



20th National & International Conference: Systems Approach for Innovative Entrepreneurship
Hellenic Society for Systemic Studies (HSSSS)
University of Ioannina, Lab. of New Technologies & Distance Learning
11-14 December 2024
Ioannina, Greece



Member of:

International Federation for Systems Research (IFSR), Austria
Latin American Systemic Association – ALAS

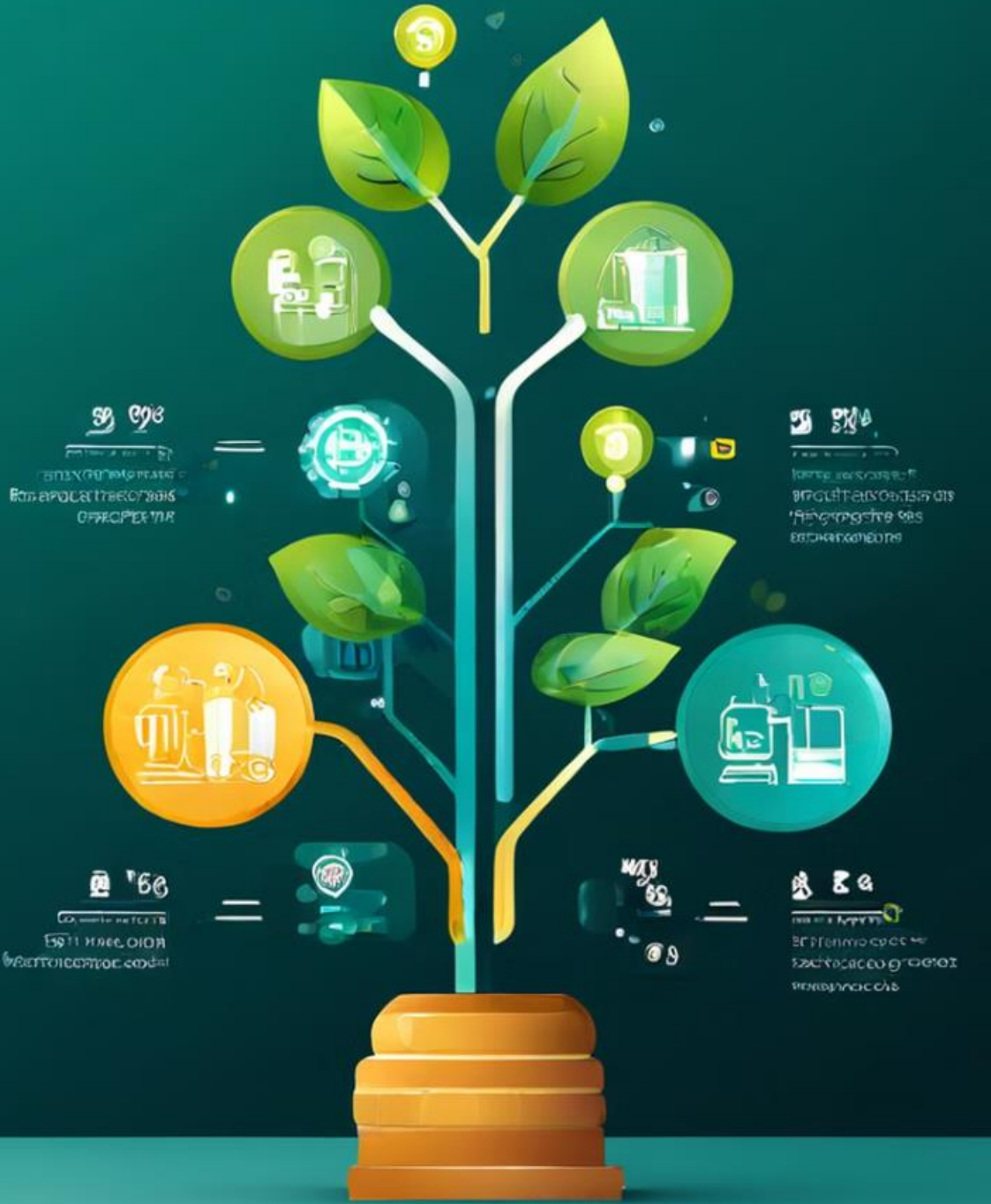
Systemic Methodology for Developing and Maintaining a Dynamic Balanced Scorecard - SMDBSC - DM

Ricardo A. Rodríguez Ulloa

Fellow HSSSS

Professor and Principal Researcher at the Instituto Andino de Sistemas – IAS, Peru
Honorary President of the Latin American Systemic Association – ALAS
Professor at National University of Engineering – UNI, Peru

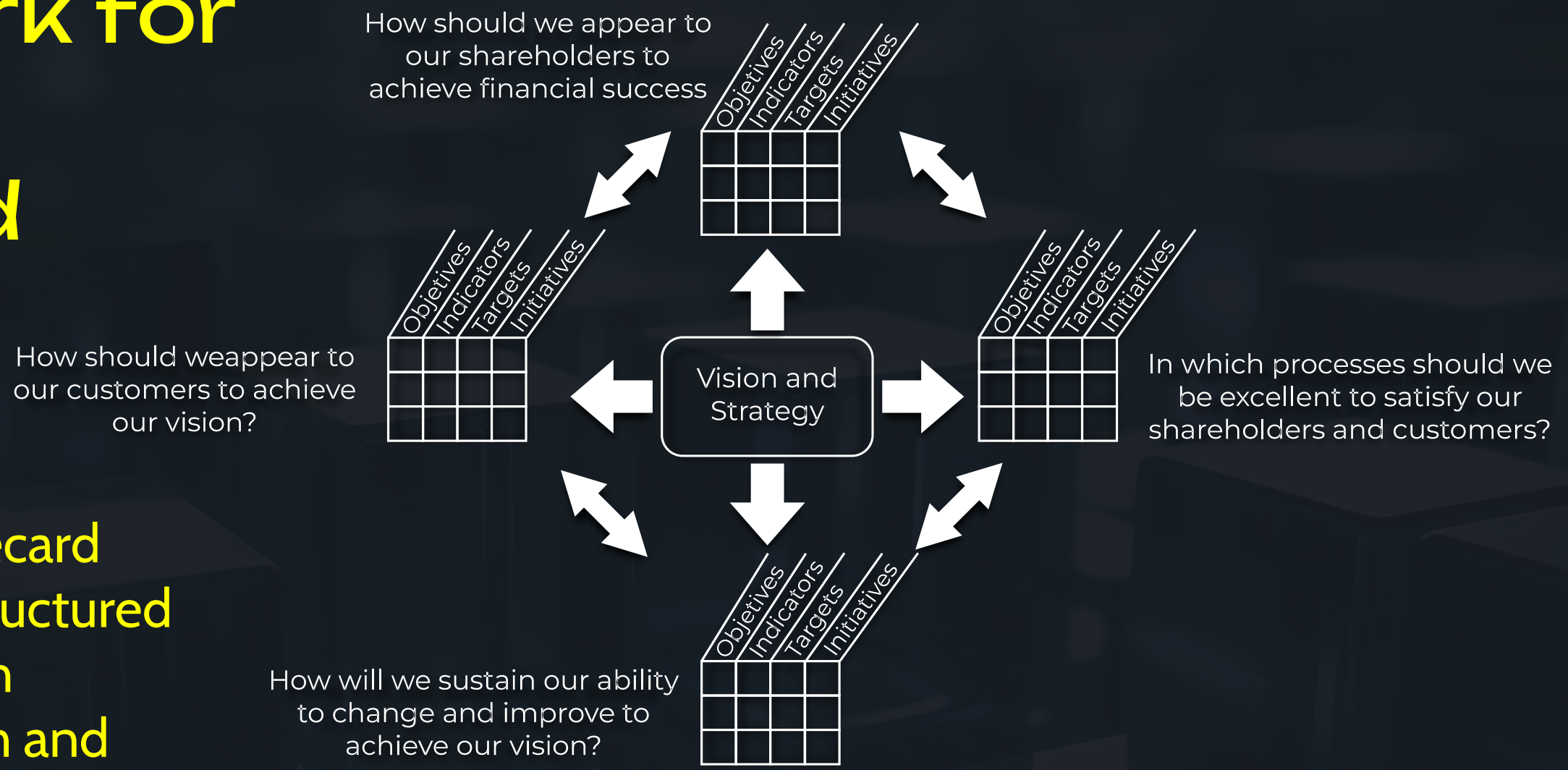
1. What is BSC? ●



The Balanced Scorecard Framework

- 1 Developed by Kaplan and Norton (1992) Introduced four perspectives: Financial, Customer, Internal Processes, and Innovation/Growth. Aligns organizational vision and mission with measurable key performance indicators (KPIs). Provides a comprehensive, integrative system for monitoring performance.

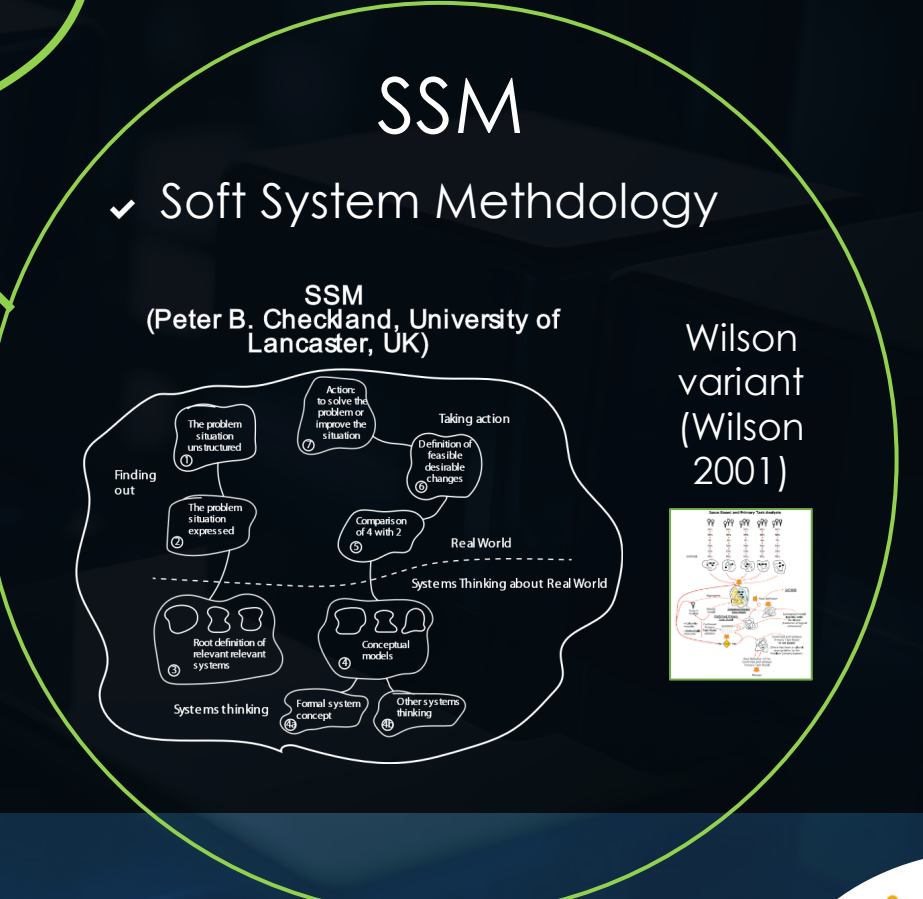
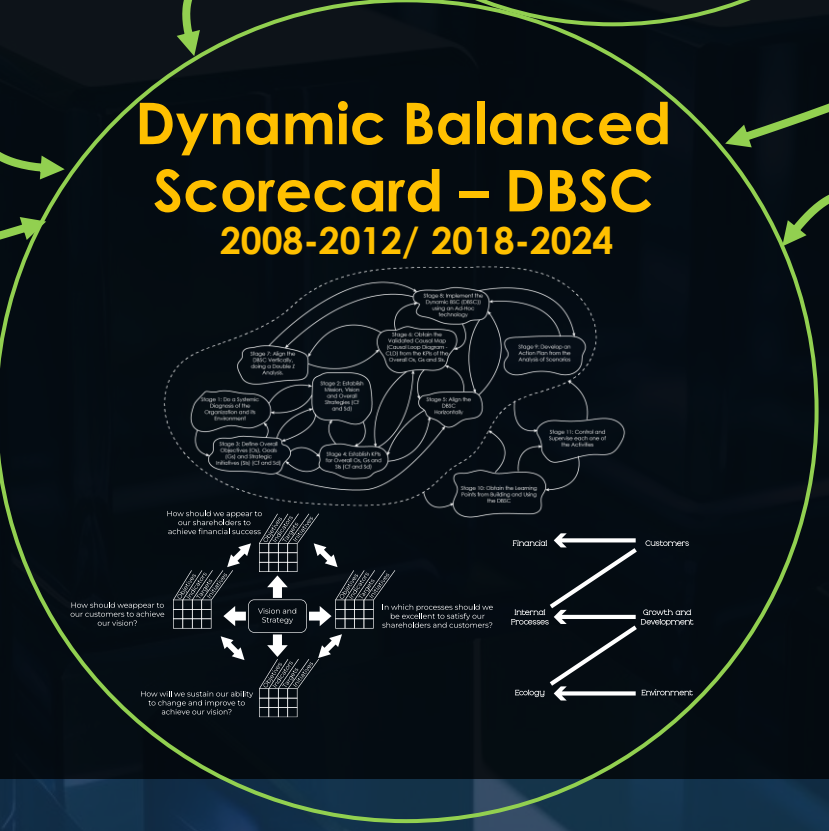
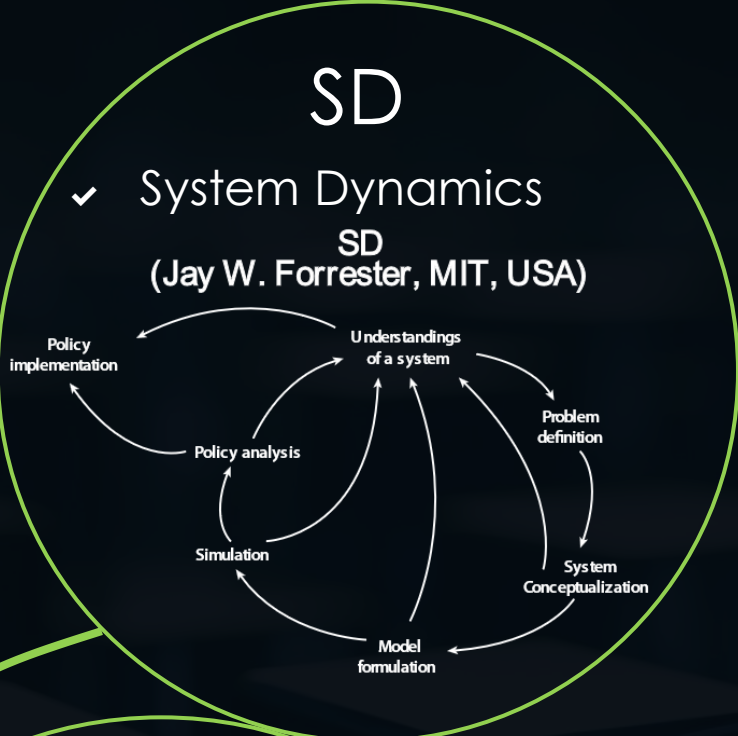
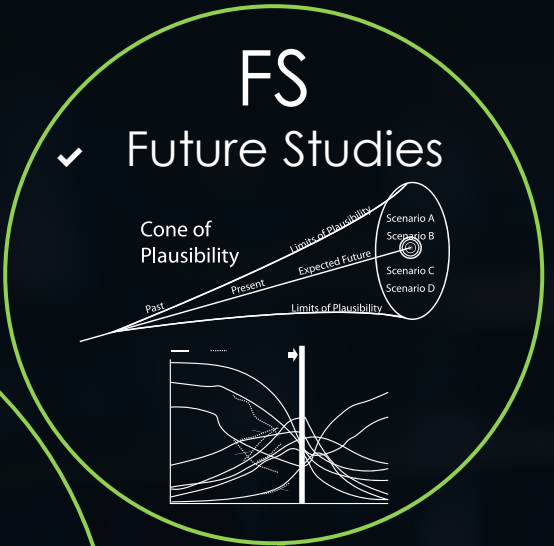
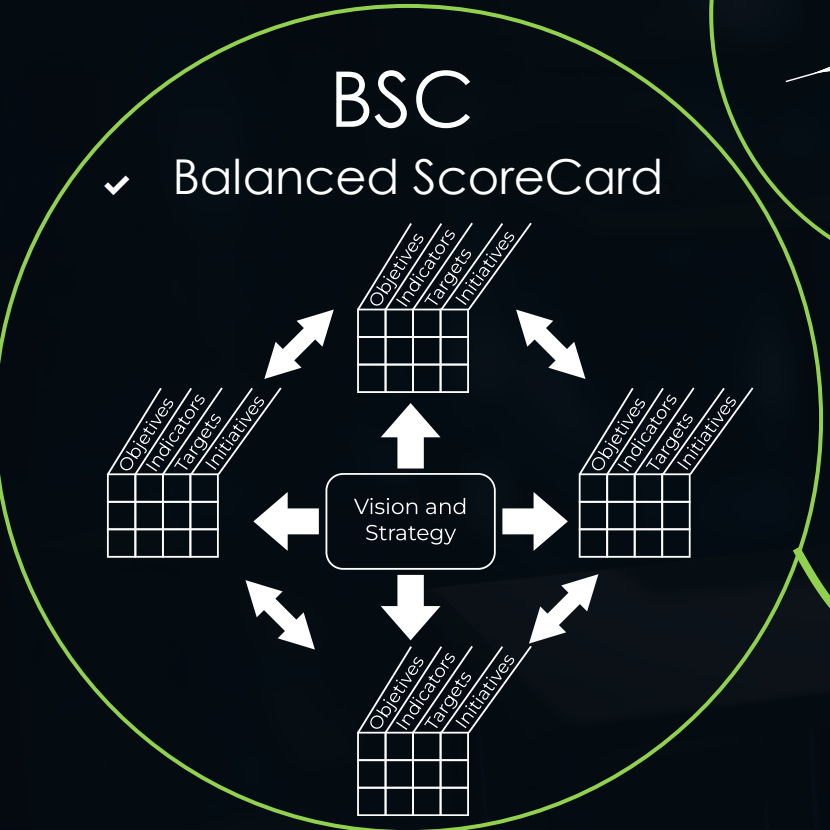
Framework for Balanced Scorecard



The Balanced Scorecard (BSC) provides a structured approach to align an organization's vision and mission with measurable performance indicators.

2. Systemic Methodology for Developing and Maintaining a Dynamic Balanced Scorecard – SMDBSC – DM

2. SMDBSC-DM ●●



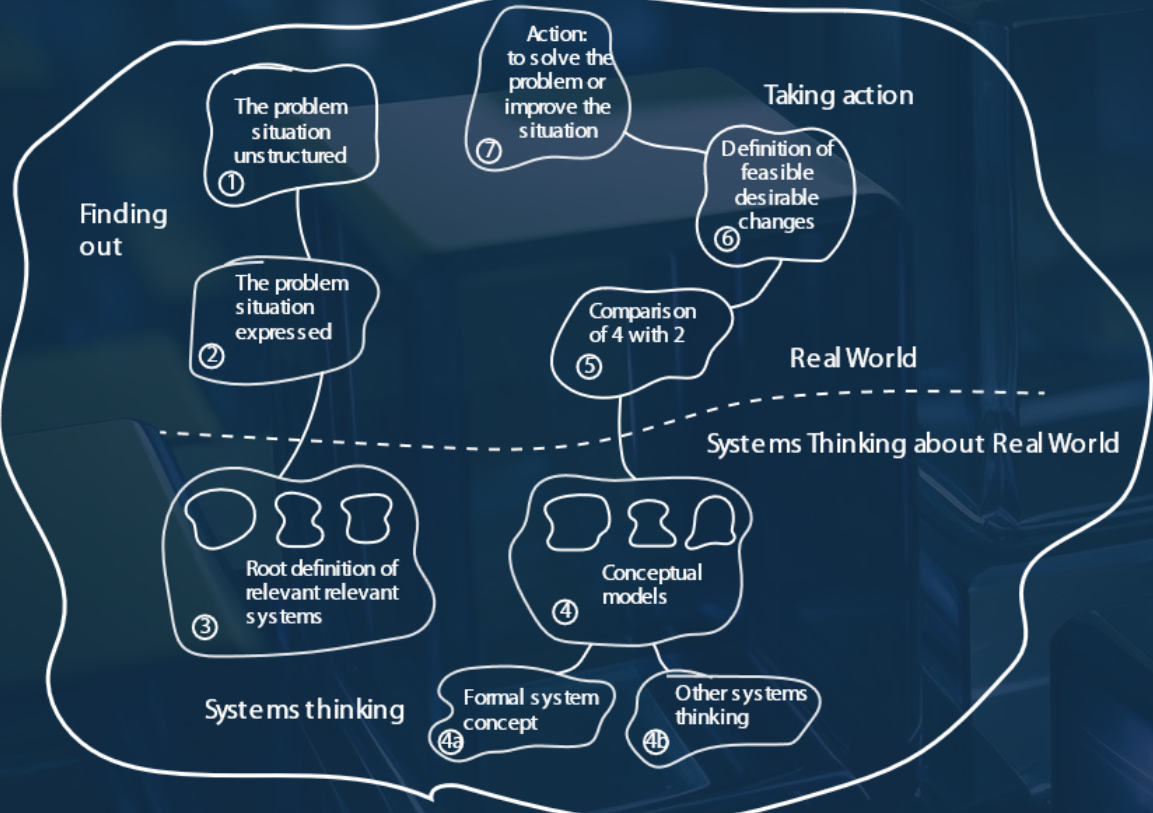
- ### Other Contributions
- Russell Ackoff's Interactive Planning: A focus on redesigning systems.
 - Michael Jackson's Critical Systems Thinking: Combining methodologies to address complexity.

Conceptual and methodological sources

SSM

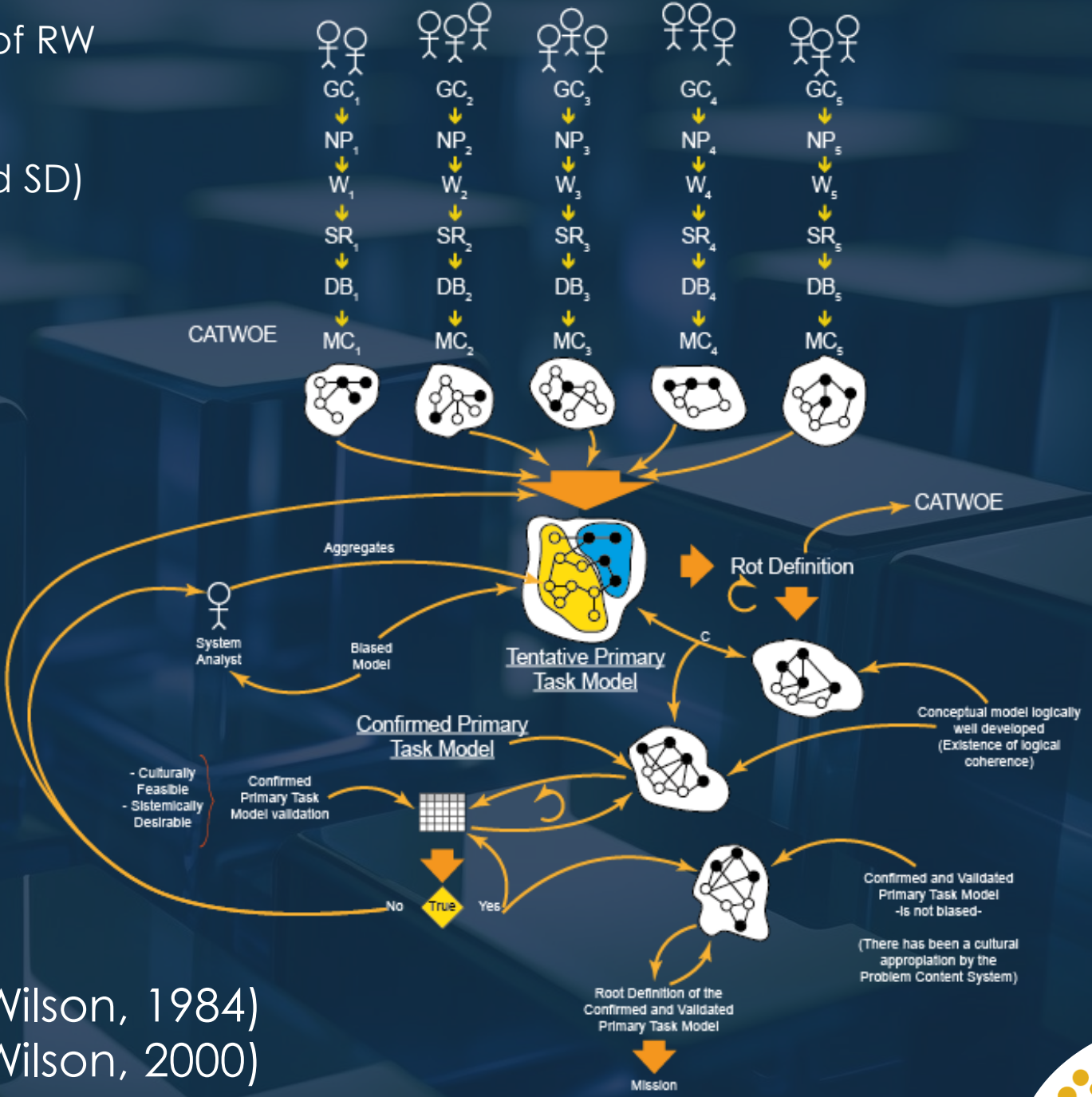
- ✓ Phenomenology / Hermeneutics / Epistemological Description of RW
- ✓ Processes "supposedly" occur in the RW
- ✓ Consider Clients, Actors and Owners of the problem
- ✓ Oriented to implement viable transformations in the MR (CF and SD)

SSM
(Peter B. Checkland, University of Lancaster, UK)



Wilson's Variant

Issue Based and Primary Task Analysis (IB&PTA)

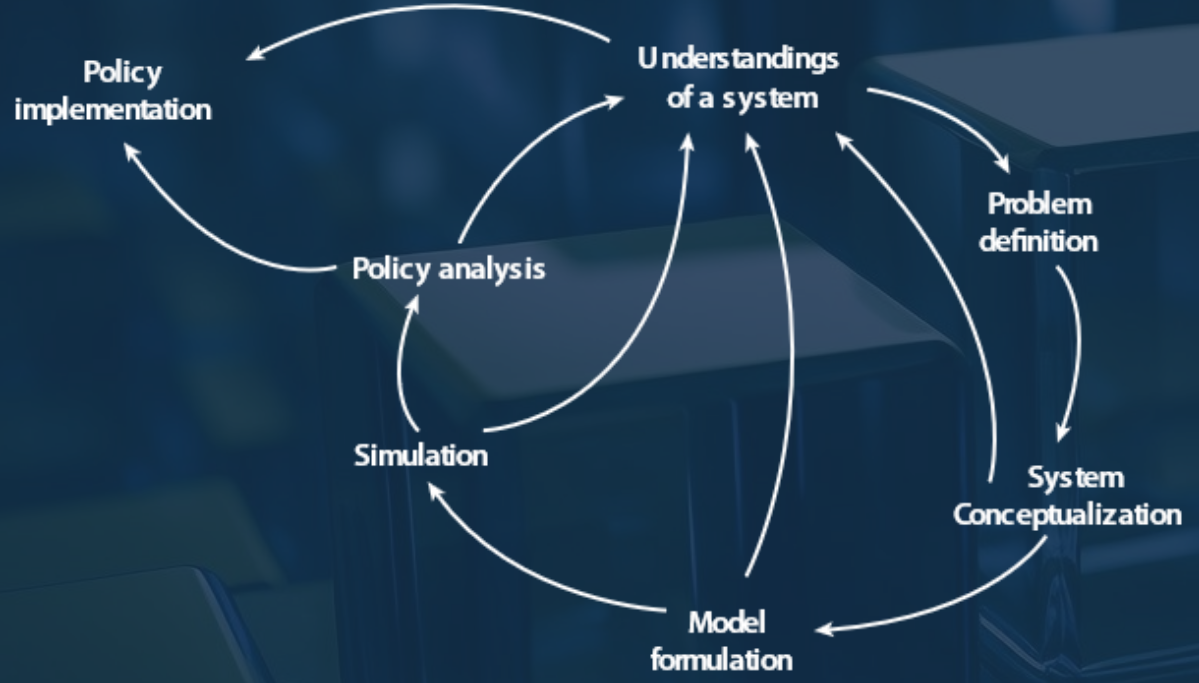


(Wilson, 1984)
(Wilson, 2000)
(Wilson, van Haperen, 2017)

SD

- ✓ Simulate behaviors of key variables over time

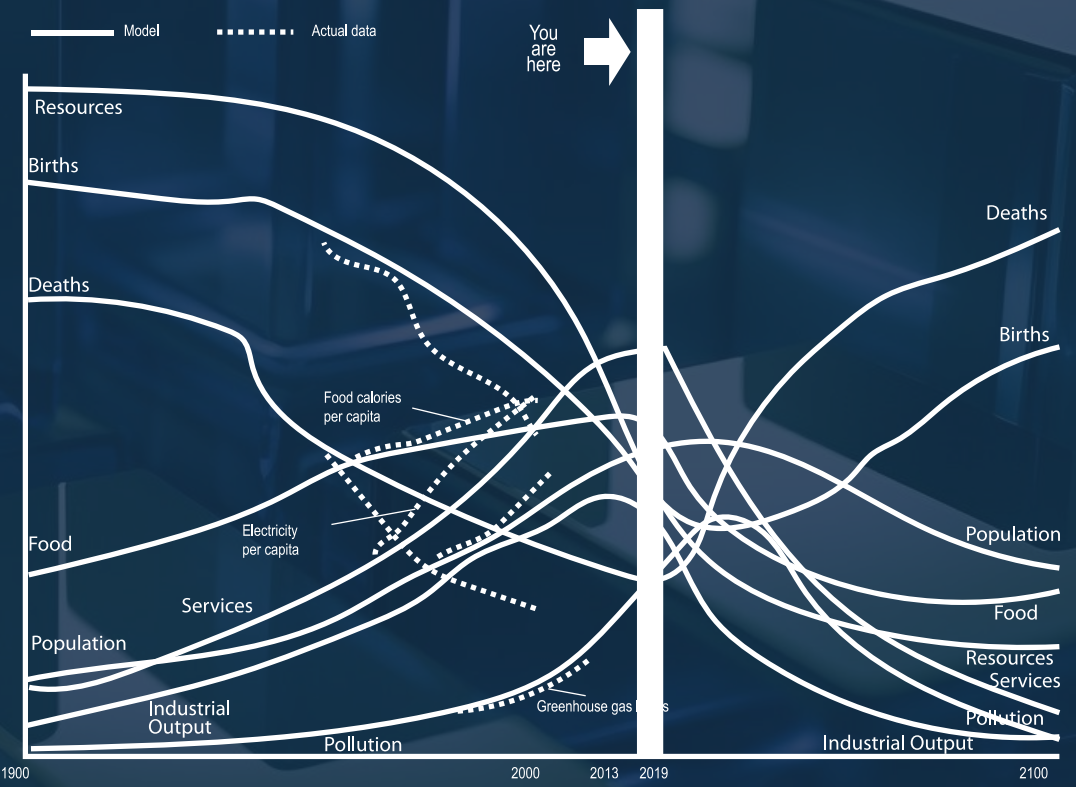
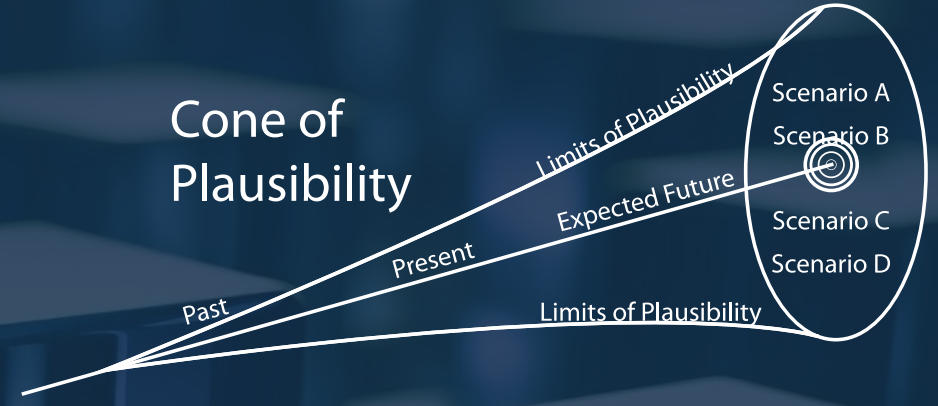
SD (Jay W. Forrester, MIT, USA)



FS

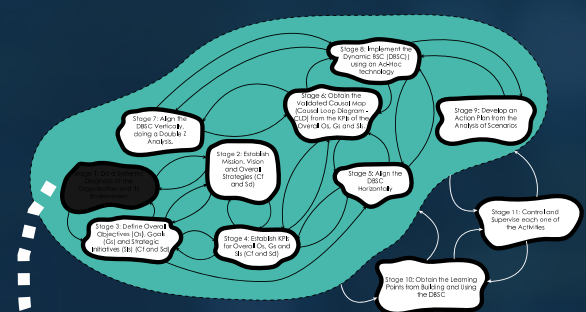
- ✓ Future Studies

Cone of Plausibility



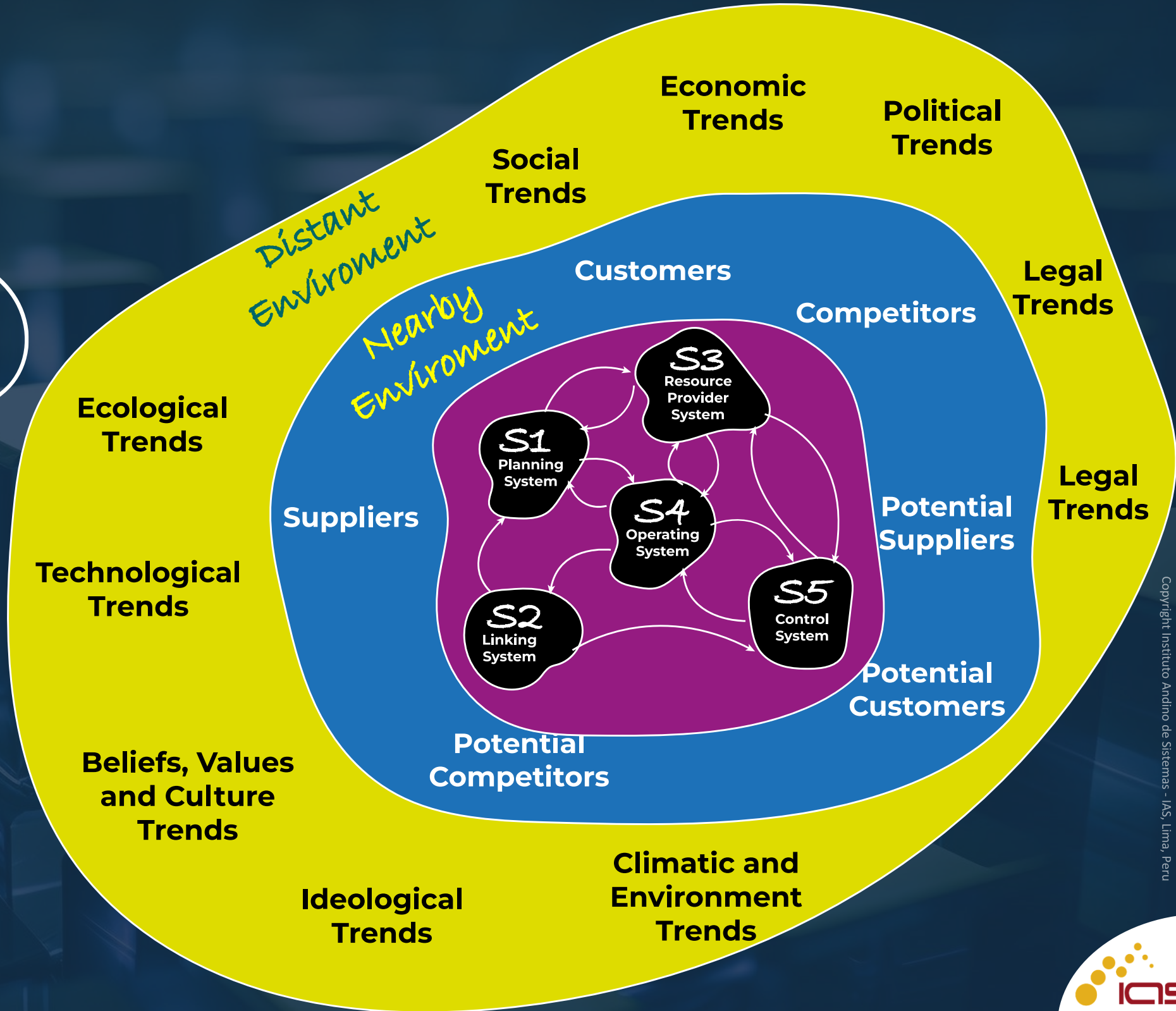
3. Stages of the SMDBSC - DM

3. Stages SMDBSC – DM ●●●

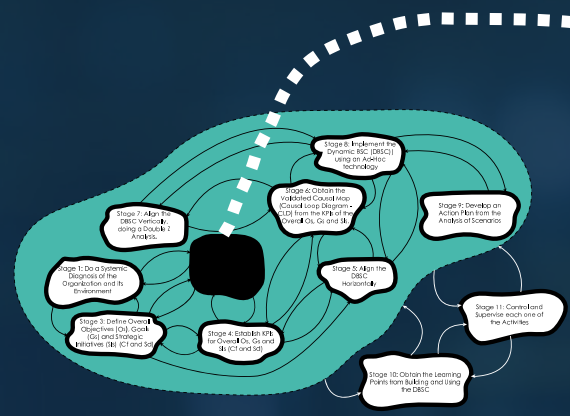


Stage 1: Do a Systemic Diagnosis of the Organization and its Environment

Stage No. 1. Perform a Systemic Diagnosis of the Organization and its Environment



3. Stages SMDBSC – DM ●●●●



Stage No. 2: Establish the Mission, Vision and Macrostrategies that are Culturally Feasible (Cf) and Systemically Desirable (Sd)

Stage 2: Establish Mission, Vision and Overall Strategies (Cf and Sd)

Mission and Vision

Macrostrategies

	Strengths	Weakness
Opportunities	SO	WO
Threats	ST	WT

Features of Mission and Vision

5 components:

1. Product-Market
2. Performance
3. Social
4. Ecological
5. Environmental

CATWOE Analysis

- Clients
- Actors
- Transformation
- Weltanschauung
- Owners
- Environment

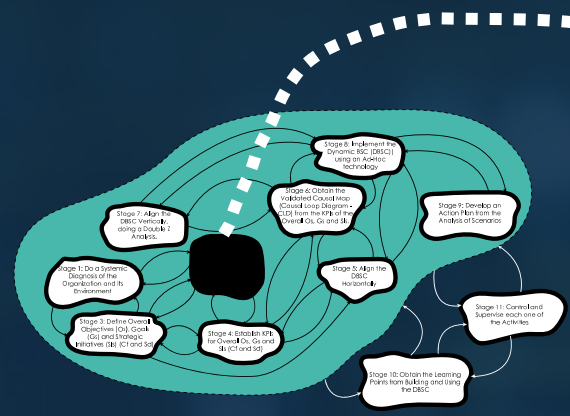
Expressed in:

- Epistemological
- Phenomenological
- Hermeneutic
- Systemic

It must present a non-zero sum process


- Culturally feasible
- Systemically desirable

3. Stages SMDBSC – DM ●●●●




Stage 2: Establish Mission, Vision and Overall Strategies (Cf and Sd)

Stage No. 2: Establish the Mission, Vision and Macrostrategies that are Culturally Feasible (Cf) and Systemically Desirable (Sd)

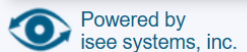



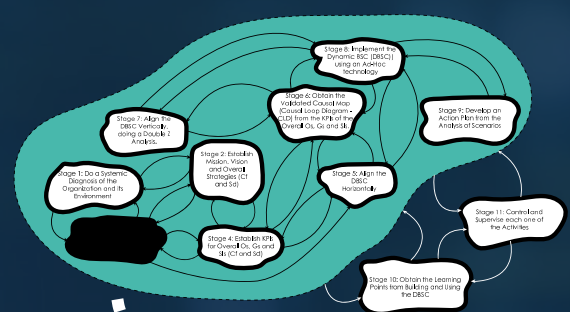
Decision Lab del Grupo Agroindustrial EGA



¿Quiénes Somos?

<div style="background-color: #ffff00; padding: 5px; margin-bottom: 10px;">Misión</div> <div style="background-color: #ffff00; padding: 10px; margin-bottom: 10px;"> <p>Grupo Empresarial que busca su crecimiento y desarrollo sostenible y competitivo, contribuyendo de manera significativa en el desarrollo del sector agroindustrial de la Región Tacna</p> </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Vista Grupo EGA</div>	<div style="background-color: #ffff00; padding: 5px; margin-bottom: 10px;">Visión</div> <div style="background-color: #ffff00; padding: 10px; margin-bottom: 10px;"> <p>El Grupo EGA, al 2030 se ha convertido en el líder del sector agroindustrial de la Región Tacna, caracterizado por su crecimiento y desarrollo sostenible que contribuye de manera significativa en la competitividad de la Región Tacna,</p> </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Ambiente de Decisiones</div>
---	--



Stage 3: Define Overall Objectives (O), Goals (G) and Strategic Initiatives (SI) (Cf and Sd)

Overall Objectives of the Organization (Cf and Sd)

- A product – market component
- A performance component
- A social component
- An ecological component
- An environmental component

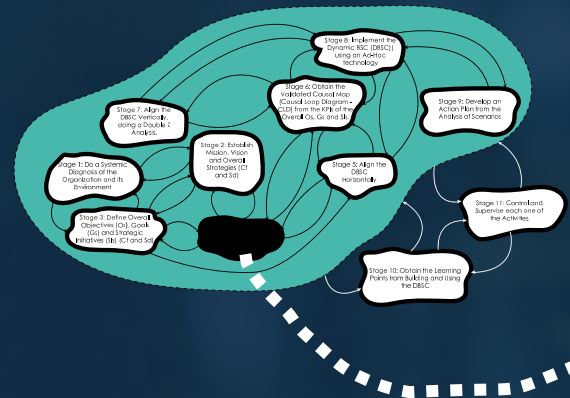
Goals of the Organization (Cf and Sd)

Quantification of the objectives, with respect to a particular space and time.

Strategic Initiatives

Strategic initiatives selected are Cf and Sd from the universe of strategies obtained at Stage No. 2

Stage No. 3: Set culturally feasible (Cf) and systematically desirable (Sd) Strategic Objectives, Goals and Initiatives

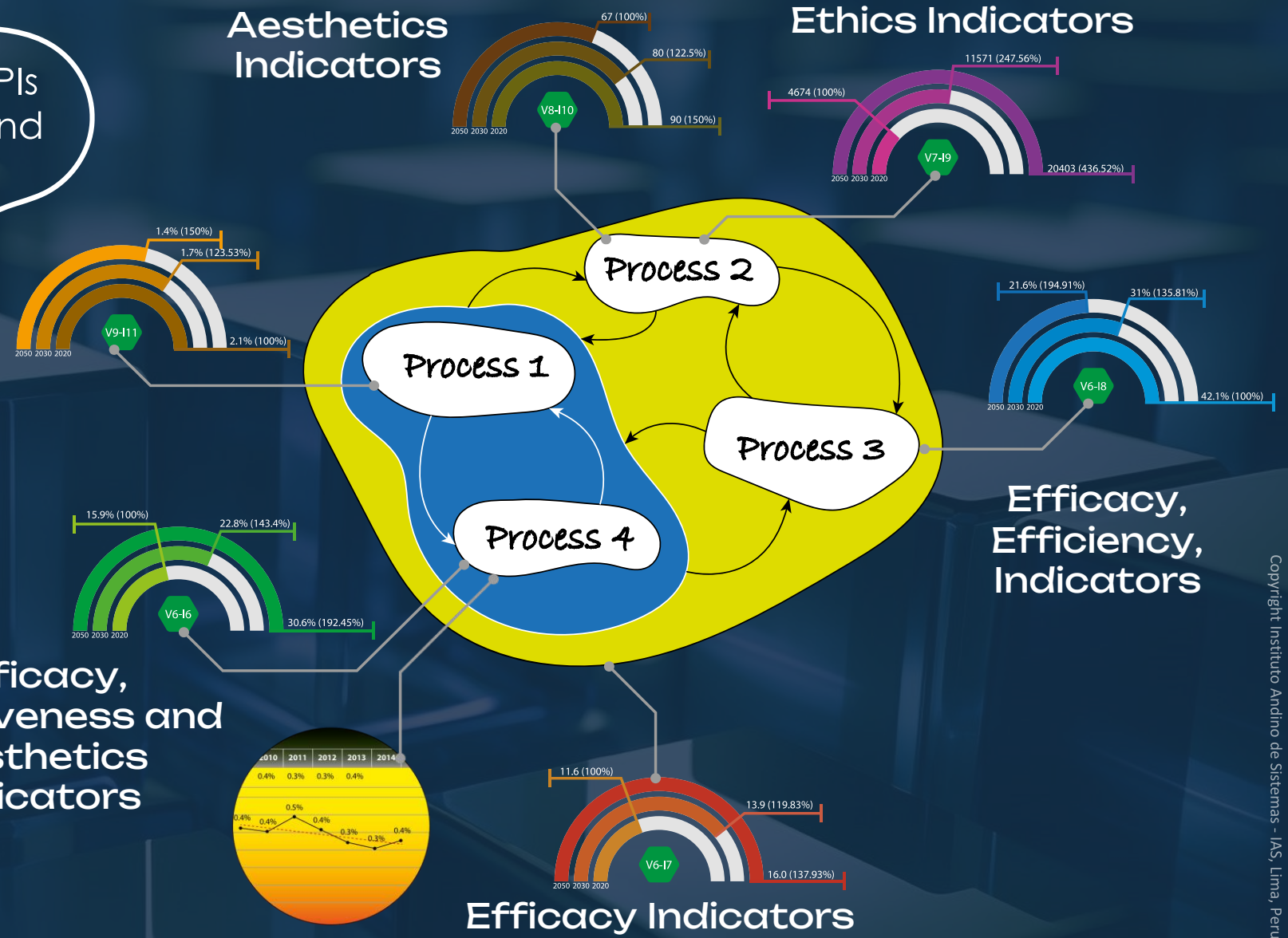


Stage 4: Establish KPIs for Overall Os, Gs and SIs (Cf and Sd)

Stage No. 4: Establish Efficacy, Efficiency, Effectiveness, Ethics and Aesthetics Indicators for Meeting the culturally feasible and systematically desirable Objectives, Goals and Strategic Initiatives

Efficacy, Efficiency, Effectiveness, Ethics and Aesthetics Indicators

Effectiveness, Ethics Indicators



Efficacy, Effectiveness and Aesthetics Indicators

Efficacy Indicators

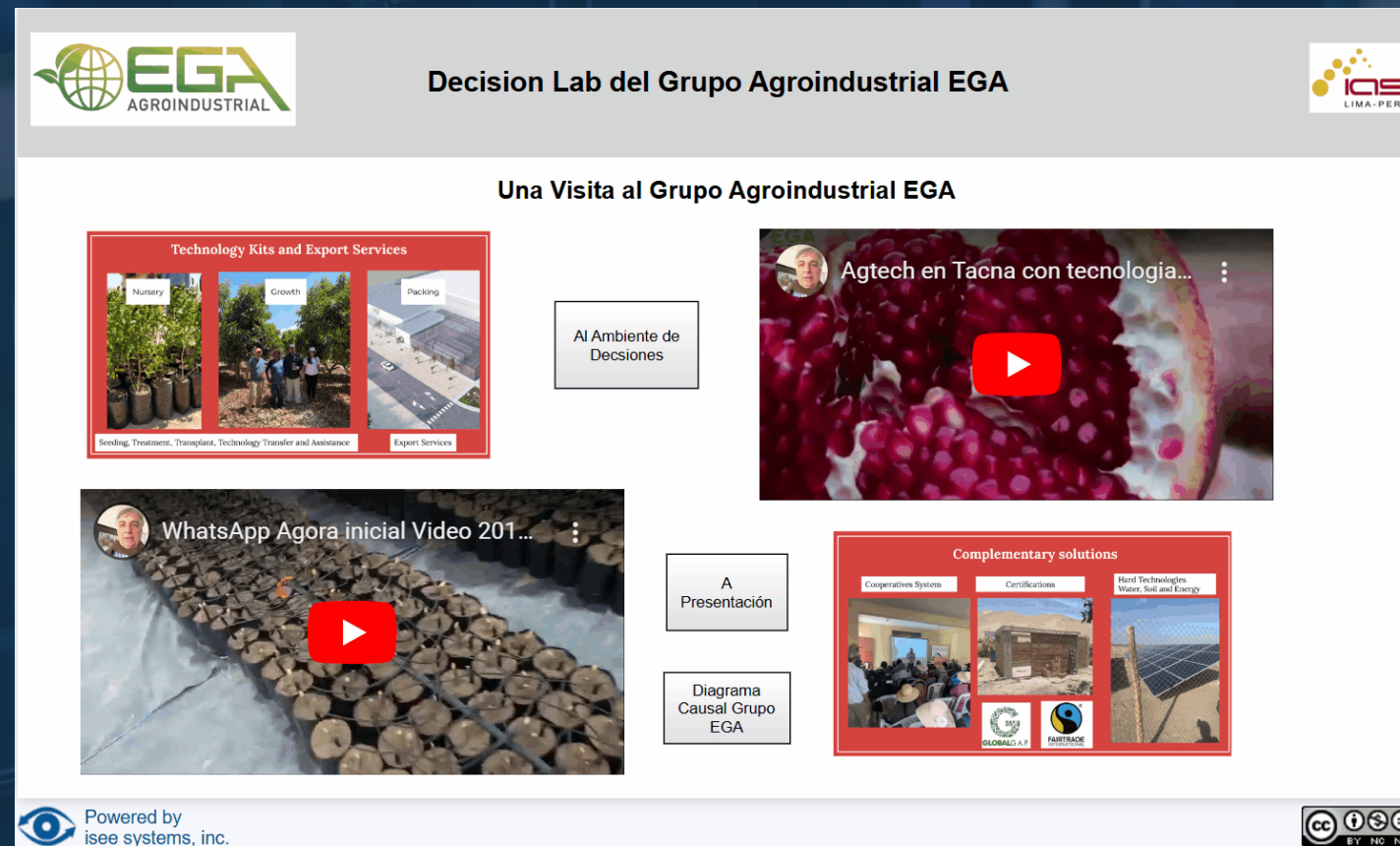
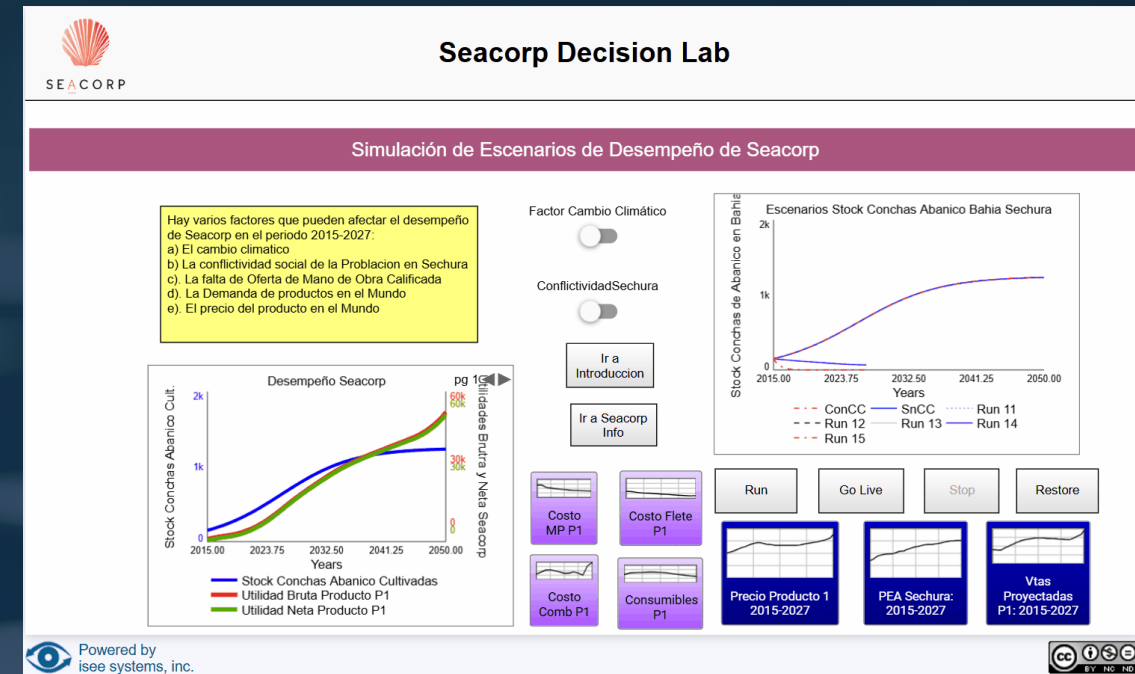
Efficacy, Efficiency, Indicators

3. Stages SMDBSC – DM ●●●●●●●●



Stage 4: Establish KPIs for Overall Os, Gs and SIs (Cf and Sd)

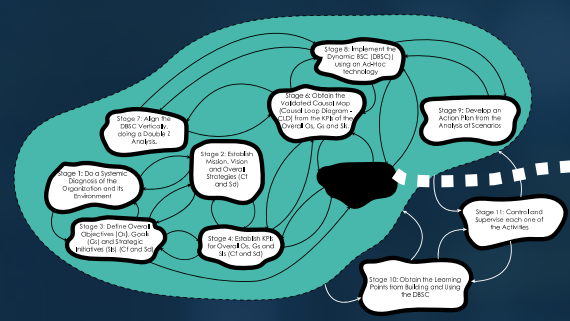
Stage No. 4: Establish Efficacy, Efficiency, Effectiveness, Ethics and Aesthetics Indicators for Meeting the culturally feasible and systematically desirable Objectives, Goals and Strategic Initiatives



Copyright Instituto Andino de Sistemas - IAS, Lima, Peru



3. Stages SMDBSC – DM ●●●●●●●●



Stage 5: Align the DBSC Horizontally

Stage No. 5: Horizontal Alignment of the DBSC

Perspectives

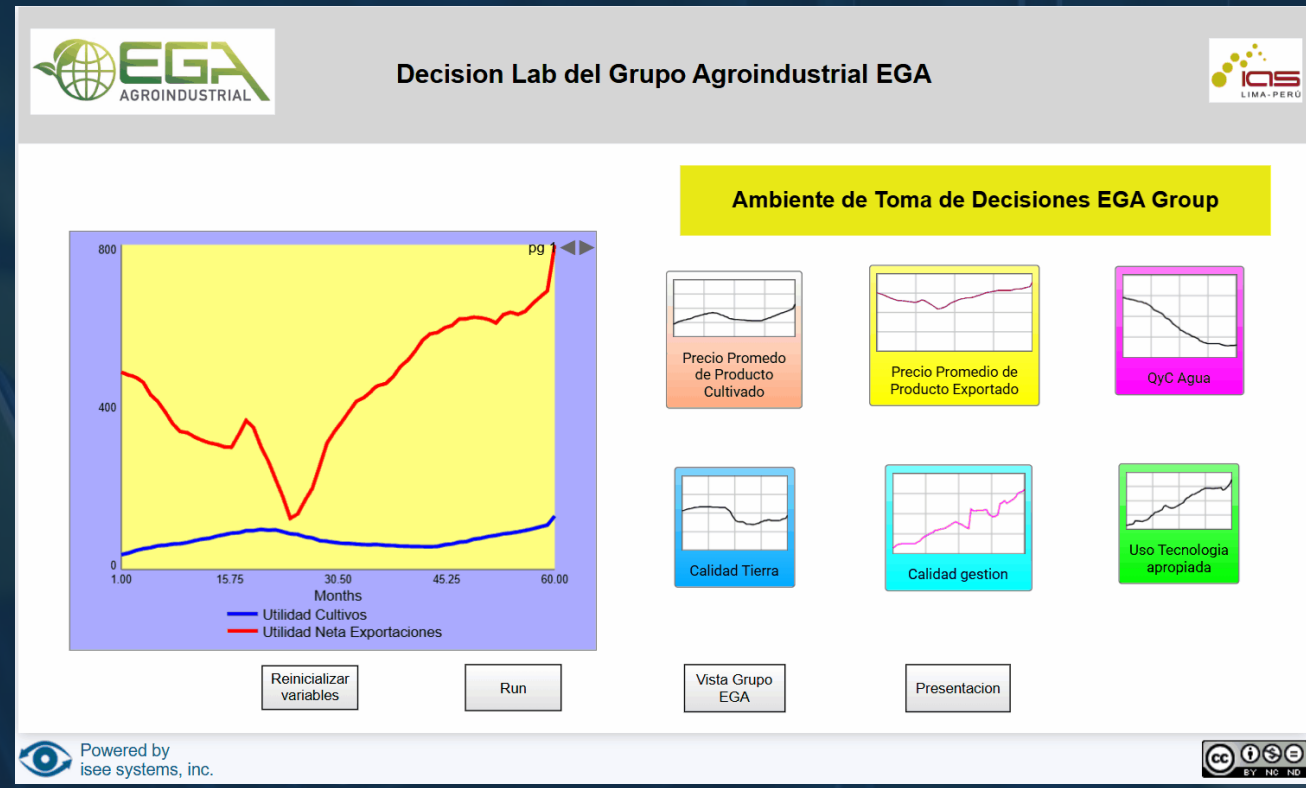
Financial					
Customer					
Internal Processes					
Growth-Development					
Ecological					
Environmental					

Objetives

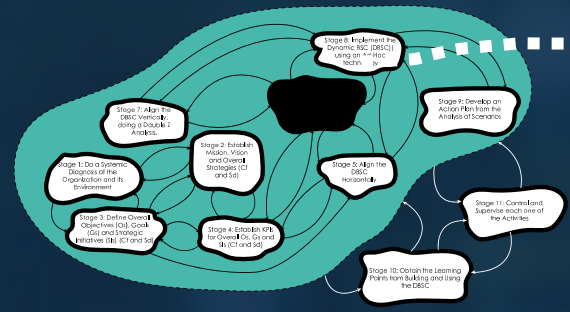
Indicators

Targets

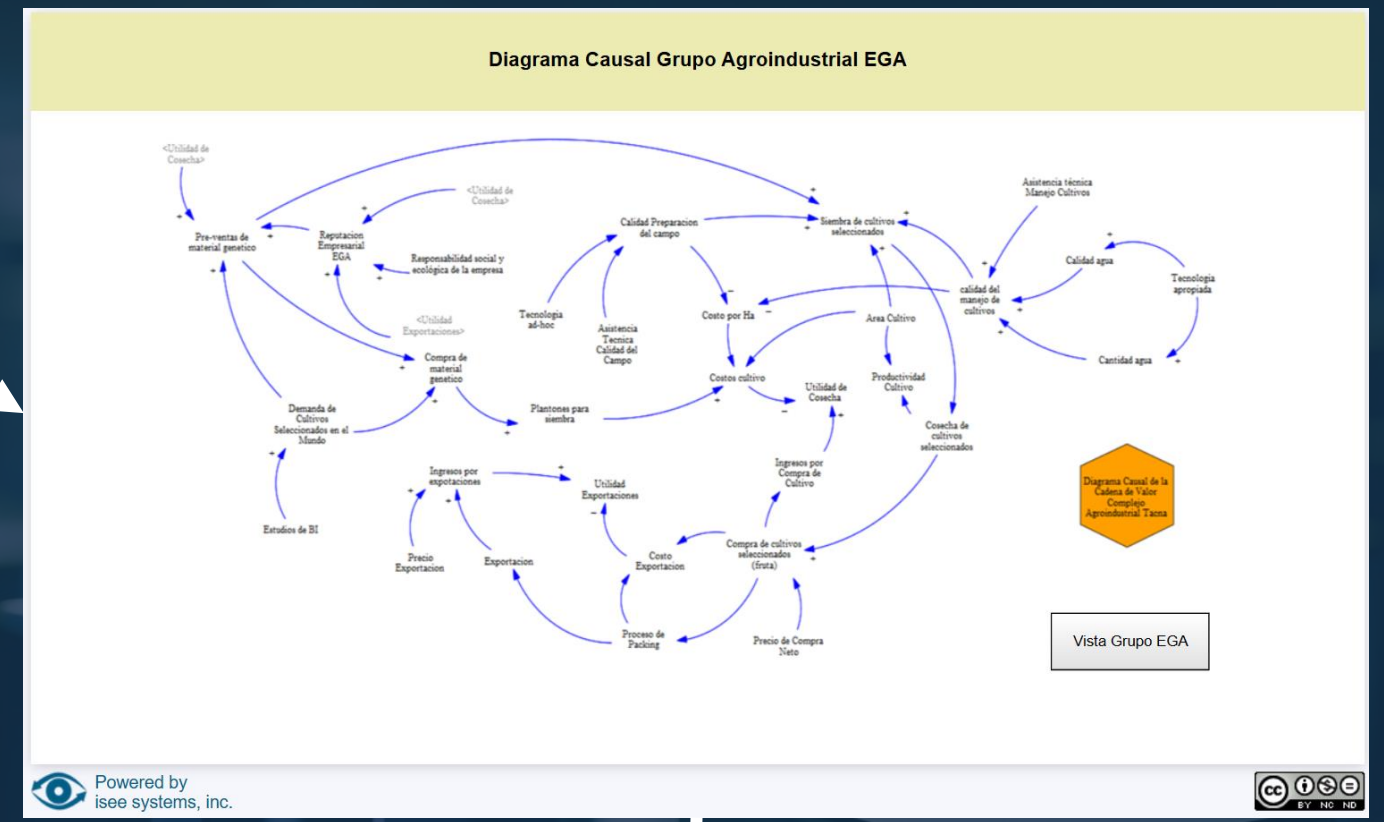
Initiatives



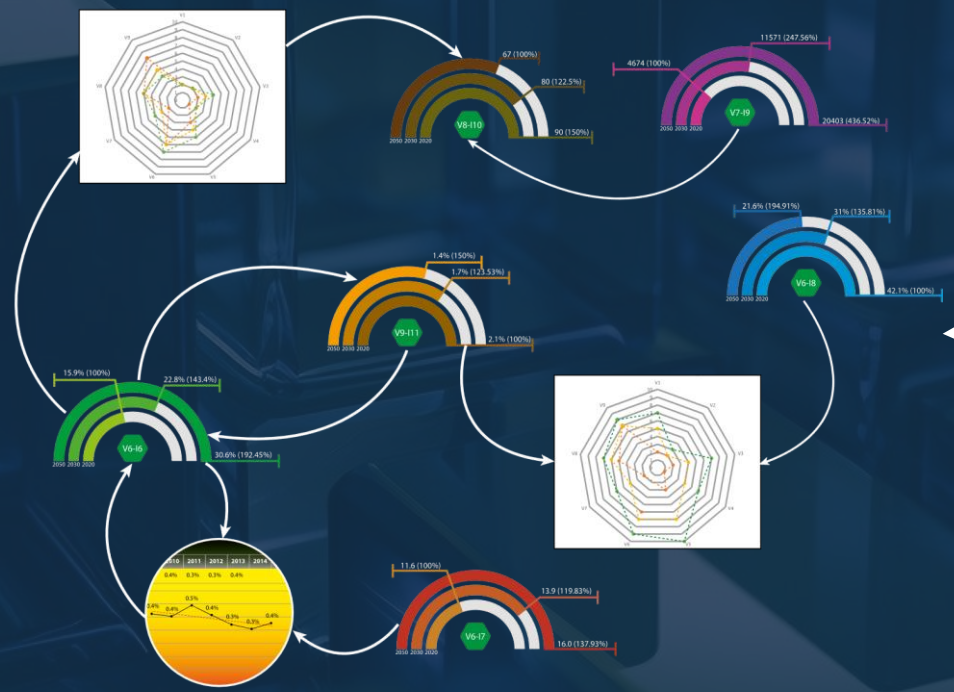
3. Stages SMDBSC – DM ●●●●●●●●



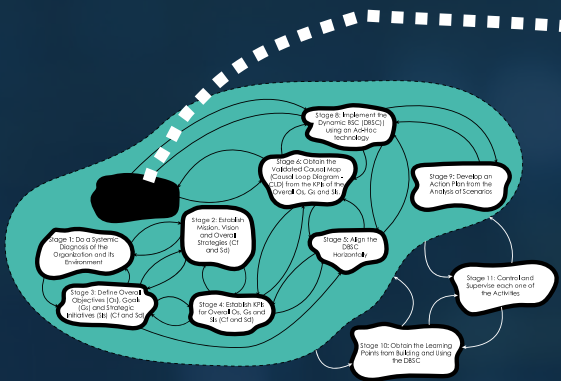
Stage 6: Obtain the Validated Causal Map (Causal Loop Diagram - CLD) from the KPIs of the Overall Os, Gs and SIs.



Stage No. 6: Construct the Causal Diagram of the BSC through the use of causal diagrams

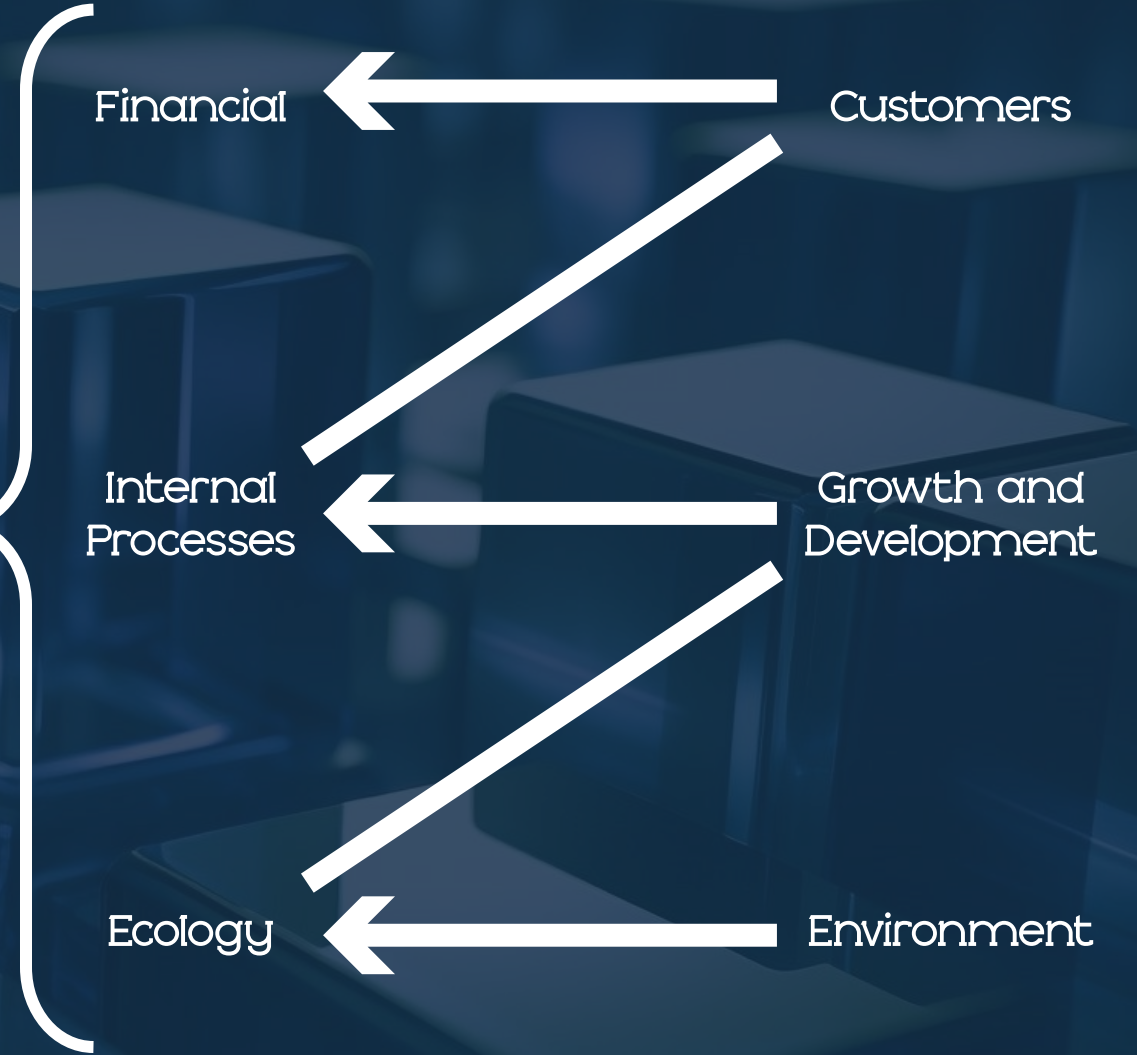


3. Stages SMDBSC – DM ●●●●●●●●

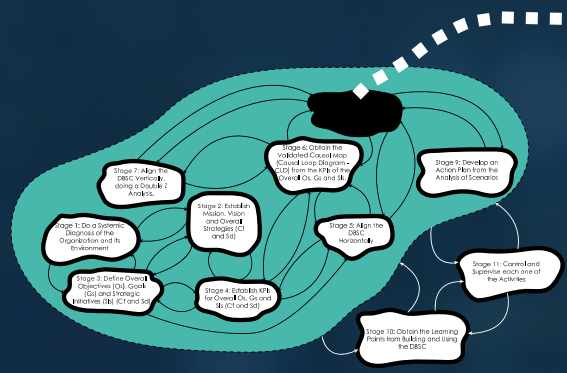


Stage 7: Vertical alignment of the DBSC through the Double Z-Analysis

Stage 7: Align the DBSC Vertically, doing a Double Z Analysis.

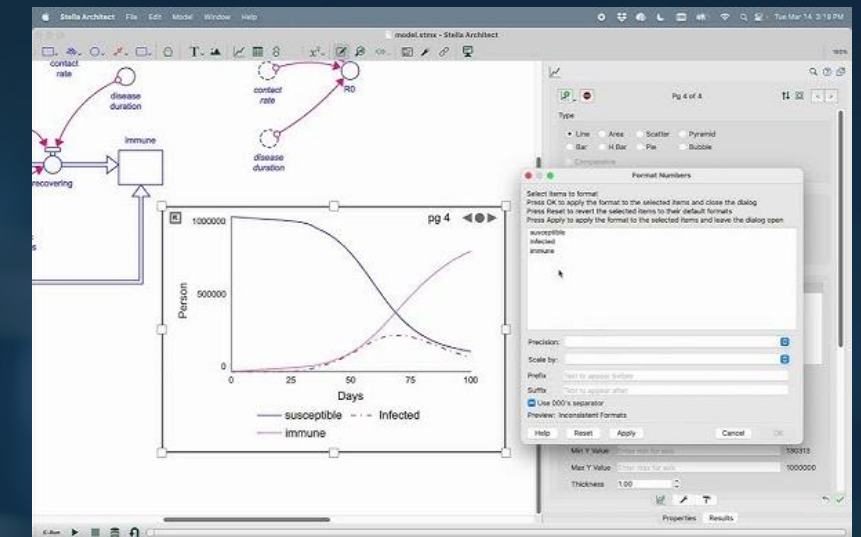
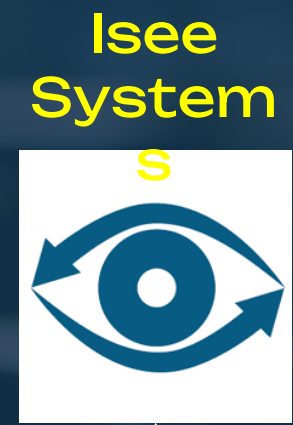


3. Stages SMDBSC – DM ●●●●●●●●●●



Stage 8: Implement the Balanced Scorecard (DBSC) using an Ad-Hoc Technology

Stage 8: Implement the Dynamic BSC (DBSC) using an Ad-Hoc technology



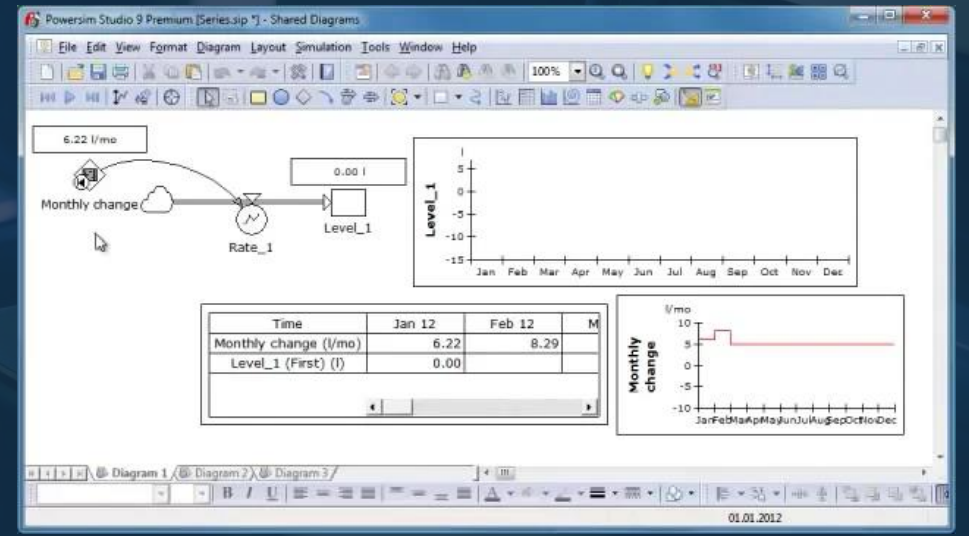
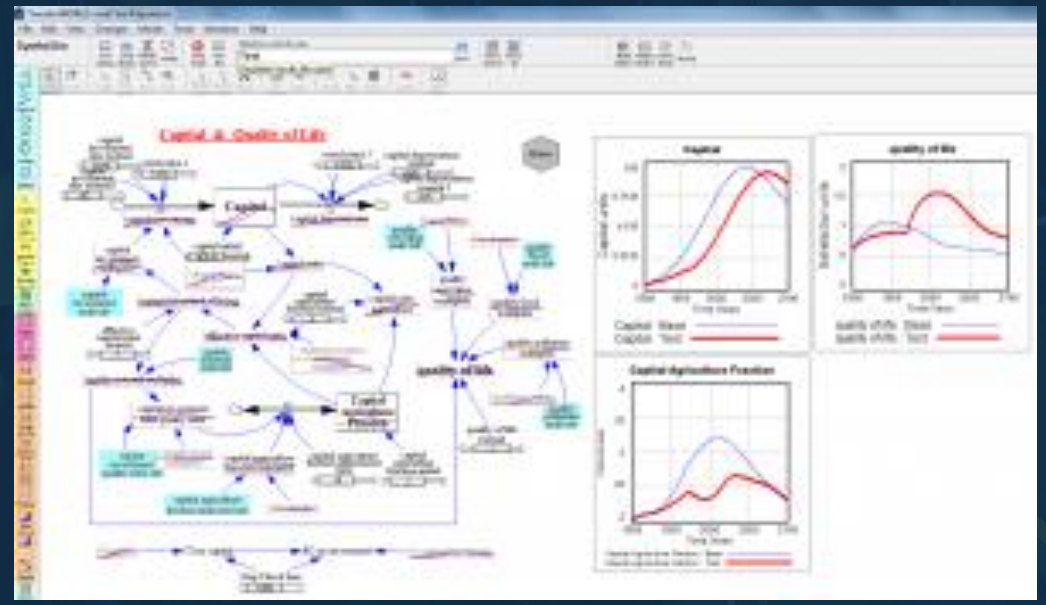
Softwares



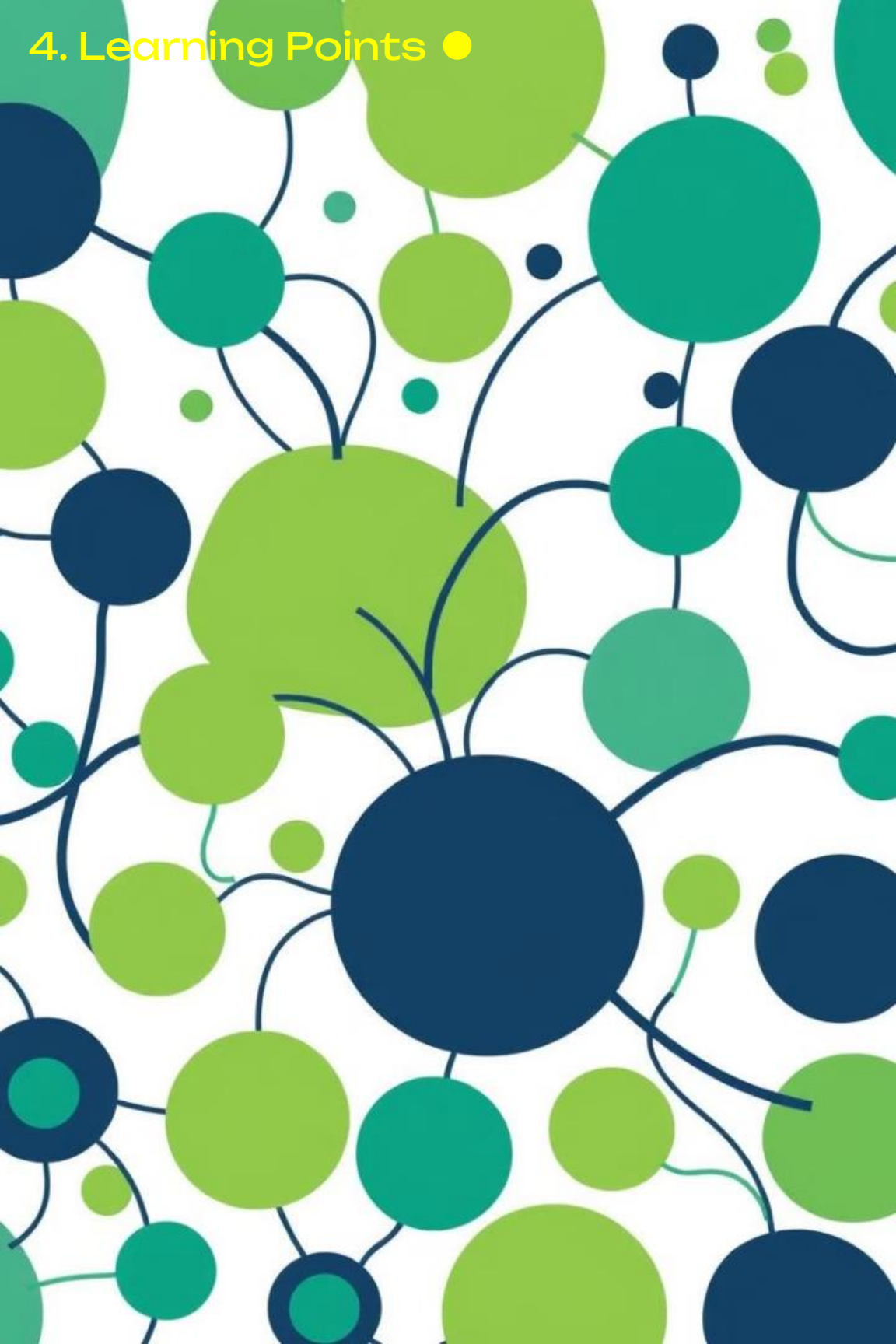
Powersim



Vensim



4. Learning Points



Systemic Contributions to Strategic Management

1 Fusing Diverse Methodologies

Fuses diverse methodologies and frameworks into a synergistic way: Kaplan and Norton's Balanced Scorecard, Soft Systems Methodology (SSM), System Dynamics (SD), Futures Studies, Learning Organizations, Wilson's Issue Based & Primary Task Analysis.

2 Stakeholders

Considers human and no human stakeholders, and use the Synectics Creativity Tool.

3 Technological Advancements

Employs third-generation software tools (e.g., Stella, Vensim) to build Dynamic Balanced Scorecards (DBSCs). Enables organizations to model causal relationships, analyze interdependencies, and make informed strategic decisions.

Key Advantages of the SMDBSC-DM

Holistic Organizational Management

Provides a comprehensive framework that connects an organization's past, present, and future

Sustainability and Responsibility

Moves beyond traditional anthropocentric models to design organizations that are environmental, ecology and socially sustainable.

Integration of Intangible Assets

Recognizes the critical value of intangible assets such as: Knowledge, skills, and competencies of personnel.

Dynamic Decision-Making

Utilizes scenario planning and dynamic modeling tools to anticipate and adapt to future challenges.

Applications of the SMDBSC-DM

Versatility Across Sectors

The SMDBSC-DM has been applied in a variety of contexts to address complex organizational challenges.

Its evolution stems from lessons learned through practical applications in academic, consulting, and organizational settings.

Key Sectors of Application

1. Financial Sector
2. Academic Sector
3. Governmental Sector
4. Small and Medium Enterprises (SMEs)
5. Non-Profit Organizations



5. Conclusions

Conclusions

1. It is an important tool for the comprehensive control and management of the organization.
2. Oriented to analyze the organization from six perspectives, instead of four ones as the Kaplan and Norton version of Balanced Scorecard proposes.



Conclusions

3. It is a means to obtain a shared mission and vision among the organization's stakeholders.
4. It allows an adequate consideration of various extremely important aspects of both the external and the internal environments and how to value intangible assets, which in these times are more important than tangible assets.





Member of:
International Federation for Systems Research
(IFSR), Austria
Latin American Systemic Association – ALAS

Thanks! / Ευχαριστώ!

Email: ias@iasvirtual.net
<https://iasvirtual.net/cur2k1/mkt/ias.pdf>