Long-term Perspectives of Stakeholders' Perceptions of Visualisation Media in Participatory Planning:

The Case of Sanguan Temple Square in Guangzhou

Xi Lu, Sigrid Hehl-lange, Eckart Lange

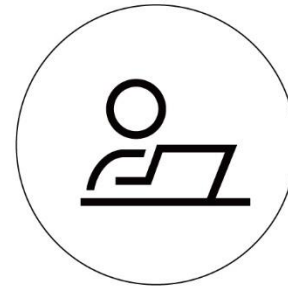The University Of Sheffield.

Digital Landscape Architecture 2021
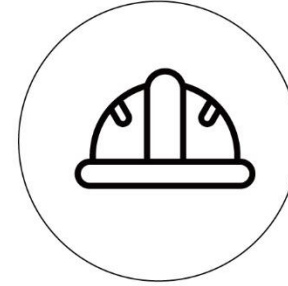
STAKEHOLDER

Government Official

Resident

Developer

Researcher

News Media

Construction

……

VISUALISATION

ANALOG

(Kiwi Mill, 2012)
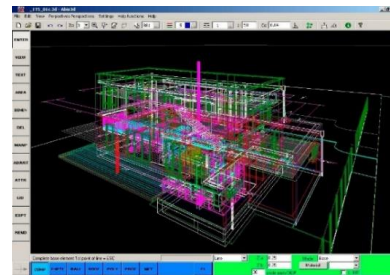

(King, 2012)
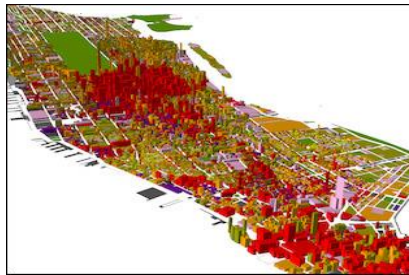

(Drawing Art Library, 2012)

(Repton, 2012)
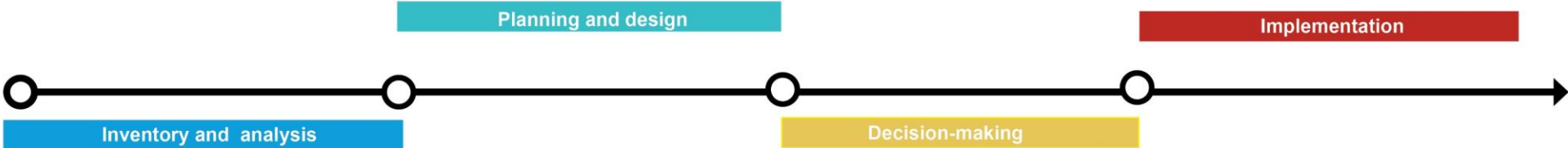
DIGITAL

(Barney, 2012)

(Gholap, 2016)

(MIT GIS service group, 2016)

(Cloud Wave, 2017)

PLANNING PHASE

Gap: Effectiveness of visualisation focuses on one particular point in time

CASE STUDY

How do stakeholders perceive different visualisation tools used at various planning phases?

2017
BEFORE

2020
AFTER

CASE STUDY

Analog: a= sketch and sticky notes; b= old photo; c= paper map; e= 3D physical model
Digital: d= 2D digital plan; f= 3D rendering; g= news media

METHODOLOGY

INTERVIEW

How do you perceive the effect of visualization over time?

■ V=10 ■ P=3 ■ N=2 ■ G=1 ■ C=1
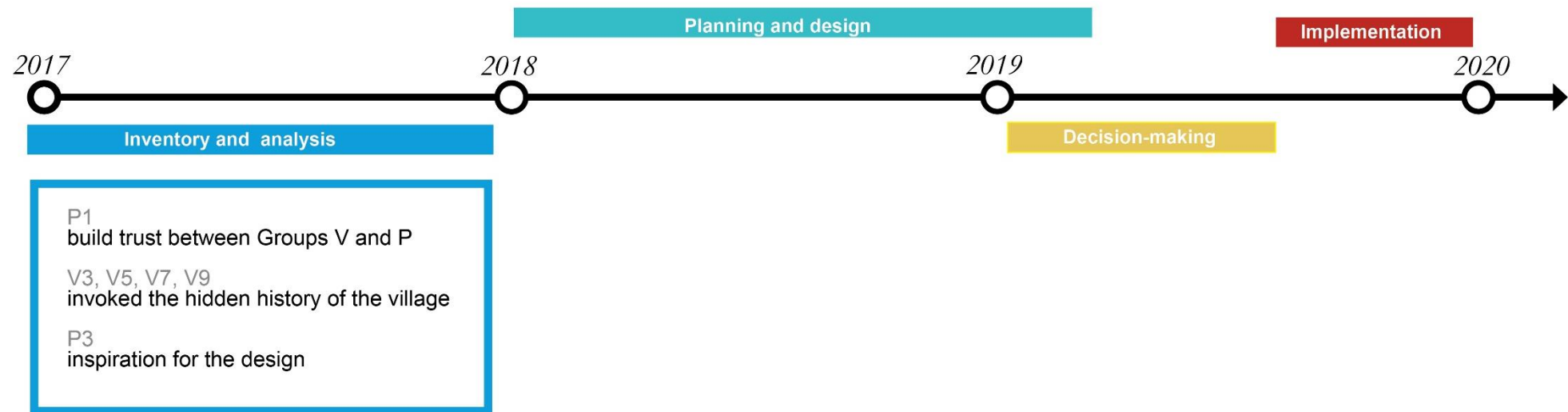
QUESTIONNAIRE

Easiness to comprehend

Helpfulness for discussion

Ideal tools for each of the planning phases

■ V=38 ■ P=8 ■ N=3 ■ G=5 ■ C=3

Villager=V; Planner=P; News media=N; Government official=G; Construction team=C

Planning and design

2017　　　*2018*　　　*2019*　　　*2020*

Inventory and analysis

Decision-making

Implementation

P1
build trust between Groups V and P

V3, V5, V7, V9
invoked the hidden history of the village
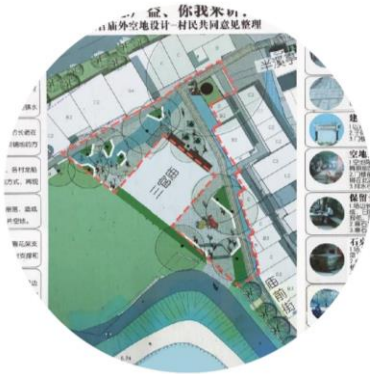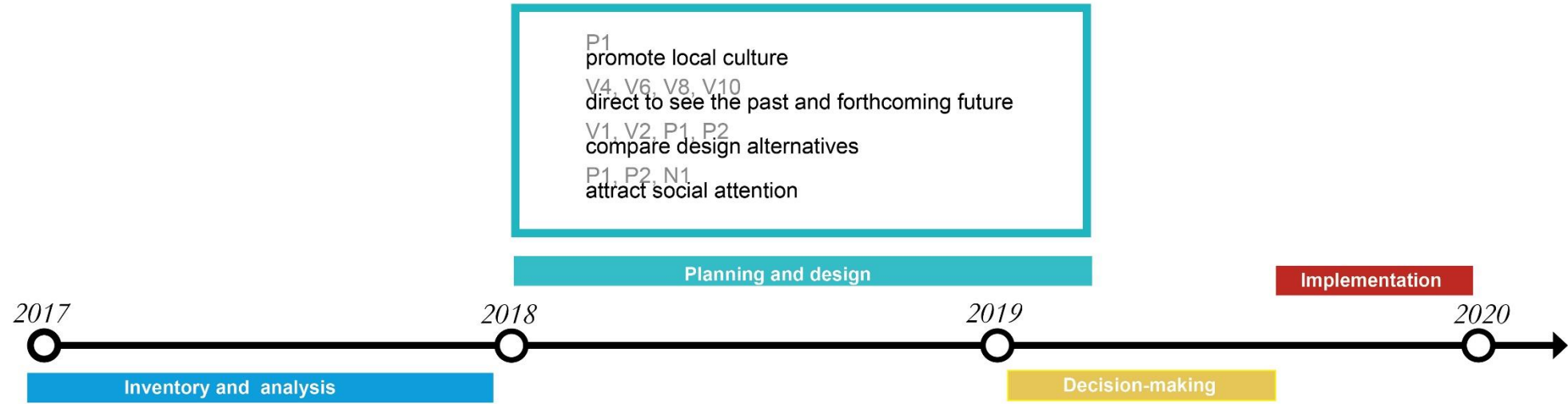
P3
inspiration for the design

Villager=V; Planner=P; News media=N; Government official=G; Construction team=C

INTERVIEW

P1
promote local culture

V4, V6, V8, V10
direct to see the past and forthcoming future

V1, V2, P1, P2
compare design alternatives

P1, P2, N1
attract social attention

Planning and design

Implementation

2017   *2018*   *2019*   *2020*

Inventory and analysis

Decision-making

Villager=V; Planner=P; News media=N; Government official=G; Construction team=C

Planning and design

2017 *2018* *2019* *2020*

Inventory and analysis

Implementation

Decision-making

P5
social attention

G1, P1, P2
change political attitudes
& decision-making

Villager=V; Planner=P; News media=N; Government official=G; Construction team=C

INTERVIEW

P5
enhance social attention

N2, V5
raise local identity

Implementation

Planning and design

2017   2018   2019   2020

Inventory and analysis

Decision-making
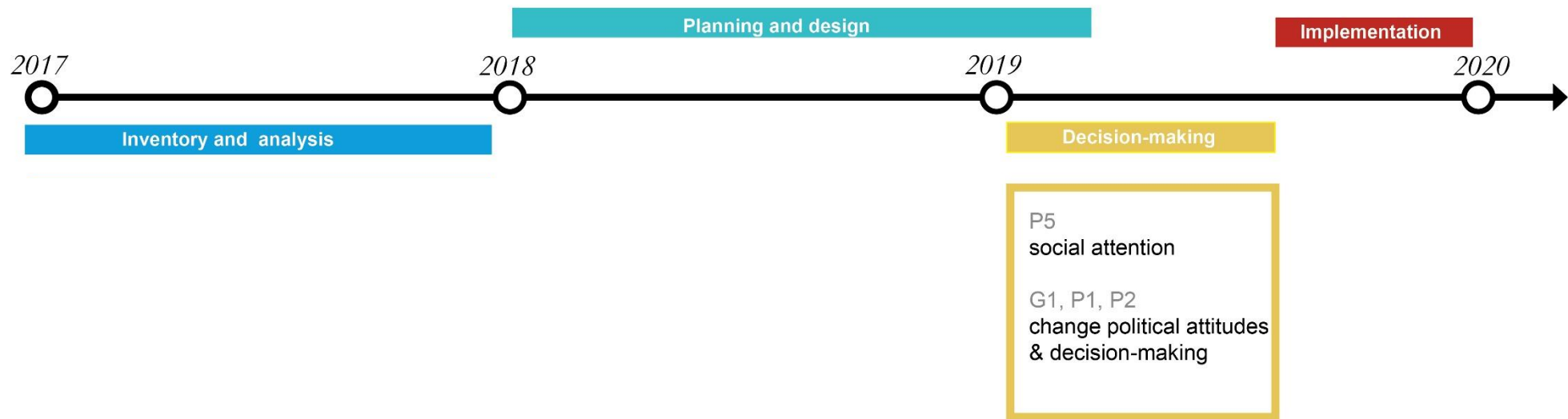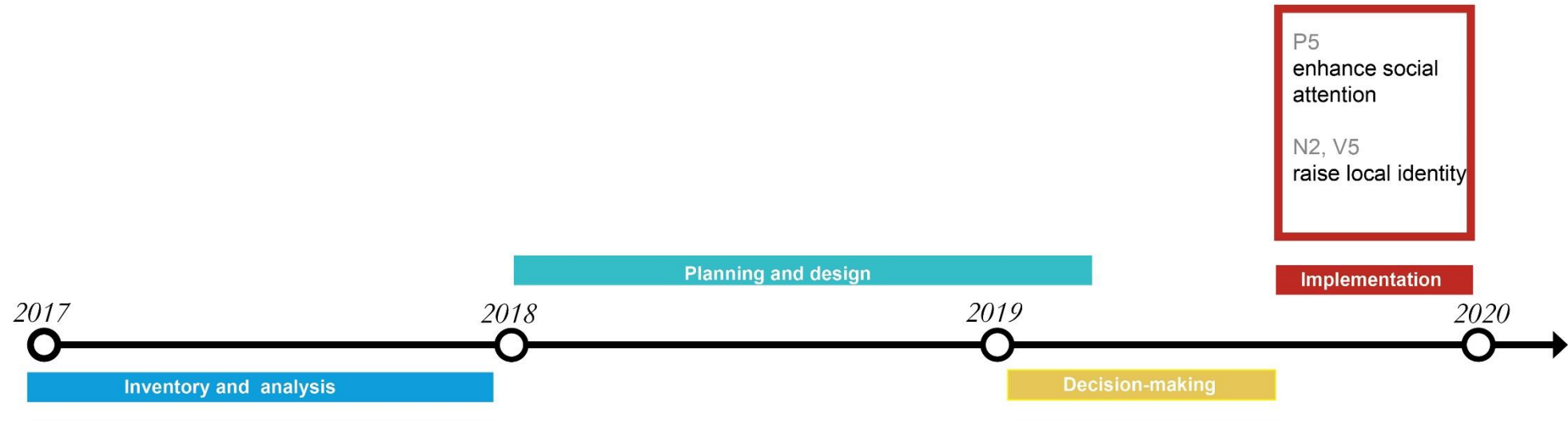
Villager=V; Planner=P; News media=N; Government official=G; Construction team=C

AVAILABILITY & UTILITY

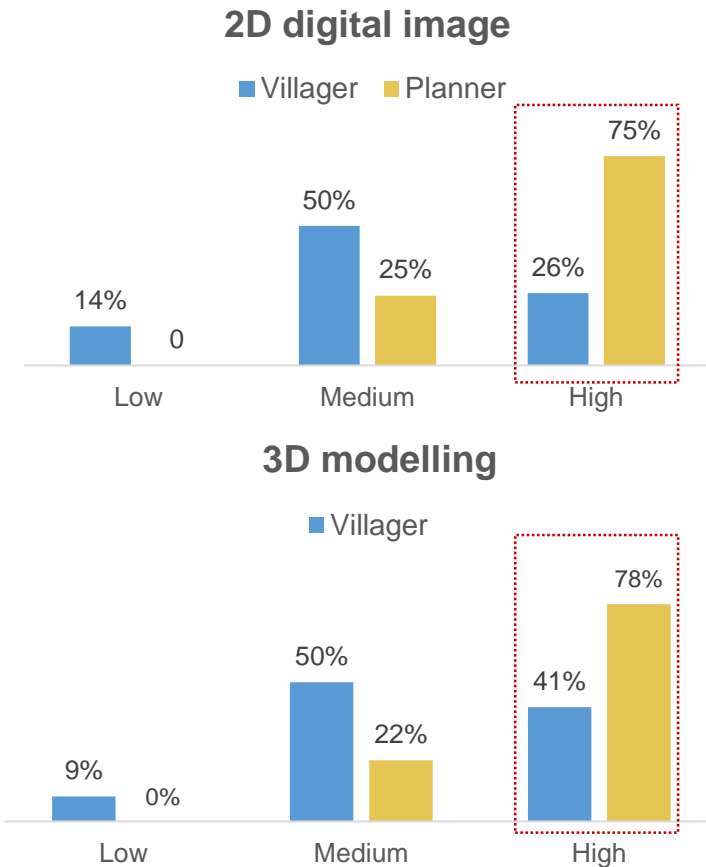| Availability during planning phases					Number of people have seen	Ease of comprehension			Helpfulness for discussion		
Category	PP1	PP2	PP3	PP4	Number	Low	Medium	High	Low	Medium	High
Sketch and sticky notes	X	X			22						
Paper map	X	X			31						
photo	X	X		X	34						
3D Physical model	X	X	X		42						
2D digital image		X	X	X	29						
3D modelling		X	X		34						
News media		X	X	X	27						

0-25%   26-50%   51-70%   71%+

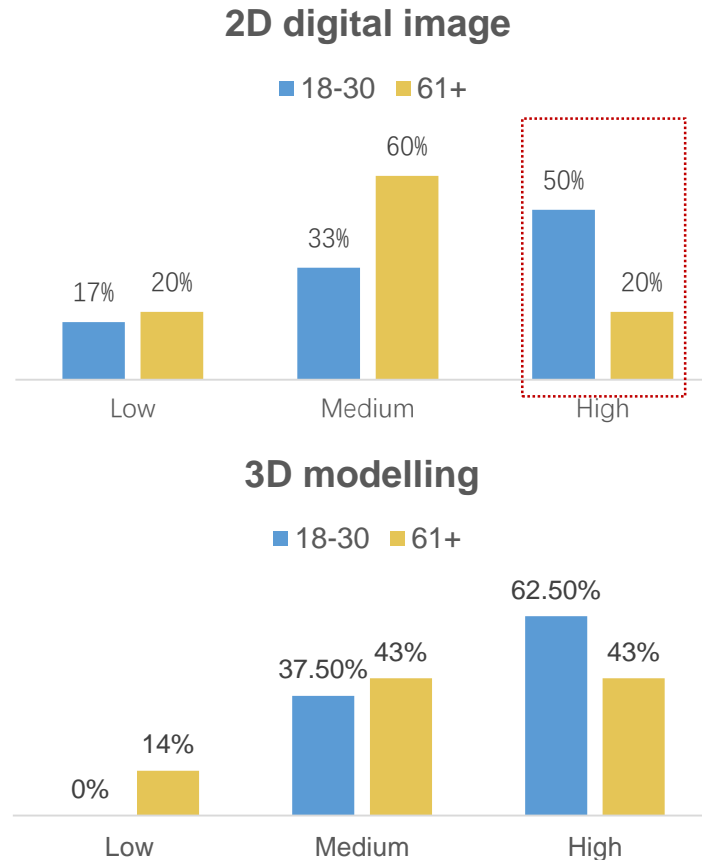Note: PP1= inventory, PP2=design, PP3= decision-making, PP4=implementation and maintenance;

INTER-GROUP COMPARISON

Gender (male=42, female=15); Age (18–30=12; 31–45=16; 46-60=16; 61+=13); stakeholder category (V=38; P=8; N=3; G=5;C=3)
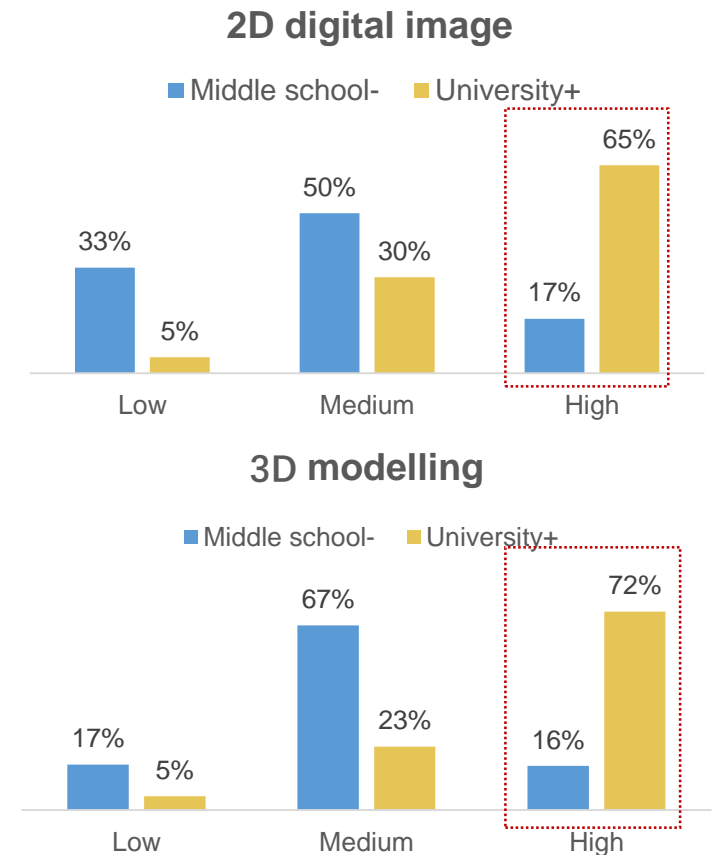Education Level (middle school or below=13; high school=19; undergraduate=18; master's level or above=7)
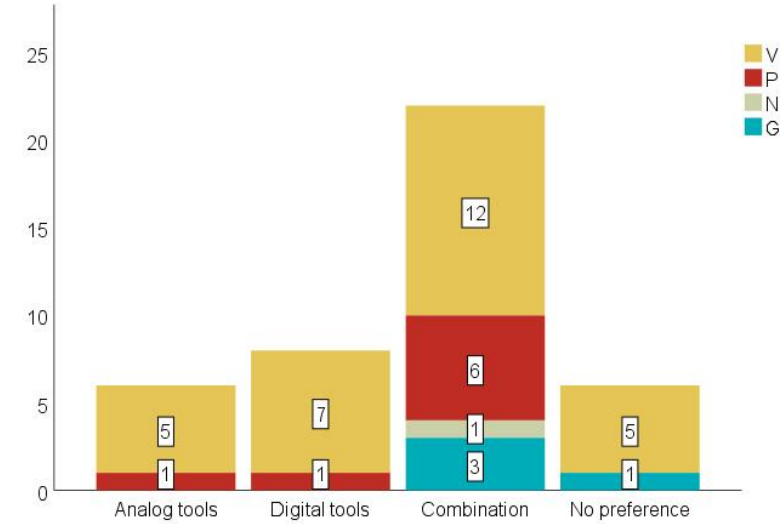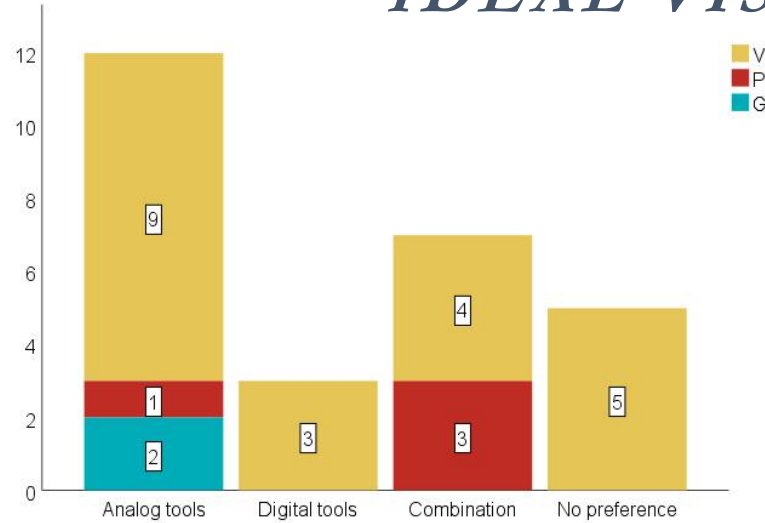
Lay person VS Expert

2D digital image
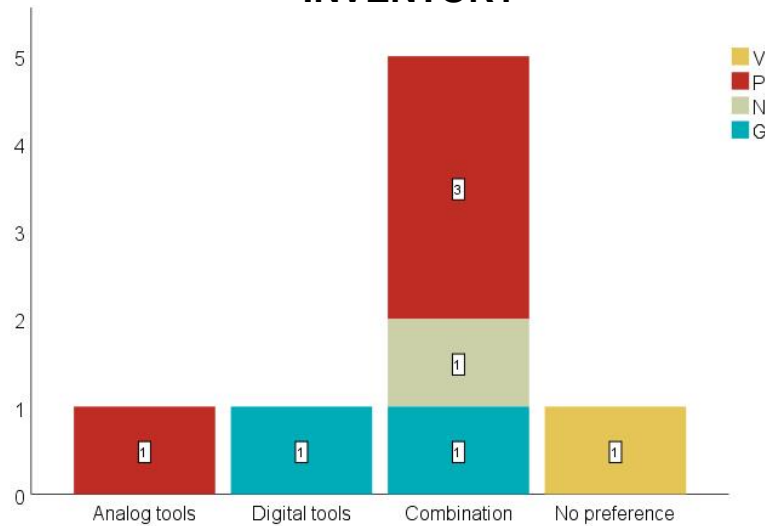
Villager | Planner

- Low: Villager 14%, Planner 0
- Medium: Villager 50%, Planner 25%
- High: Villager 26%, Planner 75%

3D modelling

Villager

- Low: Villager 9%, 0%
- Medium: Villager 50%, 22%
- High: Villager 41%, 78%

Young VS Elderly

2D digital image

18-30 | 61+

- Low: 18-30 17%, 61+ 20%
- Medium: 18-30 33%, 61+ 60%
- High: 18-30 50%, 61+ 20%

3D modelling

18-30 | 61+

- Low: 18-30 0%, 61+ 14%
- Medium: 18-30 37.50%, 61+ 43%
- High: 18-30 62.50%, 61+ 43%

Highly educated VS Less educated

2D digital image

Middle school- | University+

- Low: Middle school- 33%, University+ 5%
- Medium: Middle school- 50%, University+ 30%
- High: Middle school- 17%, University+ 65%

3D modelling

Middle school- | University+

- Low: Middle school- 17%, University+ 5%
- Medium: Middle school- 67%, University+ 23%
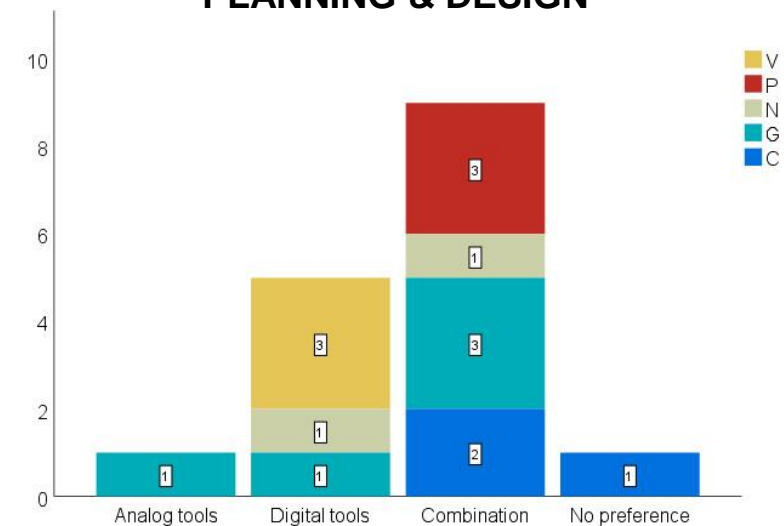- High: Middle school- 16%, University+ 72%
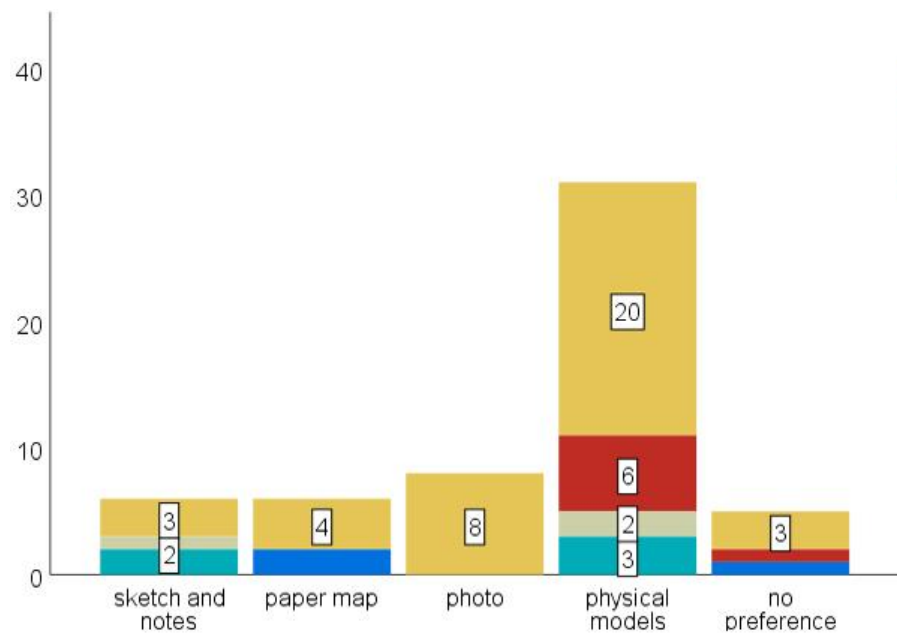
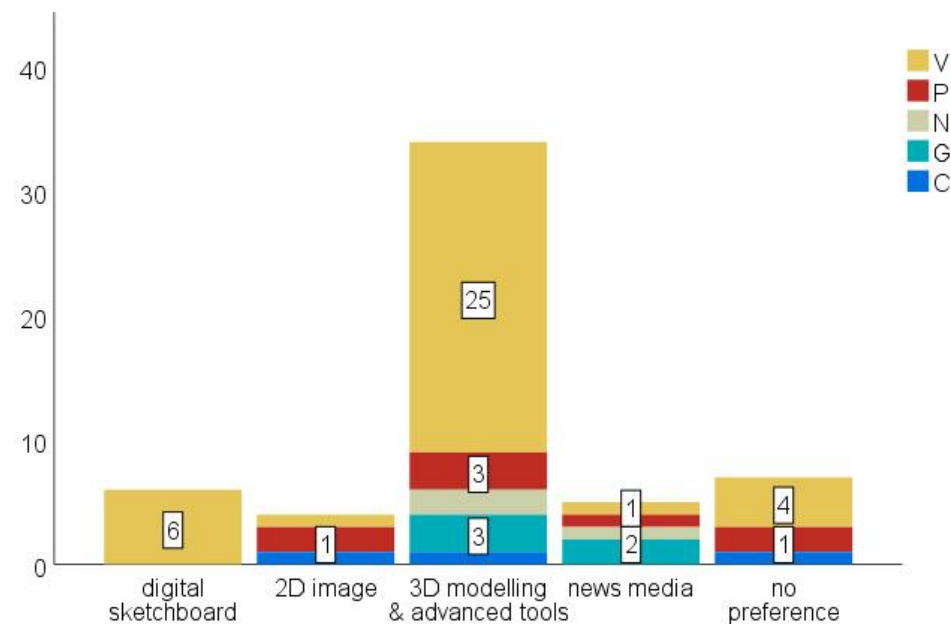# *IDEAL VISUALISATION*

INVENTORY

PLANNING & DESIGN

DECISION-MAKING
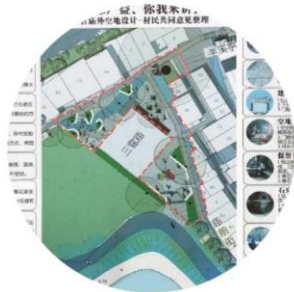
IMPLEMENTATION

IDEAL VISUALISATION

ANALOG

DIGITAL

IMPLICATION

- 3D visualisation has demonstrated "superiority" over 2D representation

- Analog vs Digital
  villager- planners, highly educated - less educated, young - old

- Combining analog and digital tools at different planning stages

Thank you!