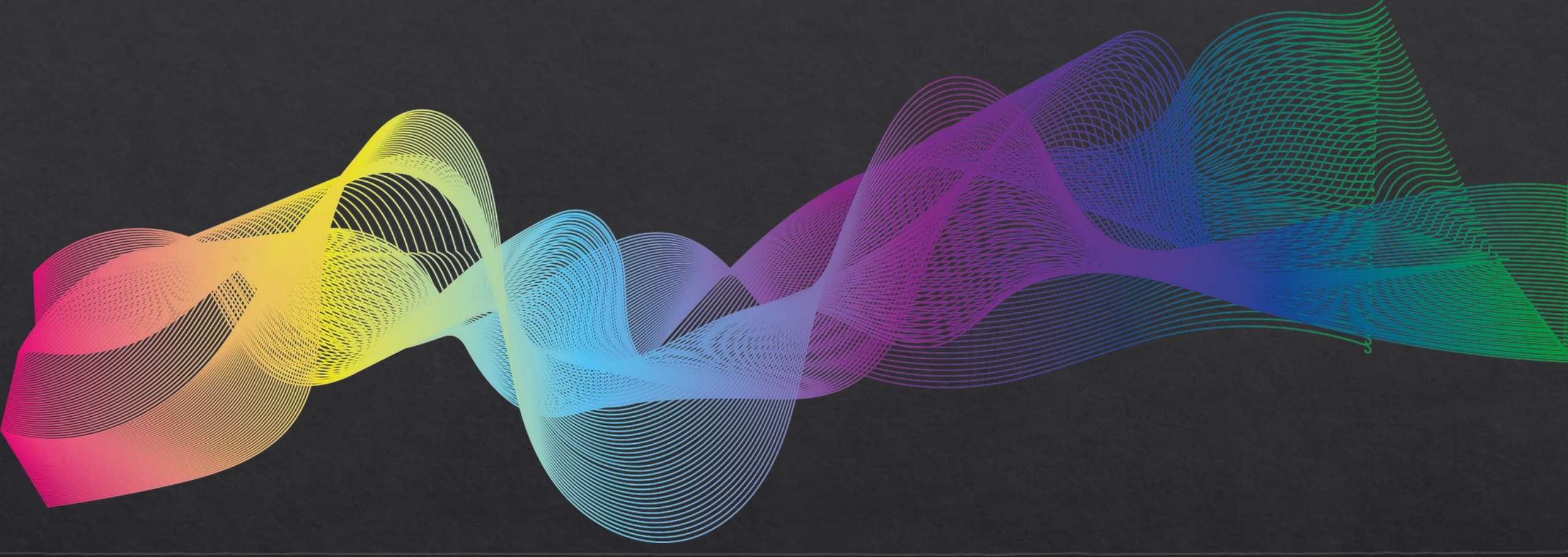


Accelerating in a world of chaos

by using Enterprise Architecture with the concept of antifragile

Validation Round

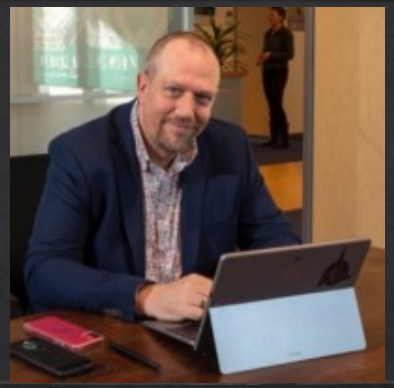
4 April, 2022

Raise Hands

Use the Chat

Mute Microphone

Main research organisation



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Promotor

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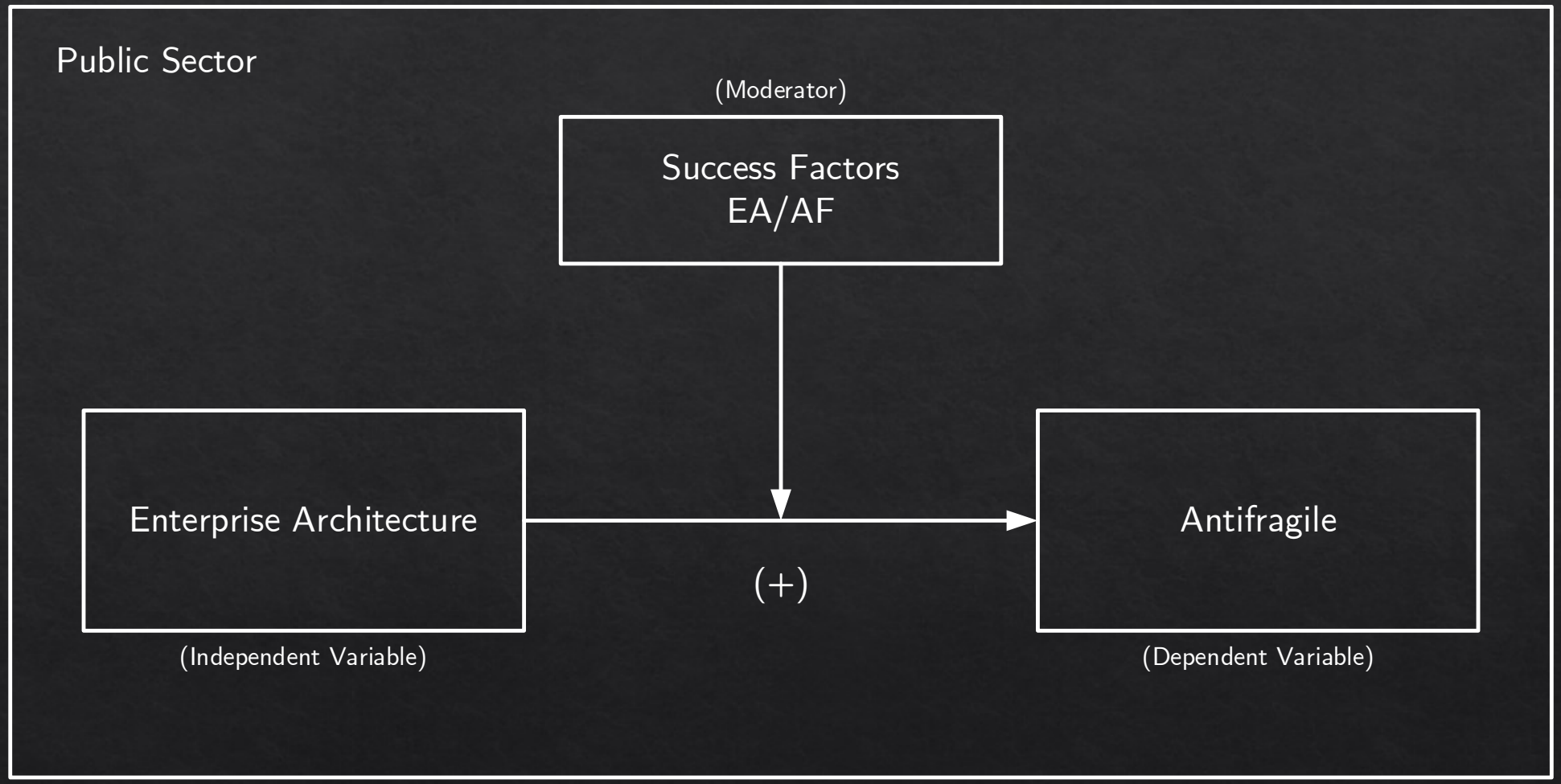
Introduction to research

Complexity Science

Complexity science is concerned with complex systems and problems that are dynamic, unpredictable and multi-dimensional, consisting of a collection of interconnected relationships and parts. Unlike traditional “cause and effect” or linear thinking, complexity science is characterized by non- linearity.

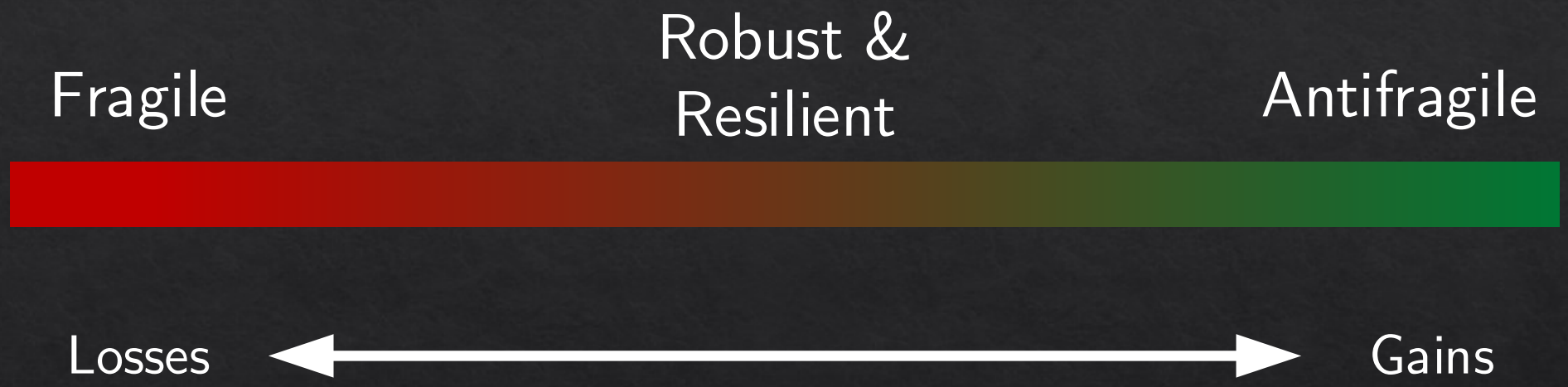


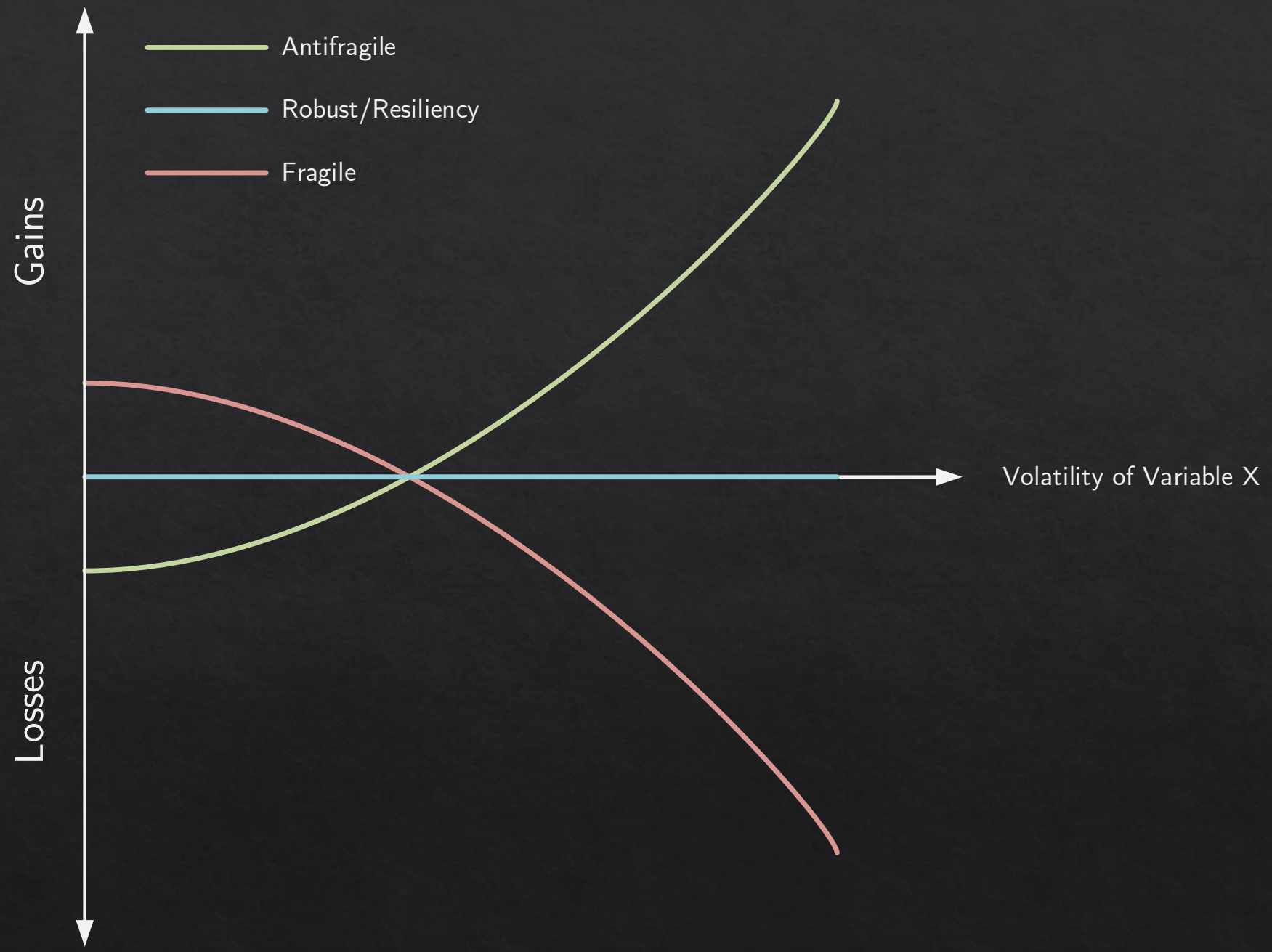
Conceptual Model (Bliekendaal, 2022)

What are the success factors that have a positive influence on the contribution of Enterprise Architecture in achieving antifragility in the public sector?

Research question (Bliekendaal, 2022)


Introduction to antifragile


Fragile
Robust &
Resilient
Antifragile
Losses
Gains


Antifragile
Robust/Resiliency
Fragile
Gains
Losses
Volatility of Variable X

Attenuate Variety

Amplified Variety

Engineering Resilience	Systems Resilience	Complex Adaptive System Resilience	Antifragile
Top-down C&C Micro-management	Redundancy Modularity Loosely coupled	Diversity *(Optionality)* Non-monotonicity Emergence Self-organization Insert low-level stress Network-connections Fail Fast	Resources to invest Seneca's barbell Insert randomness Reduce naive intervention Skin in the game

Learning Organization
Personal mastery, Shared mental models, Building shared vision,
Team learning, Systems thinking.

EAAL Model (Botjes, 2020)

Introduction to Enterprise Architecture

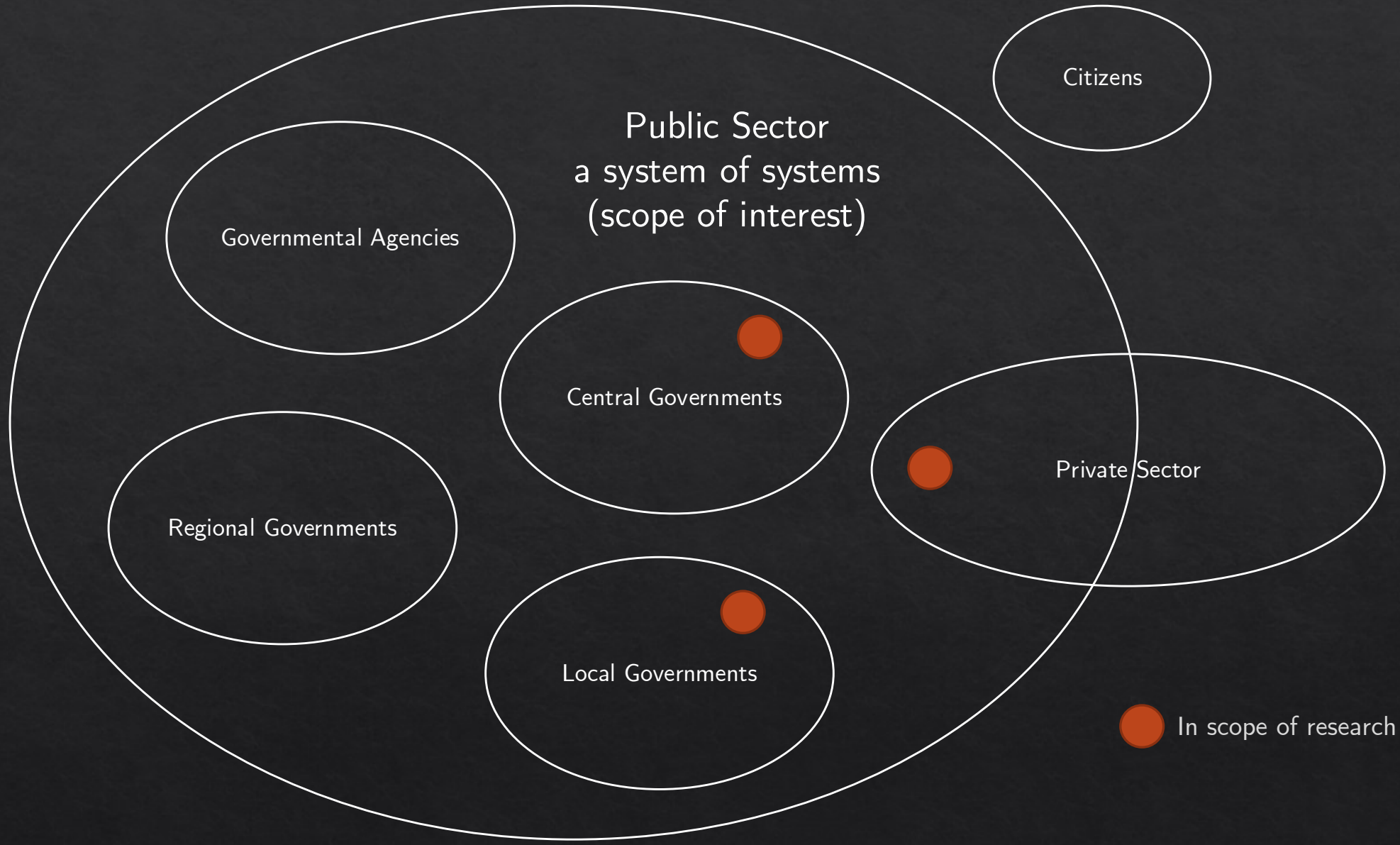
Enterprise Architecture (EA) is the discipline through which an enterprise can identify, develop, and manage knowledge of its purpose, structure, and itself (Graves, 2009, p. 4).

Mature EA can map interdependencies across almost every aspect of the enterprise (Graves, 2009, p. 5). A well defined and maintained EA is proven to be a critical factor in an organisation's agility, effectiveness and ability to respond to risk, opportunity and change (Ross et al., 2014). Graves (2009, p. 5) states that EA assists in managing changes imposed on the organisation from outside, by the market, by regulations, or at an operations level, by system failures, environmental incidents or customer complaints.

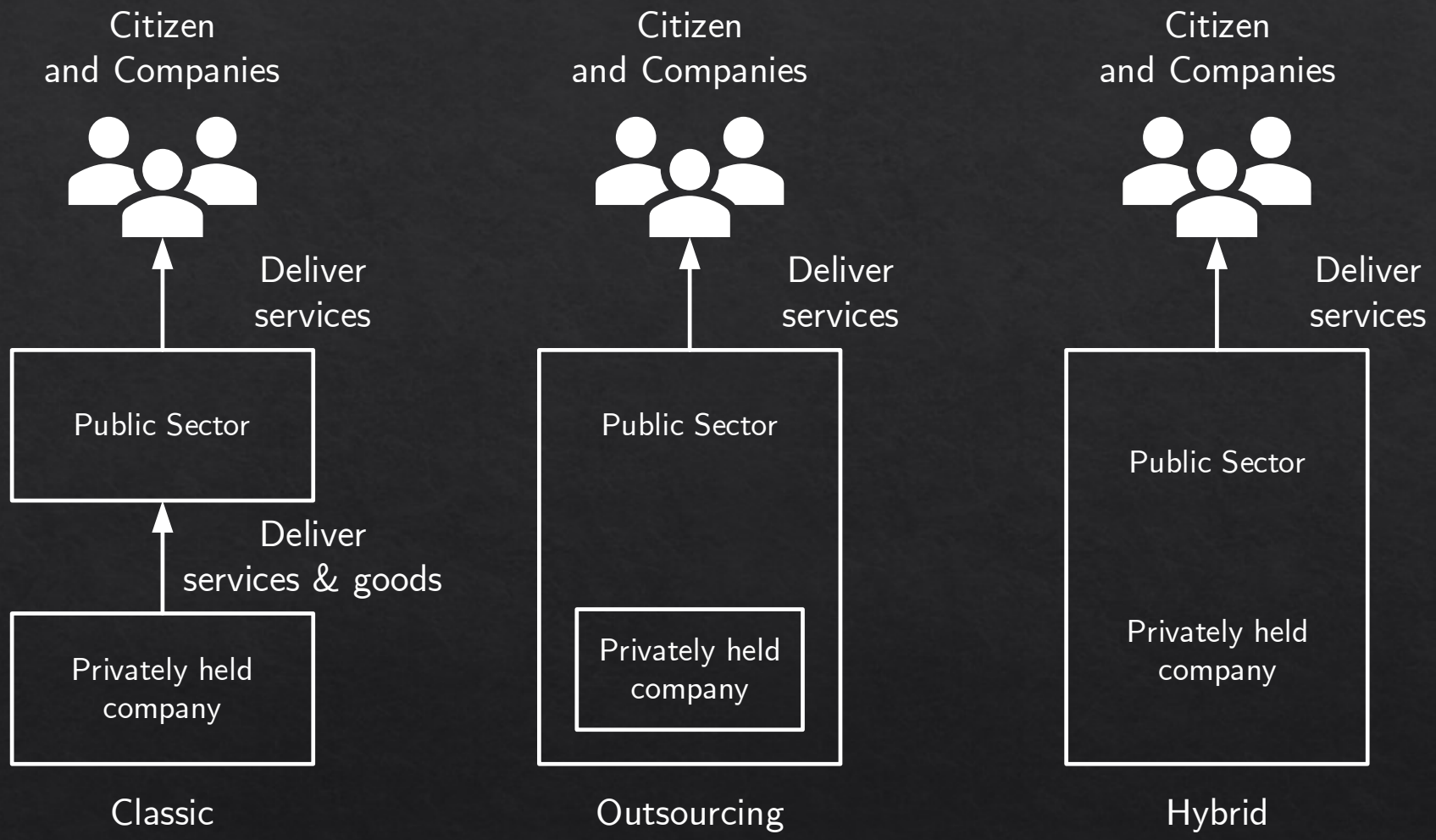
	Enterprise IT Architecting	Enterprise Integrating	Enterprise Ecological Adaptation
Motto	Enterprise architecture is the glue between business and IT	Enterprise architecture is the link between strategy and execution	Enterprise architecture is the means for organizational innovation and sustainability
Objectives and concerns	Effectively enable the enterprise strategy	Effectively implement the enterprise strategy	Innovate and adapt
	Support IT planning and reduce costs	Support organisational coherence	Support organizational coherence
	Enable business		Encourage system-in-environment coevolution
Principles and assumptions	Apply a reductionist (mechanistic) stance	Apply a holist (systemic) stance	Apply a holist (systemic) stance
	Don't question business strategies	Don't question business strategies and objectives	System-in-environment coevolution
	Design organizational dimensions independently	Manage the environment	Environment can be changed
	Don't worry about non-IT dimensions; they're not your concerns	Jointly design all organizational dimensions	Jointly design all organizational dimensions

Three Schools of Thought on Enterprise Architecture (Lapalme, 2012)

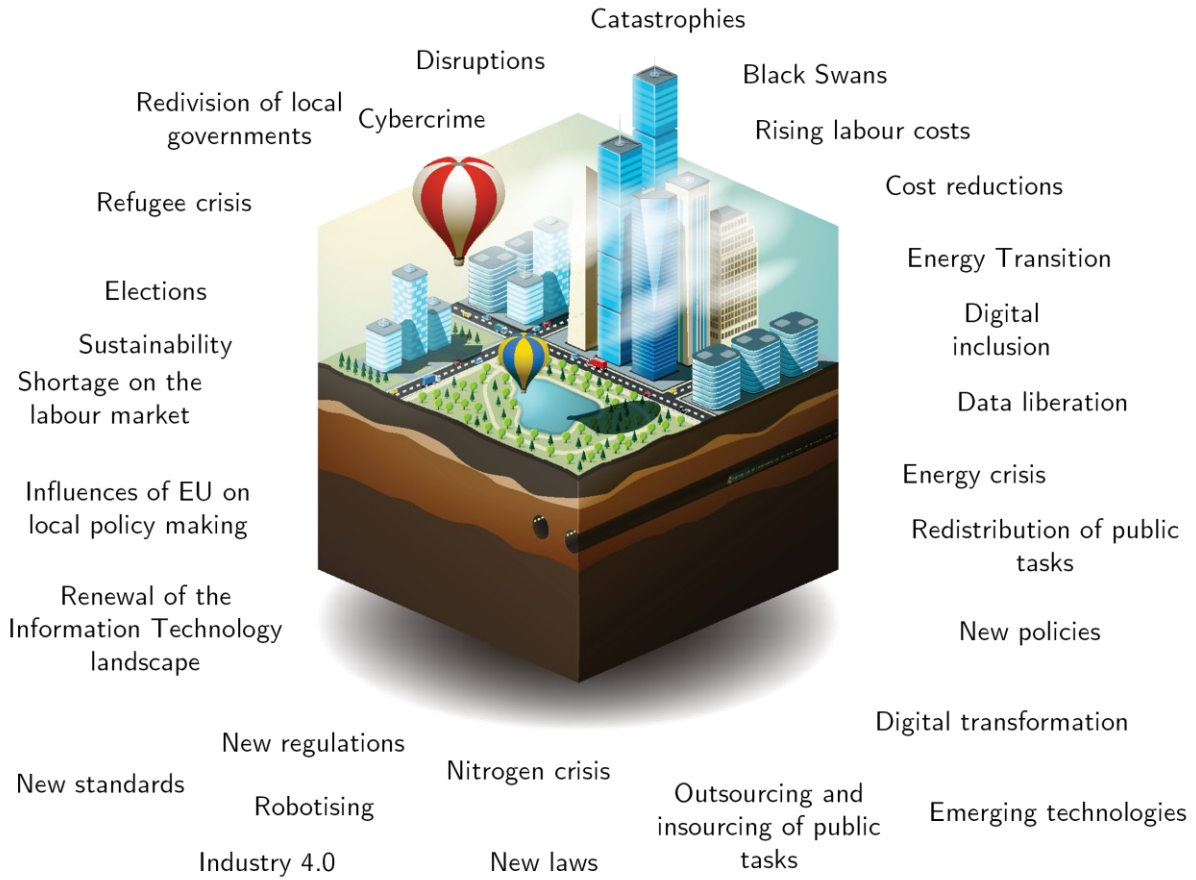

Introduction to
the Public Sector



Public Sector a system of systems

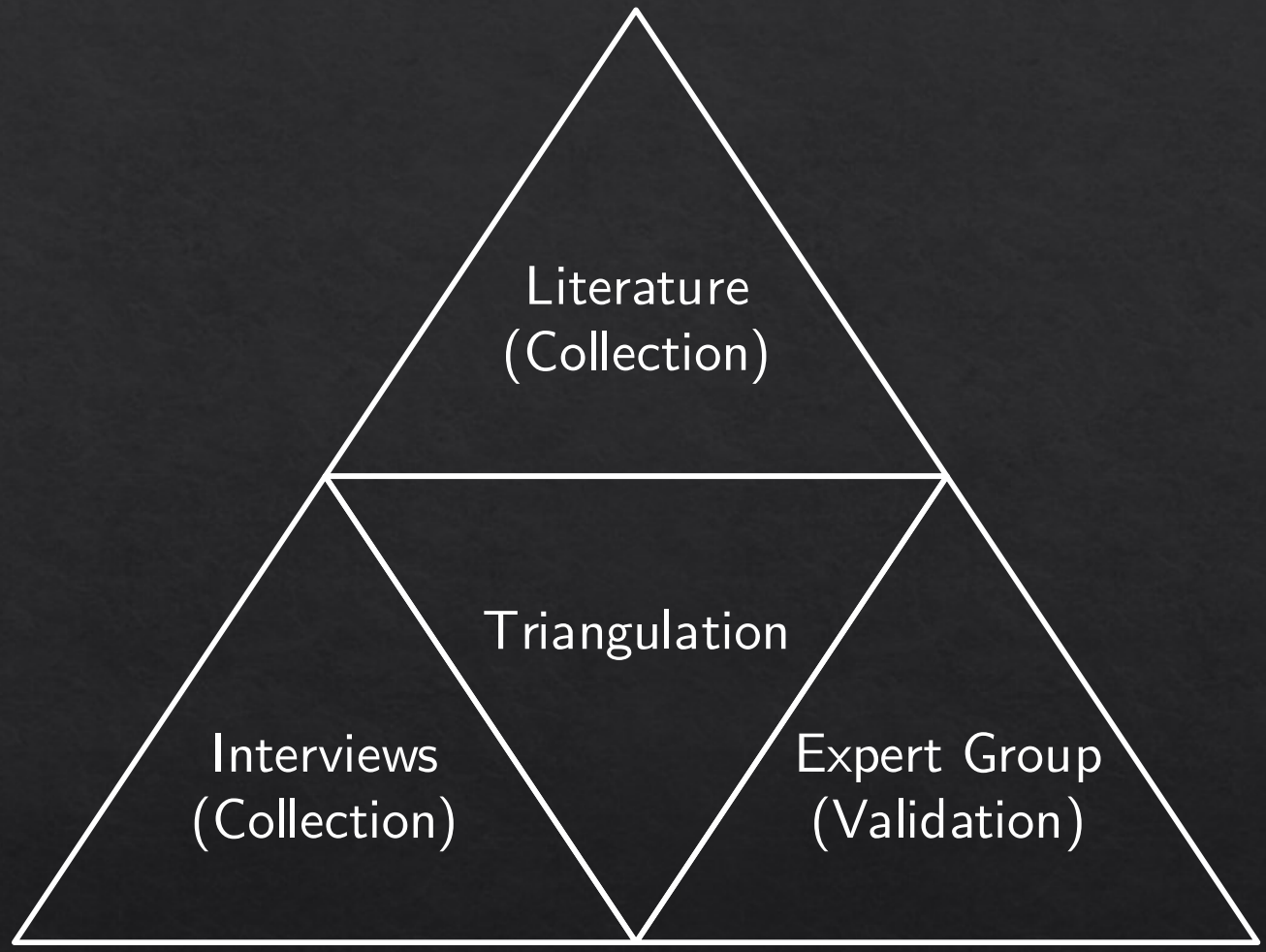


Public Sector three models of cooperation

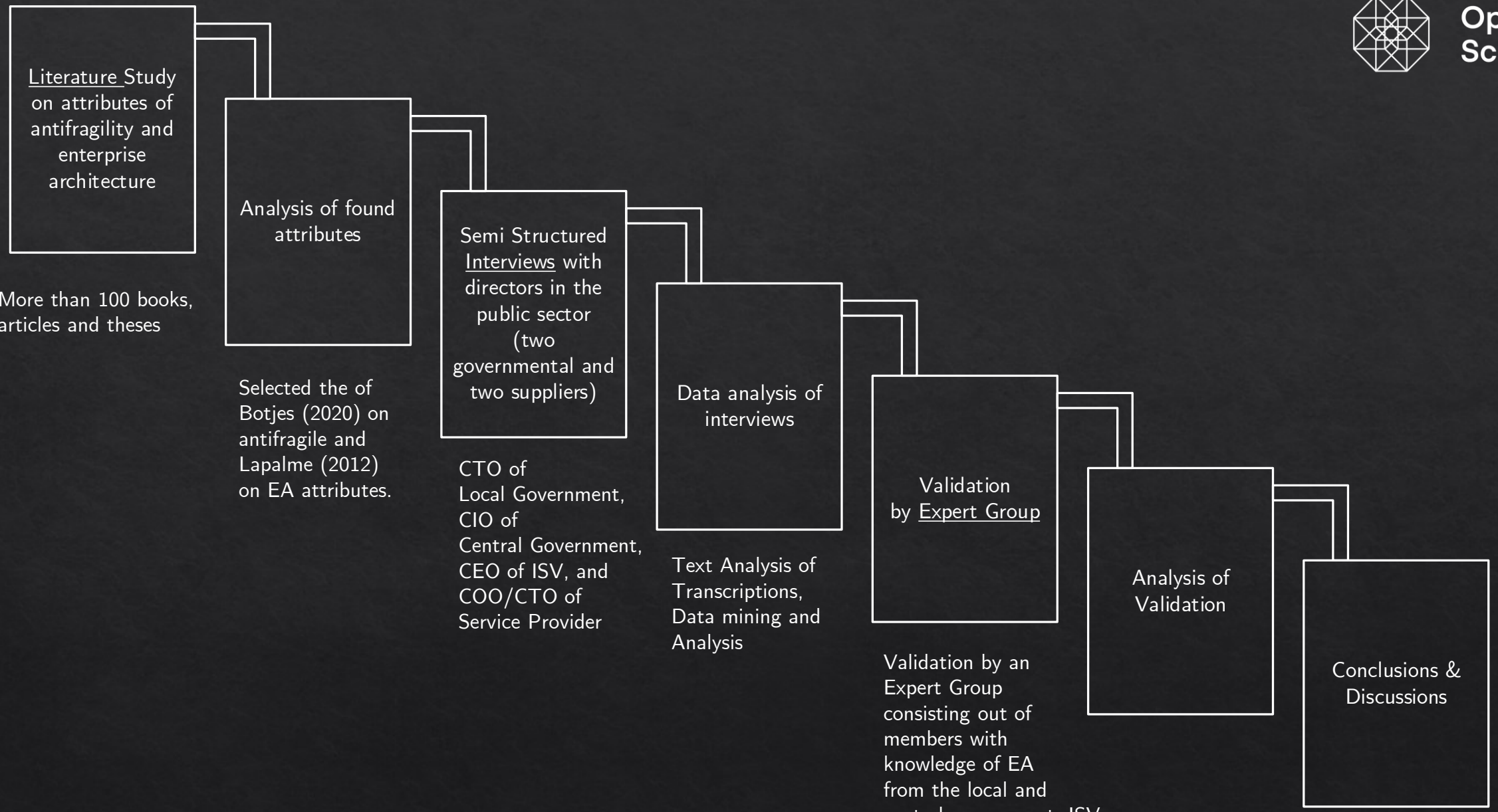


Examples of stressors on the public sector

Research approach



Validity by triangulation



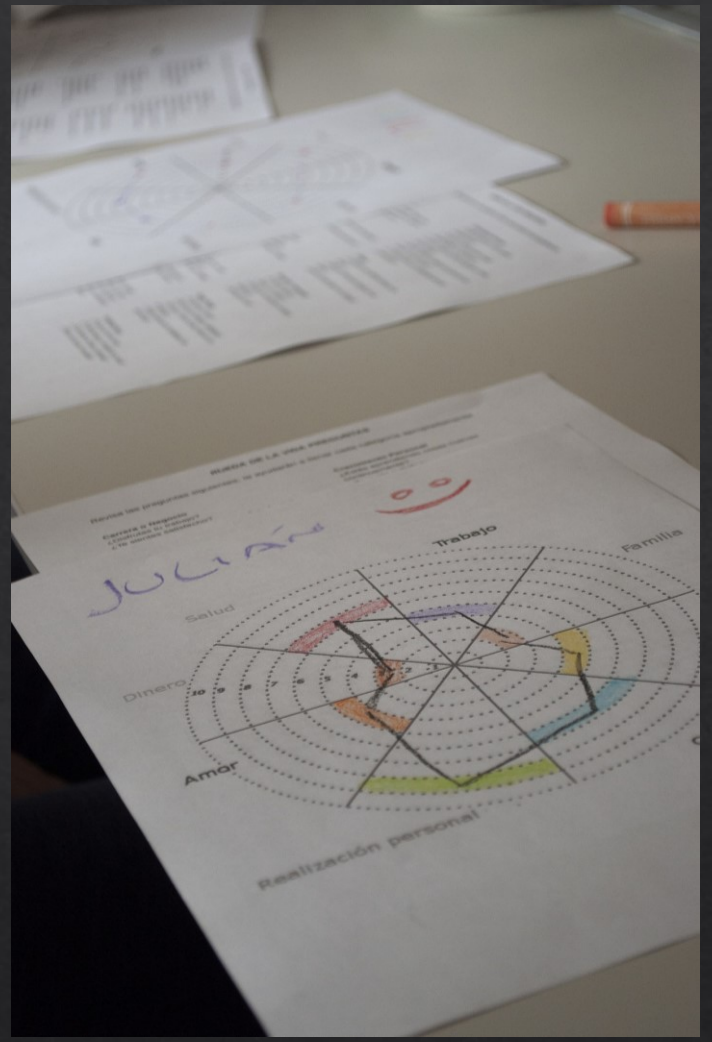
Research approach

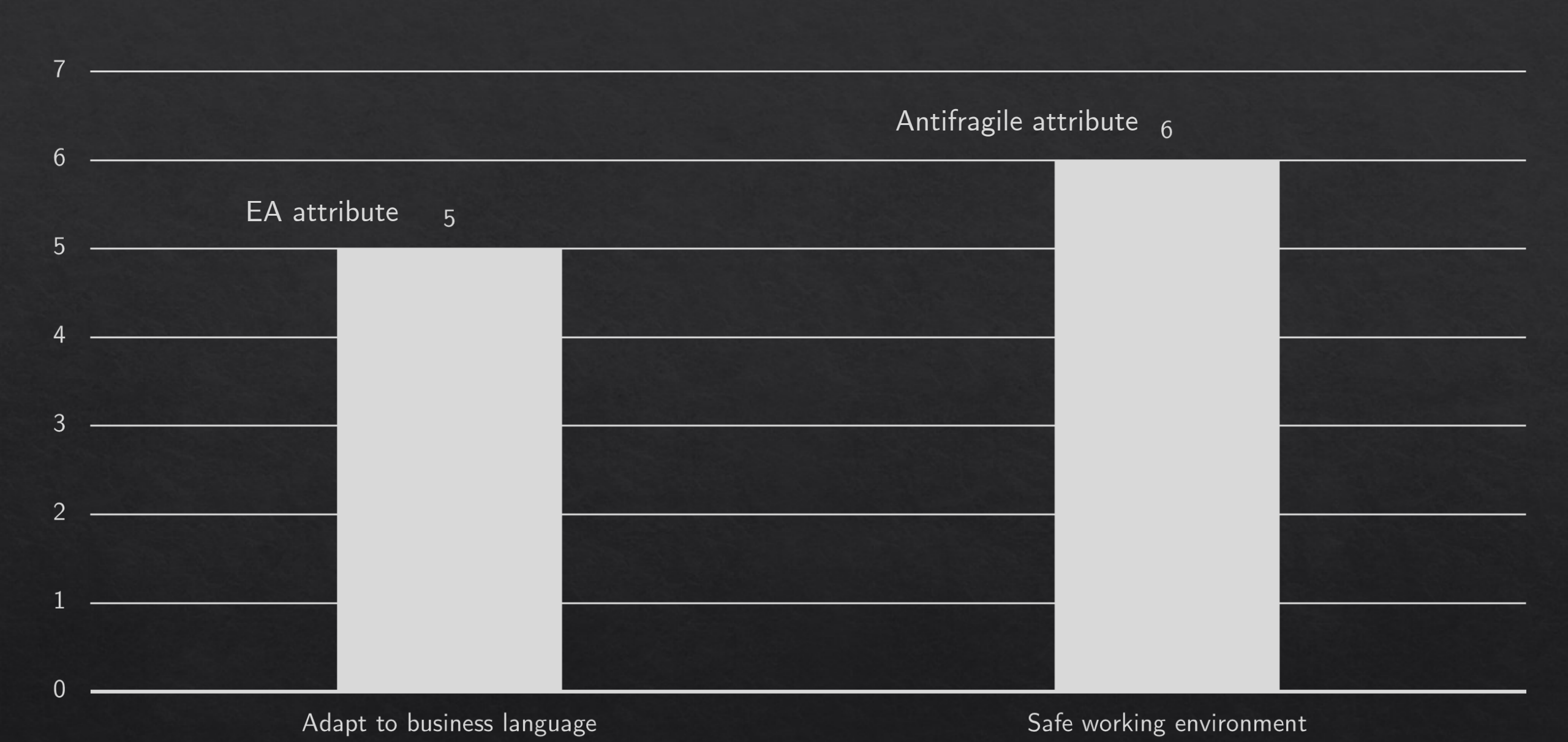

Group validation

Scoring of attributes to find possible success factors

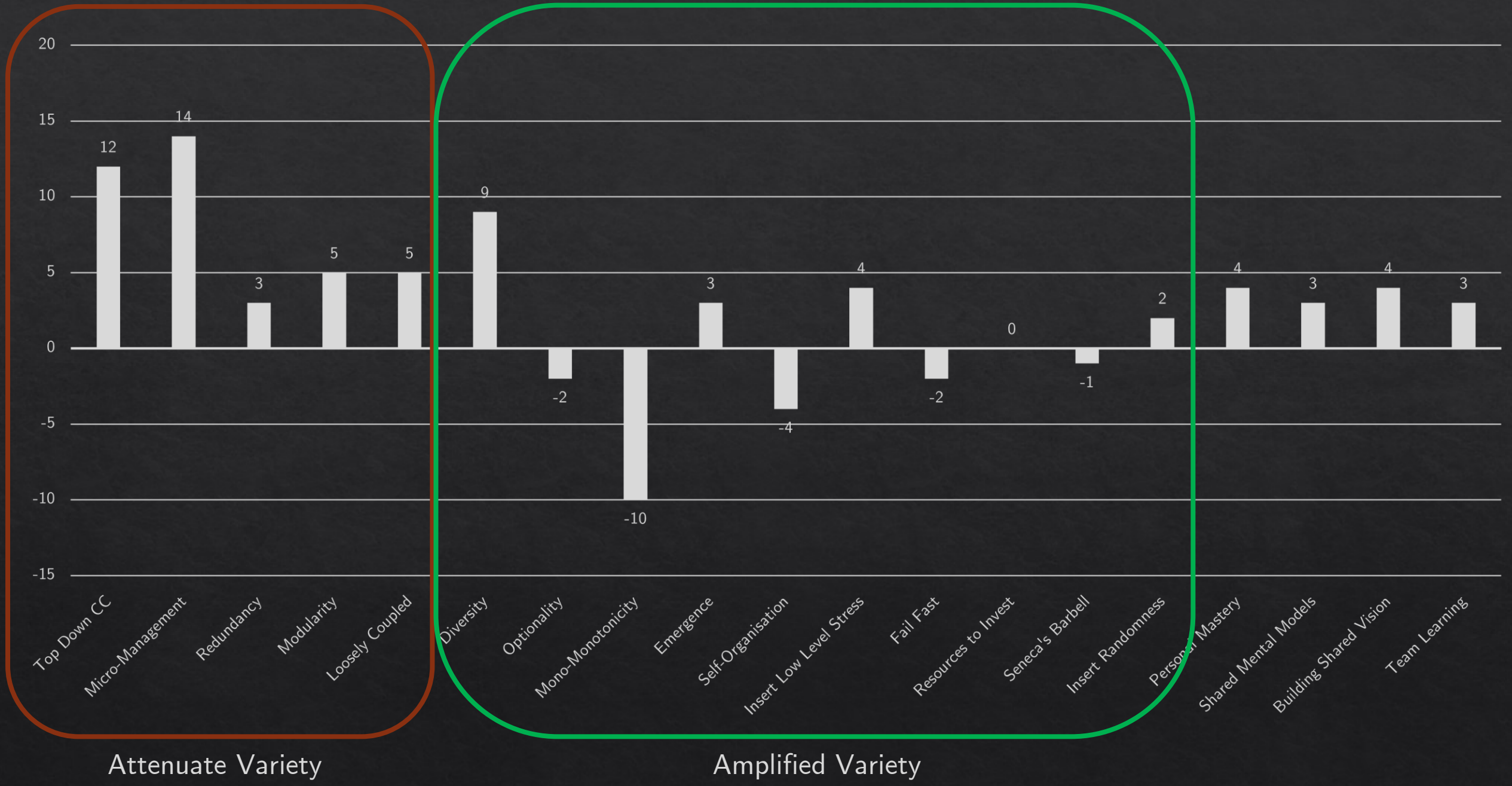
1. Interviews (4) are labelled with antifragile (positive and negative), the EA schools of thought, including possible newly found attributes.
2. Using a threshold for attributes of that it at least occurs in 75% of interviews (triangulation).
3. Normalized by only counting the occurrence once of an attribute per question per case.
4. Normalizing positives and negatives back to one attribute (score=positives-negatives).
5. Tagging possible attributes as success factor with the threshold equal of lower than 0.

Scoring has a maximum of 28 points





Antifragile Success Factors - Outcome of Interview Analysis New Findings (not found in literature)



Antifragile Success Factors - Outcome of Interview Analysis

Optionality	Optionality is when you have the right to do something, but you don't have an obligation.
Mono-Monotonicity	Non-monotonicity is about learning from the good and also from the bad.
Self-Organisation	Self-Organisation is when some form of overall order arises from local interactions between parts of an initially disordered system.
Fail-Fast	The attribute, Diversity, Optionality, Mono-Monotonicity, Emergence, Self-Organisation, Inserting low-level stress, and Network-connections combined enables the possibility to execute the strategy to embrace the adagio "Fail-Fast". It is about reducing the delay in detecting failures.
Resources to invest	Opportunities can only be seized when there are resources available to do so.
Seneca's Barbell	To be antifragile you need a robust sub-system to which 80% to 90% predictable value with low risk is situated. The other 20% to 10% should be used for high return on investment activities.
Safe working environment	When you create a safe work environment for employees, you set yourself up for business success, by reducing problem avoidance, accelerating trouble shooting, and increasing innovation. Taking this approach to errors demonstrates a leader's acceptance that people need to make mistakes in order to improve so that your business can achieve ever-greater goals.

Antifragile Success Factors – Definitions found in literature and interviews (voting to what extend the attribute is a success factor)

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Three Schools of Thought on Enterprise Architecture (Lapalme, 2012)

Enterprise IT Architecting	Enterprise architecture is the glue between business and IT.
Enterprise Integrating	Enterprise architecture is the link between strategy and execution.
Enterprise Ecological Adaptation	Enterprise architecture is the means for organizational innovation and sustainability.

EA Success Factors – The Three Schools of Thought (Voting to what extent the schools are success factors for antifragility in the public sector).

Systems-in-environment thinking	A system (enterprise) in its environment, including not only the enterprise but also its environment and the bidirectional relationship and transactions between the enterprise and its environment.
Holist (systemic) stance	The EA process must not only think of a single domain but about the combination of domains (IT domains and business domains) together. Addressing any IT and business architecture sub-domains separately and trying to adapt the other sub-domains accordingly will probably produce an ineffective and unsustainable outcome.
Organisational learning	To enable innovation and system-in-environment adaptation, enterprise architecture is about organisational learning. Designing all facets of the enterprise, including its relationship to the environment, will foster organisational learning.
Environmental learning	Use environmental learning to adapt the enterprise desired goals to be more compatible with the environment.
Intra-organisational coherency	Its possible to make the organisation conducive to ecological learning, environmental influencing, and coherent strategy execution by reinforce wanted intra-dynamics and attenuate unwanted ones.
System-in-environment coevolution learning	System-in-environment coevolution is the combination of environmental learning, intra-organisational coherency and attenuating unwanted forces.
Adapt to business language	Speak the language of your stakeholders such as Directors, Politicians, Public Administrators, and others.

EA Success Factors – Definitions found in literature and interviews (voting to what extend the attribute is a success factor)

Bliekendaal, R. (2022). Accelerating in a world of chaos by using Enterprise Architecture with the concept of antifragile [Antwerp Management School].

Botjes, E. (2020). Defining antifragility and the application on organisation design (Master's thesis). Zenodo. https://doi.org/10.5281/ZENODO.3719389

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