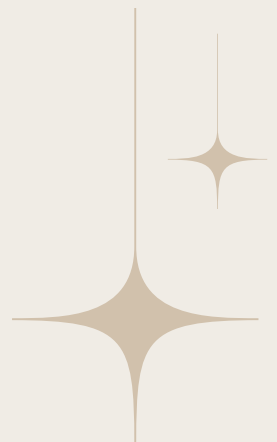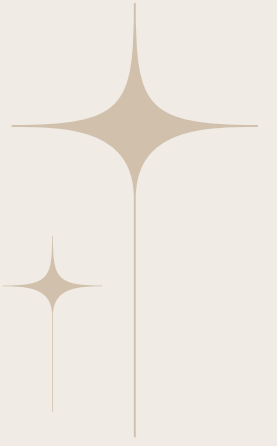Communication, University of Pennsylvania, Philadelphia, USA

Why is metaphor worth re-examining?

- **Design is full of metaphors, but they mostly focus on the designer's perspective**

- **User metaphors are often overlooked and rarely used as a research tool**

- **This study is concerned with: "How can user metaphors be used as a qualitative analysis tool in design research?**
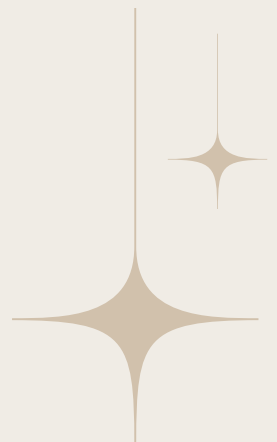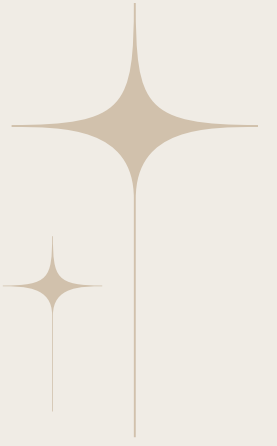
What is a conceptual metaphor?

- Conceptual Metaphor is to understand abstract things through familiar fields.
- In this cognitive linguistic approach, metaphorical expressions in everyday language are seen as reflections of conceptual metaphors that structure our experiences.
- Example: Time is money → spend, waste time and other language structures.

The use of metaphors in design research

- Metaphor is not only a rhetorical device of language, but also a structure of human cognition and action.

- Metaphors can help designers build a "second order understanding"

- Can also serve as a language bridge for co-creation

- Metaphor is not only a rhetorical device of language, but also a structure of human cognition and action.
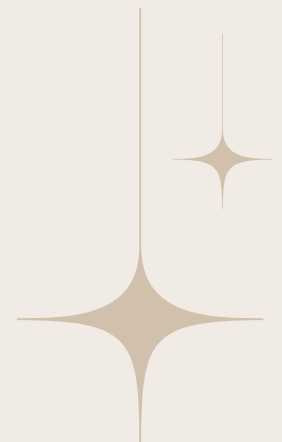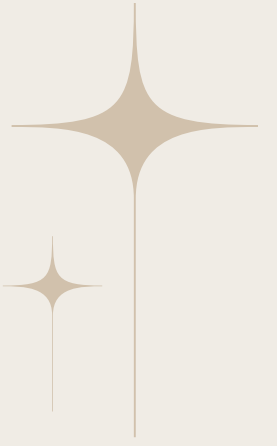
How to find metaphors in the language of users?

1. **Identify: Find the "non-literal translation words" in a sentence**

2. **Deconstruction: Find the source domain and implicit correspondence of the metaphor**

3. **Explore entailments: How do metaphors affect users' understanding and actions?**

4. **Translate to design: How to translate analysis results into design strategies?**

Identify ···· **Deconstruct** ···· **Explore entailments** ···· **Translate to design**
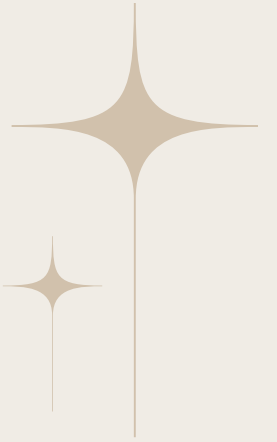
How to find metaphors in the language of users?

The structure of metaphor

SOURCE DONAIN ———— **structural resemblances** ———— TARGET DONAIN

A familiar field of experience,
understanding another field through metaphor

Focus,
try to understand through the field of experience

entailments ----→ CURRENT VIEWS

Reinvent the organizational target domain according
to the discourse of the empirical domain
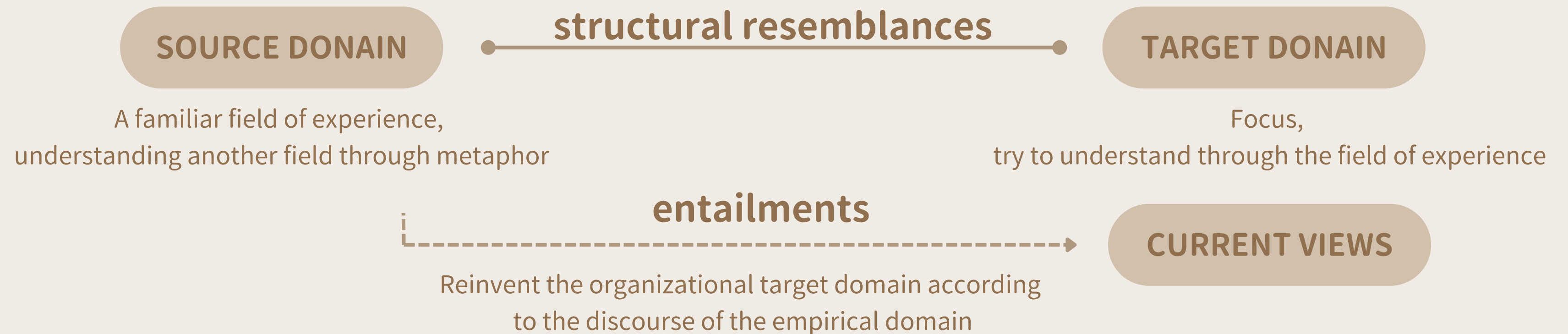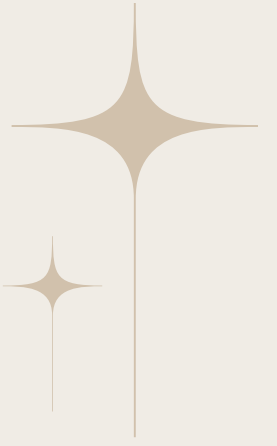
Diabetes Metaphor Translate to design

ADOPT
user's metaphor

DERIVE
a similar metaphor

CHANGE
to a new metaphor

user's understanding
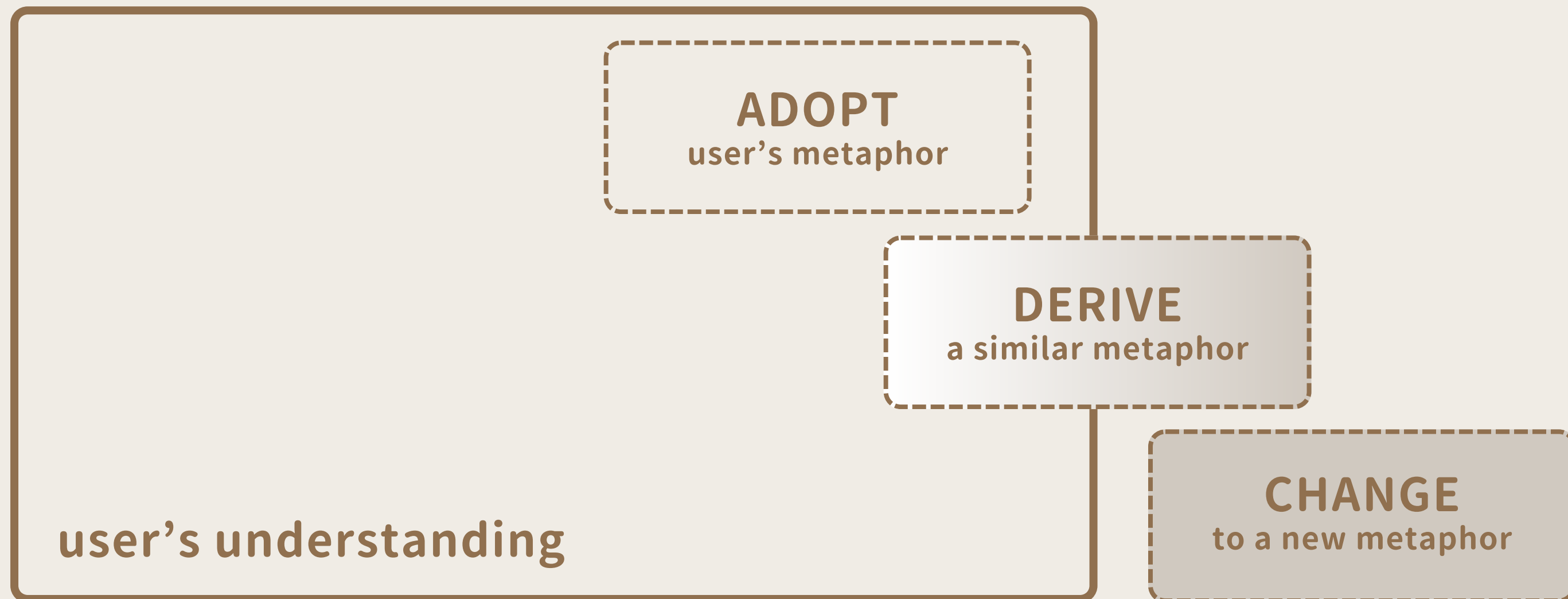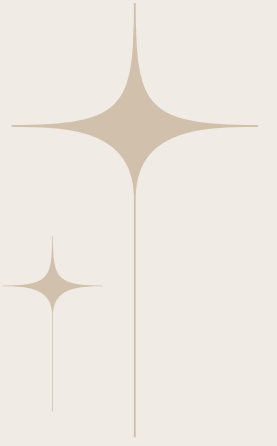
How do designers use metaphor analysis?

ADOPT — Directly use the user's original metaphor design

DERIVE — Switch to a more creative metaphor

CHANGE — If the original metaphor has a negative impact, design an alternative metaphor
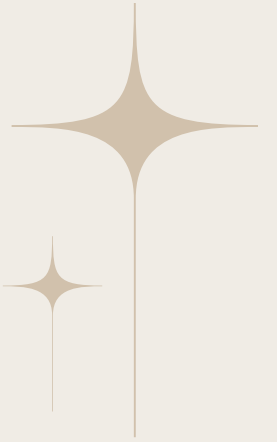
How designers interact with metaphor analysis

The changing role of designers

Not just a creator, but also a "semantic explorer"

Mining cognitive models from user stories
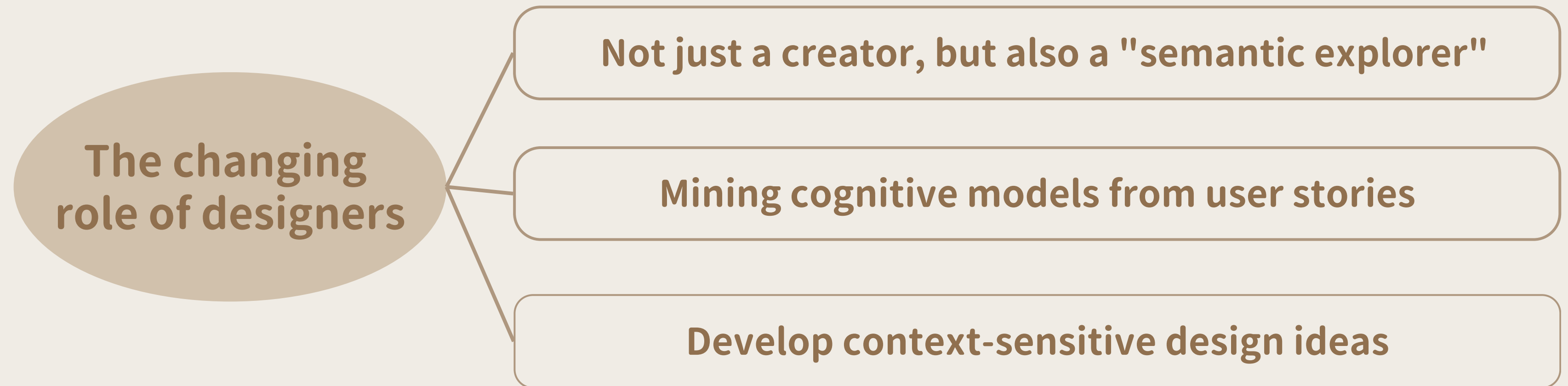
Develop context-sensitive design ideas

Challenges in use

- It is difficult for beginner designers to deeply analyze and translate metaphors

- Metaphors can be misunderstood, overextended, or misleading.

- Designers need to be trained in their ability to interpret and translate

Advantages of using

- Designers can use metaphors to communicate across disciplines

- Metaphors help build consensus and turn words into action

The Value and Challenge of Metaphor Analysis

Value — Metaphor analysis can establish users' second-order understanding and strengthen co-creation of design

Challenge — Need to train the ability to identify and interpret metaphors and avoid misuse

Metaphor is a structure that "guides design thinking".
Designers should practice critical analysis based on metaphors.

Thank You

Revisiting Metaphor as an
Analytical Tool for Design Research

Navigating Problematic Bauhaus Inheritances: Critiques, Implications, and Questions from the Bauhaus of the Seas NEB Lighthouse

探尋包浩斯傳承的難題：來自海上包浩斯(BoSS)、新歐洲包浩斯（NEB）的燈塔計畫之批評、影響與疑問

Speaker：Jing-Tsz Lee李淨慈, D1143001
DATE：2025/4/16

Course：Seminar（II）
Prof. Chang-Franw Lee
Location: Room C, Design Building 1

Author

Nicholas B. Torretta

Mariana Pestana

Frederico Duarte

Cristiano Predroso-Roussado

Luisa Metelo Seixas

Valentina Nisi

Table of contents

Abstract

In 2020, Europe announced the New European Bauhaus (NEB). While the initiative intends to achieve EU sustainability goals, framing it under the name of the Bauhaus brings various challenges and issues to the fore. In this article, we analyze the critiques of the original Bauhaus and the NEB to understand the challenges that the NEB lighthouse project Bauhaus of the Seas Sails (BoSS) inherits by adhering to the Bauhaus vision and name. We unveil the problematic dynamics of Eurocentric modernity's myths of universalism and better living through technology and on the Bauhaus's and NEB's position in global power structures. Instead of assuming a tabula rasa approach and replicating problematic structures unknowingly, we bring these three aspects to BoSS to find questions as orientation points to help steer away from problematic aspects inherited by reanimating the Bauhaus name and its legacy.

1.Introduction –
"New European Bauhaus" (NEB)

1.Launched by the President of the European Commission, Ursula von der Leyen, in 2020, to address the challenges of the 21st century .

2.The motto is "beautiful, sustainable, together" .

3.NEB's design draws on several principles of the original Bauhaus .

The "Bauhaus of the Seas" Project

1.Aims to explore the possibilities of regenerative relationships with water bodies and involve more people .

2. A concrete pilot project that rethinks the relationship with water bodies from the perspective of the ocean to the continent .

3.The goal is to move towards an ethics of possibility, rather than just an ethics of probability .

2.NOUN Definition

(1)**Portrait of Ursula von der Leyen,President of the European Commission** (1958–；任期2019-)

(2)Bauhaus(1919-1933)

(3)Water Bodies
(4)Cultural Values
(5)Global Structure
(6)Technological Solutions
(7)Colonial Structures

Bauhaus of the Seas Sails

4 aquatic ecosystems
7 demonstrator pilot regions
18 academic/cultural/territorial partners
9 pilot project typologies (drops)

Malmö
Hamburg
Delta
Genoa
Venice
Lisbon
Oeiras

Funded by
the European Union

7

Approach

原則
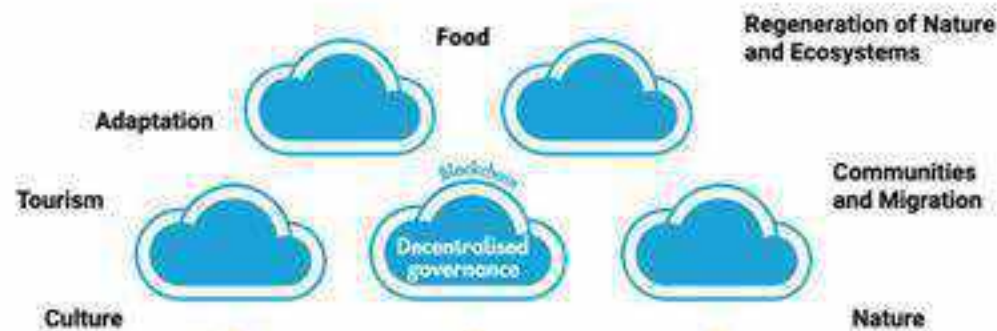
試點計畫
PILOT PROJECT

測試不良波紋

無形資產

協同設計流程

有形資產

社區和移民

自然與生態系的再生

3.Challenges of Reusing the Name "Bauhaus"

Bauhaus: A Name Laden with History

(1)More than 100 years have passed since the founding of the original Bauhaus school, and the contemporary context is very different .

(2)Reusing this name faces challenges and requires understanding what has been inherited from NEB and the original Bauhaus .

(3)Naming itself is also an act of "producing a monument" that may reawaken memories associated with the history of colonial oppression .

3.Critiques of the Original Bauhaus –

3-1.White Centrality
Whose "Universal Human"?

3-2. Gender Inequality and the Myth of Technology
Bauhaus is seen as an embodiment of Eurocentric modernity, placing Europe at the top of a global hierarchy(等級制度).
Eurocentrism assumes its notions of beauty, enjoyment, and necessity have universal validity, which is intertwined with the exploitation of others' meaningful worlds

4.Critiques of the "New European Bauhaus" (NEB) –

4-1.Vague Definitions and Eurocentrism
4-2. Concepts and Territory

Reusing the name Bauhaus reawakens the modern/colonial myth of Eurocentrism .
Signs of the revival of the myth of improving life through technology can be seen in NEB documents .
The European Commission's goal is to spread its ideas to the rest of the world, which may carry a potential universalist tendency....

4-3.Continuation of Coloniality and the Myth of Technology

5.Implications and Questions for the "Bauhaus of the Seas" –

5-1.Moving Away from Extractivism

5-2.Regarding Resources and Labor

Questions for the "Bauhaus of the Seas": Who Pays the Price?

Do our ideas rely on the exploitation of goods, materials, or other resources outside of Europe?

Do our projects create or reproduce the exploitation of vulnerable groups' labor?

5-3.Regarding Power and Participation

5-4.Regarding History and Water

5-5. Regarding Technological Solutions

Questions for the "Bauhaus of the Seas": Is Technology the Answer?

6.Conclusion

Towards an Ethics of Possibility

1.Acknowledge that we are within frameworks and legacies full of problematic relations.

2.The "Bauhaus of the Seas" is a project with limited scope and timeframe.

3.By maintaining a humble and honest attitude, we can better carry out design projects and explore other possible diverse futures .

7.Extended research

1.How can global diverse cultural perspectives be integrated into design?

2.How to overcome Eurocentric legacies in design education?

3.How can design solutions more equitably benefit marginalized groups globally?
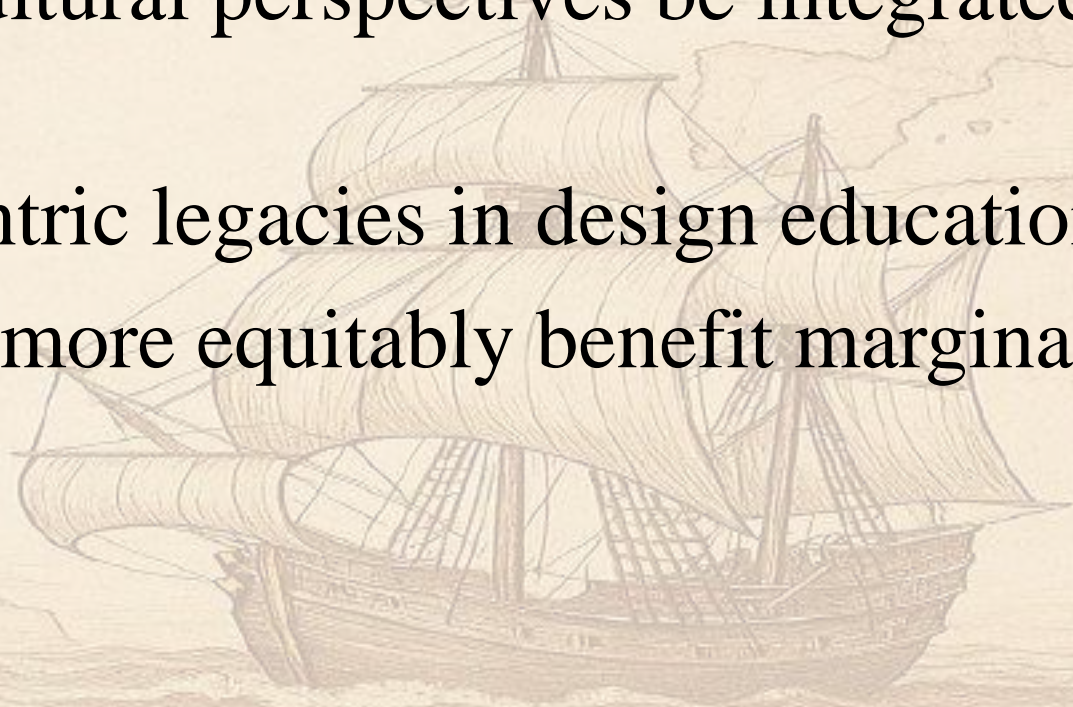
Thank you for your time！

Please let me know if you have any questions or comments.

Shape of the Design Worldview:

Does Language Inform the Design Sense?

Koumudi Patil

報告者：周威廷

Introduction
Language and the shaping of design thinking

- Pierre de Fermat's principle and Dr. Louise Banks' linguistic extrapolation suggest that understanding language can reveal how others construct knowledge and perceive the world.

- The Sapir-Whorf hypothesis posits that language shapes and sometimes limits our perception of the world, exemplified by the Hopi tribe's tenseless concept of time.

- Deciphering a language can offer insights into a culture's unique way of sensing, perceiving, and structuring their world.

Linguistic relativity
spatial perception and event representation

- The Guugu Yimithirr language describes everything geocentrically using cardinal directions, indicating an excellent sense of direction among its speakers.

- Studies show that native language affects how we perceive events in nonverbal representations, such as pictorial sequences.

Linguistic relativity
spatial perception and event representation

- Swedish speakers tend to order pictorial sequences as actor > act > patient (SVO), while Kurdish speakers show a preference for actor > patient > act (SOV), reflecting their grammatical structures.

Swedish

Kurdish

actor > act > patient

actor > patient > act

The connection between language and thinking
cognitive differences in multilingualism

- Lera Boroditsky's research across various languages shows that native language plays a significant role in shaping habitual thoughts, including perceptions of colors, objects, space, and time.

- Speakers of different languages describe events differently, affecting their memory of who did what. English speakers emphasize the agent, while Spanish or Japanese speakers might omit the agent in accidental events.

- Kapila Vatsyayan suggests that in Indian culture, the concept of a unique and distinct "I-ness" is less important, influencing the way creators view authorship.

Design in cultural context
inspiration from Banaras toy design

- Banarasi toy designers collectively claim authorship ("We have made this"), reflecting a cultural emphasis on shared identity over individual uniqueness.

- Meanings of artifacts are framed in the language of a community, determining their availability and fate in use.

- The study focuses on the Banarasi vocabulary related to toys and play to understand the culturally distinct notion of play practiced in Banaras.

Representation of Nāga Nathaiyā in a wooden tableau by Banarasi toy-designers.

Etymology of the game
Evolution from Sanskrit to English

- Johan Huizinga noted that each language has a different word to describe play, and these words define and perhaps limit the understanding of play.

- In Sanskrit, "krīdāti" refers to the play of animals, children, and adults, while "divyāti" connotes gambling and jesting.

- "Krīdānakā" (toy) shares the root "krīd" with various activities ranging from dalliance to pleasure.

Subdivision of Games in Sanskrit
Games for the Elite and the Commoners

- Shivaprasad Sastri divided the Sanskrit word "krīdā" into two sets: play by "samānyajan" (common folk) and "vilāsijan" (elite folk).

- Common folk's "krīdā" included playing ball, sports, and pastime jokes.

- Elite folk's "krīdā," mentioned in Sāraswāti kānthabharanā, encompassed twenty-two types of adult play associated with religion, festivals, and seasons.

The Changing of Languages and the Death of Games
The Decline of Sanskrit

- Despite the rich semantic significance of play in Sanskrit, there is little evidence of adult play in contemporary India.

- The decline of Sanskrit and the influence of post-liberalization changes may have shaped this phenomenon.

- Sanskrit was replaced by Hindi and Urdu in common parlance during colonial times, and Hindi became the national language after independence.

Games in Hindi
Children in the spotlight

- In Hindi, toys are called "khilona," derived from "khel" meaning "to play".

- "Khel" in Hindi includes meanings close to Sanskrit like "līlā" and some categories of adult play mentioned in Sāraswāti kānthabharanā (rituals, ceremonies).

- The Hindi meaning of play and toy is narrower than Sanskrit "krīdā," establishing the child as an important user of "khilona".

The Cultural Connotation of Khilona
Representation and Cultural Inclusion

- Hindi "khilona" refers to objects of play, entertainment, and very cheap objects, highlighting its ludic character and association with children.

- "Khel" in Hindi includes not only sports but also representations of stories like "tamasha," "abhinay," and "līlā".

- Banarasi "khilonas" often represent stories from Hindu epics, serving as an enculturative mechanism for children to learn societal roles, norms, and values.

The Cultural Connotation of Khilona
Representation and Cultural Inclusion

Krishna lifting Mount Govardhan

Krishna and Radha in a boat ride of the River Ganga

Panel C: Vasudev carrying baby Krishna protected by the Nag
Panel D:milkmaid
Panel E: Lord Vishnu
Panel F: Lord Ganesh

Banarasi Khilona's role in festivals and rituals

- Banarasi "khilonas" are used to enact stories in "jhanki" (tableaux) during festivals, transforming the house into a play arena.

- Wooden statues of deities are considered objects of play before consecration and are handled with respect, embodying both ludic and ritualistic purposes.

- Festivals influence the production of "khilonas," making forms of play seasonal in Banaras.

The historical meaning of the English word "Toy"

- The English word "toy" originated from the Middle English "toye" (1100–1450) and initially referred to amorous play until the 1700s.

- By the 1500s, the meaning shifted to include "piece of fun or entertainment," "thing of little value," and "thing for a child to play with".

- By the seventeenth century, "toy" largely attained its current ludic meaning: "something to play with, especially as intended for use by a child".

The intersection of modern toys and Banarasi context

- The Western ludic meaning of "toy" has been widely accepted in urban India, including Banaras, but some older meanings of "khilonas" persist.

- Banarasi children are gradually shifting from traditional "khilonas" to modern plastic and soft toys in everyday life.

- The word "khilona" has also acquired ludic connotations, such as "objects of play and entertainment" and "very cheap artifacts".

The intersection of modern toys and Banarasi context

rock-ing horse

pull toy

hilanta

spinning top

Banarasi Games as a Cultural Ecosystem

- The Banarasi notion of "khel" and "khilona" is specific to its worldview, expressed verbally and in the physical manifestations of wooden artifacts.

- The culture-specific meaning of toys extends to rituals, ceremonies, seasonality, and local craftsmanship, broadening the definition beyond ludic experience.

- Banarasi play is a cultural pedagogical tool for sustaining and preserving cultural distinctions through social dialogue between adults and children.

From cultural games to inspiration for modern design

- Modern play design often lacks sensitivity to seasonality, cultural rituals, and liminal spaces, unlike Banarasi play.

- Traditional rites of passage can inspire modern play designs that incorporate separation, liminal experience, and return.

- Cultural play often occurs in liminal spaces with rules rooted in rituals and narratives, offering a dimension of interconnectedness absent in formal play spaces.

From cultural games to inspiration for modern design
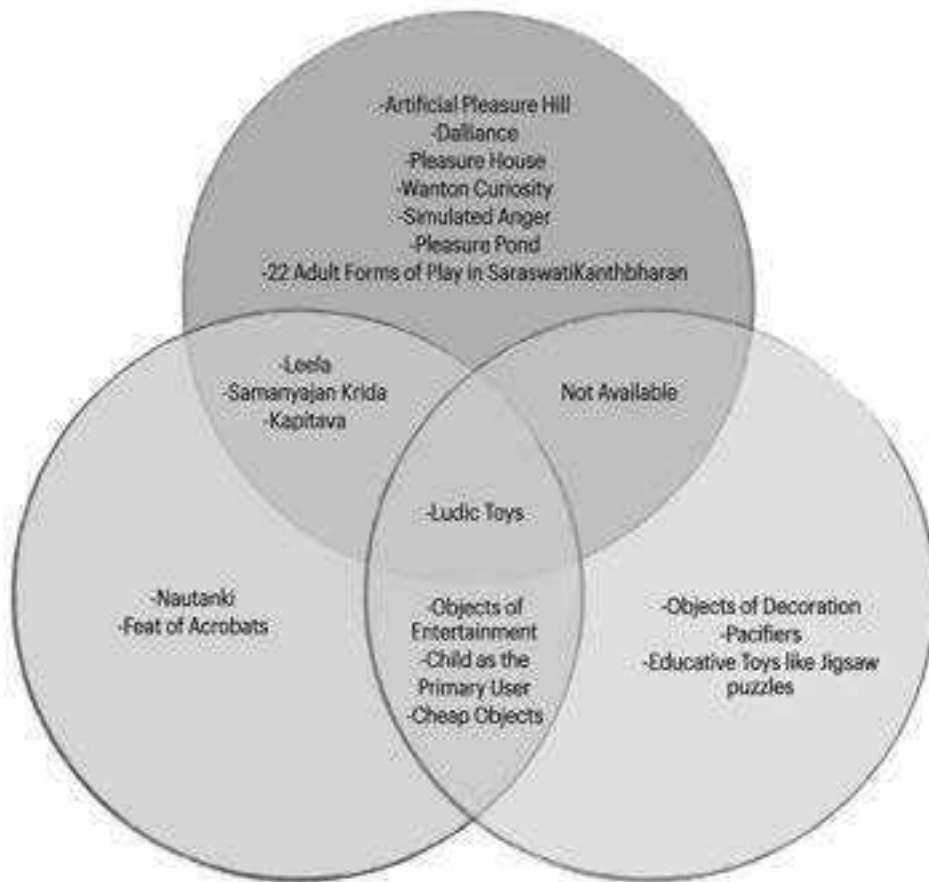
Adults vs. Children

Traditional entertainment vs. modern educational functions

Performance vs. Physical Toys

Conclusion
Cultural Perspectives on Design

- Understanding cultural play can "unflatten" design solutions and "broaden the constituency" of play objects beyond Westernized contexts.

- Banarasi play demonstrates how toys and play can be integrated into rituals, education, and social dialogue, fostering cultural preservation.

- Designing for modern rites of passage, seasonality, and liminal spaces can enrich modern play experiences.

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Transforming mature design management to better firm performance:

The importance of top management involvement

Sylvia Xihui Liu   Peiyao Cheng

指導教師：李傳房教授

學　　　生：D11330005　蘇雅雯

Author

Sylvia Xihui Liu

School of Design, Hong Kong Polytechnic
University, Hong
Kong, PR China
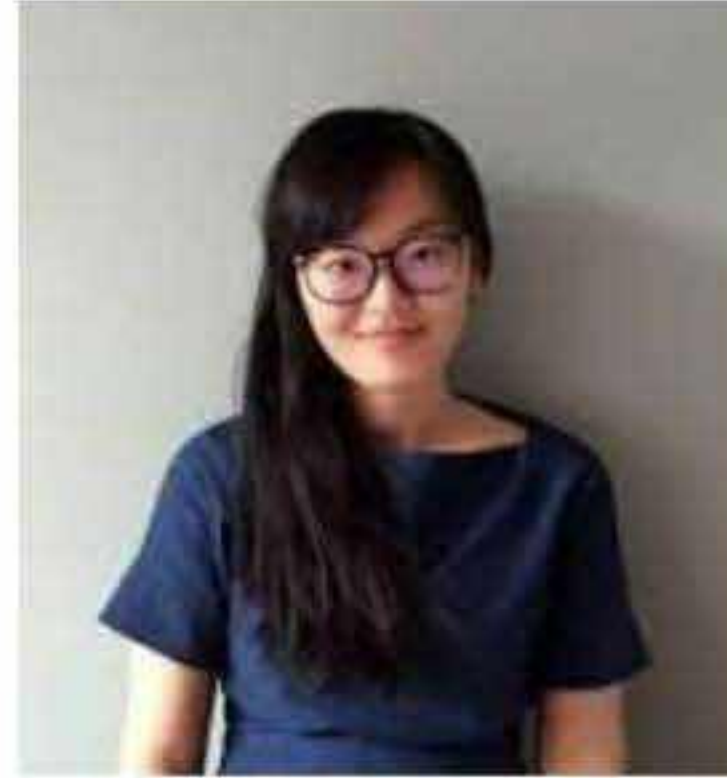
Peiyao Cheng

School of Social Sciences and Humanities, Harbin
Institute of
Technology, Shenzhen, Guangdong, PR China

Outline

1. Introduction

2. Theoretical framework

3. Methods

4. Results

5. General discussion

1. Core Values of Design

corporate performance

brand identity

consumer preference

corporate profitability

2. Design Management Maturity

(1)Design plays a key role in New Product Development (**NPD**).

(2)**A company's approach to design** reflects its management maturity.

(3)Mature management involves the deep integration of design with **corporate value creation**.

3. Research Objectives and Questions

There is **a lack of empirical research** on the relationship between design management maturity and corporate performance.

Existing assessment indicators fail to comprehensively measure the strategic use of design.

This research aims to **explore** the **impact of design management maturity** on **corporate performance.**

comprehensively assess design management maturity, including **design awareness**, **NPD participation**, **strategic planning**, and **resource allocation.**

4. Top Management Involvement

Mature design management

Influences **product innovation** and **corporate performance**

Design management expertise is **key** to translating design investment into performance.

5. Research Hypotheses and Framework:

Design Management Maturity
Strategic integration of design in firm's processes

Top Management Expertise
Design capability and leadership

Product Innovation
New product development success

Financial Performance
Overall business outcomes
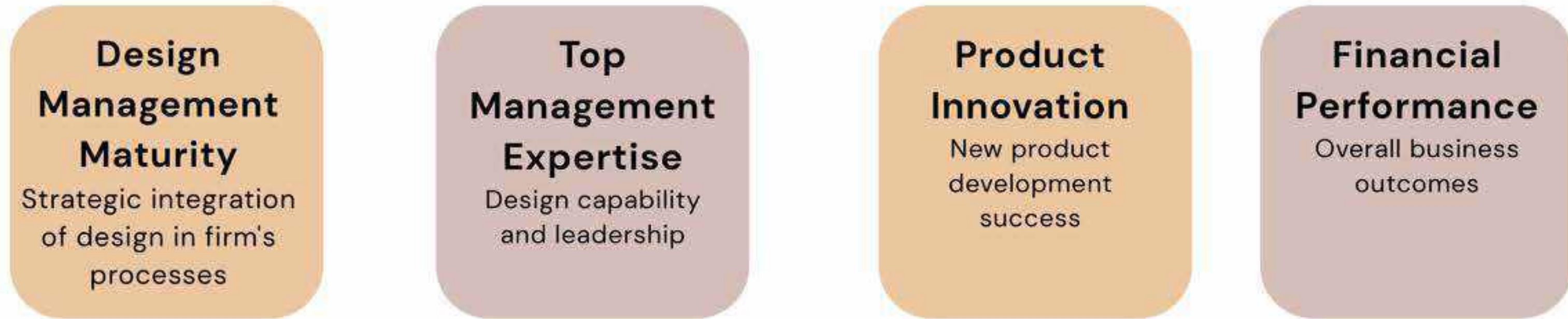
Developing a conceptual framework to examine the impact of design management maturity on product innovation and financial performance.

6. Research Methods and Contributions:

Data collection

a survey of **200** companies

Empirical evidence

This research will provide empirical evidence of the impact of **design management maturity** on **performance**.

importance

top management **involvement**

Key aspects

design **management capabilities** and design **leadership**.
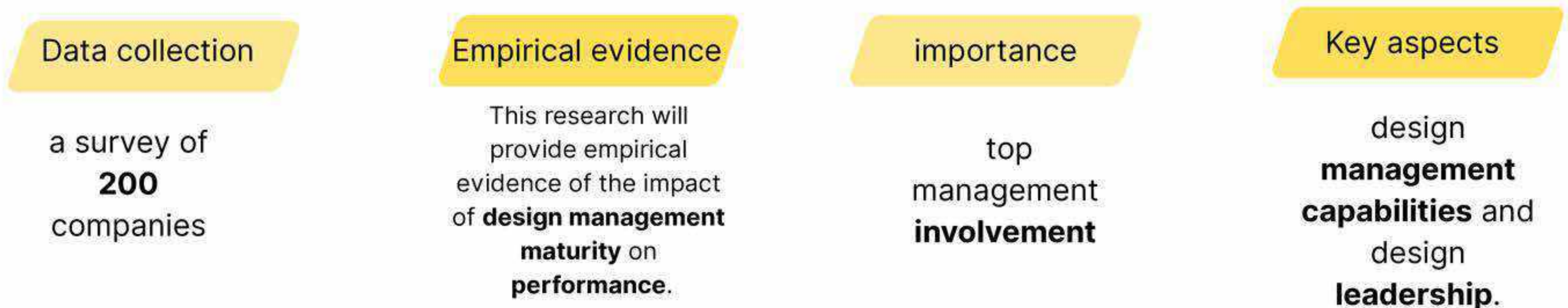
2.1 Design management maturity(DMM)

1. Integration of Design and New Product Development (NPD):

Design is not merely the outcome of a product but also the creative process itself, hence the necessity for its **integration into the NPD process.**

2. Design Management Maturity (DMM):

(1) DMM reflects the maturity level of **a company's integration of design** within its NPD process.

(2)The developmental stages of DMM range from a disregard for design to positioning design as **a strategic driver of innovation.**

(3) As DMM increases, a company's understanding and application of design shift from aesthetic improvement to **core value enhancement** and **strategic innovation**.

3. Relationship Between Design Management Maturity and Innovation Performance:

(1) Mature design management contributes **to improved product innovation performance**.

(2) Research indicates that design-led companies with high DMM excel in **product awards**, **competitiveness**, **market share**, and **sales**.

4. Measurement Aspects of Design Management Maturity:

Design awareness,NPD participation, Strategic planning, and **Resource allocation.**

H1: Design management maturity makes positive influences on product nnovation performance.

2.2 The mediating role of top managers' design management capability(DMC)

1. The Impact of Top Management Involvement on New Product Development (NPD):

Top management involvement is a crucial factor for the success of NPD.

2. The Relationship Between Design Management and Top Management:

(1) Top management's influence on **product innovation performance** can be fully realized.

(2) When design is at the core of a company's value creation activities, NPD activities are closely linked to **the company's overall strategy and vision**, making **top management support essential**.

(3) Top management needs to possess professional knowledge in design management **to make optimal strategic decisions and resource allocations**.

(4) Top management's **involvement and capabilities** in design management are significant differentiators between mature and immature design management companies.

3. Top Management's Design Management Expertise:

(1) Emphasis is placed on **setting strategic visions** at the organizational level and integrating design into the overall **business strategy**.

(2) Top management needs to have a comprehensive **understanding of the strategic value of design**, **effectively communicate the importance of design**, and **properly manage design teams and resources**.

4. Five Design Management Skills Required for Top Management:

Basic skills, **professional skills**, **stakeholder engagement**, **organizational change**, and **innovation skills.**

H2a: Top managers' design management capability mediates design management maturity and product innovation performance.

2.3 The mediating role of design leadership(DL)

1. DMC and Design Leadership:

(1) **DMC** focuses on design process management skills.

(2) **Design leadership** emphasizes design excellence and value creation, including resource allocation, learning innovation, and so on.

(3) **Both operate in parallel**, mediating the impact of design management maturity on product innovation performance.

2. Design Leadership and Product Innovation:

(1) High design leadership represents top managers possessing the ability to **identify design opportunities**, **allocate resources**, and **develop and protect innovations.**

(2) Design leadership is crucial for **product innovation performance** and should be **integrated into existing frameworks.**

H2b: Design leadership mediates the influences of design management maturity on product innovation performance.

2.4 The relationship between product innovation performance and a firm's financial performance

1. The relationship between product innovation performance and financial performance:
(1) To more comprehensively explore the relationships between **design management maturity**, **top management's design management capabilities**, **design leadership**, and **corporate performance**.
(2) Product innovation performance can be evaluated from two aspects: **process** (such as product portfolio management, process standardization, and organizational interaction) and **results**.
(3) Research suggests that mature design management **indirectly enhances** a company's financial performance by improving product innovation performance.

2. The indirect impact of design management maturity on financial performance:
(1) Past research has explored the **direct relationship** between **design management** and **product or corporate performance**.
(2) This study proposes that design management maturity **indirectly affects corporate financial performance** through **product innovation performance**.
(3) Mature design management enhances **product innovation performance**, which in turn strengthens **corporate financial performance**.

H3:Product innovation performance (PIP) positively relates with firm's financial performance (FP).
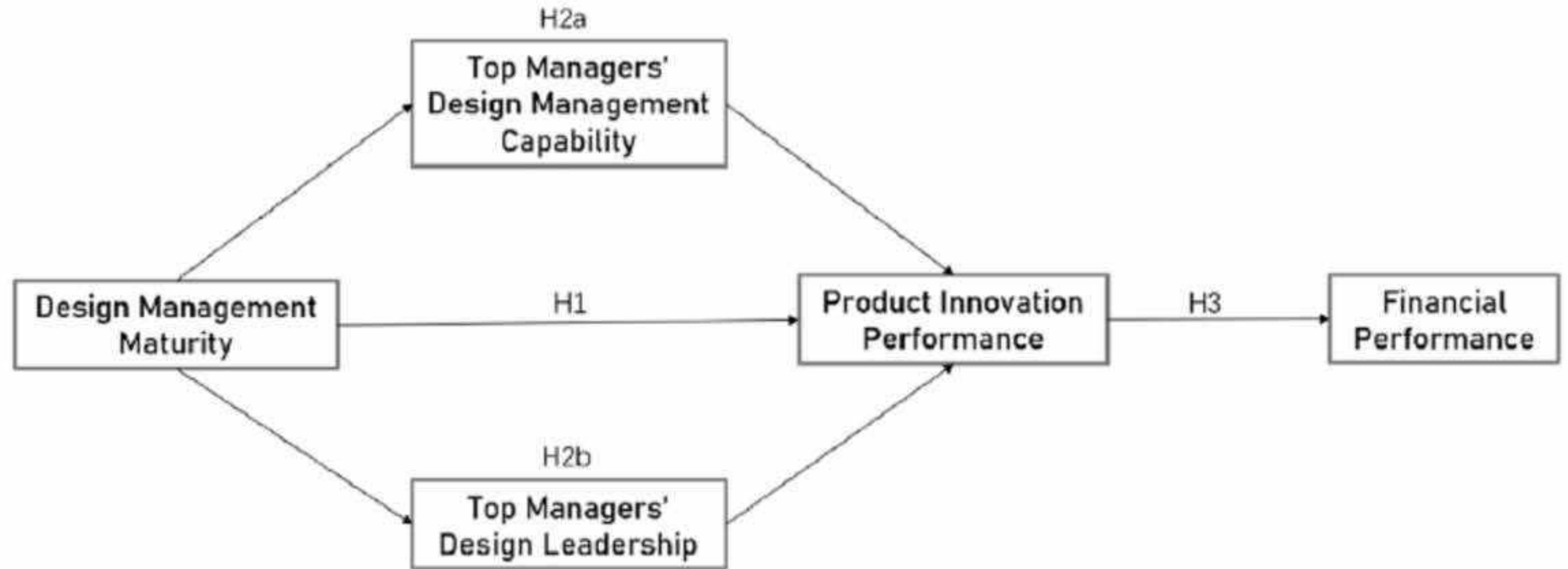
2.Theoretical framework

Figure 1 The conceptual framework of this study

3.1 Sample and data collection

Research Sample and Background:
1. Made in China 2025 Plan
2. Regarding **design** as the key to achieve transformation.

Survey Respondents:
1. Manufacturing enterprises in sectors such as **equipment manufacturing**, **consumer electronics**, and **transportation**.
2. Questionnaires were distributed through various methods, including **email**, **telephone**, and **face-to-face interviews**.

Respondent Characteristics:
1. The questionnaires were completed by company **CEO**s.
2. The average age of the respondents was **41.26 years**, with **20.5%** being **female**.
3. **79.5%** held a **bachelor's degree** or higher.

Table 1 Characteristics of sample

Characteristics		Frequency	Percentage
Size	<20	25	12.5 %
	20−100	65	32.5&
	101−300	28	14 %
	301−1000	23	11.5 %
	>1000	53	26.5 %
Industry	Equipment manufacturing	78	39 %
	Information communication technology	51	25.5 %
	Transportation	25	12.5 %
	Home appliances	13	6.5 %
	Others	33	16.5 %

Construct	Item	Factor Loading
Design Management Capability (DMC) (Dickson, 1995)	DMC1: Our company can utilize design to improve product quality.	0.771
	DMC2: Our company can utilize design to reduce costs.	0.763
	DMC3: In comparison to competitors, our company can design and launch new products faster.	0.734
	DMC4: In our company, we can utilize design to involve customers in the design process	0.783
	DMC5: In our company, we can utilize design to involve suppliers in the design process.	0.777
	DMC6: In our company, we can utilize design to get new product ideas from customers.	0.772
	DMC7: In our company, we can utilize design to get different functions in the firm to work together.	0.790
	DMC8: In our company, we can utilize design to replace sequential with concurrent design.	0.782
	DMC9: In our company, we can utilize design to explore new design ideas - not just me-too imitations.	0.774
	DMC10: In our company, we can utilize design to quickly become aware of competitors' innovations and imitations.	0.778
	DMC11: In our company, design department can use the latest computer aided design tools effectively.	0.763
	DMC12: In our company, we can utilize design to estimate the true cost of new products during the design process.	0.789
	DMC13: In our company, we can utilize design to test manufacturability of new products during the design process.	0.715

5-point Likert scale

Construct	Item	Factor Loading
Design Leadership (DL)	DL1: I can protect new designs by patents, licensing, pattern protection.	0.732
	DL2: I can capture design-based value and sharing risks through legal agreements, royalties and relational contracting.	0.728
	DL3: I can sustain design capabilities through design alliancing, R&D partnering.	0.794
	DL4: I can configure design resources.	0.856
	DL5: I can tap and connect to firm-specific resources, strategic assets, or otherwise distinctive resources.	0.850
	DL6: I can create interaction of design resources and the firm's core competent people.	0.854
	DL7: I can communicate design with ethos repeatedly to multiple stakeholders.	0.848
	DL8: I can expose and test design within a reciprocal and acknowledged design relationship.	0.850
	DL9: I can inaugurate design experiences to key stakeholders.	0.865
	DL10: I can learn from successful design projects.	0.808
	DL11: I can adopt new knowledge and ideas.	0.811
	DL12: I can foster creative design developments.	0.823
	DL13: I can nurture open exchange and taking advantage of creative abrasion.	0.801
	DL14: I can initiate new path for developing design.	0.809
	DL15: I can assess the most appropriate design and business experts.	0.862
	DL16: I can alight resources (i.e., money, time, projects, and facilities) well without improving overload of capacity.	0.845
Design Management Maturity (DMM)	DA1: To what extent the whole organization acknowledges the value of design? 1 = Not at all/2 = Only design department acknowledges/3 = Most people in organization recognizes the importance of design/4 = All the employees realize the importance of design.	0.705
	DA2: What is the position of designers in NPD process? 1 = no involvement of designers/2 = designers only involve in later stage of styling tasks/3 = designers are involved in very early stage of user research and later stage of styling/4 = designers are actively involved in all the stages in NPD.	0.753
	DA3: What is the role of design in business plan? 1 = design is not involved in business plan/2 = design is sometimes involved in business plan for several projects/3 = design is considered together with firm's strategy and plan/4 = design is an essential part of firm's business plan.	0.785
	DA4: How does the resource allocate to design (i.e., employee, budget, implementation)? 1 = no special resources allocated to design/2 = only a small number of resources allocated to design/3 = certain number of resources will be allocated based on high possibility of returns/4 = a large amount of resources are available based on certain procedure.	0.805

5-point Likert scale

5-point Likert scale

(continued)

Construct	Item	Factor Loading
Product Innovation Performance (PIP)	PIP1: Product iteration and replacement of product lifecycle	0.841
	PIP2: Expand target markets through developing new products	0.896
	PIP3: Go beyond target markets through developing new products	0.890
	PIP4: Improve market share gradually	0.820
	PIP5: Expand target consumers	0.799
Firm Performance (FP)	FP1: Sales growth position relative to competition.	0.926
	FP2: Satisfaction with sales growth rate.	0.935
	FP3: Market share gains relative to competition.	0.932
	FP4: Satisfaction with return on corporate investment.	0.822
	FP5: Net profit position relative to competition.	0.860
	FP6: ROI position relative to competition.	0.783
	FP7: Satisfaction with return on sales.	0.827
	FP8: Financial liquidity position relative to competition.	0.807

4.1 Descriptive analysis of samples

1.Preparation for Statistical Analysis:
First, conduct a frequency analysis of the collected companies' Design Management Maturity (DMM).

2.Measurement of Design Management Maturity: Design awareness, the degree of participation in New Product Development (NPD), the degree of participation in business strategy, and resource allocation.

3.Presentation of Results: Figure 2, the sample companies are distributed across the spectrum from **low to high** Design Management Maturity.
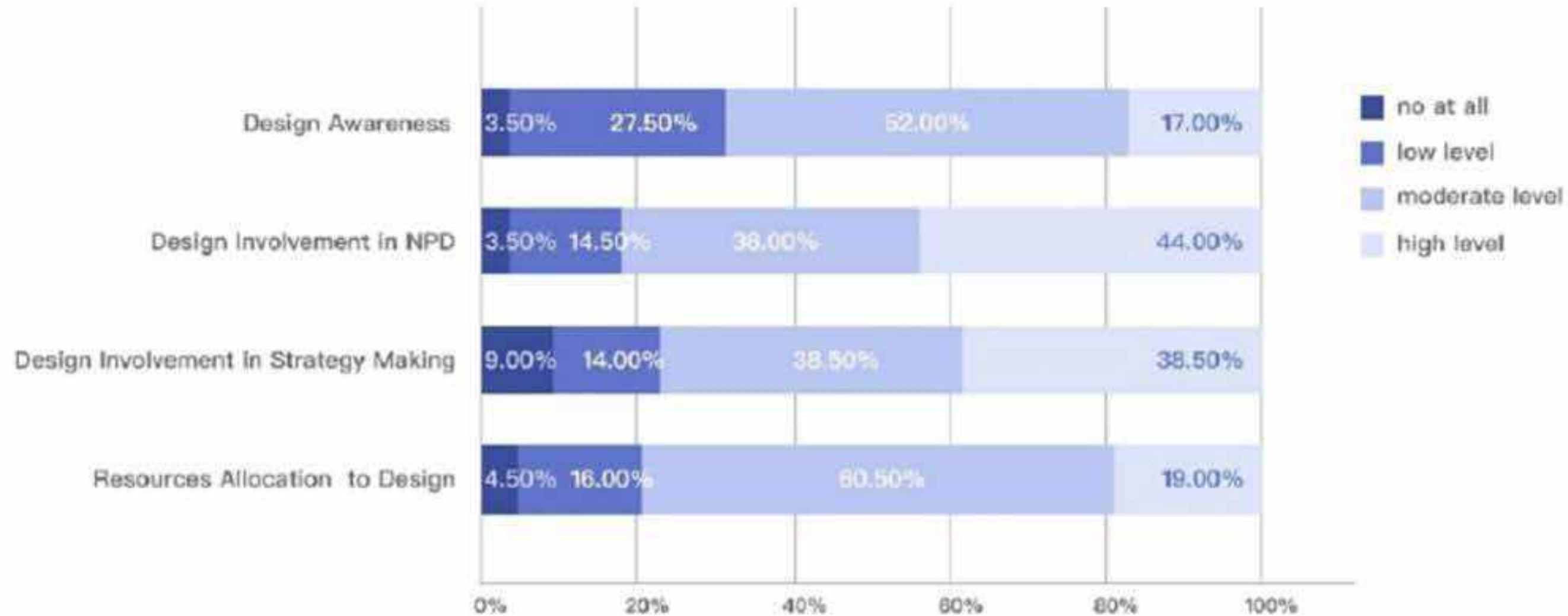
Figure 2 Frequency of design management maturity in sampled firms

4.2 Data analysis method-SEM

1. Application of Structural Equation Modeling (SEM):

(1)SEM is used to analyze the data, a multivariate, hypothesis-driven technique for examining causal relationships among variables.

(2)SEM can simultaneously reveal both main and mediating effects, and distinguish between:

Observed variables: top management's ratings on specific items.

Latent variables: design management maturity, design management capabilities, design leadership, product innovation performance, and financial performance.

2. Reasons for Choosing Partial Least Squares Structural Equation Modeling (PLS-SEM):

More suitable for causal predictive analysis with less theoretical information.

3. Data Analysis Using SmartPLS Software:

First, **assess the relationships between items** (each question in the questionnaire) and constructs (latent variables). Then, evaluate the structural model to understand the estimation of **the model's path coefficients**.

4.3 Validity and reliability

1. Good Validity and Reliability of the Scales:

(1) **All items had factor loadings** > 0.708(meeting the standard).

(2)**Cronbach's alpha values** > 0.7,
   composite reliability > 0.8(indicating high reliability).

(3) **AVE**> 0.5(high convergent validity).

(4) The square root of AVE was higher than the correlations between constructs, indicating discriminant validity.

(5) The heterotrait-monotrait ratio (**HTMT**) maximum value was **below** 0.85, indicating discriminant validity.

2. The measurement methods used in the study have satisfactory validity and reliability.

high reliability

Table 2 Scales for reliability and validity of measurement model

Construct	Cronbach's Alpha α	AVE	Composite Reliability
Design Management Maturity (DMM)	0.761	0.583	0.769
Design Management Capability (DMC)	0.948	0.594	0.949
Design Leadership (DL)	0.968	0.675	0.968
Product Innovation Performance (PIP)	0.904	0.723	0.905
Financial Performance (FP)	0.951	0.746	0.958

Table 3 Discriminant validity and correlation matrix discriminant validity

Construct	DMC	DL	DA	PIP	FP
DMC	**0.769**				
DL	0.664	**0.822**			
DA	0.431	0.352	**0.763**		
PIP	0.711	0.591	0.326	**0.850**	
FP	0.603	0.484	0.259	0.756	**0.864**

Table 4 HTMT results

Construct	DMC	DL	DMM	PIP	FP
DMC					
DL	0.682				
DMM	0.492	0.405			
PIP	0.753	0.627	0.391		
FP	0.609	0.499	0.299	0.806	

4.4 Hypothesis testing and path analysis

1. DMM Indirectly Influences PIP Through DMC and DL:

(1) DMM has no direct effect on PIP (b = -0.005, p > 0.1).

(2) DMM has a significant **indirect effect** on PIP through DMC (b = 0.311, p < 0.001) and DL (b = 0.084, p < 0.01).

(3) This indicates that DMM needs to be transformed into PIP through the **effective execution of top management**.

2. DMC Has a Greater Influence on PIP Than DL:

(1) Both **DMC** (b = 0.624, p < 0.001) and **DL** (b = 0.205, p < 0.001) have a **positive effect** on PIP.

(2) However, the influence of design management capabilities is significantly stronger than that of design leadership, implying that actual management execution plays a more important role in promoting product innovation

Figure 3 Results of PLS-SEM analysis. Note: *p < 0.01
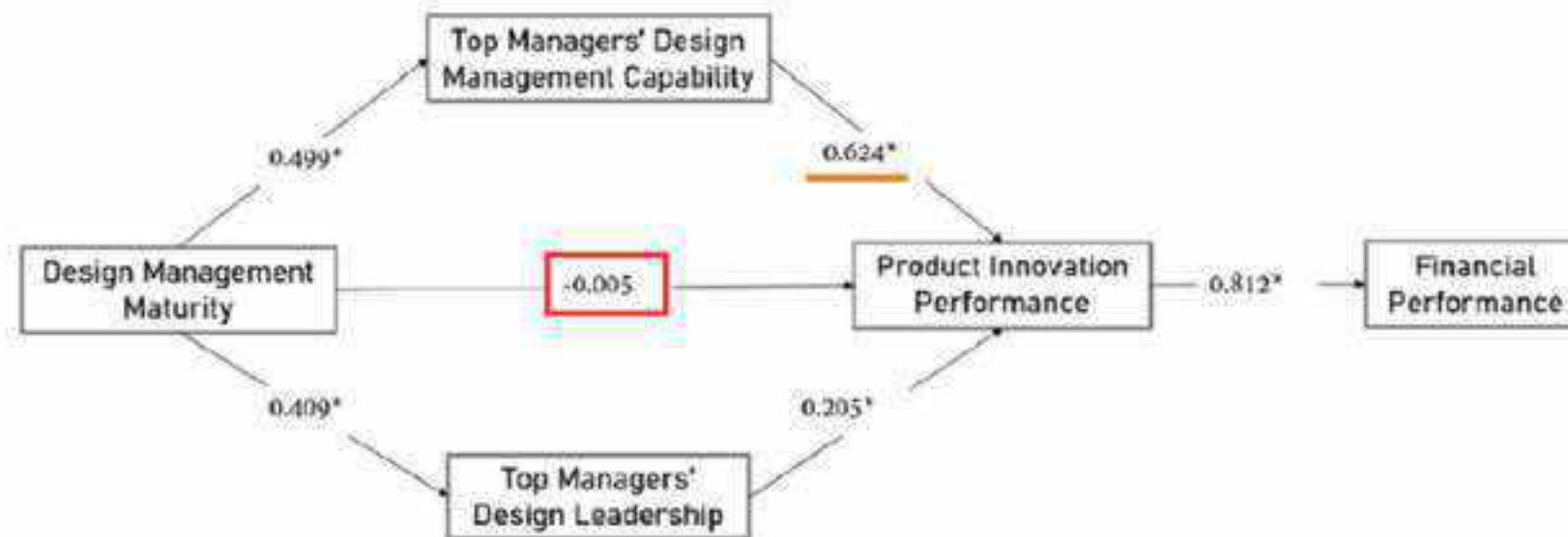
Table 5 Results of hypotheses testing

	Path	Path Coefficients	p-Value	Results
H1	DMM→PIP	−0.005	0.956	Not supported
H2a	DMM→DMC→PIP	0.311	0.000	Supported
H2b	DMM→DL→PIP	0.084	0.009	Supported
H3	PIP→FP	0.812	0.000	Supported

Design management maturity does not directly lead to better product innovation performance, but the impact of **mature design management** on product innovation management is achieved through the **design management capabilities and design leadership of top management**.

5.1 Theoretical contributions

1.

Expanding the Scope of Design Management Research:

This study further explores the impact of design management maturity on product innovation performance and financial performance, while considering the mediating role of top management's design management expertise.

2.

Emphasizing the Mediating Role of Top Management:

Design Management Maturity has a positive indirect effect on Product Innovation Performance through top management's Design Management Capabilities (DMC) and Design Leadership (DL).

3.

Highlighting the Importance:

Top Management's Design Management Capabilities and Leadership.

4.

Positive relationship:

Product Innovation Performance and corporate Financial Performance.

5.2 Practical implications

1. Design Management Guidance in Practice (Figure 4):

The research results provide practical guidance on design management for enterprises, especially those in **Chinese manufacturing**.

2. Importance and Training Recommendations for Top Management's Design Management Expertise (Table 5):

(1) **Introductory stage**: introduce basic and professional design skills.

(2) **Intermediate stage**: involve multiple stakeholders and resource acquisition.

(3) **Advanced stage:** design-driven innovation and protection of design advantages.

Figure 4 Framework for assessing design management maturity

ure 5 Framework of training programs for top management

5.3 Limitation and future research

1. Limitations of the Research Methodology and Cautious Interpretation of Results:

(1)

Cross-sectional data
The results be interpreted cautiously.

(2)

Other factors
may also influence the transformation from design management maturity to product innovation performance.

(3)

Explore other organizational factors
Design management maturity is not the sole reason for enhancing top management's design management expertise.

5.3 Limitation and future research

2. Data Characteristics and Future Research Directions:

(1)There may be **subjective bias**; future research should supplement with **objective data**.

(2)Cross-sectional data can only reveal correlations; future research should use **longitudinal studies**, **collecting long-term data** to reveal causal relationships.

(3)Future research should investigate **other industries and markets** to understand the universality and industry differences of design management maturity.

THANK YOU

From an Ethics of the Eyes to Ethics of the Bodies:
Rethinking Ethics in Design Research through Sensory Practices
從旁觀者倫理到具身倫理：透過感官實踐重探設計研究中的倫理

報告人：D11330015高榮陽

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About Author

Anne-Lene Sand

- Design School Kolding柯靈設計學院
- Design for Play以遊戲為本的設計
- Lab for Play and Design遊戲與設計實驗室
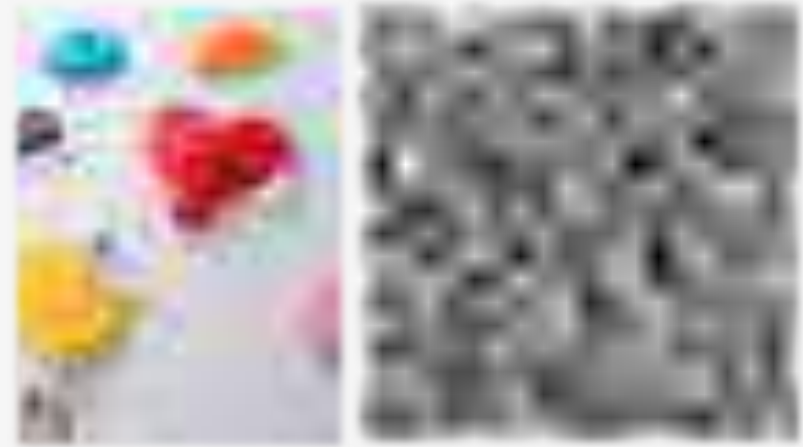
We have a strong belief in play and its impact on us as individuals – both intrinsically and as a catalyst for creativity and problem-solving. Therefore, we integrate playful approaches as an active and integral part of the design process.

1.1 Background and Research Question

- **Explores sensory practice as an ethical approach in design research.** (實踐)

- **Analyzes two design research cases to generate knowledge on ethics.**

- **Develops a methodological approach for design researchers and students.** (方法論)

- **Emphasizes the role of the body in generating empirical material and ethical reflection.** (強調 / 實證 / 反思)

- **Advocates for sensuous scholarship and in-situ ethical awareness.** (倡導 / 學術 / 意識)

- **Design research often neglects ethics and lacks in-depth discussion.**

Flowchart
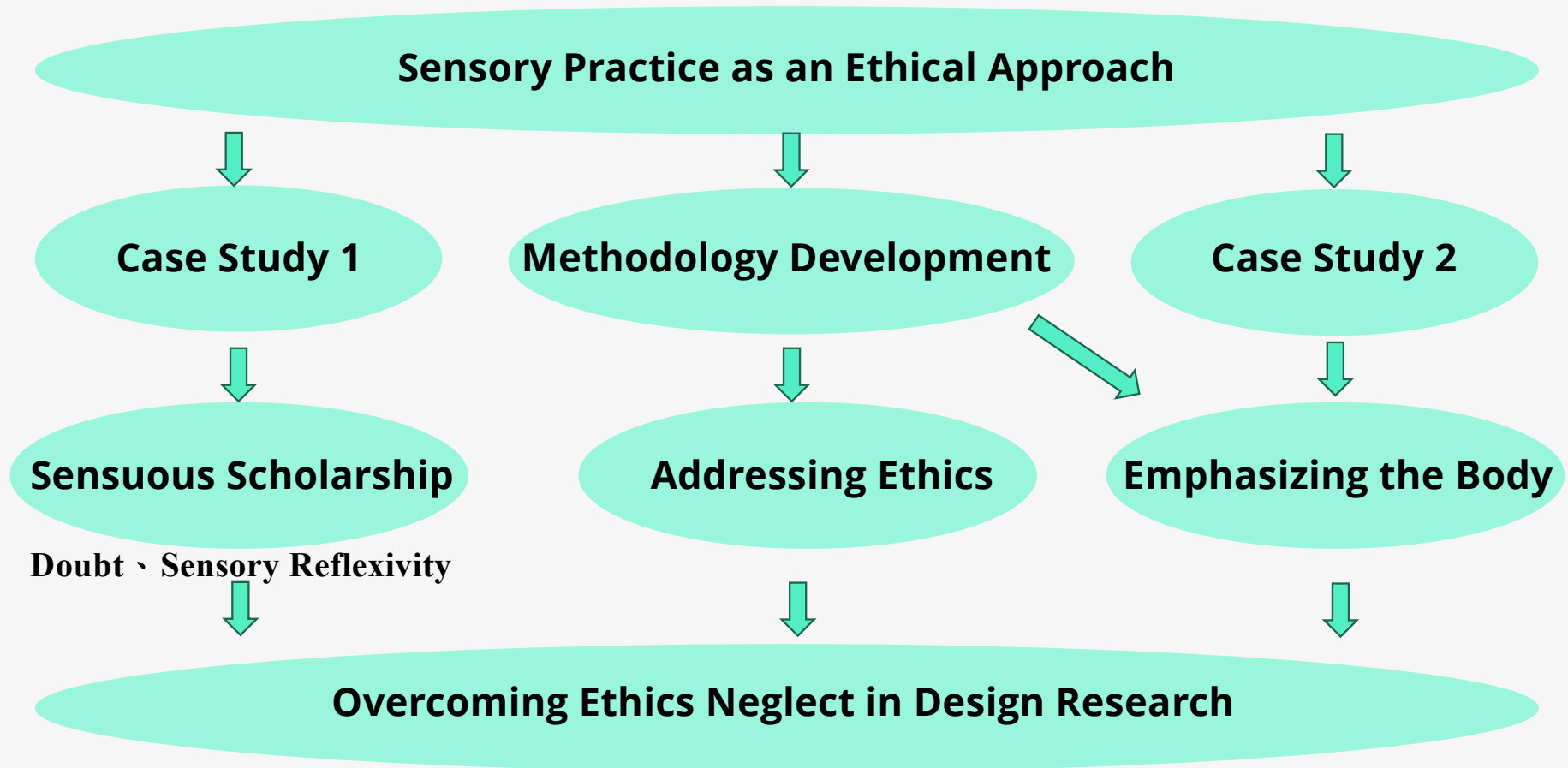
1.2 Ethics in Design Research

- **First, ethics are primarily dealt with through procedural approaches** 程序式方法 **(Guillemin & Gillam, 2004), institutionalised approaches** 制度化方法 **(Spiel et al., 2020), anticipatory ethics** 前瞻性倫理 **(Spiel et al., 2020, p. 46), or an ethics of the eye, which refers to dealing with ethics from a passive spectator perspective (Christiansen, 2014, p. 3).**

- **This can have consequences** 後果 **for design encounters with children, young people, and adults, and researchers must ensure that their participants are treated with ethical sensitivity in all collaborative design practices.**

1.3 The Concept of an Ethics of the Bodies

- We suggest an ethics of the bodies to encourage design students, among others, to take ethics into account, although they may be invisible to the eye, not spoken of, and revealed only through the senses via a doubt, gut feeling, or emotion.

- First, we discuss these perspectives in relation to Locke et al.'s (2008) notions of doubt. These theoretical constructs form the basis for reflecting on ethics through the bodies in uncertain social situations and via doubts about design research.

- Second, we use anthropologist Sarah Pink's (2008, 2011) work on sensory participation, which has the potential to strengthen and reflect the sensory elements of design research situations.

- Third, we apply sociologist Jennifer Mason's (2018) concept of affinities to grasp social connections, which can be revealed through glimpses, energies, or sensory indications.

2.1 Sensory Reflexivity and Ethical Awareness

- We understand ethics from a particularistic perspective. This means that we consider ethics as something that 具體 arises in a concrete and situated practice.

- Johansen & Frederiksen write that a particularistic research ethics "is 個別 界線 情境 founded on individual, delimited events or situations. The determination of the 倫理的判定永遠都在形成之中 ethical will always be in the making" (Johansen & Frederiksen, 2021, p. 284).

- In this perspective, ethics is something that happens, something that cannot 預見 bforeseen.

2.2 Doubt as a Research Phenomenon

- Doubt is not seen as something negative (消極), but as a path to insight. According to Locke et al., doubt is an inherent (與生俱來) part of research that must be dealt with.

- "Doubt is an essential (必要), not aberrant (異常), part of the research process: The question is not whether, but how, to engage doubt (如何面對懷疑)" (Locke et al., 2008, p. 908).

- A central point is that doubt is also bodily and felt, and that one should cultivate (培養) one's paying attention to this.

2.3 Affinities and Sensory Engagement

- To grasp them, we must use the third concept (affinities 親和力) developed by Mason (2018). Affinities open up our ability to understand multiple sensory situations, conceptualized as sensations 感受.

- She argued, "sensations constitute a 'core seam 縫隙' in our relationship 關係 with others. Rather than simply our way of perceiving them, 感知 or a kind of adjunct to them" (Mason, 2018, p. 9).

- Sensations can bring forth affinities, which are potent connections that arise and matter (2018, p. 1).

3.1 Research Design and Approach

- The empirical material used in the paper was drawn from a master's project and a PhD project. Both projects were based on design methodology and qualitative interviews (Kvale & Brinkmann, 2015), observations (Spradley, 1980), sensory participation (Pink, 2008, 2015), and visual methods (Pink, 2011).

- Interviews were conducted with design researchers, educators, and participants involved in the projects. Observations took place in real-world settings, documenting interactions, behaviors, and environmental factors.

- Sensory methods were employed to capture embodied experiences and reflections, allowing researchers to analyze how participants engaged with materials, spaces, and design processes.

3.2 Case Study 1

- Mikkel Vinding conducted research using a design-based research methodology 設計導向的研究方法. Through various 各種 interventions and design experiments, he examined opportunities and challenges of conducting evaluations using playful approaches.

- During his Ph.D., Vinding created three evaluation designs together with Alice.

Criteria Cube標準立方體
Læringsstile學習風格
Samarbejde合作
Bevægelsesglæde活動中的快樂

3.2 Case Study 1

Alice says : "yes, yes" and "that's interesting".

Vinding : I felt a greater calmness in my body

Alice says : "You must give me something. I need something from you!

Vinding : I register a bodily discomfort, an uneasiness, a tightness in my stomach, a slight sting in my chest. I feel my muscles tense, and my nostrils expand and become hard. I try to make eye contact.

不適   不安

I notice that we don't look into each other's eyes and smile as much as we usually do. My body feels uncomfortable and disordered.

Vinding suggested this to change the atmosphere and allow them to achieve some distance from the situation.

I walk a little restlessly around the room. I stand by a window and feel a bright sunbeam warm my body and face. I take a few deep breaths and try to focus. I find it is difficult for me to get an overview of the situation. I still feel unease, a tension in the body, and a nagging sense of uncertainty — both in relation to the design, how Alice feels, and the collaboration itself. I think about how to approach the next session. Maybe I pushed her [Alice] away during the design process despite intending the opposite?   也許在設計過程中，我的本意並非如此，但實際上把她推開了？

3.3 Case Study 2

- **The Samvær project was a six-month research collaboration developing a toolkit for parents of premature children, based on experience-based design (Bate & Robert, 2006).**

Object	Emotion
Yellow wooden shape	Happiness （快樂）
Transparent ball with spikes	Frustration （挫折）
Concrete hexagonal pyramid	Loneliness （孤獨）
Polished black cube	Fear （恐懼）
Soft pink woollen doughnut	Safety （安全）
Orange foam shape	Detachment （抽離）
Turquoise fabric coil	Love （愛）
Red wave	Hope （希望）
Dark blue concrete cloud	Sadness （悲傷）

Figure 3 How emotions were related to objects

3.3 Case Study 2

After Anne left, as Kremer was packing up, she reflected on how the workshop had gone. She wished that she had been better prepared and equipped to deal with sensitive and emotional situations that might 出現 arise. She was not sure whether it was ethical to put a parent in a situation where they recalled emotions, either good or bad, by focusing on materials, shapes, and colours to help her project. To assign visual and tactile attributes to "sadness," "fear," and "worry," the participant had to recall these emotions and the situations in which they arose. Kremer asked herself whether it was right for her to do this (Field notes, 27.05.2021).

4.1 Ethical Tensions in Collaborative Design

- Alice says: 'You must give me something. I need something from you!' I [Vinding] register a bodily discomfort 不適, an uneasiness 不安, a tightness 緊縮 in my stomach 胃, a slight sting in my chest 胸.

- I feel my muscles tense, and my nostrils expand 鼻孔 and become hard. I try to make eye contact. Alice looks down at some papers on the table that she had used to make notes on. I sense a tense atmosphere 氛圍.

- We continue talking but without me being able to feel resonance 共鳴. (Field notes 7.2.22)

4.2 Sensory Reflexivity in Design Decision-Making

- I walk a little restlessly around the room. I stand by a window and feel a bright sunbeam warm my body and face. I take a few deep breaths and try to focus.

- I find it is difficult for me to get an overview of the situation. I still feel unease, and tension in the body, and a nagging sense of uncertainty—both in relation to the design, how Alice feels, and the collaboration itself.

- I think about how to approach the next session. Maybe I pushed her [Alice] away during the design process despite intending the opposite? (Field notes 7.2.22)

4.3 The Role of Materials, Shapes, and Colors in Ethical Engagement

- Using display cards with colours and symbolic emotions, Anne was asked to describe the emotions she had felt, and then we compared them to the emotions other parents had felt.

- When talking about frustration and fear, Anne picked up the colours yellow and orange. She explained that they reminded her of all the flashing lights and signals that constantly went off in the NICU.

- She picked up some foam material with many holes and bubbles and said, 'This is how it feels—like there are a lot of holes in me'. (Field notes, 27.05.2021)

5.1 Ethical Awareness through Sensory Practices

- An **ethics of the bodies** can enhance design education by making us aware of the need to teach students about ethics via examples from **ethical dilemma**s and **situations of doubt** in design practice.

- It is important that designers develop their ability to **recognize and respond** to **ethics of the body**, and this requires the curriculum in design education to enable courses where the **training takes its departure in concrete cases.**

- Via this approach, ethics can be addressed as a sensory issue with no "**right and wrong**," involving more a cultivation of a kind of "**trained listening**" to the bodily felt dilemmas involved in design practice and research.

5.2 The Role of Doubt in Ethical Design Processes

- **Doubt** is often something we want to 避免 **avoid** because it is **not culturally valued** in the same way as 肯定 **certain knowledge and fixed answers.**

- **Because society views doubt negatively**, 負面 we may avoid disturbing experiences 動盪 that could guide us as design researchers.

- **In this light, we argue for design scholars, students and practitioners** 學者 從業者 **to cultivate doubt and embrace not knowing.** 培養 擁抱

- **This might be done in different ways, but we recommend that cultivating doubt and embracing not knowing requires social communities that dare to share doubtful topics and generate spaces for dialogues of doubt.**

5.3 Implications for Design Education and Practice

- An **ethics of the bodies** can enhance design education by making us aware of the need to teach students about ethics via examples from **ethical dilemmas** and **situations of doubt in design practice.**

- It is important that designers develop their ability to recognize and respond to ethics of the body, and this requires the curriculum in design education to enable courses where the training takes its departure in **concrete cases**.

- Institutional practice may also involve a kind of ethical code of conduct in design research and practice, while one critique of this may be that it can lead to a mechanical **check of balance** contrary to **real dilemmas in conducting a sensory ethics.**

6.1 Conclusion

- In this article, we have explored the benefits 優勢 of developing and using sensory practice as an ethical approach to design research.

- Based on an analysis of two design research cases, this paper contributes 貢獻 knowledge about how ethics in design research methodology can be developed by rethinking the importance of sensory practice.

- The paper proposes a methodological approach to help design researchers and students at design schools work methodologically and take a sensory approach to ethics.

6.2 Contributions to Design Research and Education

- An ethics of the bodies can enhance design education by making us aware of the 意識 need to teach students about ethics via examples from **ethical dilemmas** and **situations of doubt** in design practice.

- It is important that designers develop their ability to recognize and respond to ethics of the body, and this requires the 課程 curriculum in design education to enable courses where the training takes its departure in 具體 **concrete cases**.

- Design research can 促進 activate sensuous 學術 scholarship and 反思 **reflection on ethics** in situ by developing an ethics of the bodies.

6.3Future Research Directions

- **This might be done in different ways, but we recommend that cultivating doubt 培養 and embracing not knowing 擁抱未知 requires social communities that dare to share doubtful topics and generate spaces for dialogues of doubt where not knowing is explored as a common interest and journey as practitioner, student and researcher.**

- **In the future, these networks and cultural changes might be reinforced 強化 in more specific aims and ways of working.**

Thank you for listening

A model of the <u>adaptive reuse</u> process of heritage buildings <u>Validation</u> on four cases in the Netherlands

適應性再利用
驗證

Fatemeh Hedieh Arfa, Barbara Lubelli, Wido Quist, Hielkje Zijlstra

黃思璇
Szu Hsuan Huang

Frequently occurring words

- Adaptive reuse (AR)：適應性再利用
- Validation(validate)：驗證
- Process：過程
- Architect：建築師
- Stakeholder：相關利益者
- Involving(Involve)：涉及
- Investigation(investigate)：調查
- Nexus：關係
- Inner loops：內部循環

- Investor：投資者
- Regulator：監管單位
- Producers：生產者

Author introduction

Fatemeh Hedieh Arfa
specializes in adaptive reuse and building renovation
歷史建築適應性再利用和活化再利用

Barbara Lubelli
specializes in conservation of cultural heritage, durability of building materials
文化遺產保護以及建築材料

Wido Quist
specializes in 20th century building materials, natural stone
20世紀建築材料跟混凝土

Hielkje Zijlstra
specializes in adaptive reuse
歷史建築適應性再利用

Contents

- Abstract

- Motivation

- Purpose

- Methods

- Research process(four cases)

- Conclusion

Abstract

Adaptive reuse (AR) of heritage buildings is a complex process involving many stakeholders with different ambitions. Recently, a theoretical model has been proposed to facilitate this process.

However, the validation of this model and investigation of the nexus between process steps, methods/tools used by architects still lacking.

This paper aims to validate the model by examining four AR projects in the Netherlands, considered effective as winners of a prestigious architectural prize.

The research methods included literature reviews, case visits, and interviews with architects and other stakeholders.

The model was refined, and methods/tools used by architects in the process steps were identified, highlighting their link with the effectiveness of results.

Motivation

● the lack of systematic and validated models：

Several theoretical models showing the different steps in the AR process are reported in the literature.

However, most developed AR process models have not been validated in practice or have been validated

considering a few steps of the process or only part of the stakeholders involved.

● criteria of effectiveness and the process：

in the literature on AR is the absence of a systematic analysis of the nexus between the AR process,

including the methods and tools used by architects in the process, and the effectiveness of reuse projects.
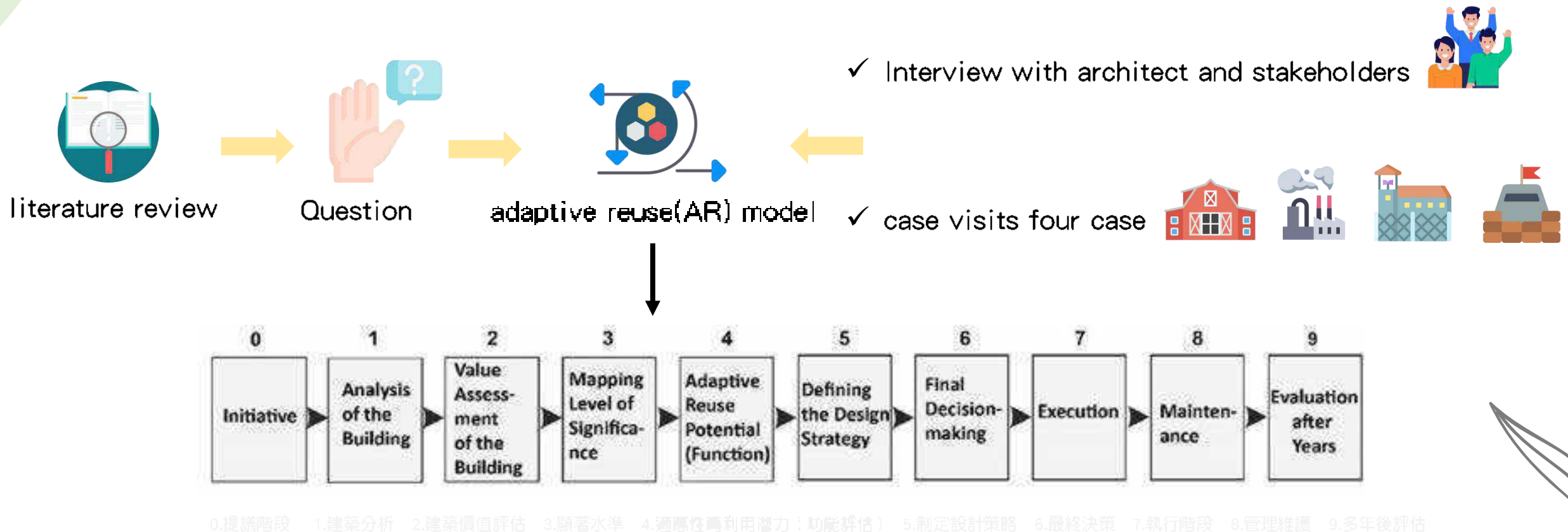
Purpose

- To validate and refine the model proposed by the authors by analyzing the AR process in four effective AR projects, winners of the NRP Golden Phoenix prize in the Netherlands.

- To identify the nexus between the AR process and its actual effectiveness by analyzing the methods and tools used by architects and linking those to explicit statements in the NRP jury reports of the studied cases.

Methods

- including <u>literature review</u>, <u>semi-structured interviews</u>, and <u>case visits</u>.

literature review → Question → adaptive reuse(AR) model

✓ Interview with architect and stakeholders

✓ case visits four case

0	1	2	3	4	5	6	7	8	9
Initiative	Analysis of the Building	Value Assessment of the Building	Mapping Level of Significance	Adaptive Reuse Potential (Function)	Defining the Design Strategy	Final Decision-making	Execution	Maintenance	Evaluation after Years

Research process- LocHal in Tilburg 🏫
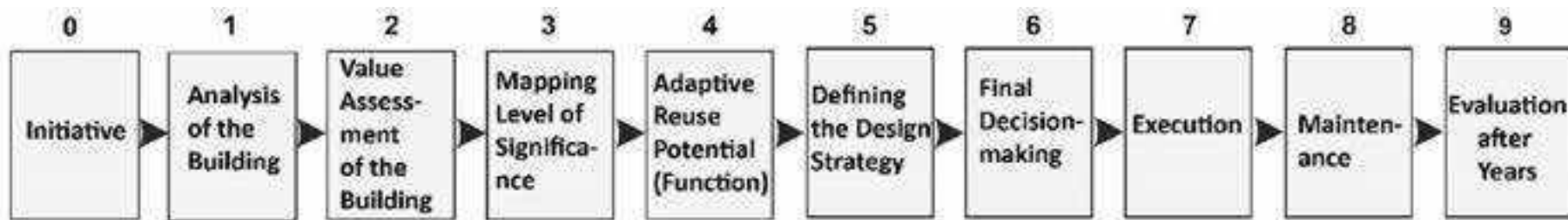
- Former Train Workshop ⟶ Public Library

Architect

Stakeholders：regulators (municipality of Tilburg) 市政府

investor (municipality of Tilburg) 市政府

producers (expert) 專家

original users 原鐵路維修工廠者

end-users 未來使用者

0	1	2	3	4	5	6	7	8	9
Initiative	Analysis of the Building	Value Assess-ment of the Building	Mapping Level of Significa-nce	Adaptive Reuse Potential (Function)	Defining the Design Strategy	Final Decision-making	Execution	Mainten-ance	Evaluation after Years

0.提議階段　1.建築分析　2.建築價值評估　3.顯著水準　4.適應性再利用潛力（功能評估）　5.制定設計策略　6.最終決策　7.執行階段　8.管理維護　9.多年後評估

Research process- LocHal in Tilburg 🏚️

- Former Train Workshop ⟶ Public Library

✓ Steps contained inner loops, complicating the process 步驟之間並非線性關係，而是存在內部循環

✓ Final decision-making introduced new challenges 最終決策經常引發新的挑戰

✓ more participatory approach, including users, from the outset to mitigate challenges 提高參與程度可減少後期問題

The Model of Adaptive
Reuse Process of
LocHal Project
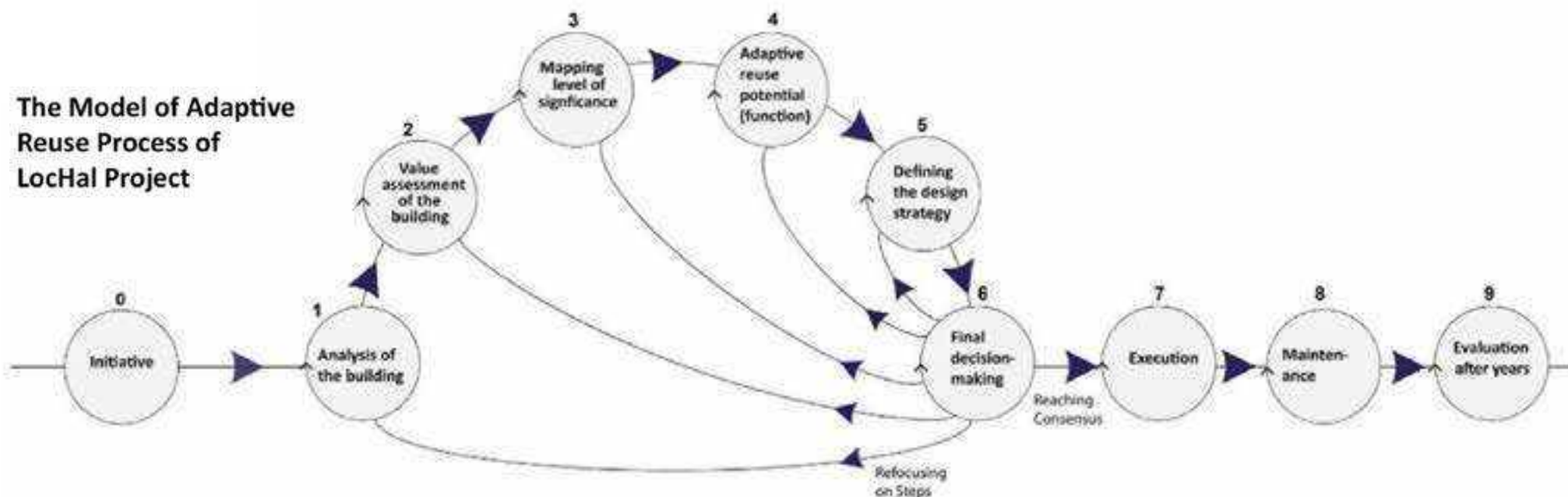
0. Initiative
1. Analysis of the building
2. Value assessment of the building
3. Mapping level of significance
4. Adaptive reuse potential (function)
5. Defining the design strategy
6. Final decision-making — Reaching Consensus
7. Execution
8. Maintenance
9. Evaluation after years

Refocusing on Steps

0.提議階段　1.建築分析　2.建築價值評估　3.顯著水準　4.適應性再利用潛力（功能評估）　5.制定設計策略　6.最終決策　7.執行階段　8.管理維護　9.多年後評估

Research process- LocHal in Tilburg 🏚️

- Former Train Workshop ⟶ Public Library

Research process- Energiehui in Dordrecht

- Former Power Station ⟶ Cultural Center

  Architect

  Stakeholders：regulators (municipality of Dordrecht) 市政府

  　　　　　　investor (municipality of Dordrecht) 市政府

  　　　　　　producers (expert) 專家

  　　　　　　End-Users 未來使用者

0	1	2	3	4	5	6	7	8	9
Initiative	Analysis of the Building	Value Assessment of the Building	Mapping Level of Significance	Adaptive Reuse Potential (Function)	Defining the Design Strategy	Final Decision-making	Execution	Maintenance	Evaluation after Years

0.提議階段　1.建築分析　2.建築價值評估　3.顯著水準　4.適應性再利用潛力（功能評估）　5.制定設計策略　6.最終決策　7.執行階段　8.管理維護　9.多年後評估

Research process- Energiehui in Dordrecht
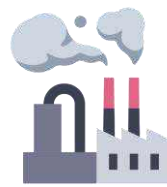
- Former Power Station ⟶ Cultural Center

✓ Steps contained inner loops, complicating the process, because budget 步驟之間並非線性關係，會因為預算導致回溯前面的步驟

✓ suggested renaming Step 8 from "maintenance" to "aftercare" 「維護」現改為「後期照護」
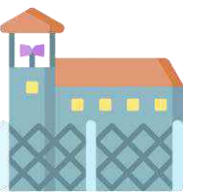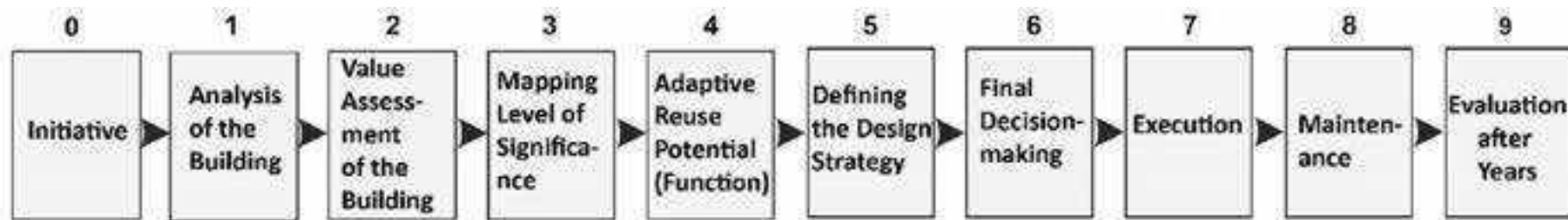

The Model of Adaptive Reuse Process of Energiehuis Project
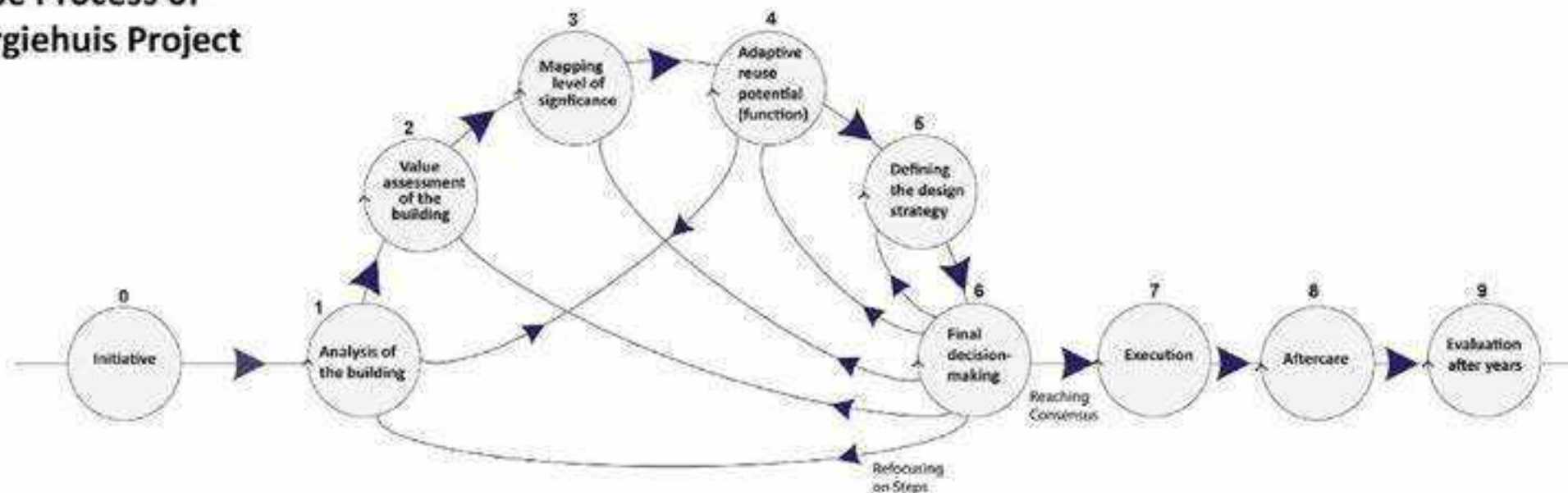
Research process- Energiehui in Dordrecht
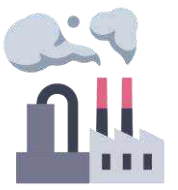
- Former Power Station ⟶ Cultural Center

Research process- Blokhuispoort in Leeuwarden

● Former Detention Center ⟶ Cultural Center

Architect

Stakeholders：regulators (municipality of Leeuwarden) 市政府

investor (municipality of Leeuwarden) 市政府

producers (expert) 專家

users 使用者

0 Initiative → 1 Analysis of the Building → 2 Value Assess-ment of the Building → 3 Mapping Level of Significa-nce → 4 Adaptive Reuse Potential (Function) → 5 Defining the Design Strategy → 6 Final Decision-making → 7 Execution → 8 Mainten-ance → 9 Evaluation after Years

0.提議階段　1.建築分析　2.建築價值評估　3.顯著水準　4.適應性再利用潛力（功能評估）　5.制定設計策略　6.最終決策　7.執行階段　8.管理維護　9.多年後評估
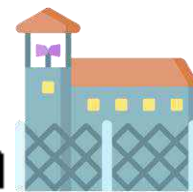
Research process- Blokhuispoort in Leeuwarden
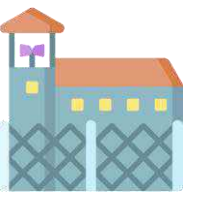
- Former Detention Center ⟶ Cultural Center

✓ Steps contained inner loops, complicating the process, because time 步驟之間並非線性關係，會因為時間導致回溯前面的步驟

✓ steps occasionally conducted in reverse order 過程會逆向操作

The Model of Adaptive Reuse Process of Blokhuispoort Project
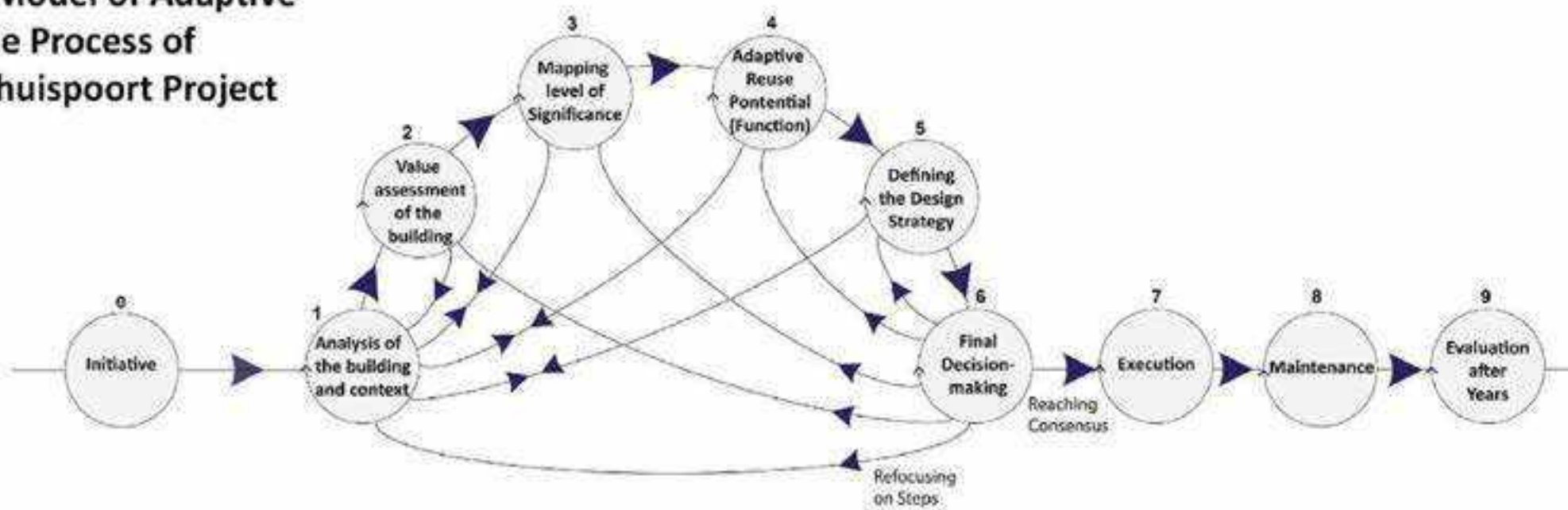
0.提議階段　1.建築分析　2.建築標定評估　3.顯著水準　4.適應性再利用潛力（功能評估）　5.制定設計策略　6.最終決策　7.執行階段　8.管理維護　9.多年後評估

Research process- Blokhuispoort in Leeuwarden

- Former Detention Center ⟶ Cultural Center

Research process- Fort van Hoofddorp in North Holland 🏰
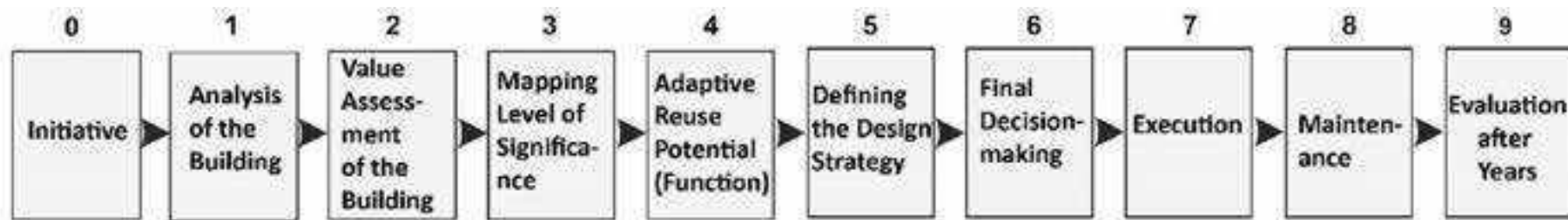
● Former Fortification ⟶ Cultural Center

防禦堡壘

Architect

Stakeholders：regulators (municipality of North Holland) 省政府

investor (Fort van Hoofddorp foundation)－one of the initiators is architect

producers (expert) 專家

local community 當地居民

0	1	2	3	4	5	6	7	8	9
Initiative	Analysis of the Building	Value Assessment of the Building	Mapping Level of Significance	Adaptive Reuse Potential (Function)	Defining the Design Strategy	Final Decision-making	Execution	Maintenance	Evaluation after Years

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Research process- Fort van Hoofddorp in North Holland 🏰

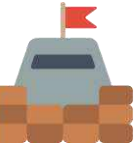- Former Fortification ⟶ Cultural Center

✓ The process was relatively lengthy, spanning approximately 10years for the architect, because money
✓ Steps contained inner loops, complicating the process
✓ suggested renaming Step 8 from "maintenance" to "aftercare"

The Model of Adaptive Reuse Process of Fort van Hoofddorp Project
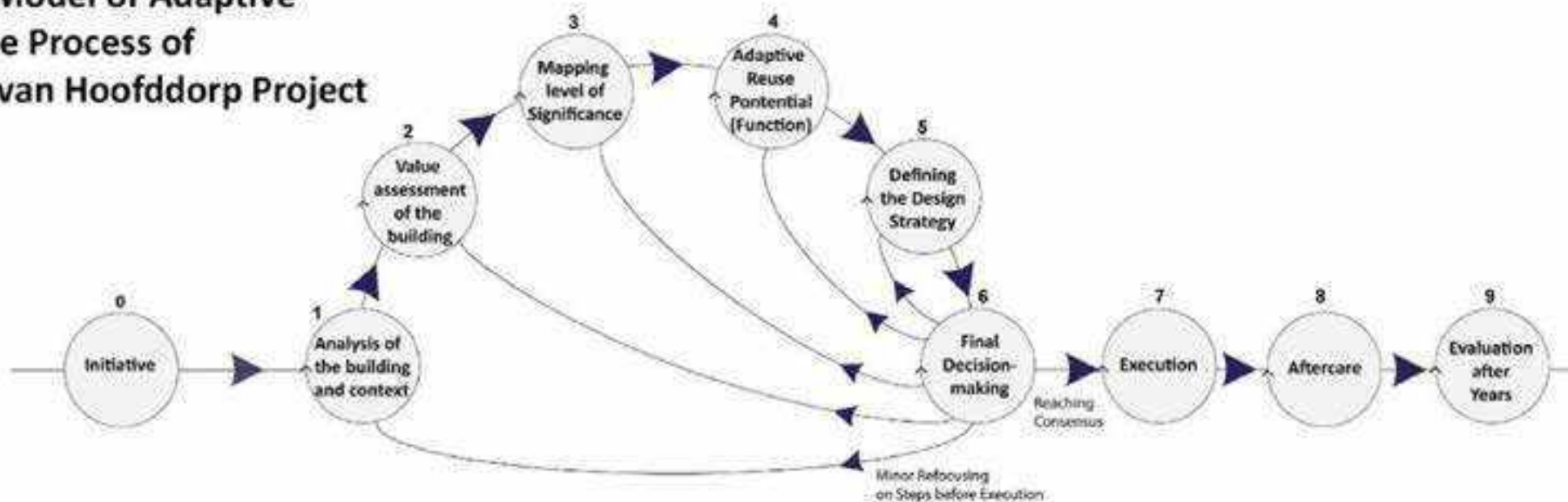
Research process- Fort van Hoofddorp in North Holland

● Former Fortification ⟶ Cultural Center

Conclusion

- A significant finding from this study is the non-linearnature of the process, with loops occurring between steps preceding execution(Steps 1-6). 步驟之間並非線性關係，而是存在內部循環

- Architects played a pivotal role throughout all steps, with the effectiveness of AR projects significantly influenced by the methods and tools employed in each step. 建築師在整個過程中扮演了關鍵作用

- Collaborative relationships among stakeholders, indicative of high-quality professional partnerships. 各利害關係人之間建立了緊密且合作良好的關係，反映出高品質的專業夥伴關係

Conclusion

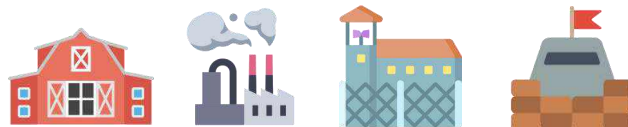- AR model has been refined and renamed as the EARHB (Effective Adaptive Reuse of Heritage Buildings) model.
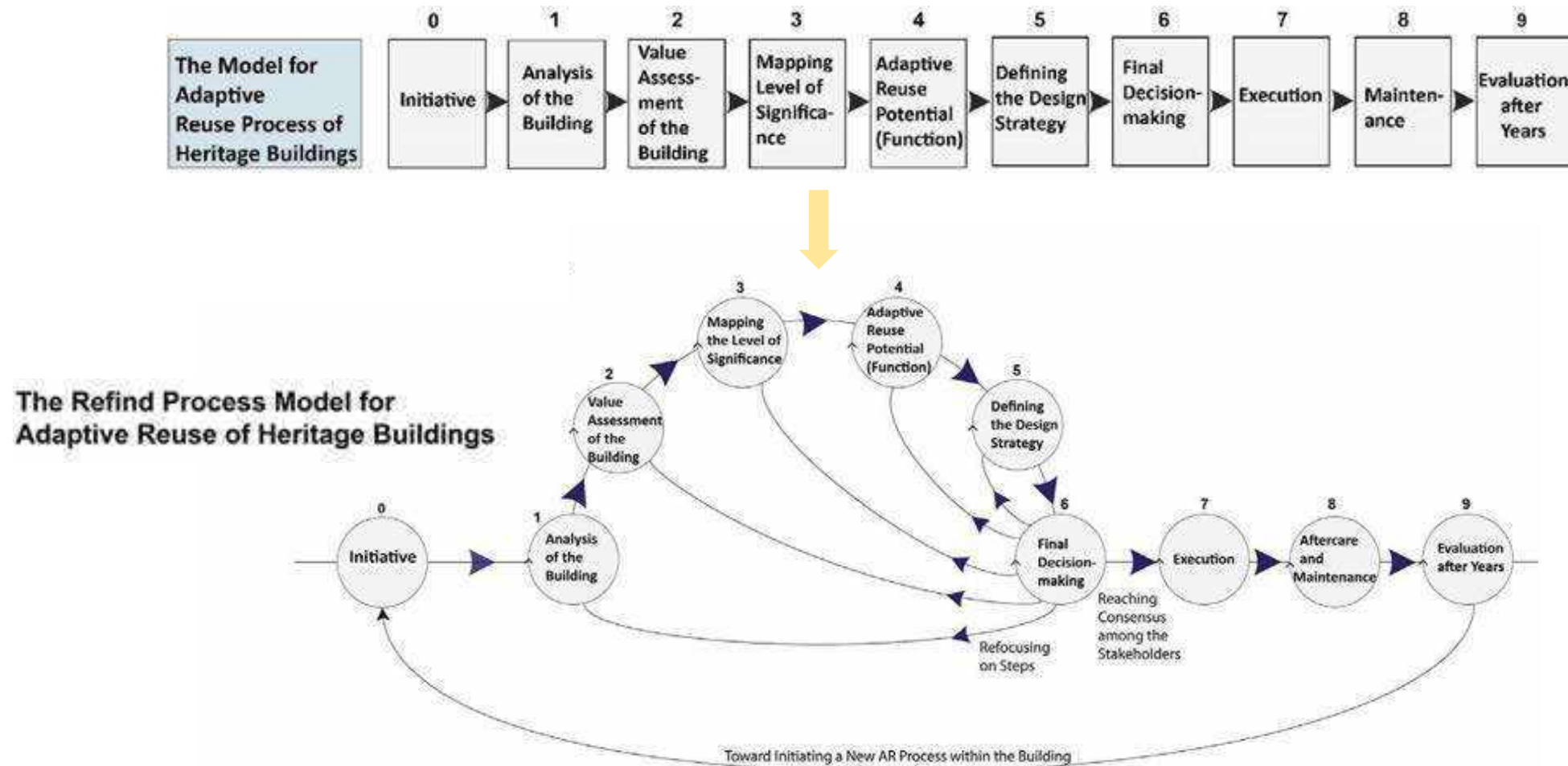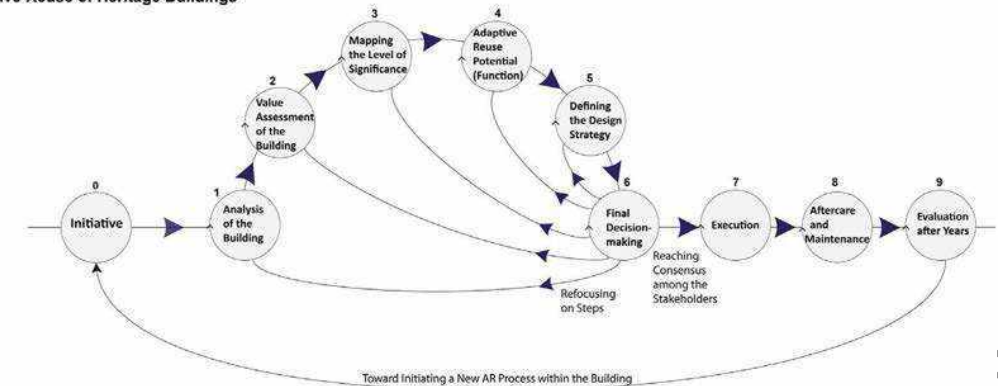
Focal Point
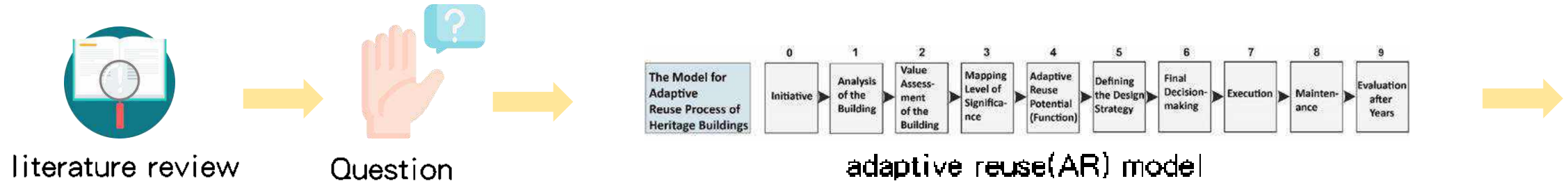
literature review

Question

adaptive reuse(AR) model

✓ Interview with architect and stakeholders

✓ case visits four case

Effective Adaptive Reuse of Heritage Buildings(EARHB) model

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