Bespoke Interaction

The influence of customized interactions on perceived service quality

The case of private residential projects

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BK Bouwkunde
Department of Management in the Built Environment

Bespoke Interaction
April 12th 2023

Introduction

I

Situation

Gap

Question

Theory
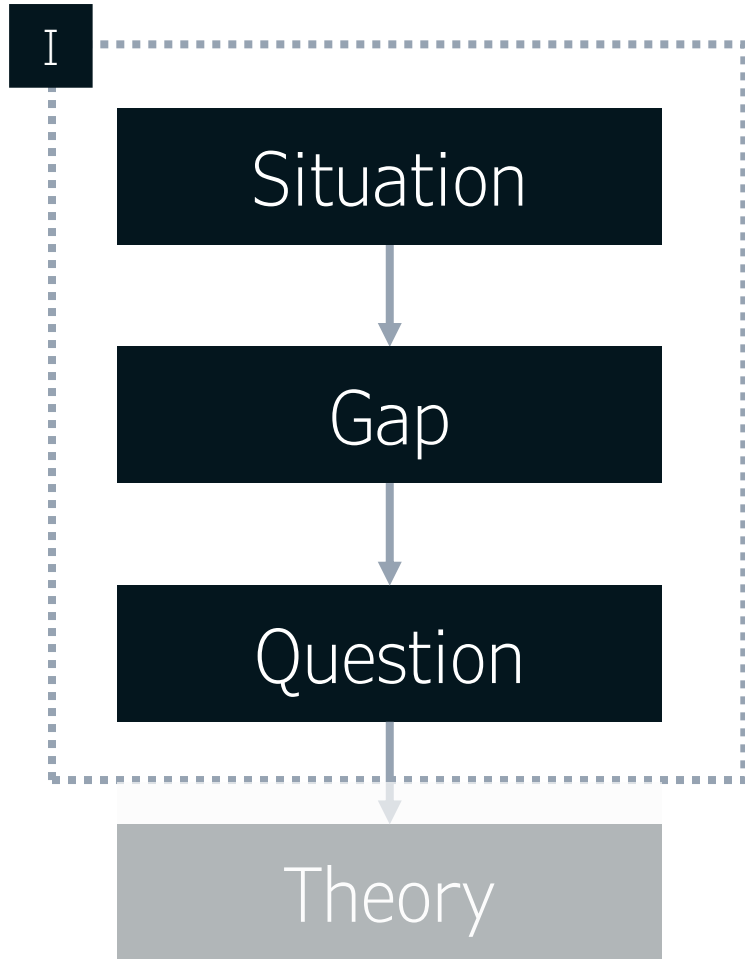
Situation

Problem

- Problematic relationship
- Distance
- Marginalization

Trends

- Housing shortage
- Individualization
- Digitalization

Situation

Solutions

- Client learning
- Participatory design
- Customization

Gap

- Attainment of service quality
- Satisfaction of first-time clients
- No consensus about involvement
- No consensus about customization or standardization
- Lack of literature (competition, specialized field, education, definition)

Gap

Relevance

- From concept to completion
- Clients are willing to pay
- Customizing fosters loyalty, profitability and enjoyment

Question

"(How) can customized interactions influence perceived service quality ?"
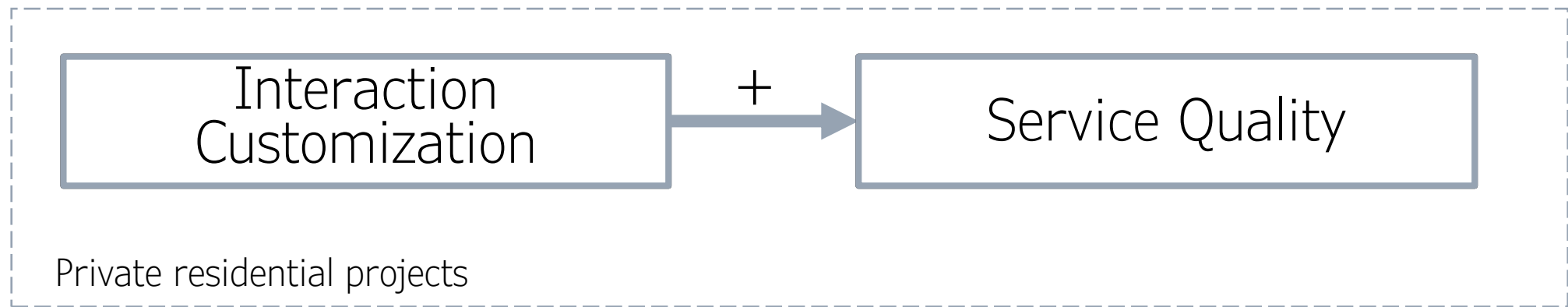
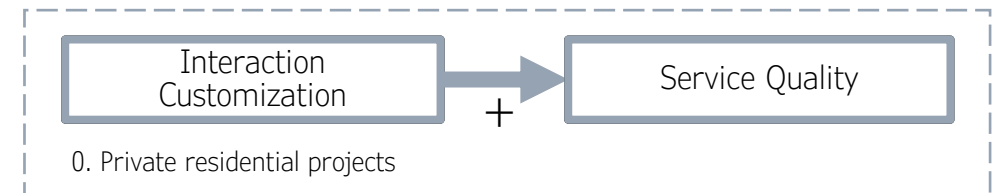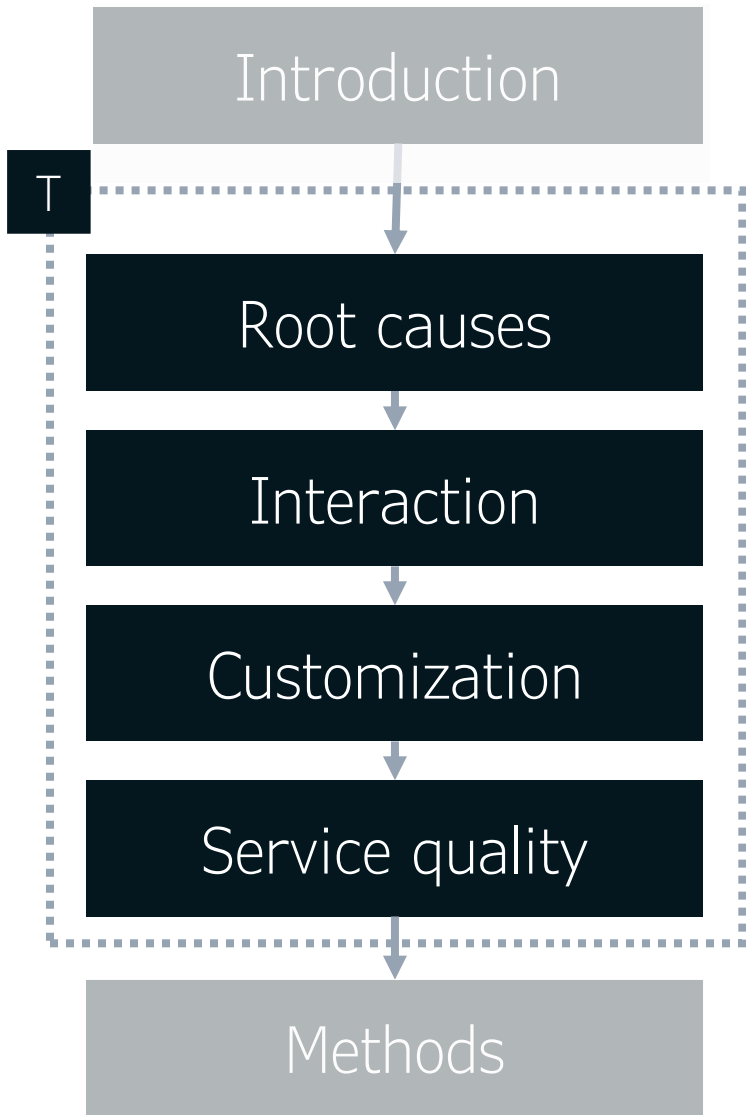# Question

Conceptual model

Figure 1: Conceptual Model; Own work

Question

- **SQ0:** What are root causes of the problematic relationship?

- **SQ1:** What is the standard interaction procedure?

- **SQ2:** How is being customized?

- **SQ3:** What is the service quality, what elements influenced it, and how is it being evaluated?

Interaction Customization	→ +	Service Quality

0. Private residential projects

Theory

Introduction

Theory

Root causes

Interaction

Customization

Service quality

Methods

Root causes

- Projects
- Clients
- Architects
- Industry

Interaction

Definition

–"*Social interaction is the process of reciprocal influence exercised by individuals over one another during social encounters*"–

- Mediated by technology

Interaction

Dualities

- Collective vs individual
- Management vs design
- Decision-making vs designing
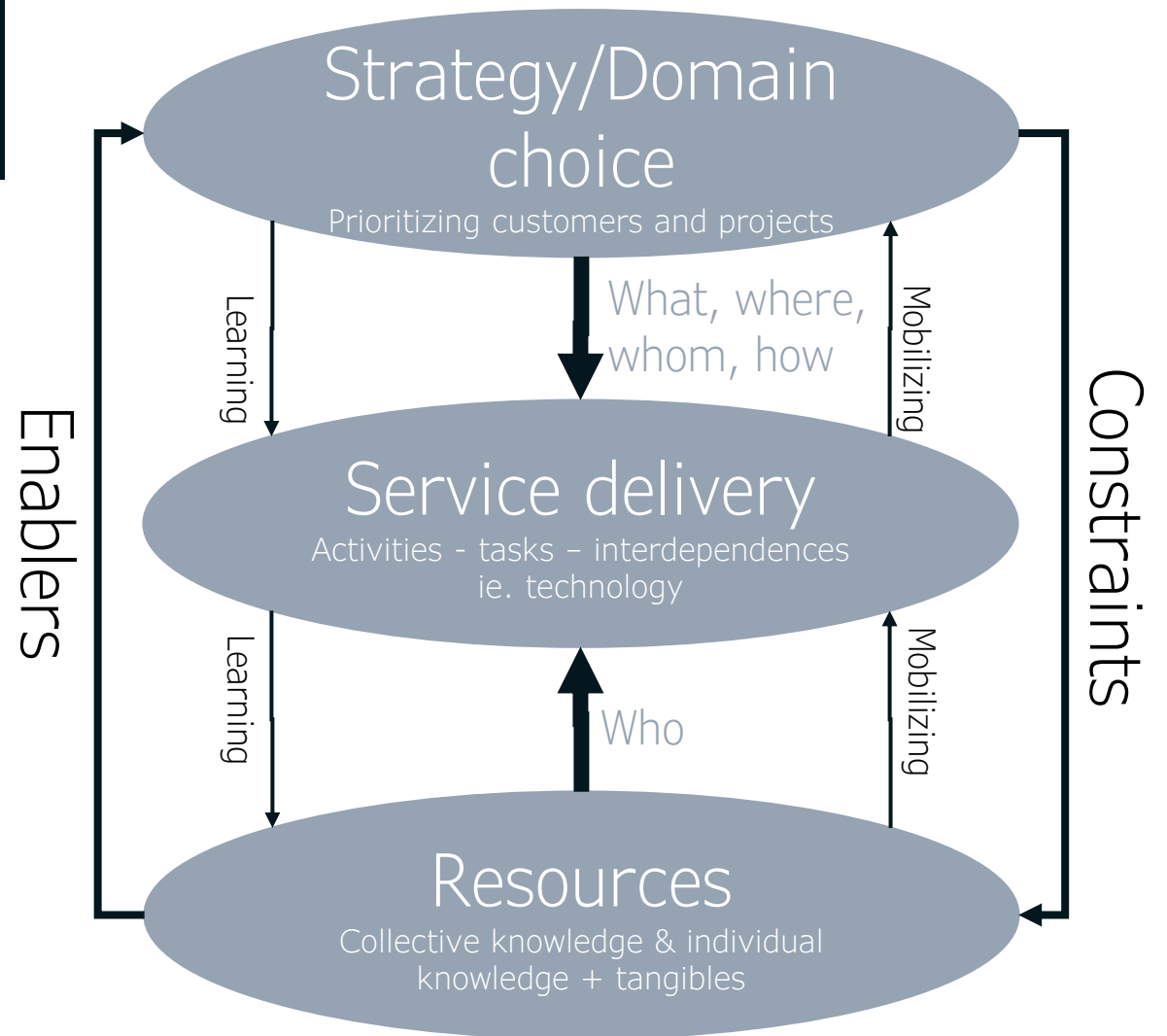- General practitioner's vs specialists

Figure 2: Value creation process, professional service firms; Adapted from Fosstenløkken et al., 2001

Customization

Definition
- – "Customization is an adjustment to the needs of the clients, as deviation from the "standard" procedure for the architects."–

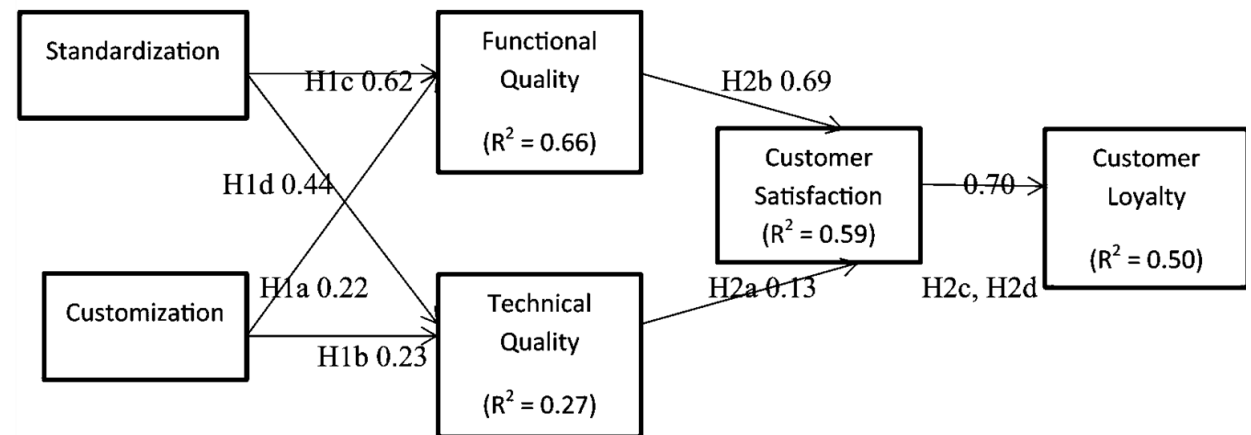- Related to satisfaction

- Standardization as well

Figure 3: Relationships between customization and customer satisfaction; Adapted from Kasiri et al., 2017

Customization

Types

Customizations	Examples
Environment	Office, on site, video call, neutral ground
Actors	Architect 1, Architect 2, Intern, Project manager, Contractors
Involvement	Representation, Questionnaires, Regionalism, Discussion, Alternative, Co-design, Self-decision
Tools	Sketches, mock-ups, storyboards, 2D, 3D, 4D, CVM, LoD, VR, Renders
Soft	Tone, Personality, Pro-activeness
Other	Topics, Redesign, etc.

Customization

Limitations

- Inappropriate techniques
- Increased workload and time → demotivated design team

Conditions

- Motivation and processual knowledge (architect)
- Active role in user engagement (client)
- Need for a dedicated unit managing customized service

Service Quality

Expectations
- Previous experience
- Needs
  - Basic needs
  - Articulated needs
  - Exciting needs
- Word–of–mouth recommendations

Perception
- Knowledge
- Understanding drawings
- Habitus shock

Service Quality

Evaluation

- Perception vs expectations
- Interactions, activities and dynamic events

Gap dimensions
- *Reliability*
- *Responsiveness*
- *Empathy*
- *Assurance*
- *Tangibles*
- *Aesthetic workmanship*
- *Technical workmanship*

Needs
Word-of-mouth
Experience

0
Briefing

Expected Service

Gap 0

Perceived Service

1
Design

Expected Service

Gap 1

Perceived Service

2
Construct

Expected Service

Gap 2

Perceived Service

3
Use

Expected Service
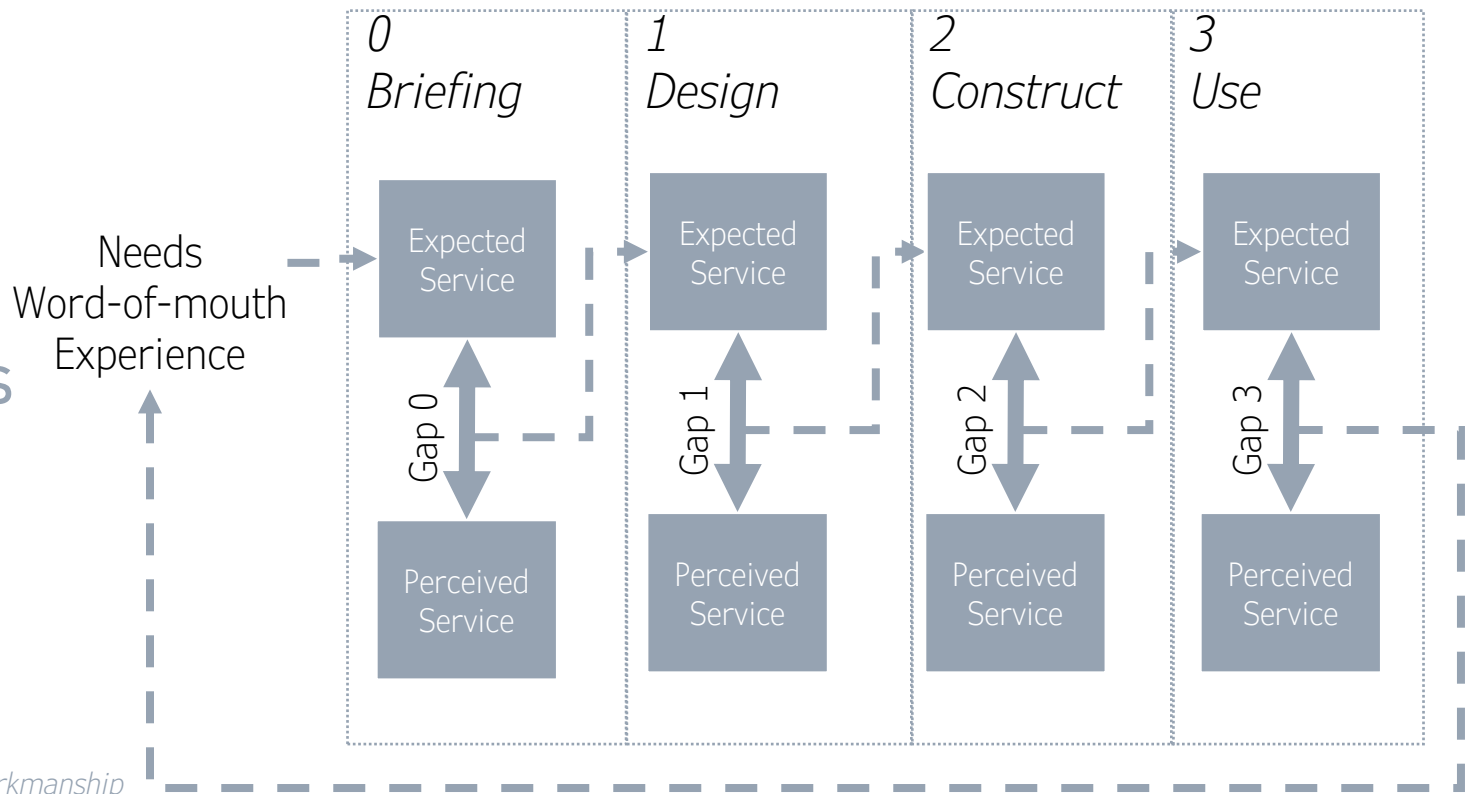
Gap 3

Perceived Service

Figure 4: Own figure; adapted from Parasuraman, 1995 & Forsythe, 2008

Service Quality

Contributors

- Relationship quality

- Lack of communication
- Unrealistic targets and budgets
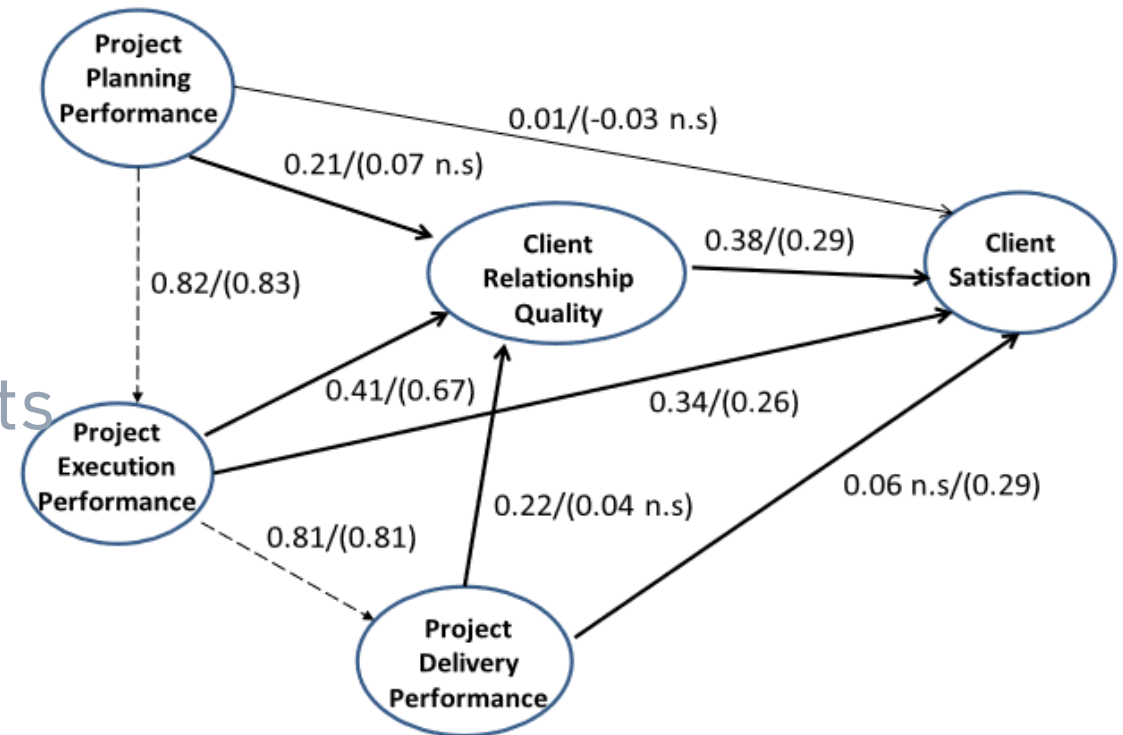- Lack of acknowledgment
- Lack of emotional communication

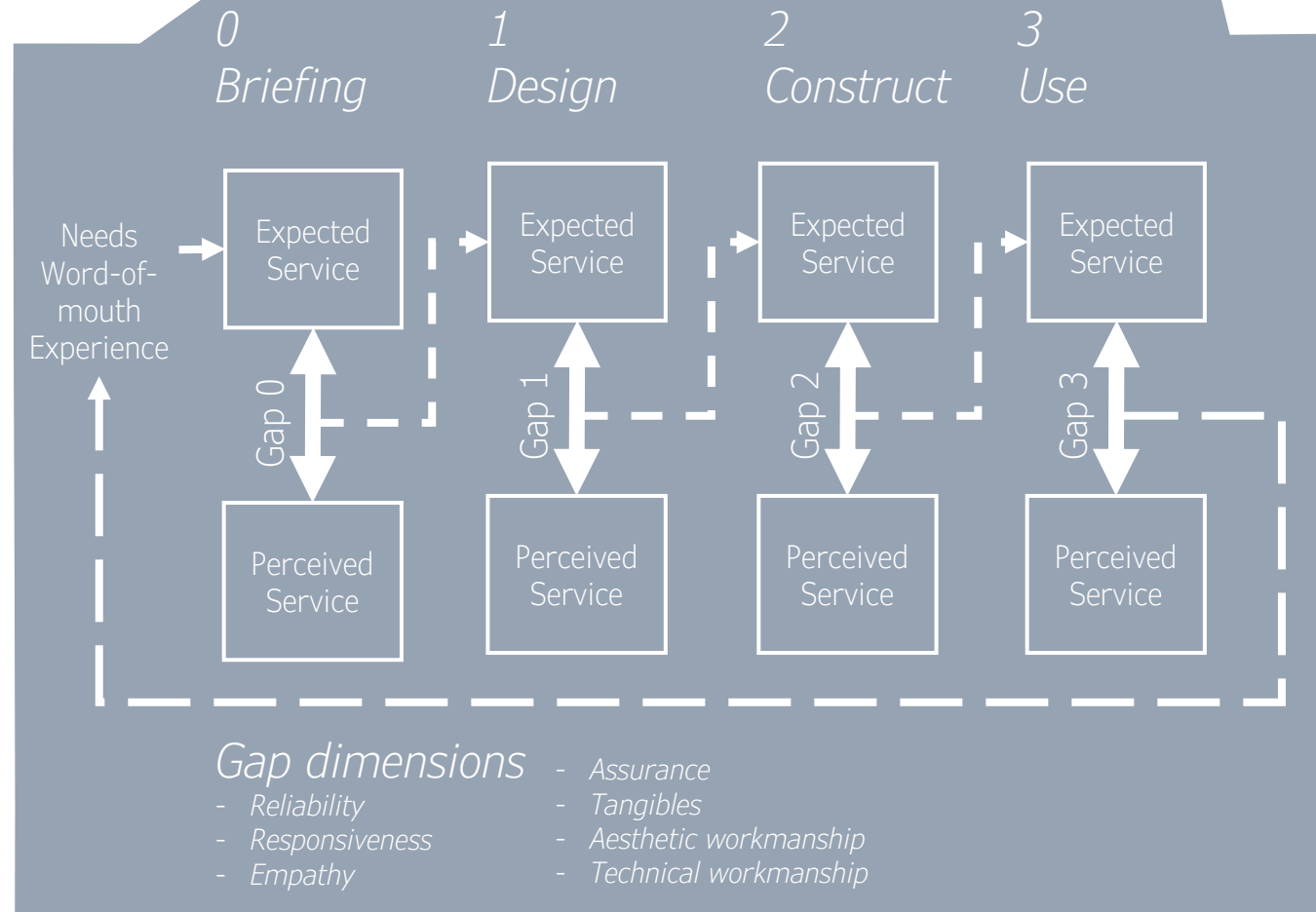Figure 5: Factors contributing to client satisfaction; Chan et al., 2004

Customized Interactions

Service Quality

Customizations	Examples
Environment	Office, on site, video call, neutral ground
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Soft	Tone, Personality, Pro-activeness
Other	Topics, Redesign, etc.

Focuss
- *Person based*
- *Task based*
- *Hybrid*

0
Briefing

1
Design

2
Construct

3
Use

Needs
Word-of-mouth
Experience

Expected Service

Expected Service

Expected Service

Expected Service

Gap 0

Gap 1

Gap 2

Gap 3

Perceived Service

Perceived Service

Perceived Service

Perceived Service

Gap dimensions
- *Reliability*
- *Responsiveness*
- *Empathy*
- *Assurance*
- *Tangibles*
- *Aesthetic workmanship*
- *Technical workmanship*

Methods

Methods

Theory

M

Case studies

Case selection

Data collection

Results

Case studies

- Novice field
- Qualitative, exploratory nature

Part A

Survey

Mapping the service process

Part B

Client interviews

Reflection on project & suggestion for improvement

Part C

Architect interviews

Reflection on project & suggestion for improvement

Case studies

Type 4
- Multiple cases
- Multiple units of analysis
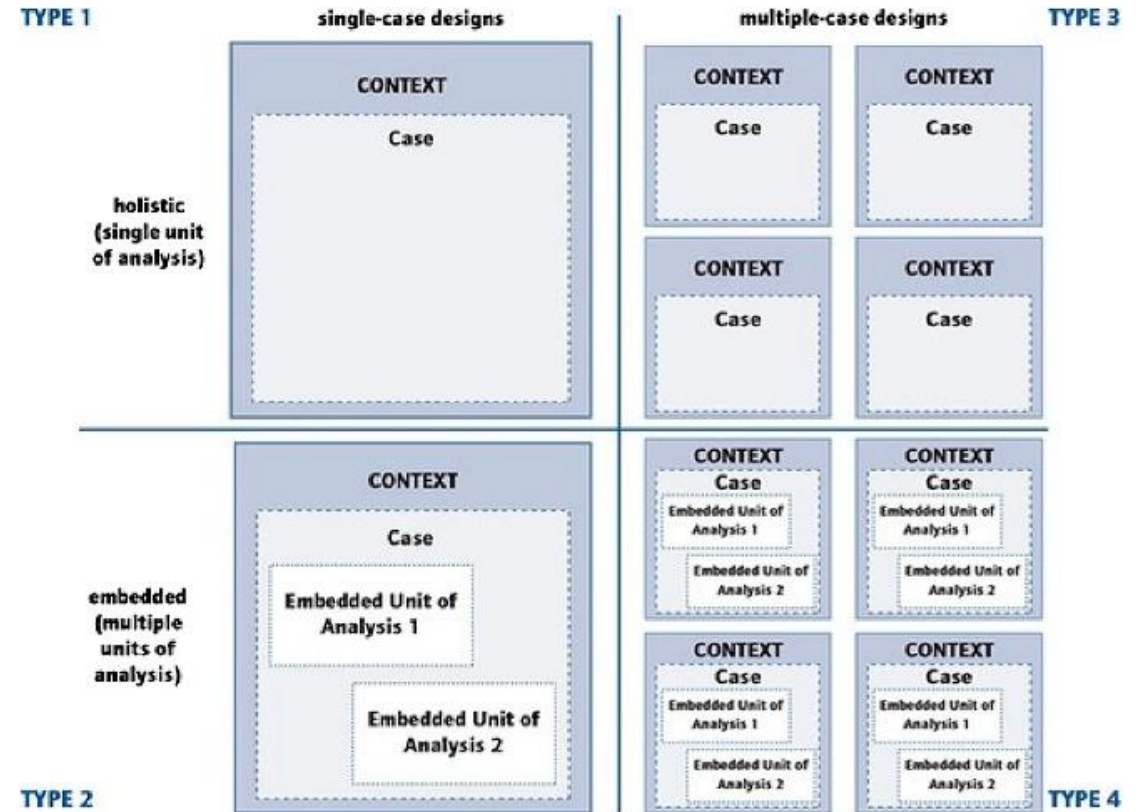
Figure 6: Basic design of case studies; Yin, 2003

Case studies
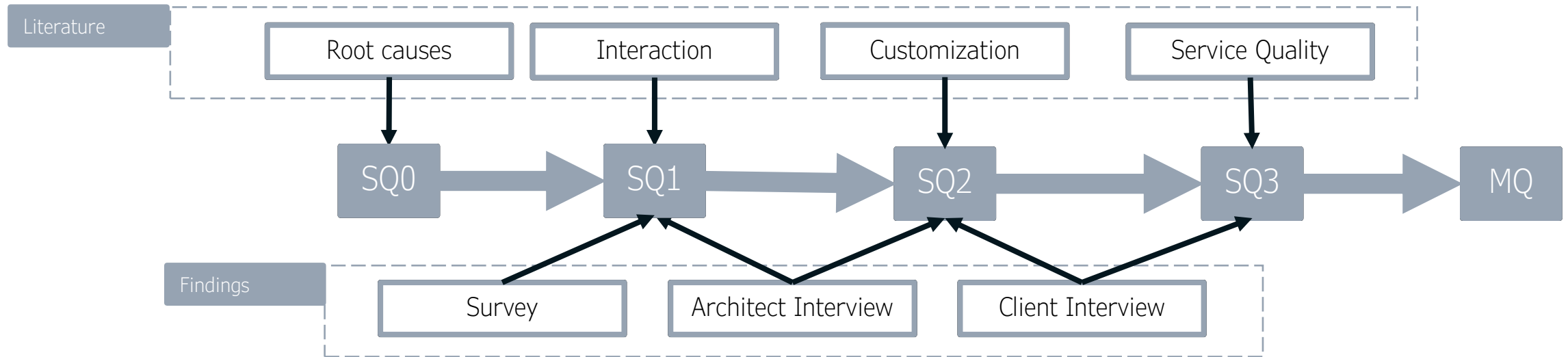
Root causes	Interaction	Customization	Service Quality

SQ0 → SQ1 → SQ2 → SQ3 → MQ

Findings

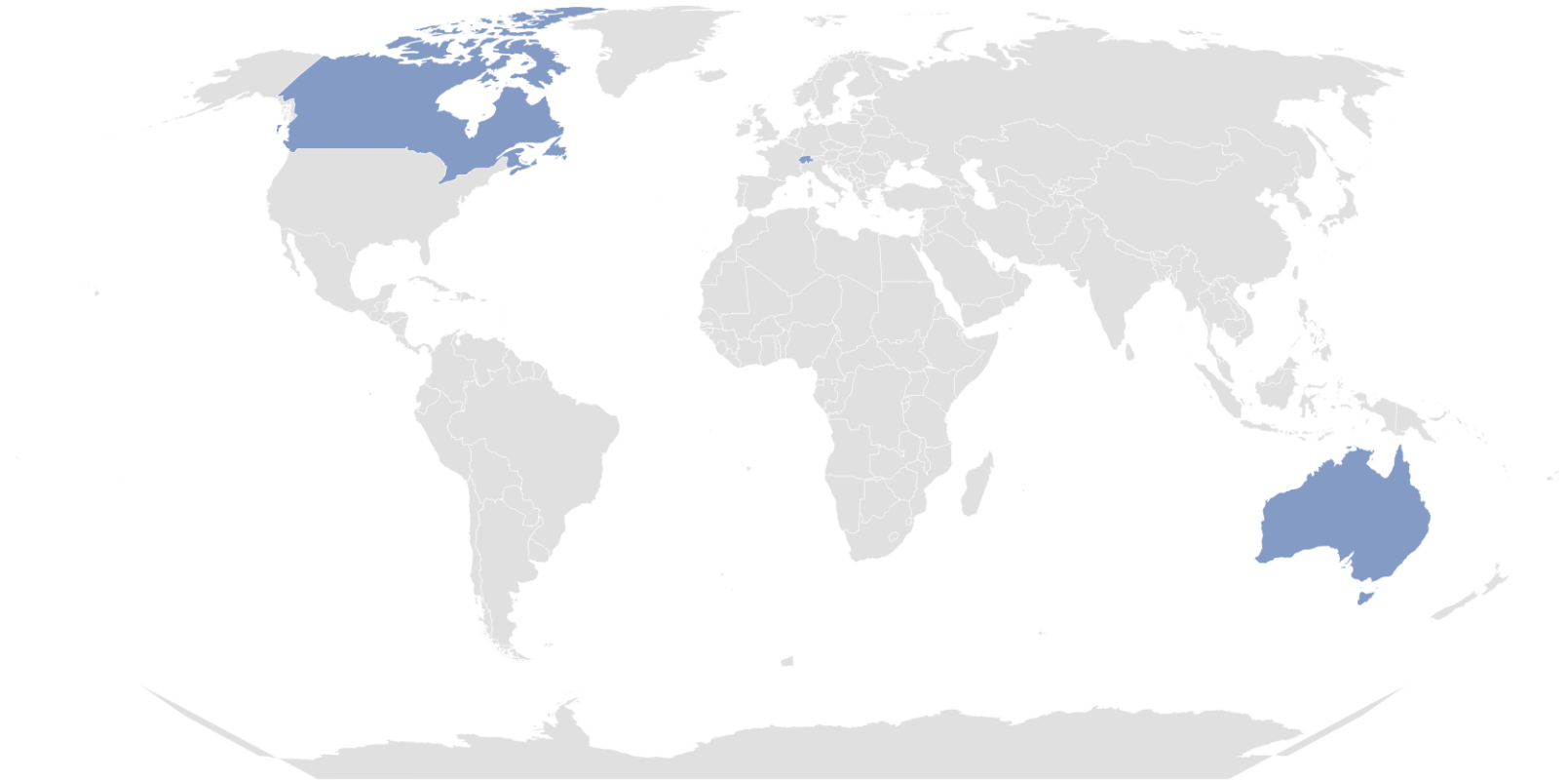| Survey	Architect Interview	Client Interview

- **SQ0:** What are root causes of the problematic relationship?
- **SQ1:** What is the standard interaction procedure?
- **SQ2:** How is being customized?
- **SQ3:** What is the service quality, what elements influenced it, and how is it being evaluated?

Case selection

- Architect selection (size, vision, type)
- Client (experience, participation)
- Interview procedure

Data collection

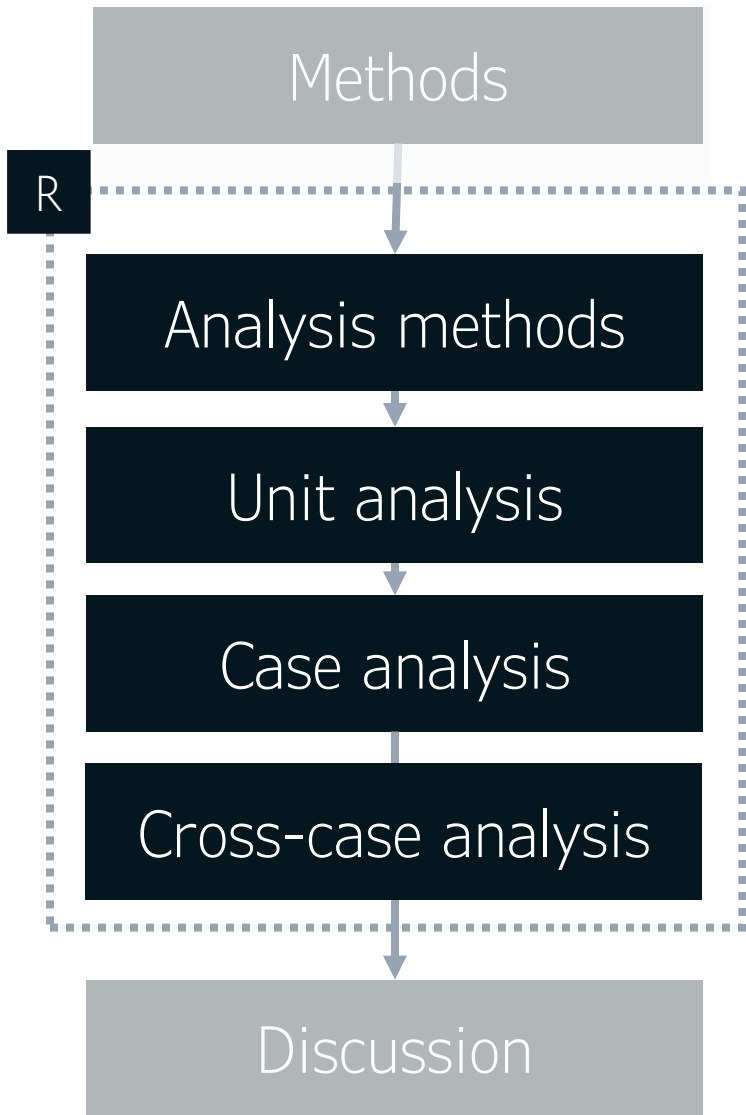- Microsoft Forms
- Microsoft Teams
- Atlas TI

Results

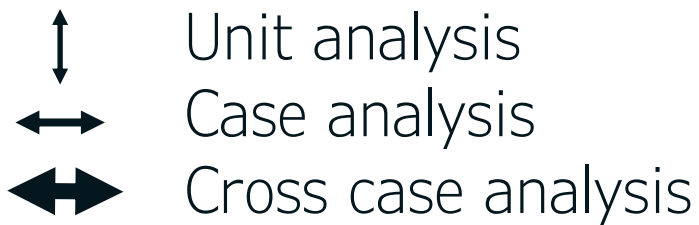Methods

Results

R

Analysis methods

Unit analysis

Case analysis

Cross-case analysis

Discussion

Analysis methods

Case A
- Standard interactions

Unit 1
- Cust.
- SQ.
- Infl.

Unit 2
- Cust.
- SQ.
- Infl.

Unit 3
- Cust.
- SQ.
- Infl.

Case B
- Standard interactions

Unit 4
- Cust.
- SQ.
- Infl.

Unit 5
- Cust.
- SQ.
- Infl.

Case C
- Standard interactions

Unit 6
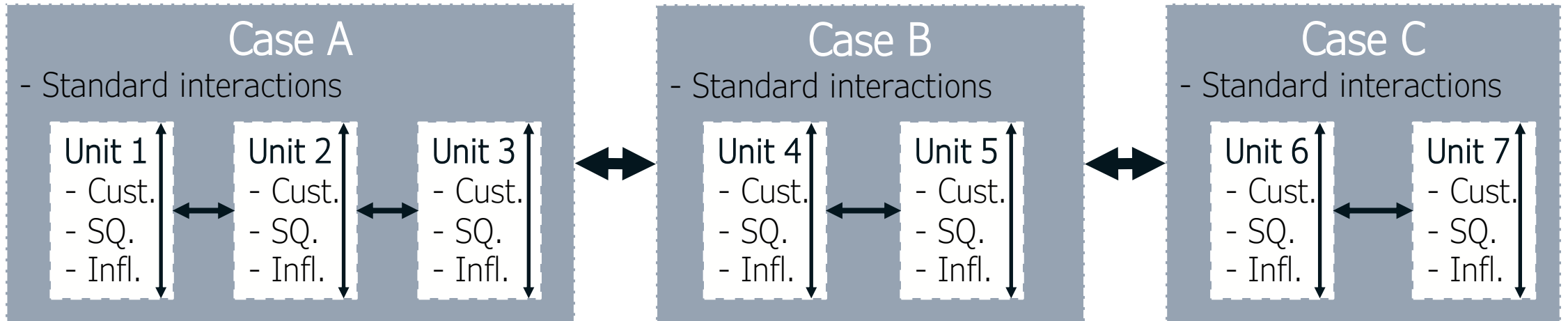- Cust.
- SQ.
- Infl.

Unit 7
- Cust.
- SQ.
- Infl.

Unit analysis
Case analysis
Cross case analysis

Project analysis

Interactions

- Environment: based on client needs, (otherwise office)
- Actors: Briefing architect, Project lead, Construction architect
- Involvement: Alternative (client chooses from alternatives presented by architects)
- Tools: Sketches, 2D, CAD, renders,
- Soft skills: Approachable, friendly, considerate, warm

Process education: Multipage document explaining the process to the client
Fee: Hourly based

Project analysis

Unit 1

Customizations: 3
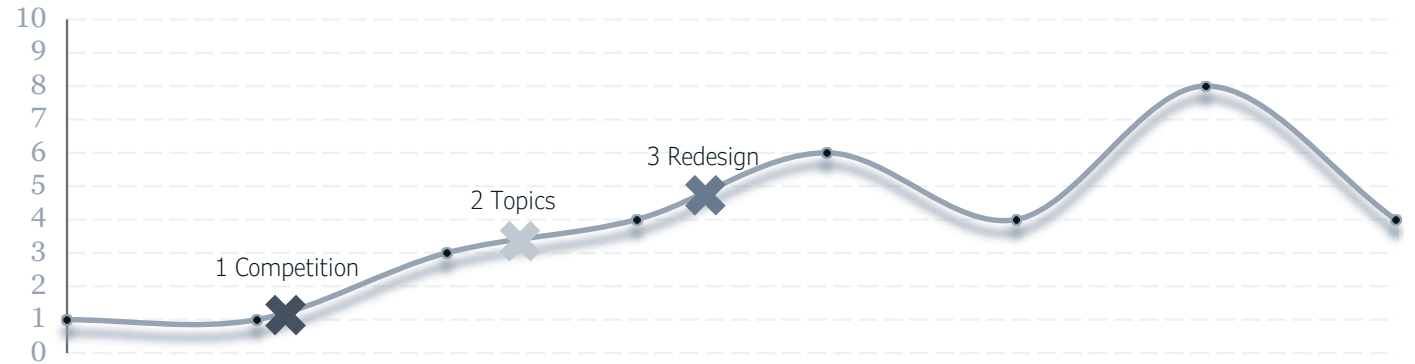
Design competition (2 architects)

– Discussing more

– Redesign, later in the project

Service quality: 7.1

– Based on: product & pricing

1 Competition

2 Topics

3 Redesign

SQ rating:

7.1

+Design competition

+Renders

+Responsiveness

+Architects grasp of clients needs

+Open discussion about service quality via this research

Influences   1 Competit.   2 Topics.   3 Redesign

Project analysis

- Fussy millwork
- Less control

Unit 2

Customizations: 6

- Online consultation
- Co-decision
- Print drawings
- "Sketching conversations"
- On site "mock-ups"
- Higher level of detail

Service quality: 9.5

- Based on: enjoyment of space

10
9
8
7
6
5
4
3
2
1
0

8. On site mockups

4. Online   5. Co-decision   6. Print drawings   7. Sketchess   9. Level of detail

+Tone, personality, diplomacy of architect A3.

+Managing of expectations.

+Asking question

+Sketches,

+Storyboards

+Samples

+Mock-ups

+Thorough architect A2

+Client education

+Architect A3 is on it

+Thoughtful gift

Influences   4 Online.   5 Co-decis..   6 Print dra.   7. Sketches   8. On site.   9. Level of.

I   T   M

R   D   C

Project analysis

-Concrete planner

-Trades

-No pushback

Unit 3

Customizations: 2
– More office meetings
– Casual conversations

Service quality: 9.0
– Based on: responsiveness, vision, creativity, materials interactions, & collaboration

10. Office meeting 11. Casual conversations

SQ rating:

9

+Education	+Personality	+ Builder	+Aftercare
+Big picture	+Rationality		
+Pro-activeness	+Renders		
+Office meeting			

Influences   10. Office.   11 Casual..

Project analysis

Interactions

- Environment: based on client needs, (otherwise office), WhatsApp
- Actors: Project lead (with sketch designs of all architects)
- Involvement: Dialogue
- Tools: 3D imagery, Pinterest
- Soft skills: Pro-active

Process: Process Chart
Fee: Percentage based (however, based on amount of work)

I   T   M   38   R   D   C
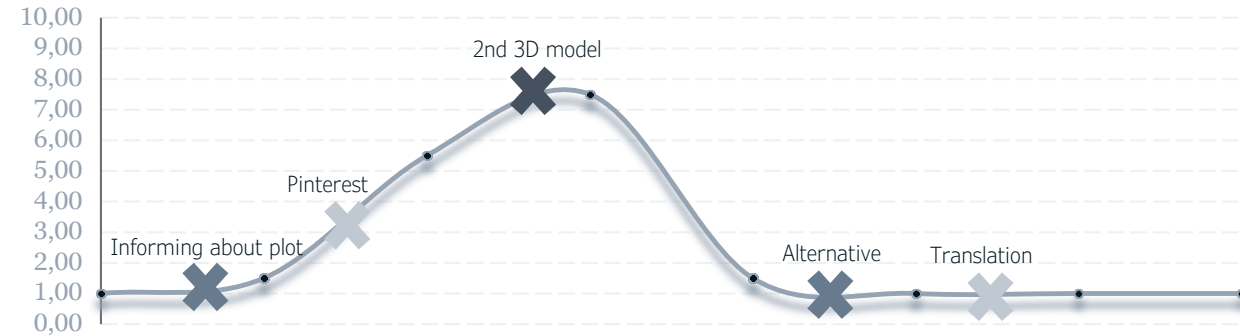
Project analysis

-Negative

-3D/ Renders

Unit 4

Customizations: 5

- Alternative involvement
- Detailed Pinterest boards
- 2nd 3D model
- Informing about plot restrictions up front
- Translations

Service quality: 8.5

- Based on: General feeling, reliability, empathy

10,00
9,00
8,00
7,00
6,00
5,00
4,00
3,00
2,00
1,00
0,00

2nd 3D model

Pinterest

Informing about plot

Alternative

Translation

SQ rating:

8.5

+Time schedule

+Pro-activeness

+Transparency

+Meetings & Reports

+ Construction management

Influences

12. Informing about plot restrictions

13 Pinterest

14. 2nd 3D model

15. Alternative Involvement

16. Translation
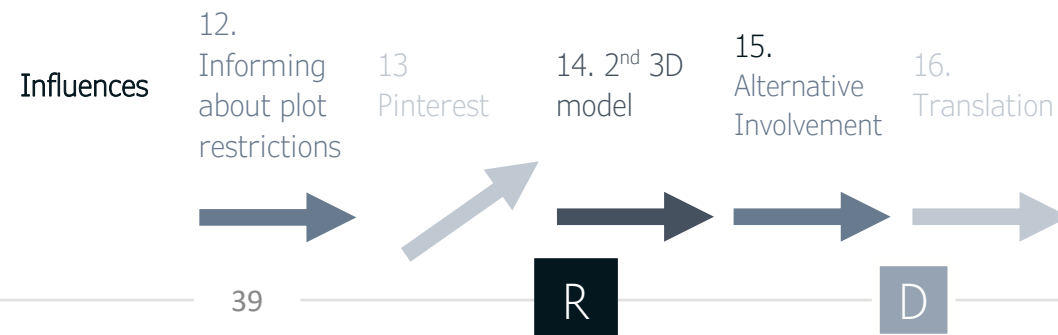
Project analysis

Construction
- Early invoice
- No use of app
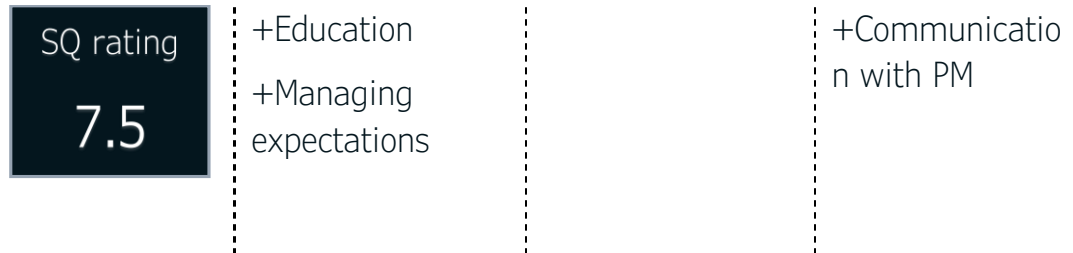
Use
- Deficiencies
- No debrief

Unit 5

Customizations: 3
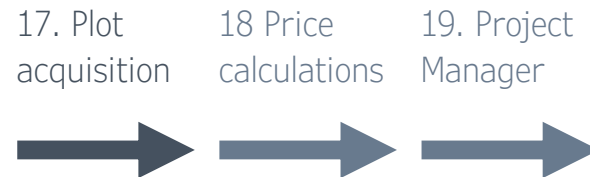
– Including project manager

– Help with plot acquisition

– Price calculation

Service quality: 7.5

– Based on: creativity, communication, reliability, product

Plot acquisition   Price calculations   Project manager

SQ rating

7.5

+Education

+Managing expectations

+Communication with PM

Influences

17. Plot acquisition → 18 Price calculations → 19. Project Manager

Project analysis

Interactions

- Environment: based on client needs, preferred in person (online)
- Actors: Task based
- Involvement: Alternative
- Tools: Sketch, CAD, 3D, renders
- Soft skills: Listening

Process: No formal procedure, based on needs (project & client)
Fee: Hourly based (with limits)

Project analysis

-Adoption of the latest technology

Unit 6

Customizations: 6
- Many on-site meetings
- Two architects
- Including project manager
- Self-decision involvement
- Total redesign, Own contractors

Service quality: 8.3
- Based on: Lack of issues, compared to experience in own professional career

I   T   M

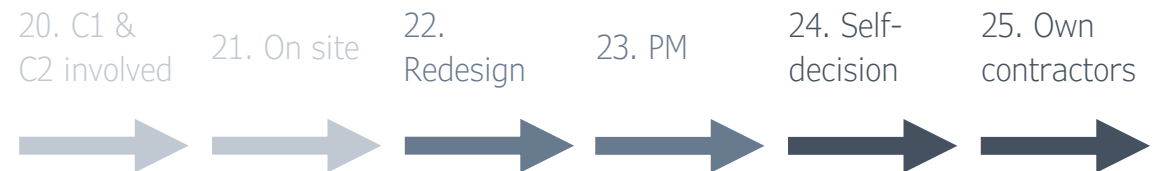Chart labels: C1 & C2 involved | On site | Redesign | Project Manager | Self-decision | Own contractors
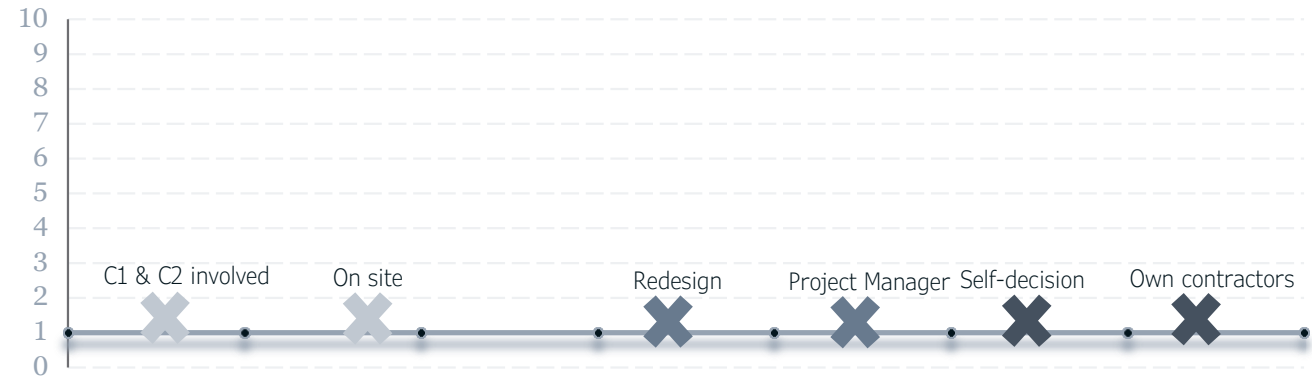
SQ rating
8.3

+Trust
+Personality
+Hand drawing

+Design what the client had in mind
+3D

+Client involved
+Qualitative Collaboration
+PM

+Relationship

Influences

20. C1 & C2 involved
21. On site
22. Redesign
23. PM
24. Self-decision
25. Own contractors

R   D   C

Project analysis

-Haven't built trust yet

-Invoicing update

Unit 7

Customizations: 1
- Only using 2D drawings

Service quality: 9.3
- Based on: Product & Pricing

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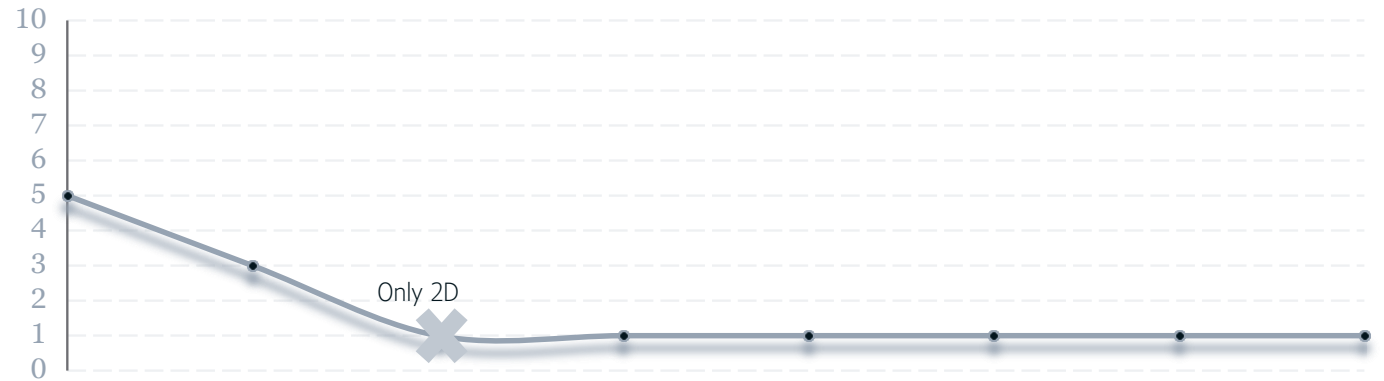
Only 2D

SQ rating:

9.3

+Treatment

+References

+Attention to detail

+Aftercare

Influences   26. Only 2D

Project analysis

Customizations

- Most in design phase
- PB vs TB
- Large customizations have bigger impact (1,67 vs 1,1)
- Types: other, tools, actors, environment, involvement, soft

#	Name	Type	Phase	Size	TB/PB	Gap	Infl.
1	Design competition	Actors	Briefing	L	H	1	++
2	Topics	Other	Design	S	PB	3.5	? (+)
3	Redesign	Other	Design	M	TB	4.5	?
4	Online	Environment	Brief	S	PB	1	? (+)
5	Co-decision	Involvement	Design	M	PB	1	? (+)
6	Print drawings	Tools	Design	S	PB	1	+
7	Sketch	Tools	Design	S	PB	1	++
8	Level of Detail	Other	Design	M	H	2	? (+)
9	On site mock-up	Tools	Construction	L	H	1	++
10	Office meeting	Environment	Design	S	PB	1	? (+)
11	Casual conversation	Other	Design	S	PB	1	+
12	Informing about plot restr.	Other	Briefing	M	H	1	++
13	Pinterest	Tools	Briefing	S	H	3	+
14	2nd 3d model	Tools	Design	L	H	7	++
15	Alternative	Involvement	Construction	M	PB	1	? (+)
16	Translation	Other	Construction	S	PB	1	+
17	Plot Acquisition	Other	Briefing	L	PB	1	? (+)
18	Price calculation	Other	Briefing	M	PB	1	+
19	Project Manager	Actors	Construction	M	PB	1	++
20	C1 & C2	Actors	Briefing	S	H	1	? (+)
21	On site	Environment	Design	S	PB	1	+
22	Redesign	Other	Design	M	TB	1	?
23	Project Manager	Actors	Construction	M	PB	1	++
24	Self-decisions	Involvement	Construction	L	PB	1	+
25	Own contractors	Actors	Construction	L	PB	1	++
26	Only 2D	Tools	Design	M	PB	1	? (+)

Project analysis

Service Quality assessment
- Myriad of concepts
- SQ dimensions
- Iron triangle
- Others (relationship, enjoyment)

Project analysis

Service Quality contributors

- Fee structure
- Financial consultation
- Environment
- Tools
- Soft skills
- Education
- Managing expectations
- Communication
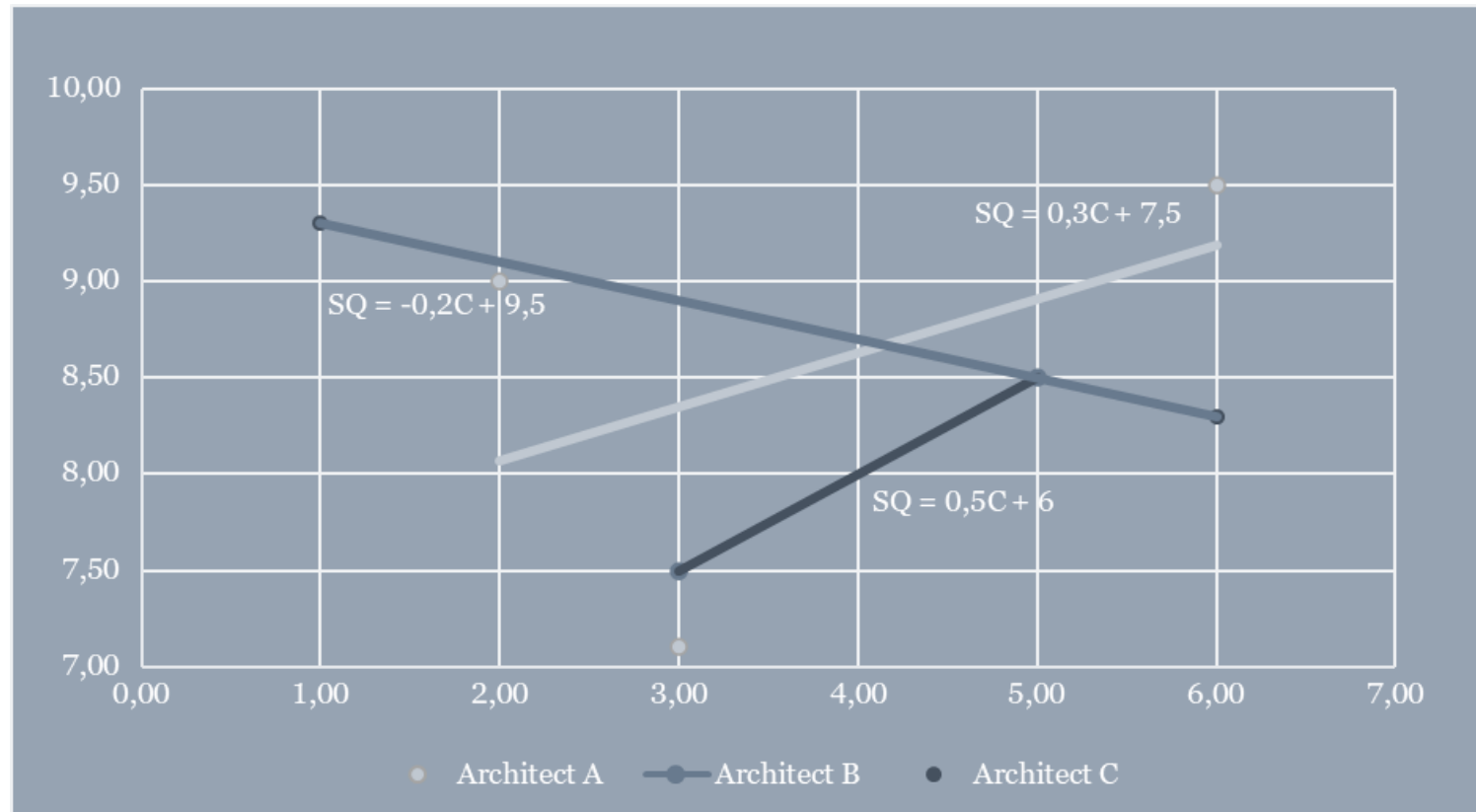
- Construction Services
- Project Manager
- Collaboration
- Standardization
- Briefing
- Debrief
- Skills
- Sustainability
- Industry

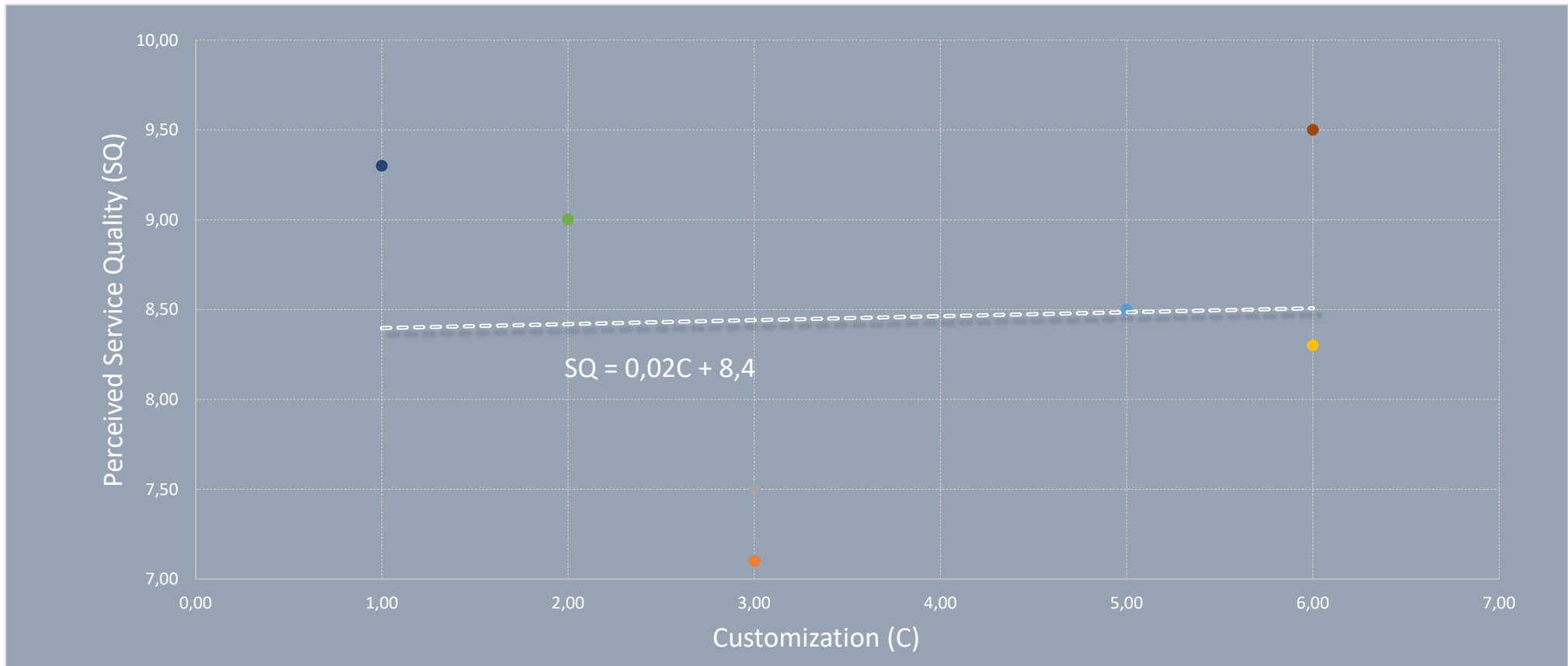# Case analysis

Customization & SQ

- Positive correlation for cases A & B
- Negative correlation for case C

SQ = 0,3C + 7,5

SQ = -0,2C + 9,5

SQ = 0,5C + 6

Architect A   Architect B   Architect C

Conclusive analysis

SQ = 0,02C + 8,4

Conclusive analysis

Other findings
- Resources
- Experienced clients
  - More customizations
  - Higher SQ

$C = 0.3128x + 3,$

Discussion

Results

D

SQ0: Root causes

SQ1: Interaction

SQ2: Customization

SQ3: Service quality

MQ: Effect custom.
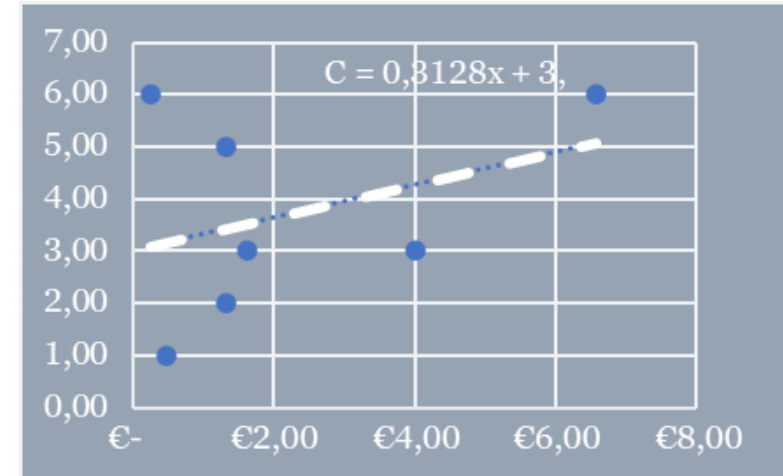
Conclusion
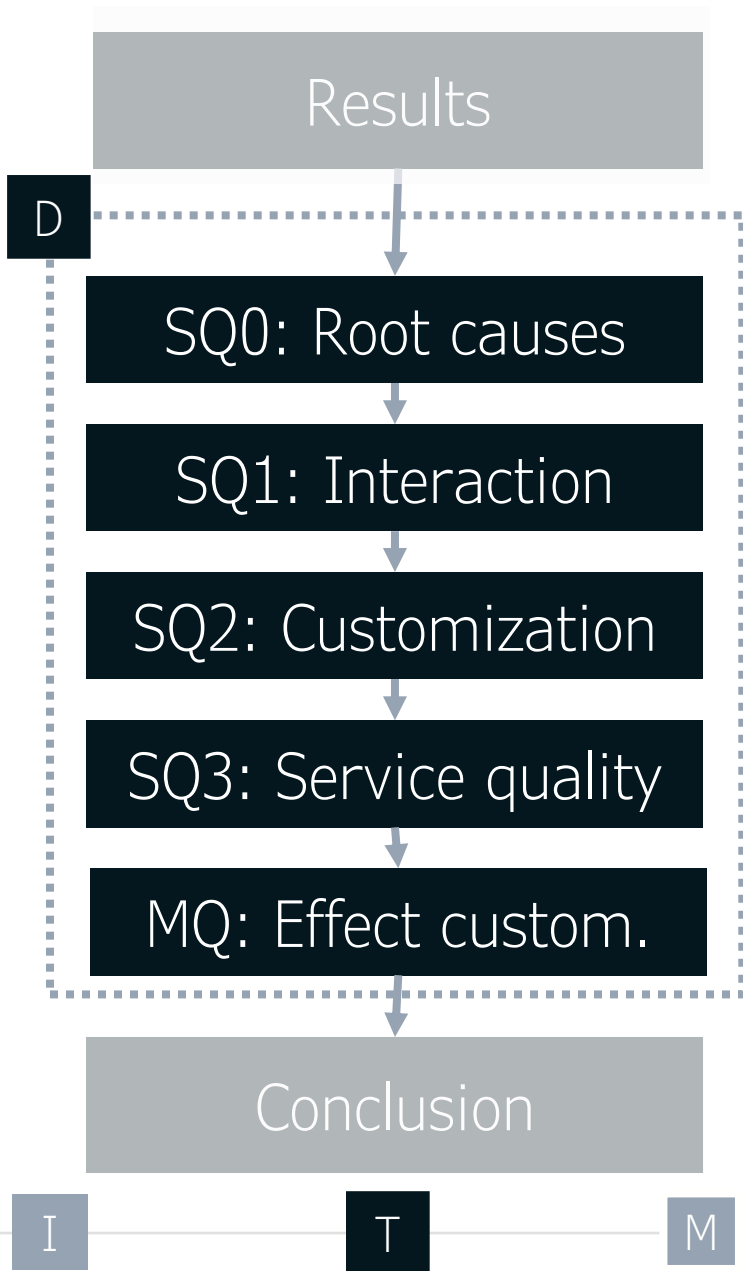
Discussion

SQ0: Root causes

- Fee structure (Angral, 2019)
- Inability to assess client requirements (Kärna, 2004)
- Formalized procedure (Emmitt, 2014)
- Lack of experience with clients (RIBA, 2020; Forsythe, 2008) → Client Learning (Siva & London 2012)
- Relationship quality (Chan, 2004)

SQ1: Interactions

- Environment (Frimpong & Dansoh, 2018)
- Actors (Cuff, 1991)
- Involvement of clients (Latortue, 2015)
- Tools (Ansari & Mela 2003; Erzetic, 2019)
- Soft skills (Emmitt, 2014)

SQ2: Customizations

- Vs Standardization (Kasiri et al., 2017)
- Own model
- Limited reliability
- Researchers' judgement
- Model improvement (definition, dimensions)
- More research needed

SQ3: Service Quality

- 7+ (selective participation)
- Assessment (dimensions, triangle, relationship, others)
- Contributors also mentioned in literature:, Education (client learning), expectation management, project manager, standardization, soft- & design skills.
- Suggestions for improvement: Financial consultation, debrief, latest (sustainable) technology.

MQ: Influence custom.

Results

- Positive correlation ≠ Causation
- Low significance, standard deviation
- Standard procedure (limited comparable)
- Depending on the clients, projects
- Also related to resources

MQ: Influence custom.

Limitations (method)

- Cases (limited amount, successful cases)
- Novice framework
- Insufficient "rules"
- Interviewing technique
- Analysis (researchers bias)

Conclusion

Question

How can customized interactions influence perceived service quality?

Conclusion

- Explorative case studies
- No decisive argument
- Positive relationship
- Other service quality contributors

Conclusion

- How depends (client & project)
- PB vs TB
- Architects' soft skills & relationship quality
- Framework as a first steppingstone
- More research needed (other projects, other methods)

Strategy

Strategy recommendations

- Formalizing (client services and client management)
- Post occupancy evaluations
- Include new technologies

Customizing Interactions

- Process education: (no experience, want to be involved)
- Briefing game: (undefined needs)
- Design participation: (want to be involved).
- PM helps those without experience.

Questions

Appendices

Strategy

Strategy recommendations

Type of client			Service customization
Experience +	Involvement +	Defined needs	Design participation
Experience +	Involvement +	Undefined needs	Briefing game, Design participation
Experience +	Involvement -	Defined needs	Traditional standard procedure
Experience +	Involvement -	Undefined needs	Design participation, briefing game
Experience -	Involvement +	Defined needs	Process education
Experience -	Involvement +	Undefined needs	Process education, Briefing game
Experience -	Involvement -	Defined needs	Include a PM
Experience -	Involvement -	Undefined needs	Deny

Reflection

- Methods (explorative case studies)
- Own framework
- Results (reliability, transferability)
- Planning
- Interviewing technique

Customization

Involvement

- See figure 3
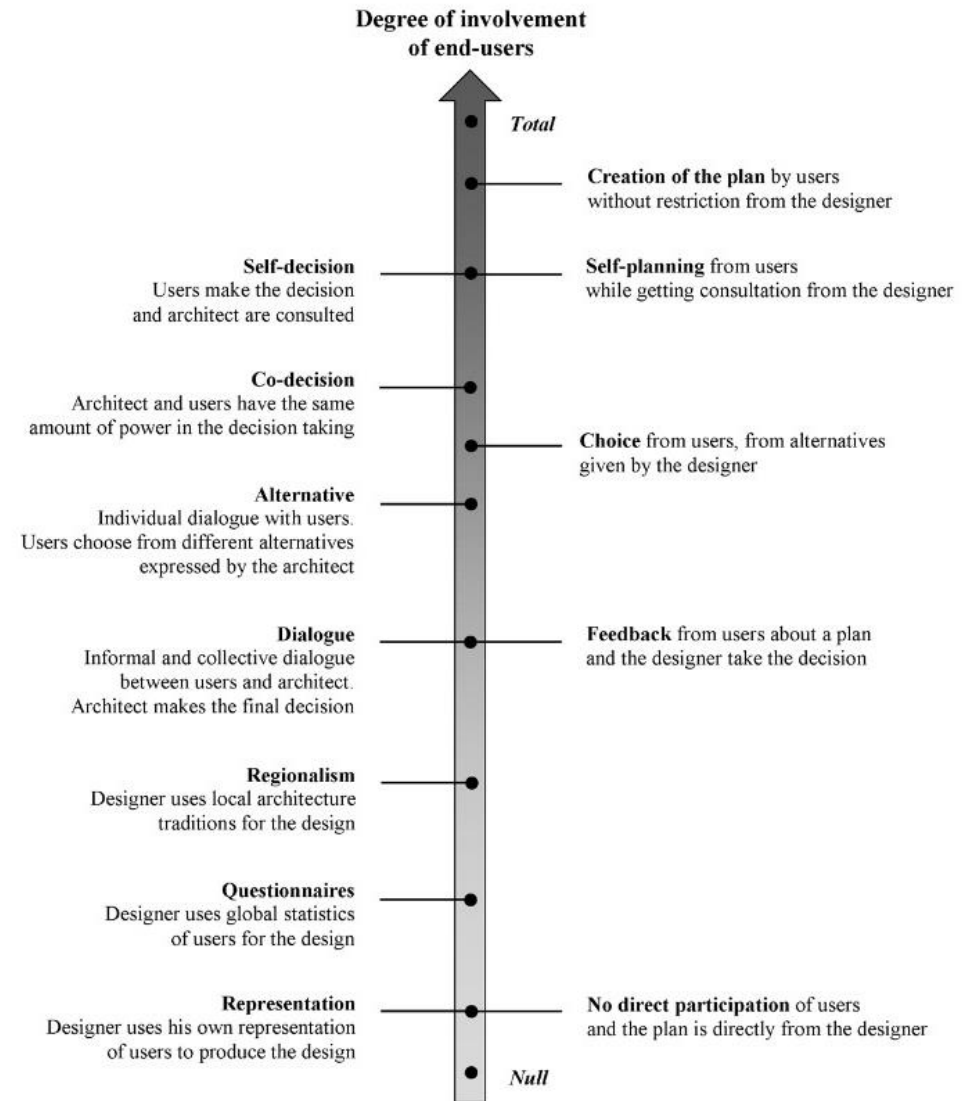
Figure 4: Degree of involvement of end users in design; Latortue et al., 2015

Planning

Year Planning

September	October	November	December	January	February	March	April	May	June

P1 P2 P3 P4 P5

- Topic definition
- Literature study
- Surveys
- Interviews
- Transcription
- Analysis
- Report writing
- Finalizing & Presentations

I T M R D C

Tasks

Tasks & relations

Method

Steps

Critical task

Survey

Contacting architects

Explaining architect

Selecting cases

Making survey questions

Ethical approval

Send out survey

Analyze survey

Client interview

Contacting Clients

Interview questions

Schedule interviews

Conduct interviews

Transcribe Interviews

Coding

Analyze interviews

Architect interview

Plan architect Interview

Interview questions

Schedule interviews

Conduct interviews

Transcribe Interviews

Coding

Analyze interviews

Data collection

	Project Survey	Client interviews	Architect Interviews
Consent	Form	Form	Form
Tools	Microsoft Forms	Microsoft Teams	Microsoft Teams
Data gathering	Excel	Word	Word
Data storage	Hard drive + Office 365	Hard drive + Office 365	Hard drive + Office 365