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The Home as a Service: A Service & Systems Design Approach to Housing

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Supported by: Nick de Leon & Qian Sun

GOVERNANCE INFRASTRUCTURE

ECONOMIC DRIVER
WELFARE GOOD
ECONOMIC POLICY
FISCAL POLICY
WELFARE POLICY
HOUSING POLICY
GRANTS
TAX SUBSIDIES
REGIONAL PLANNING
LOCAL PLANNING
USUFRUCT LAWS

SERVICE INFRASTRUCTURE

PUBLIC SERVICES
FINANCIAL PRODUCTS
LANDLORD SERVICES
UTILITY SERVICES

CITY INFRASTRUCTURE

URBIS
TRANSPORT
ROADS
TELECOMS
ELECTRICITY
GAS
WASTE
WATER
LAND

SOCIAL PRACTICE

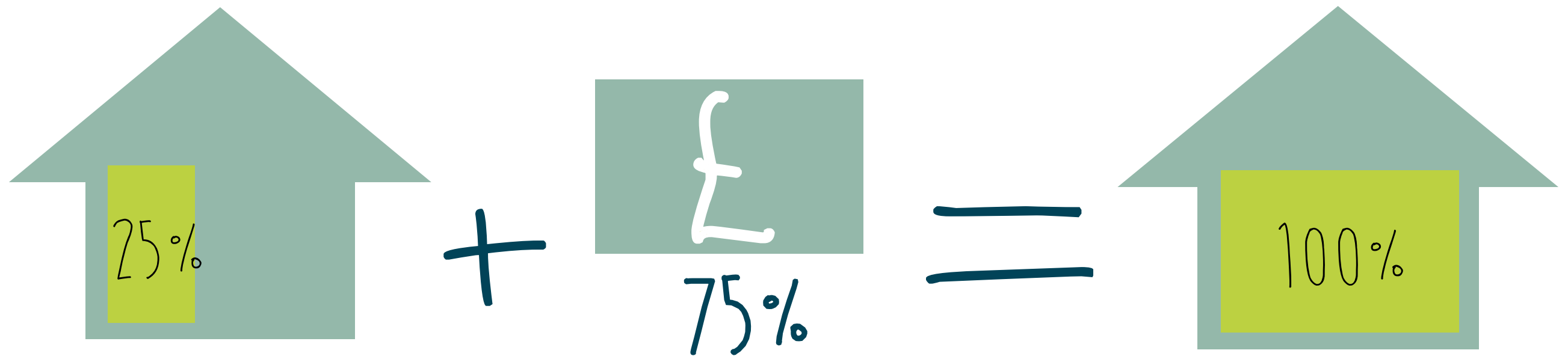
EXCHANGE VALUE
COMMODITY
LIABILITY
ASSET
CHOICE
STATUS
ASPIRATION
LIFESTYLE
EMBODIED
IDENTITY
SECURITY
RIGHT
SHELTER
USE VALUE

SERVICE DESIGN

Context

- Shift social democratic to retrospective compensation
- Orientation in housing: social rented to **ownership**
- **Asset based welfare**: home a cornerstone as individuals take responsibility for welfare needs through asset investment ⁽¹⁾
- **Affordability failure**: low/middle income & young
- Home: interface to draw welfare goods
- Uncertainty, risk & complexity

(1) Doling & Ronald (2010) 'Home ownership and asset based welfare' in Journal of Housing and Built Environment. [Electronic], 10 Jan 2010, Available DOI 10.1007/s10901-009-9177-6.



Buy 25% & rent (subsidised) remaining shares

Shared Ownership

- Designed to **leverage** entry
- Subsidised HO: **46% of first time buyers** in 2013 ⁽²⁾
- “Sit[s] in the expanding affordability gap between products offered by private sector & social sector.” ⁽³⁾
- **Mobility & long-term affordability** concerns
- Requires doubling income to own outright ⁽⁴⁾

(2) Lloyds Bank 2013) press release.

(3) Monk, S. & Whitehead, C. (2010) Making Housing More Affordable: The Role of Intermediate Tenures. Wiley- Blackwell & RICS Research

(4) Williams (2013) Internal DSB Report. London.

Design for affordability

- Affordability understood as a system failure
- Shared ownership: widen access but problematic
- Service design: produce alignments service systems ⁽⁵⁾
- Systems thinking: complexity
- System theory & thinking under analysed in housing ⁽⁶⁾
- Design for services, systems design & housing

(5) Meroni, A. & Sangiorgi, D (2011) 'Design for Services: From Theory to Practice and Vice Versa' in Meroni, A. & Sangiorgi, D. (eds) Design for Services. Farnham: Gower.

(6) Rhodes, ML (2012) 'Systems Theory', in (eds) Smith Housing Encyclopaedia, Elsevier: London.,

Complexity in Systems Thinking

Operations Research

Morse & Kimball (1951)

Systematic **catalogue** of problems and solutions

Application of mathematical models to provide scientific basis for decision making³

Military application in WWII and Vietnam Wars

General Systems Theory

Boulding (1956); Simon (1962); von Bertalanffy (1954)

Importance of **environment**
Study of hierarchy & emergence

Cybernetics

von Neumann (1966), Maturana's (1984) von Foerster's (1992)

Behaviour of machines, feedback loops & black box concept

Soft Systems

Ackoff & Emery (1972); Checkland, (1981); Gjarajedaghi (2011)

Multi-minded **purposeful** social systems

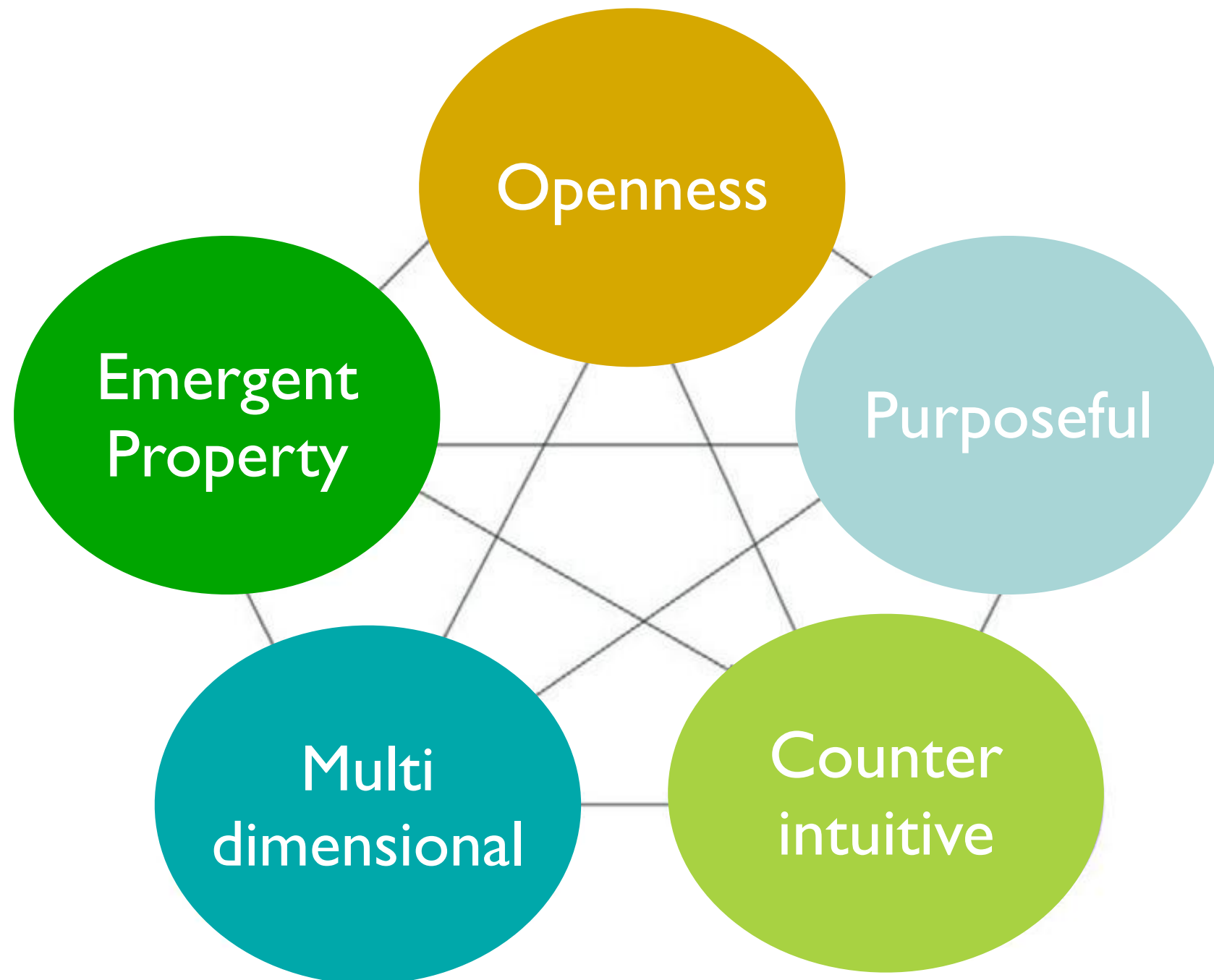
Focus on organisations

Choice over means & ends

Culture as DNA & operating system

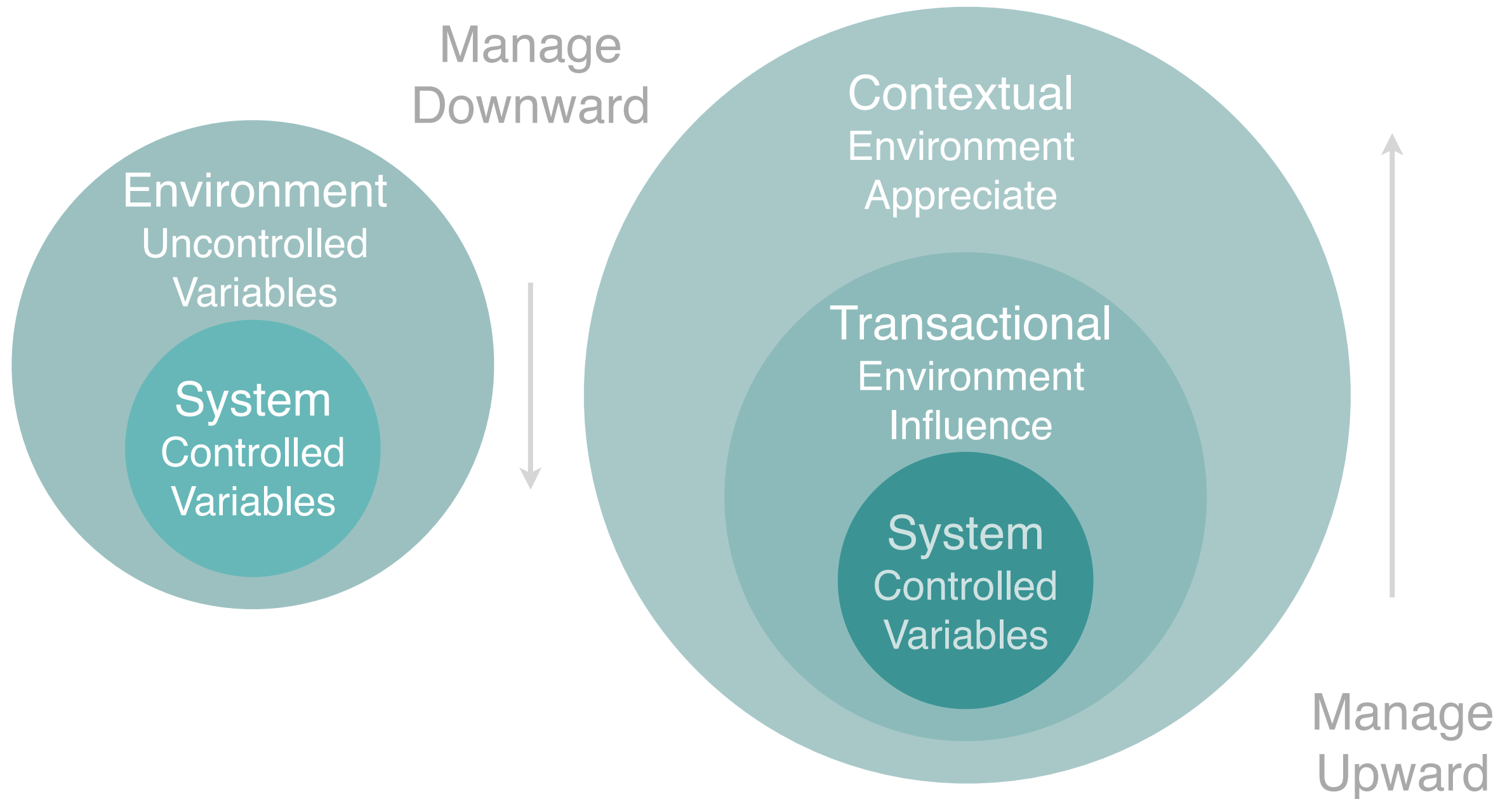
Key design alignment of purposeful parts

Principles of Purposeful Multi-minded Social Systems



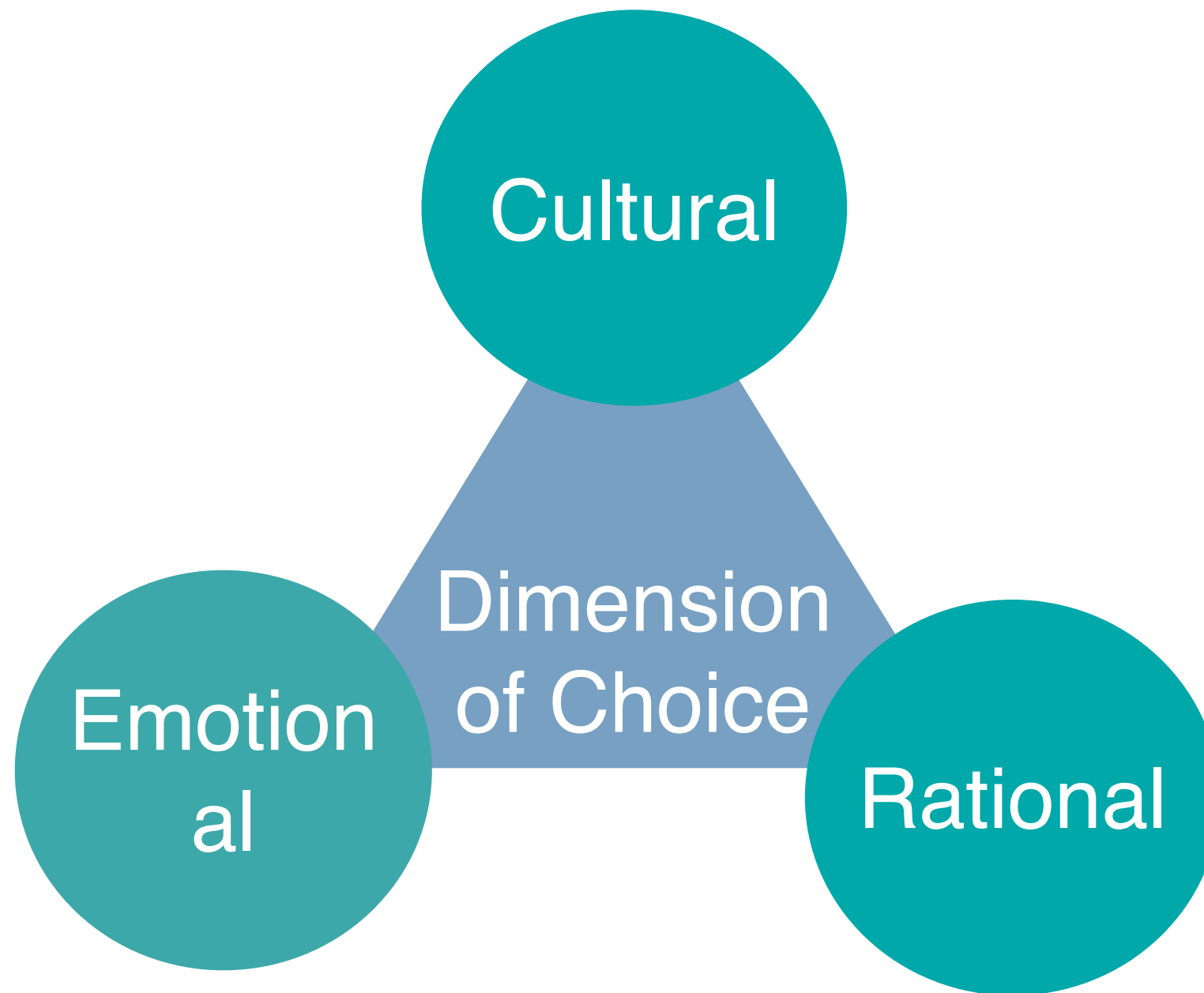
Adapted from Gharajedaghi, 2011

Openness



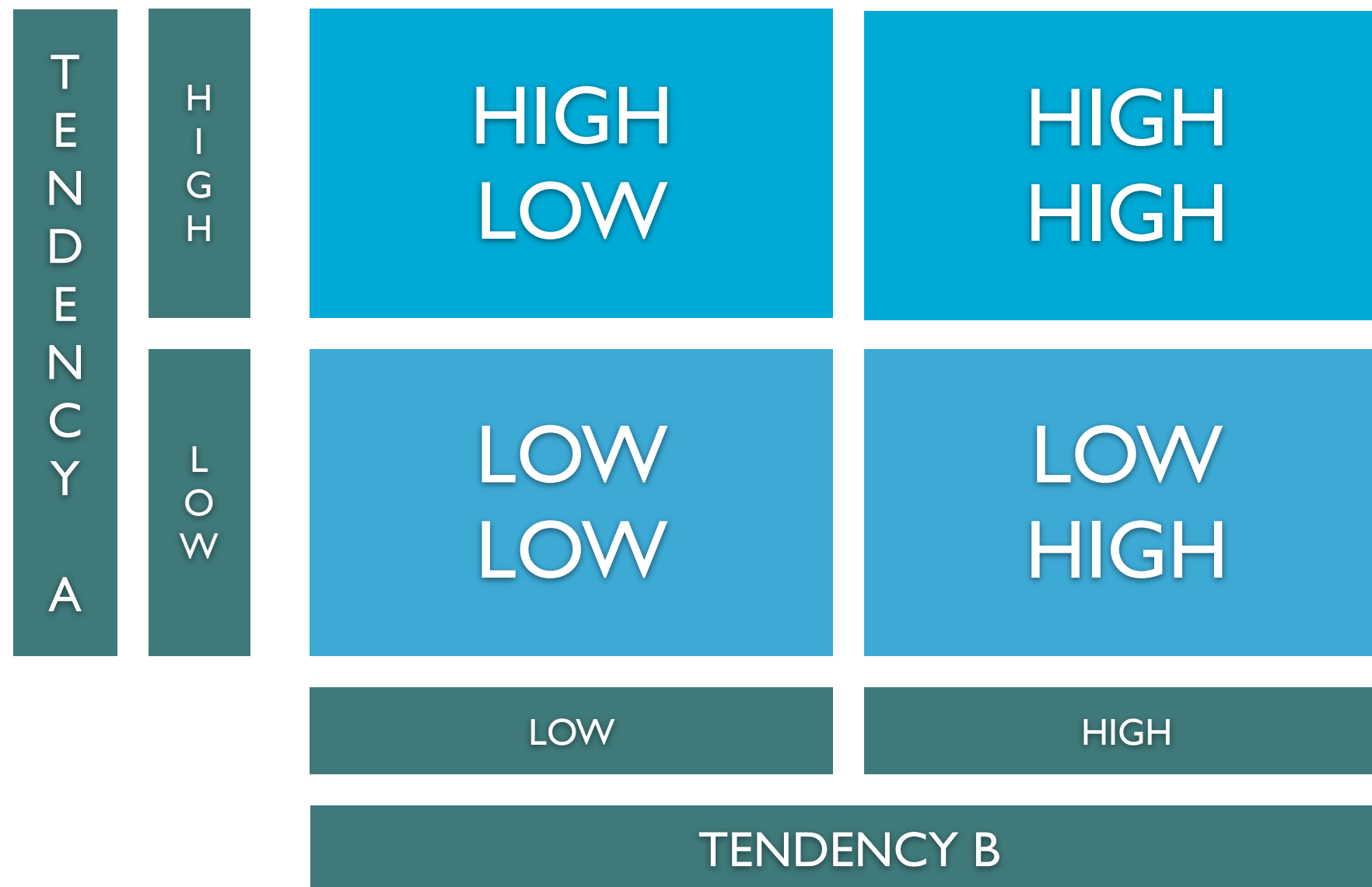
Adapted from Gharajedaghi, 2011

Purposefulness



Adapted from Gharajedaghi, 2011

Multidimensional

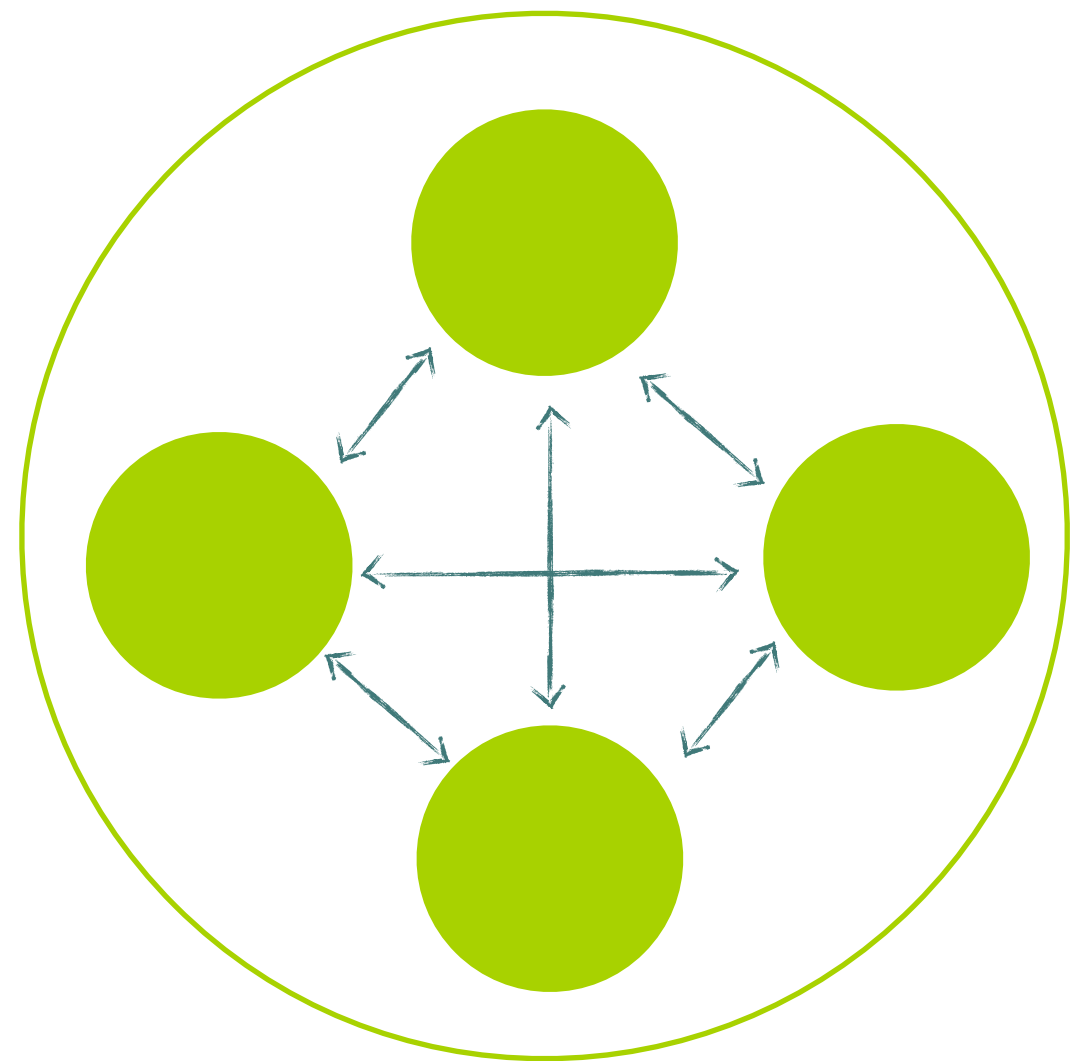


Adapted from Gharajedaghi, 2011

Emergent



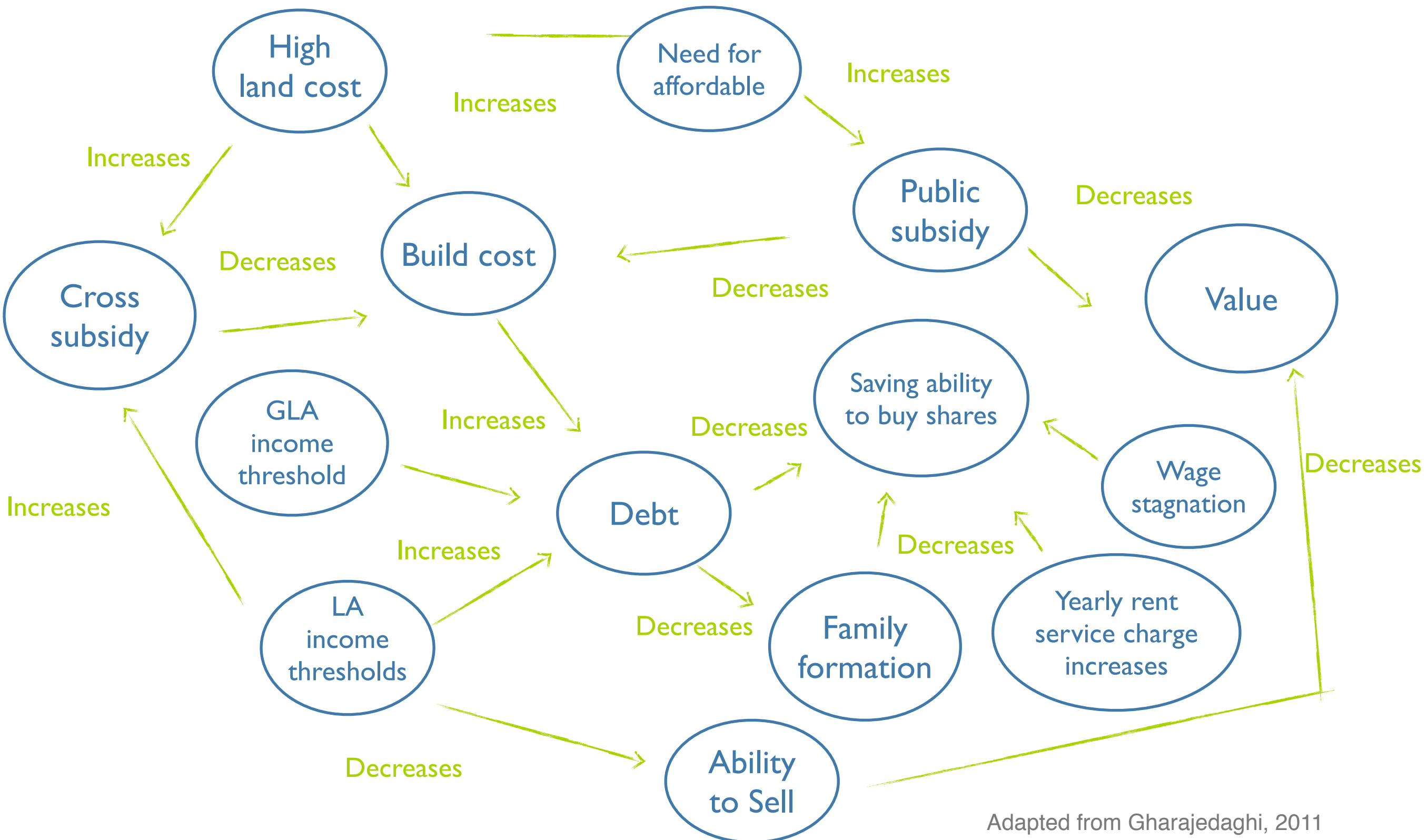
Sum of
Actions



Product of
Interactions

Adapted from Gharajedaghi, 2011

Counterintuitive



Adapted from Gharajedaghi, 2011

Design contribution

- Mapping complexity ^{(7) (8) (9)}
- Design **for** entities in the making ⁽¹⁰⁾
- **Materiality** interface ⁽¹¹⁾
- Alignments, **scale** & perishability
- Co-production, design & creation
- **Value** co-creation & networks ⁽¹²⁾
- Compound complexity

(7) Sevaldson, B. (2008). Rich Research Space. FORMAkademisk, 1(1), 28–44.;

(8) Sevaldson, B. (2011). GIGA-Mapping: Visualisation for complexity and systems thinking in design (pp. 1–20). Presented at the Nordic Design Research Conference 2011, Helsinki.

(9) Forlizzi, J. (2013). The Product Service Ecology: Using and Systems Approach in Design (pp. 1–27). Presented at the RSD2, Oslo.

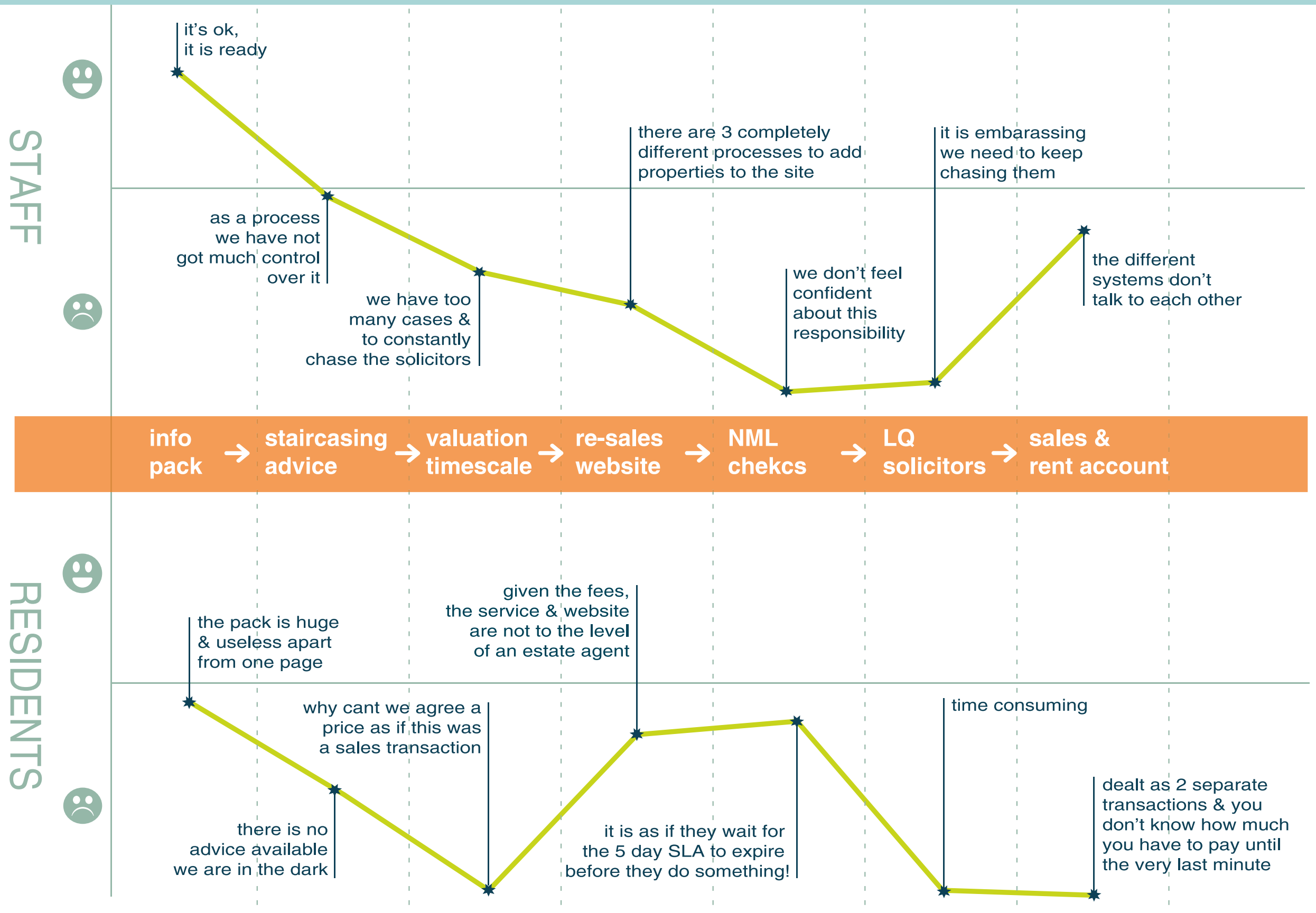
(10) Meroni, A. & Sangiorgi, D. (2011) 'Design for Services: From Theory to Practice and Vice Versa' in Meroni, A. & Sangiorgi, D. (eds) Design for Services. Farnham: Gower.

(11) Secomandi, F. and Snelders, D. (2011) Interface Matters. Design Issues: Volume 27, November 3 Summer 2011; Boston: MIT Press.

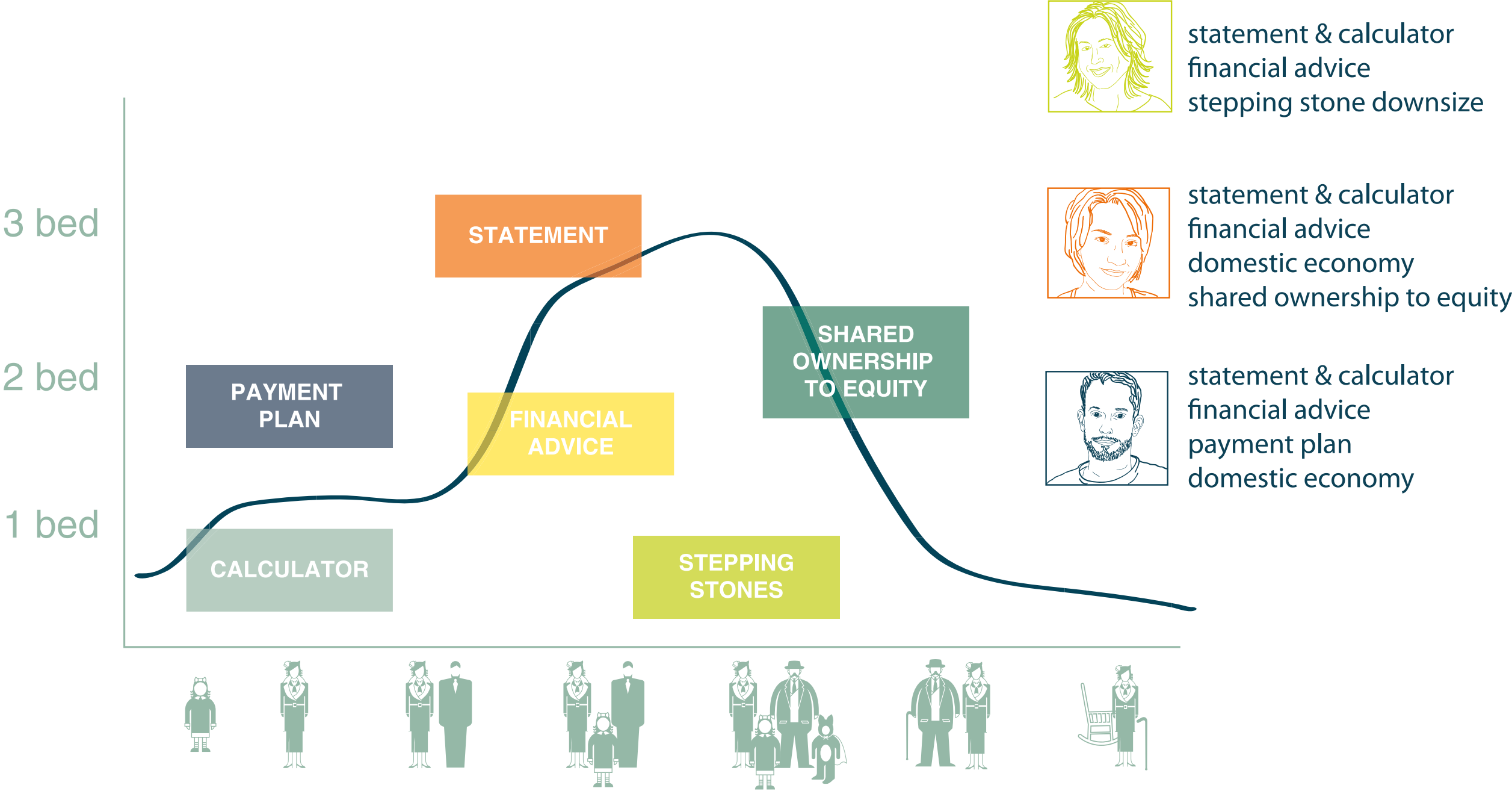
(12) Vargo, S.L. & Lusch, R.F. (2004) Evolving to a new dominant logic for marketing. Journal of Marketing, 68, 1-17.

Case Study



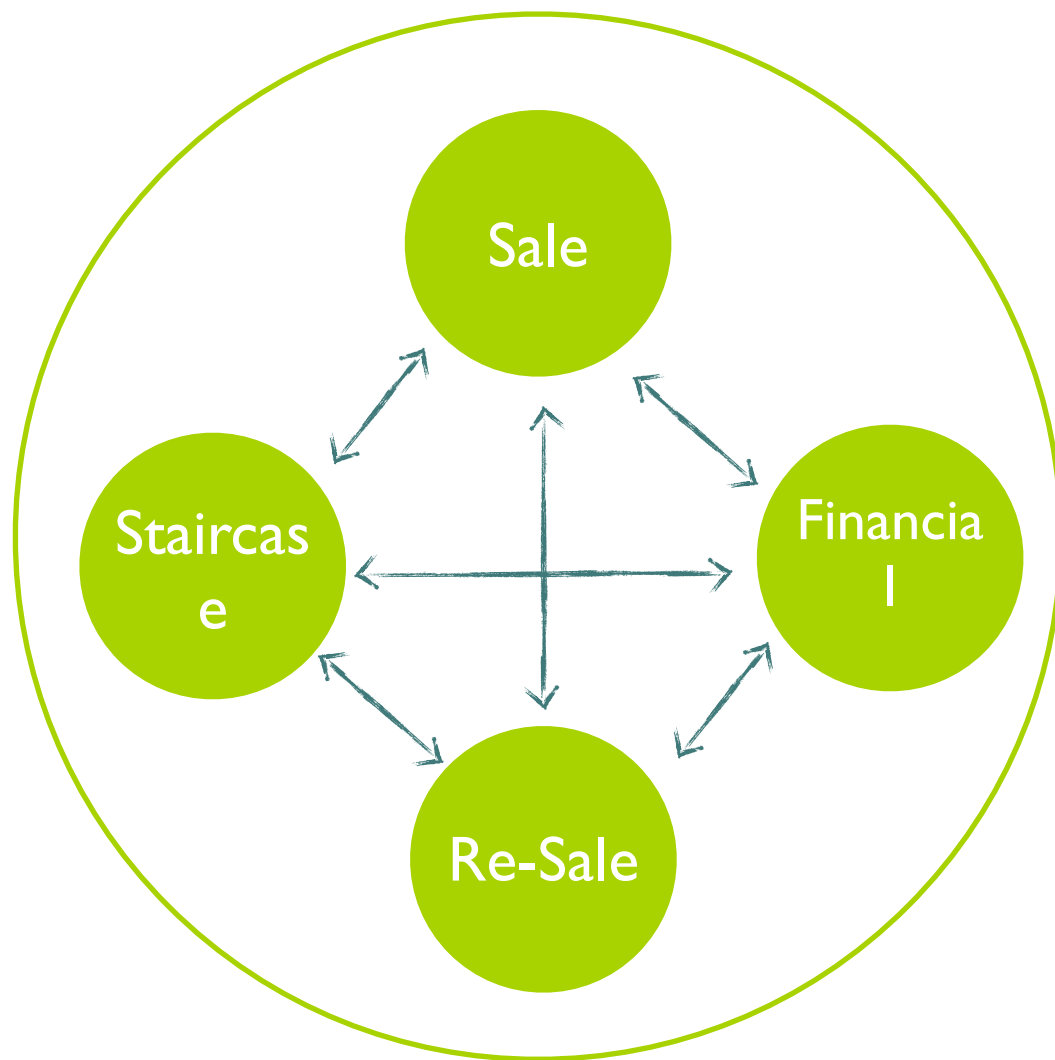


Solutions

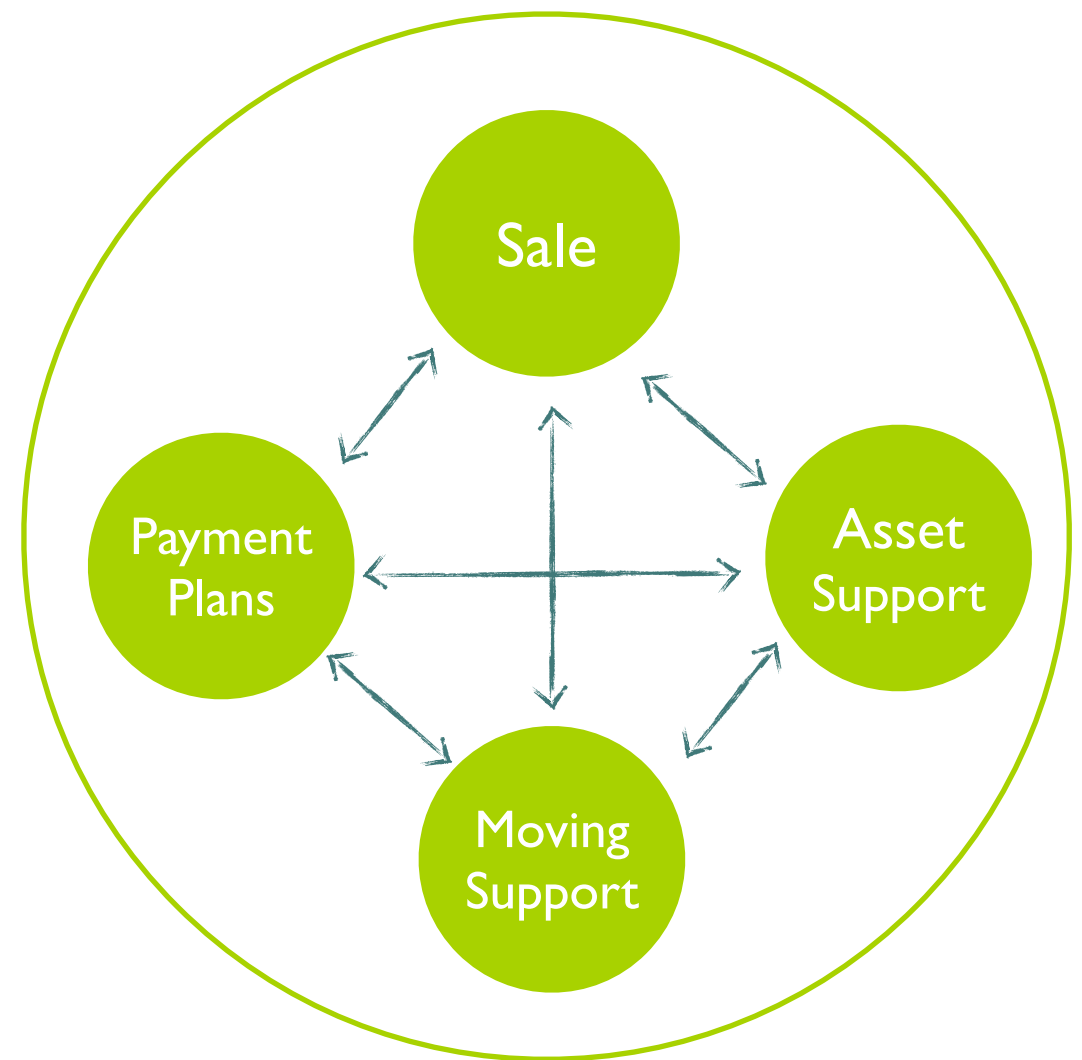


Analysis

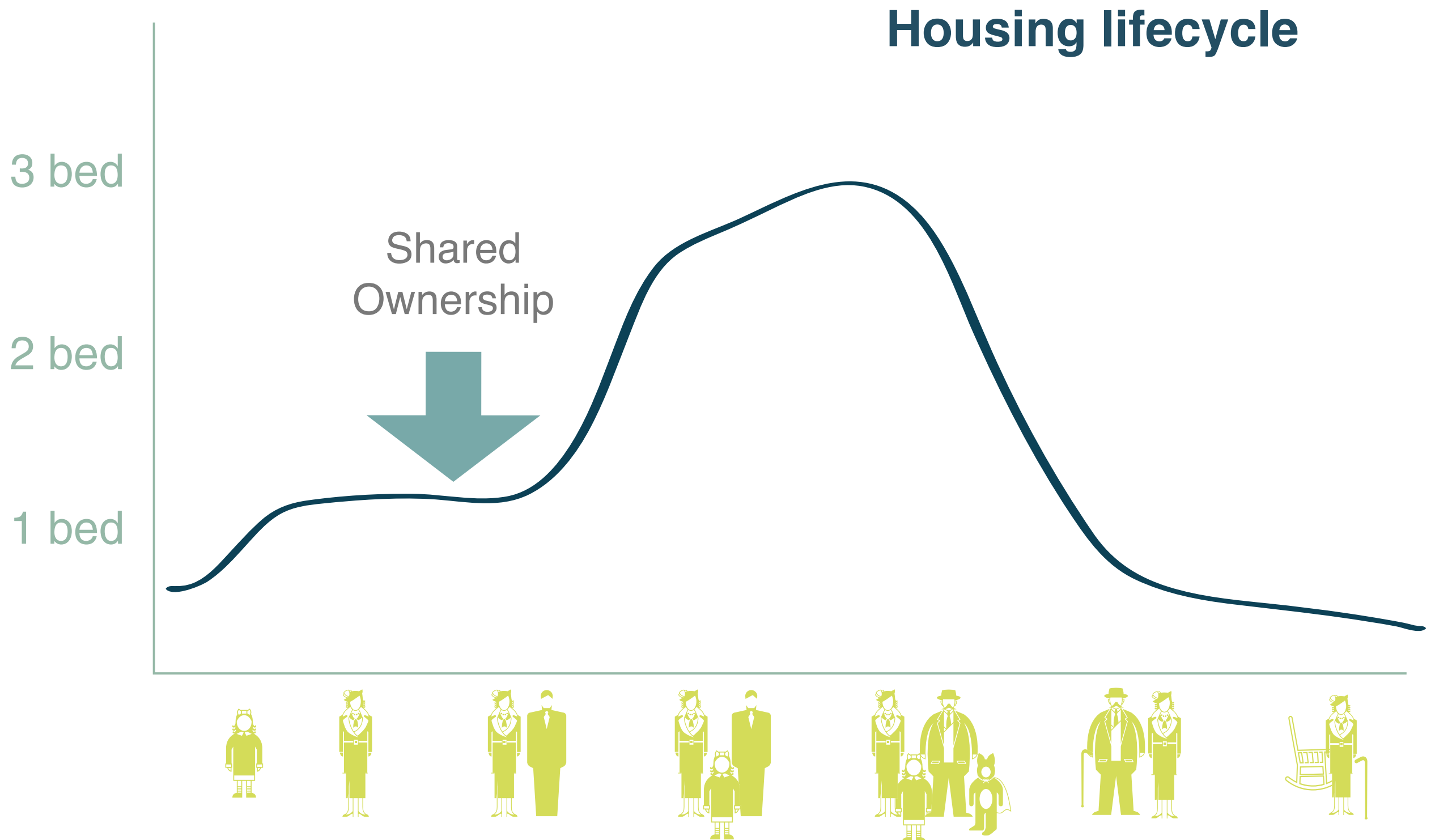
Entry



Affordable



Analysis





£60,000 deposit
£1,000 mortgage fee
£1,250 legal fees
£9,000 stamp duty
£300,000 property price

Outright Ownership

YEAR 7

£4,874 stamp duty at 3%
£210 staircasing fee
£225 valuation fees
£350 broker fees
£800 legal fees
£1,000 mortgage fee

25%

=

£7,489 fees
£47,490 deposit *

YEAR 3

NIL stamp duty
£210 staircasing fee
£225 valuation fees
£350 broker fees
£800 legal fees
£1,000 mortgage fee

50%

=

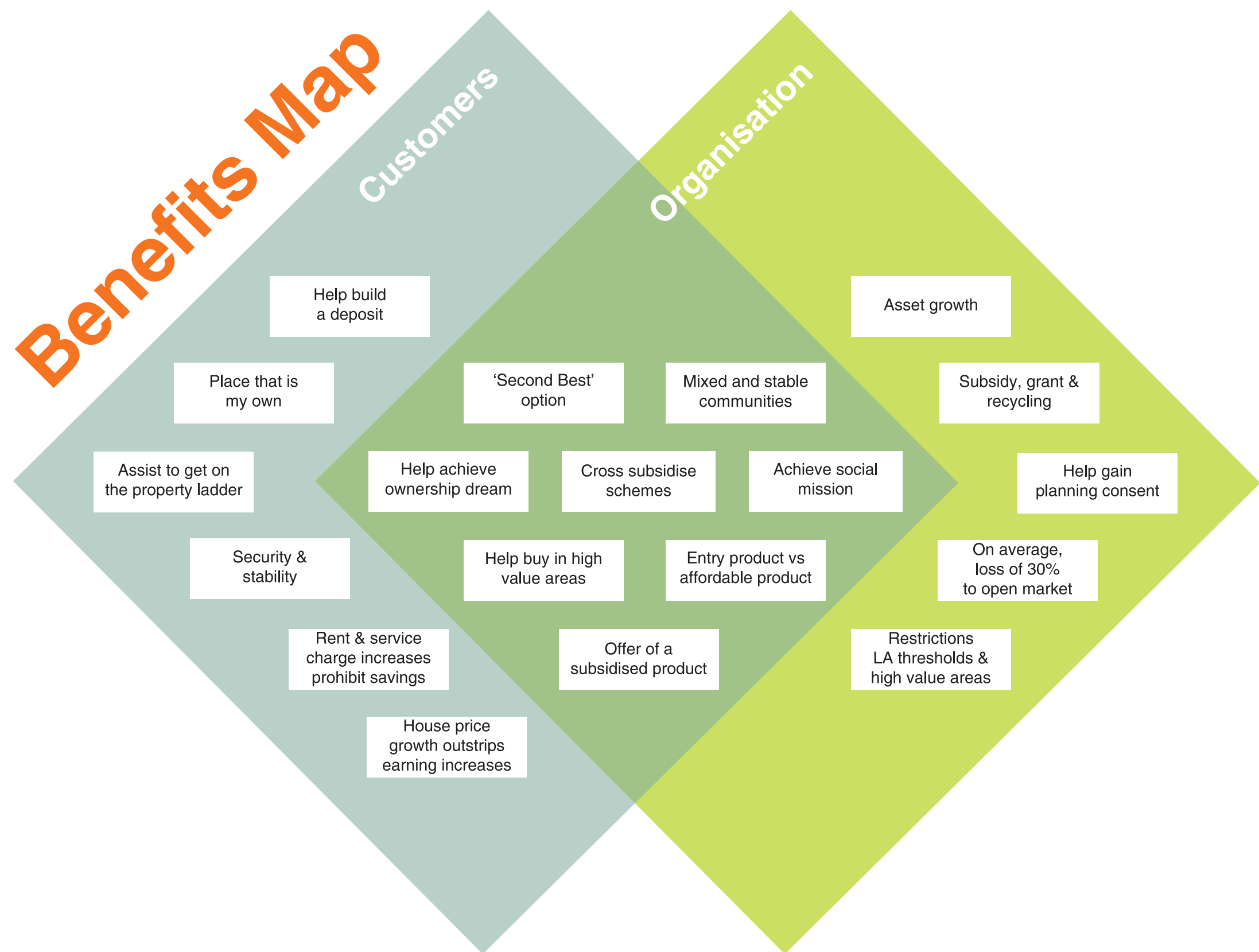
£2,585 fees
£36,474 deposit *

£15,000 deposit*
£1,000 mortgage fee
£1,250 legal fees
NIL stamp duty
£300,000 property price

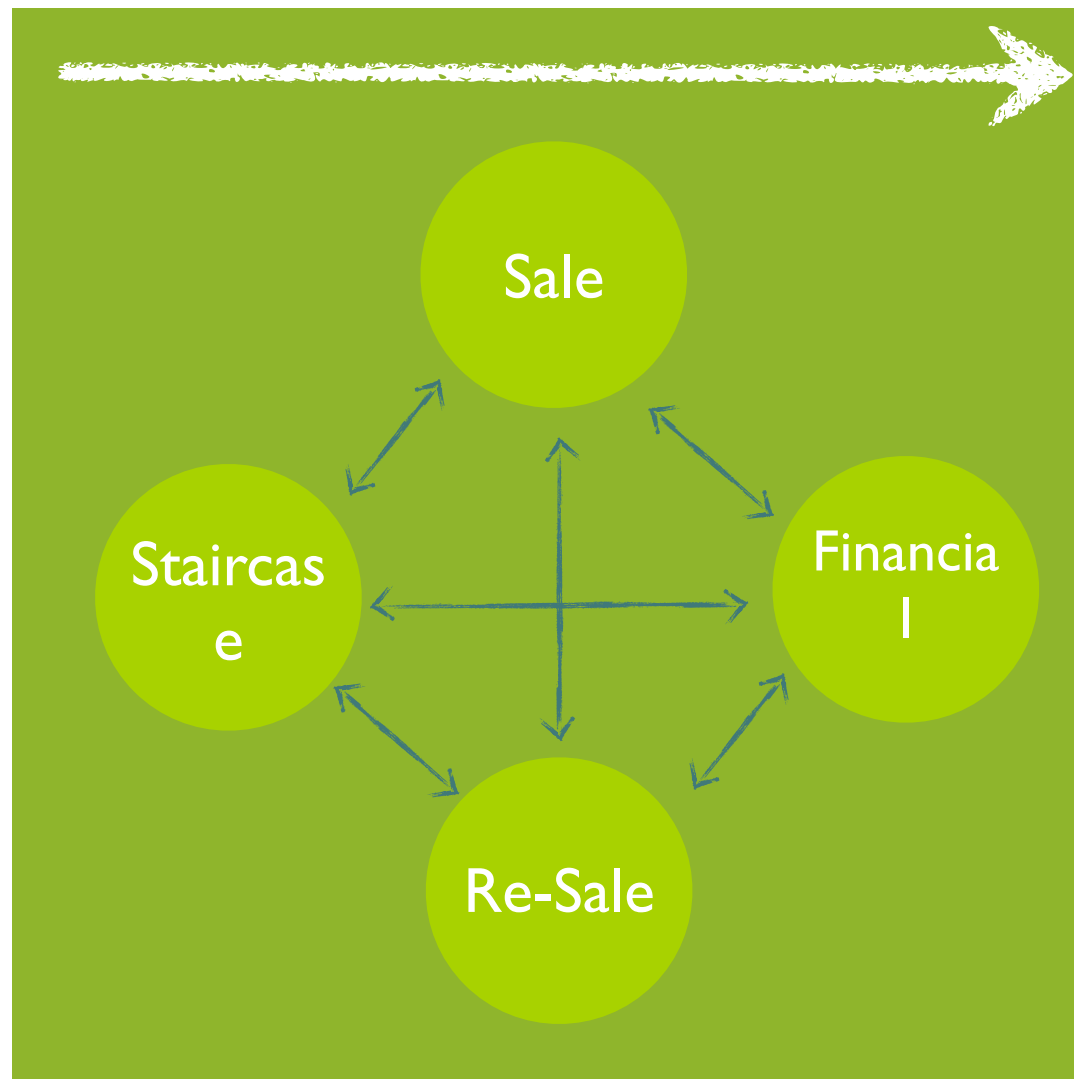


Shared Ownership

* assumes 6.5% house price growth per year and requirement of 20% deposit

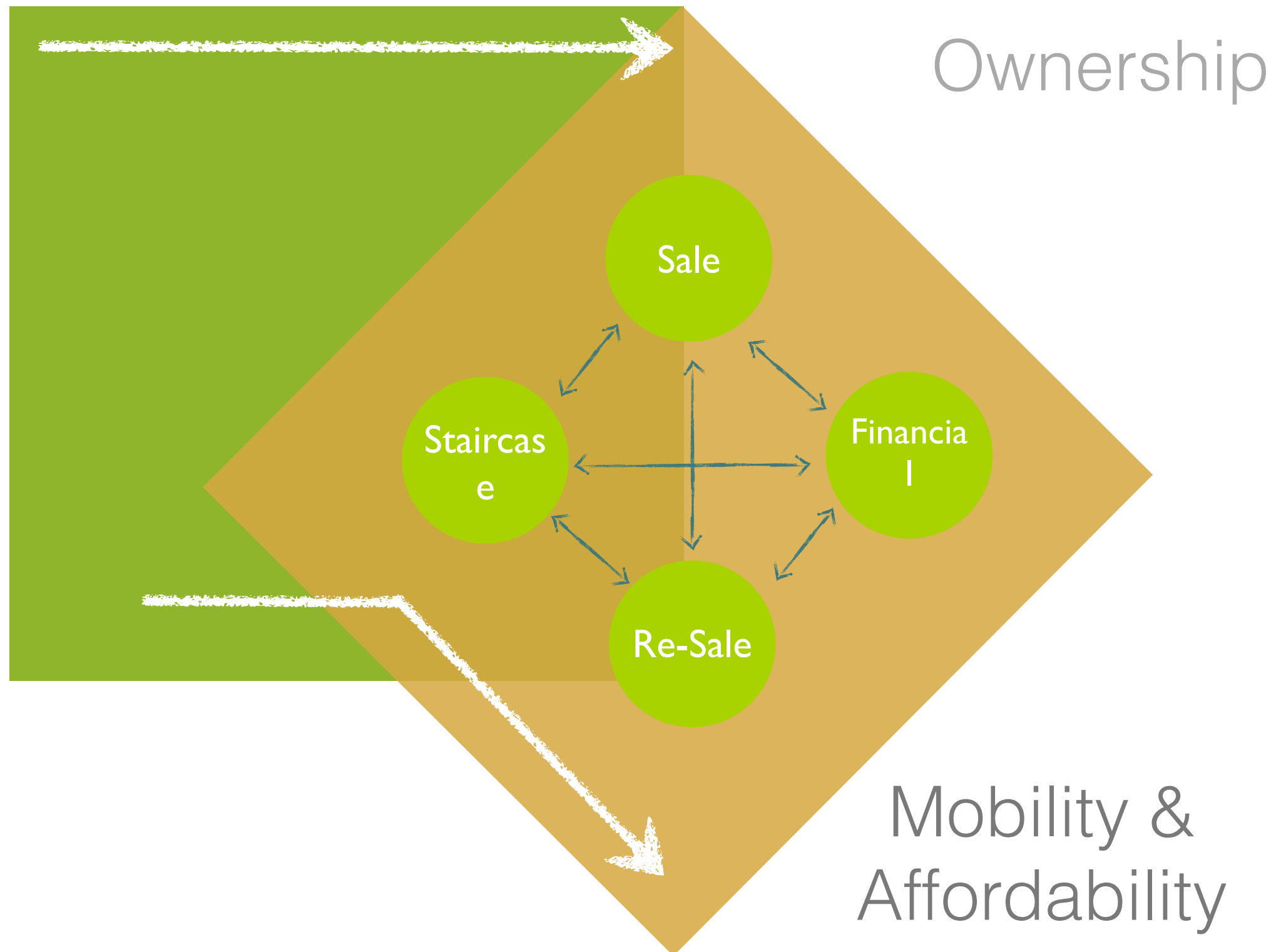


Analysis



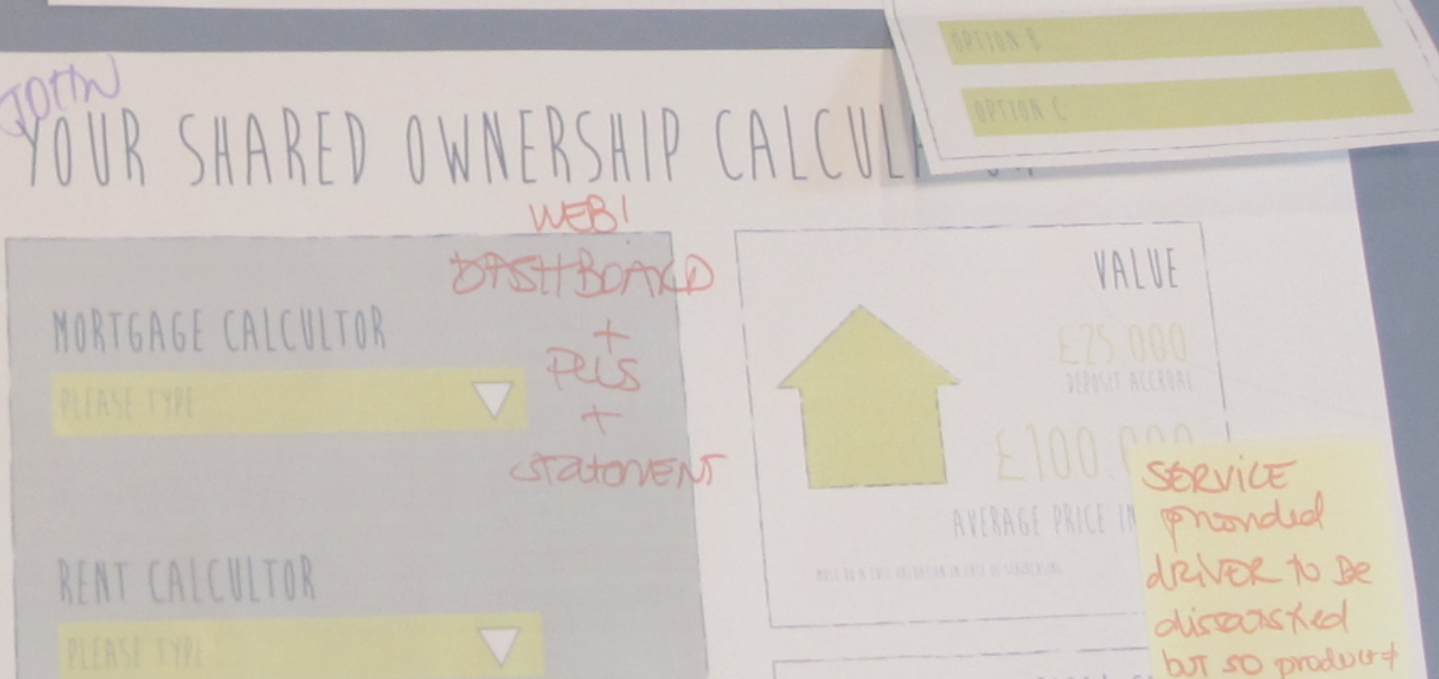
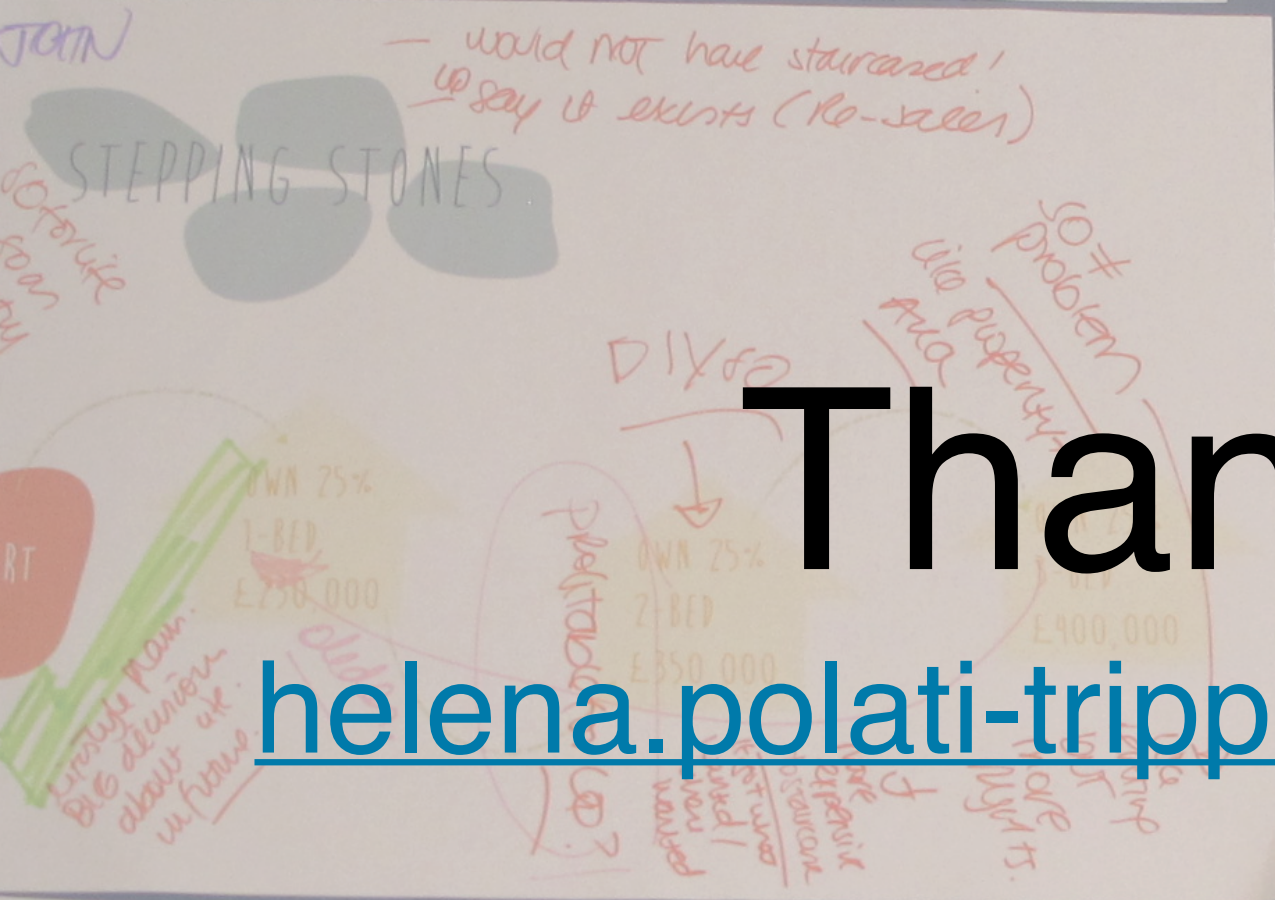
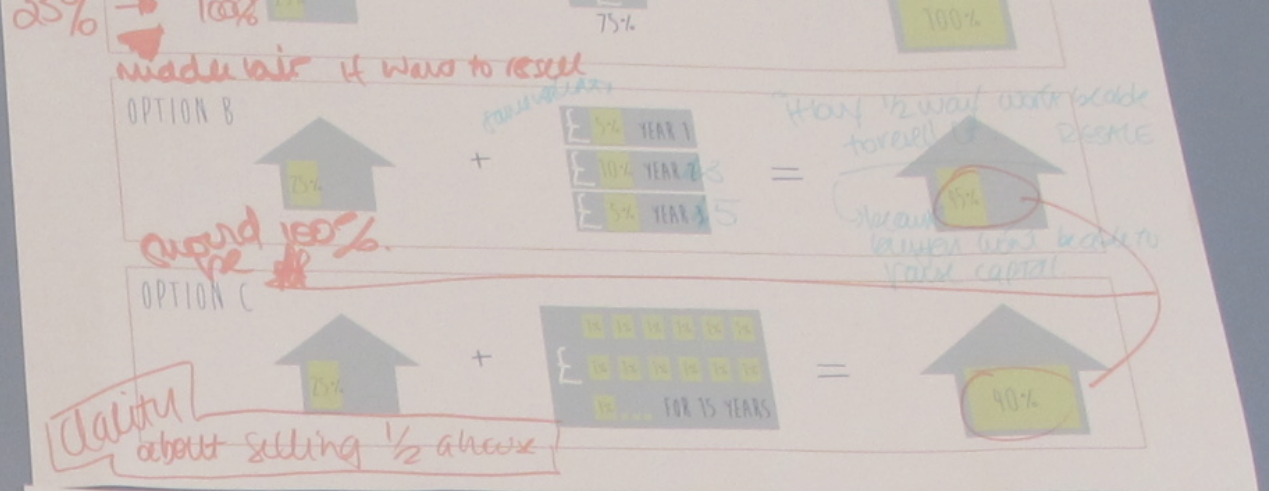
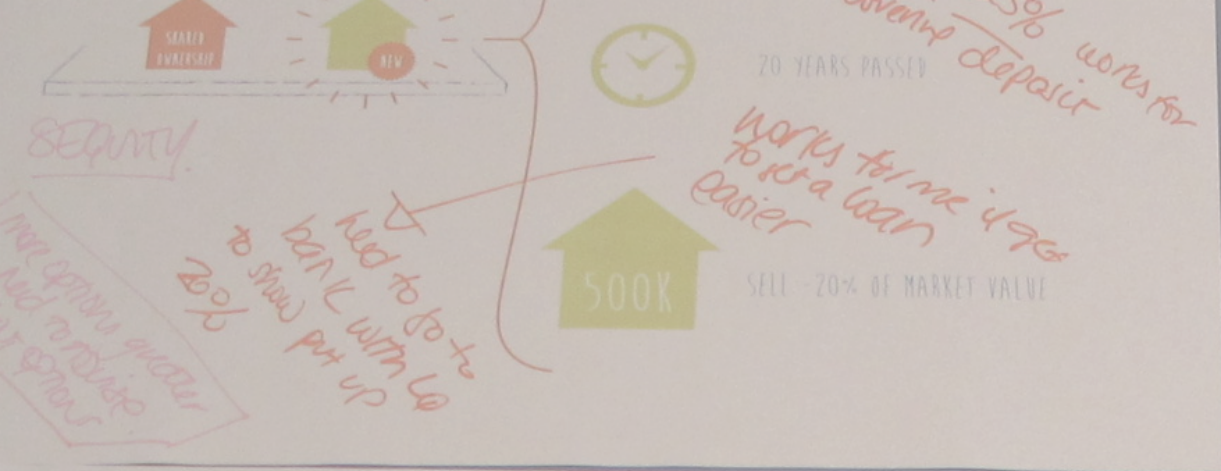
Ownership

Solutions



Implications

- Complexity in context of scarcity
- Materiality and granularity of service design
- Contextualising human centred approaches
- Design for Policy: models of welfare
- Material manifestations
- Alignments in products and services to across systems
- Role of the designer



Thank you!

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