

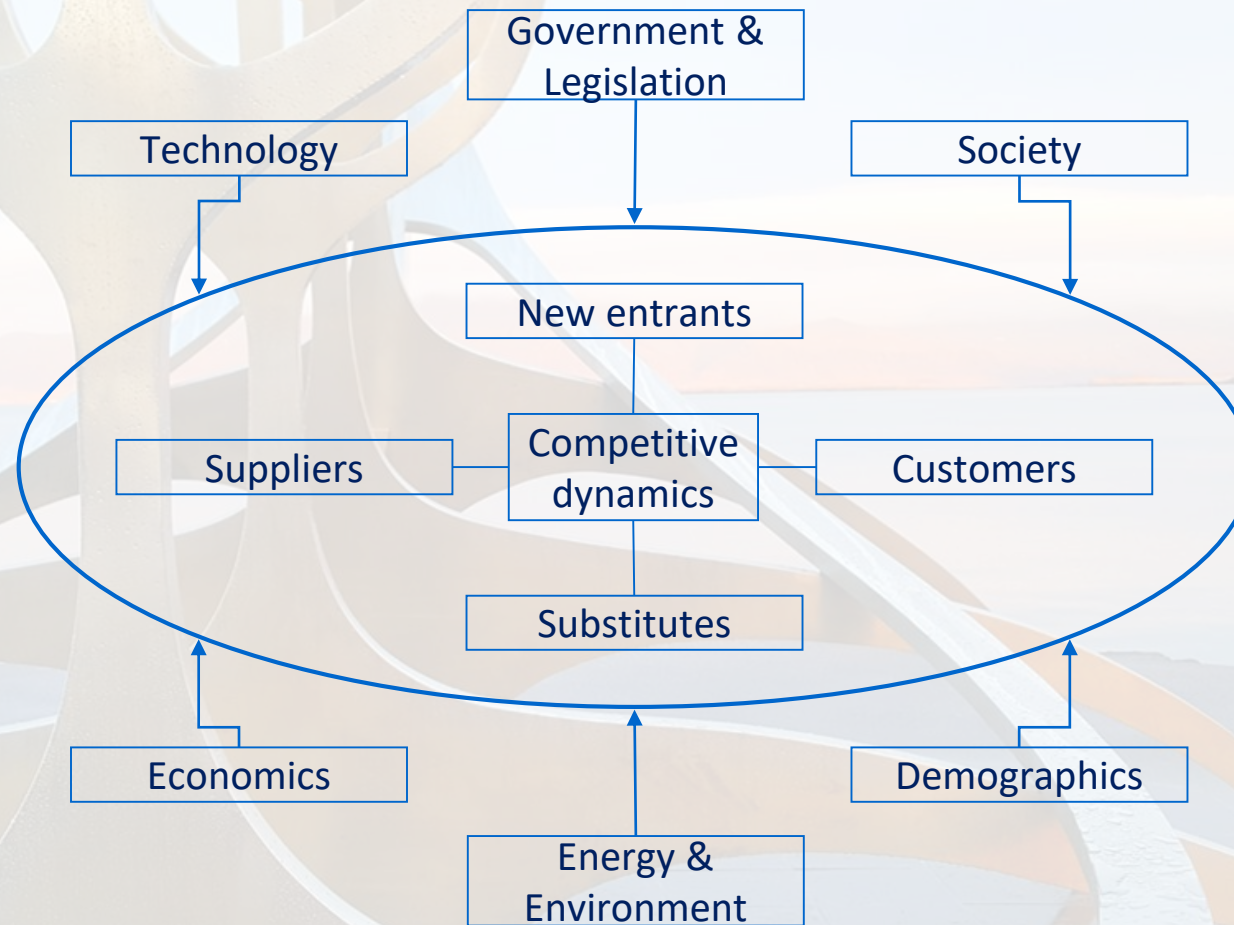
Future Technology Competitive Landscape: Challenges, Tools and Strategy.

By Alejandro Sanz, Anna Sabidussi and Lu Huang
Place: Beijing

1.

Challenges, Balances & Tensions.

FIVE FORCES (+) MODEL.



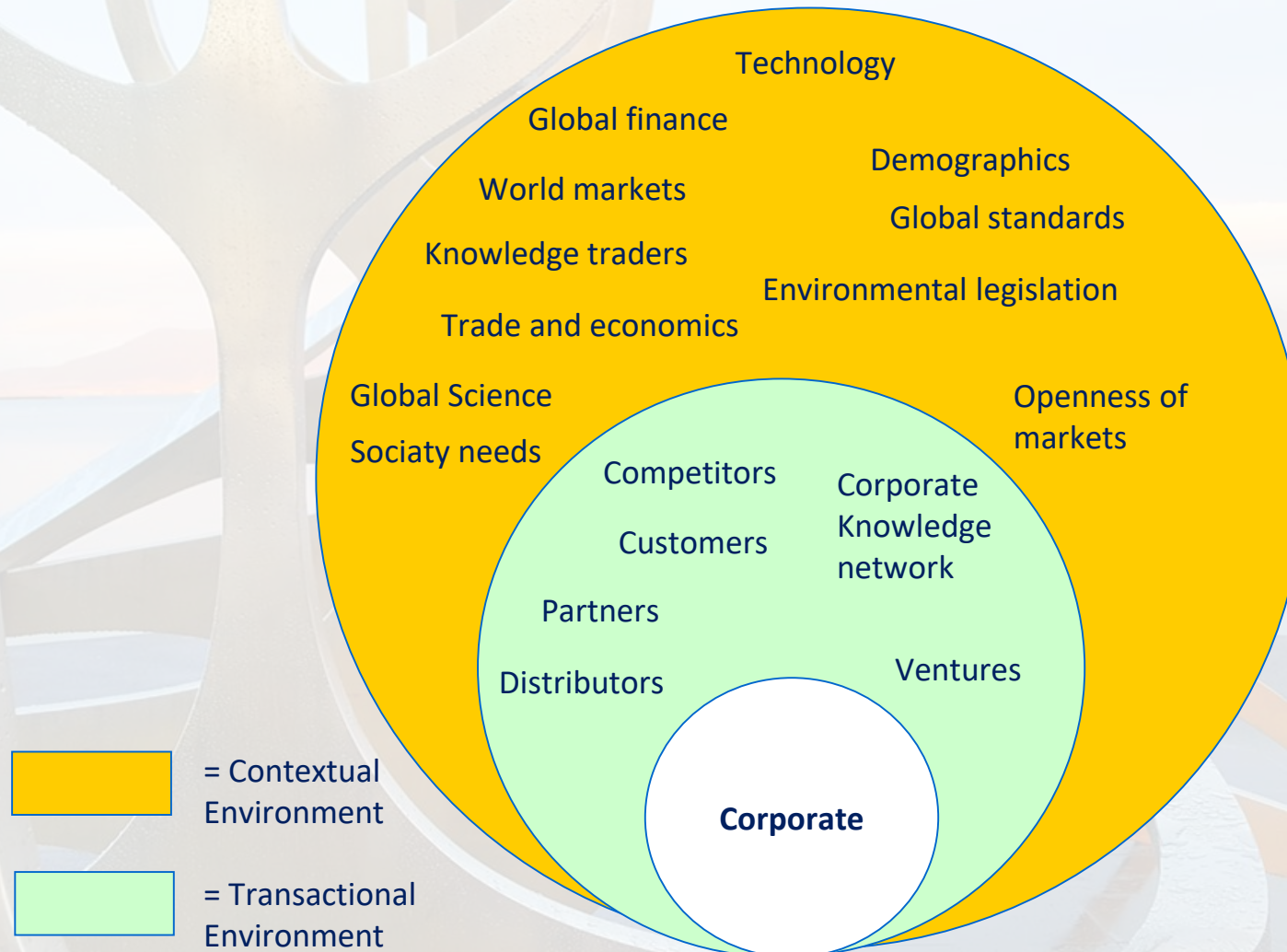
[2] M. Porter. How competitive forces shape strategy. Harvard Business Review March-April 1979.

[3] L. Fahey and V. Narayanan. Macroenvironmental analysis. St. Paul West, 1986.

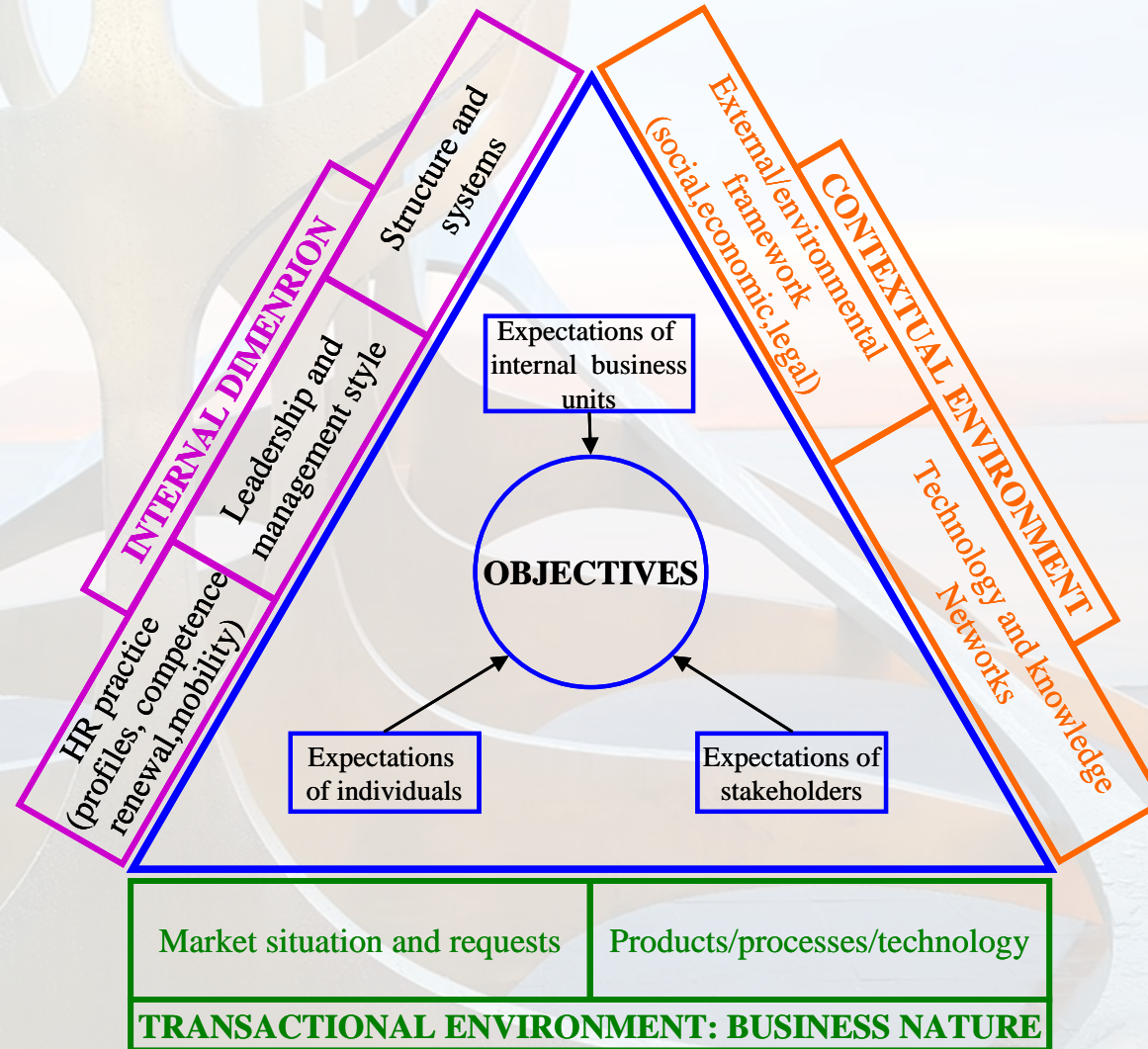
[4] A. Marcus. Management strategy. Burr Ridge, McGraw-Hill/Irwing, 2005.

[5] A. Marcus. Strategic Foresight, a new look at scenarios. Plagrave Macmillan, 2009

CONTEXTUAL AND TRANSACTIONAL ENVIRONMENTS.



TENSION SOURCES IN STRATEGY SETTING.



2.

Scenarios vs. Forecasting.

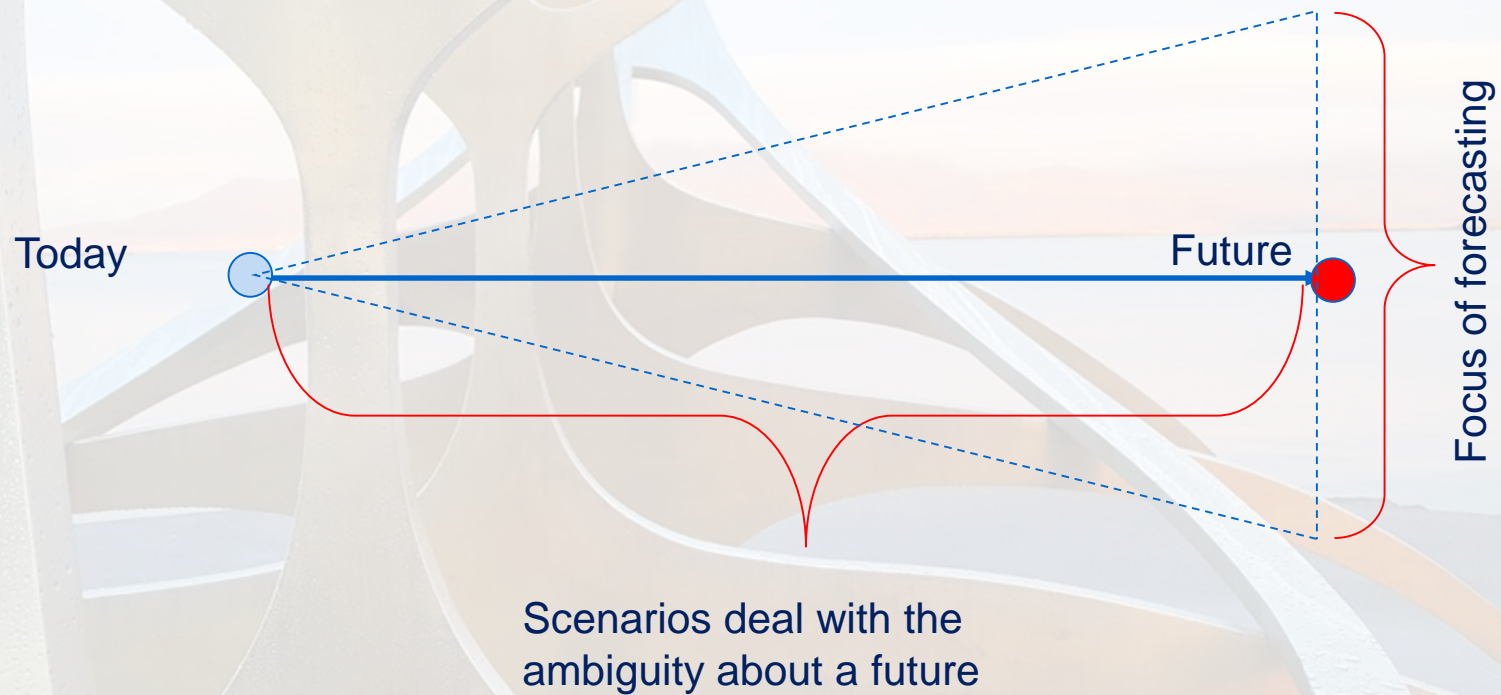
SCENARIOS.

Scenarios

- Map uncertainty boundaries
- Define context for expectation
- Provide framework to evaluate strategic options (resilience, robustness or adaptation)
- Surface specific risk. Risk : uncertainty + hazard.
- Broader understanding of the potential Risk-reward ratio
- May show needs for new ways of management
- Embraces uncertainty

- Traditional technology forecasting methods are relatively mature by using existing data to build the model.
- Technology forecasting concludes the law of technology development and do scientific forecasting with high operability and reliability.
- In conditions of little change of hypothesis & boundary conditions and external factors (mainly dependencies between technologies and functions for markets), the estimations of technology forecasting is acceptably good.
- Technology forecasting methods utilize existing data to build the model, forecast development of technology and formulate strategy based on the statistics and stable structure.

SCENARIOS AND FORECASTING FOCUS.



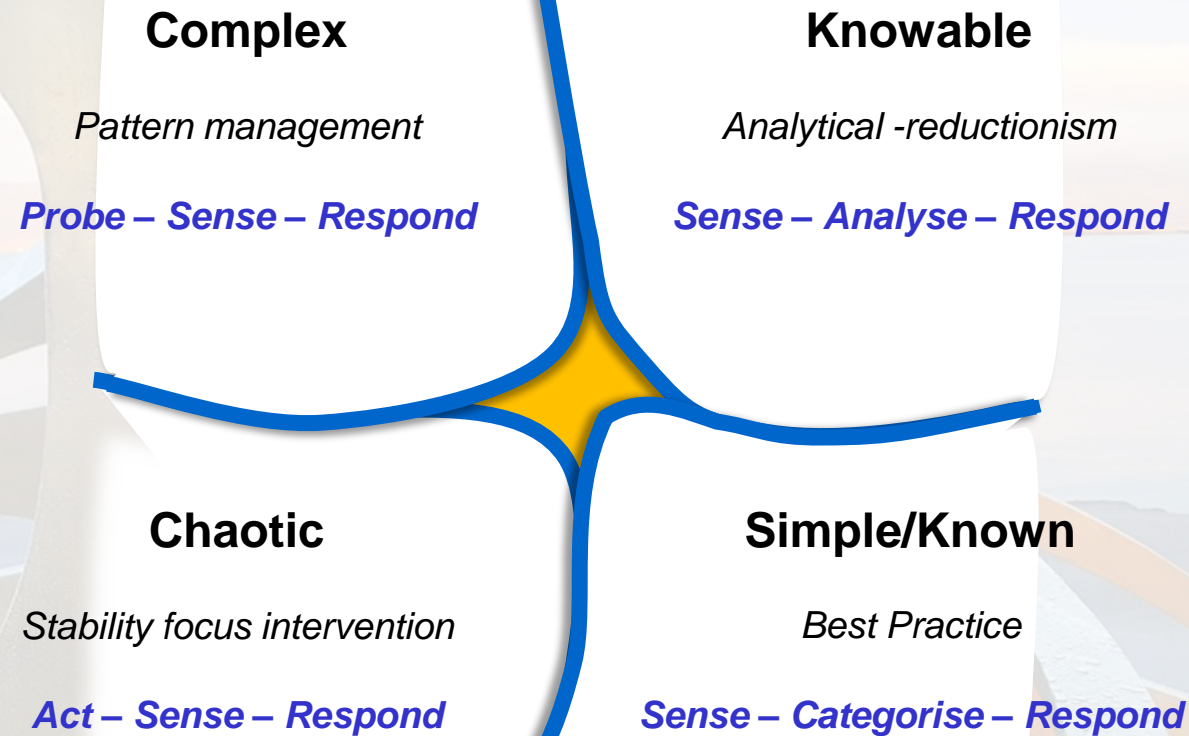
PLAYING TO WIN vs. PLAYING NOT TO LOOSE 1/2.

Table I: Playing to win vs. playing not to loose	
Play to win	Play not to loose
Start small but think big	Big volume markets
Develop what is needed	Develop what you can
Address non-customers	Serve current customers
Optimizing reward vs. risk	Minimizing risks
Embracing uncertainty (the not knowing area)	Avoiding uncertainty and focus on our knowledge and certainty.
Place eggs in many baskets	All eggs in one basket
Fail often to succeed sooner	Right first time.
Next generation and breakthrough innovation	Upgrading innovations mainly
Long term gains	Short terms gains

PLAYING TO WIN vs. PLAYING NOT TO LOOSE 2/2.

Table I: Playing to win vs. playing not to loose	
Play to win	Play not to loose
Open learning Broader Opportunity identification	Implementation planning Product definition and validation
Focus on divergence Create the foundations for implementation	Focus on convergence Create the foundations for sustainable practices
Innovation and Growth Re-invention	Efficiency and Profits Operational excellence
Disequilibrium Dynamic	Equilibrium Static
Disruptive Prospect	Sustaining Defend
Vision	Mission
Break rules	Enforce/fix rules
Game analogy: Weiqui	Game analogy: Chess

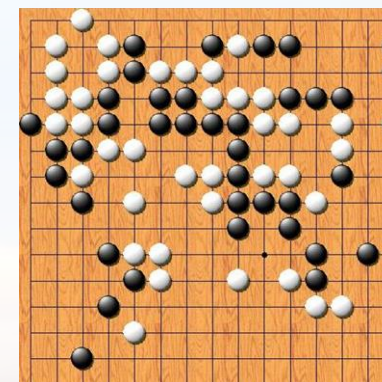
THE CYNEFIN MODEL (Kurtz et al.)



NEEDS FOR STRATEGIC POSITIONING.

- There is a need for an integration of methods that allow taking into account the multi-scale (strategic, tactic, project) approach.
- The other missing element is how to incorporate the company history of previous strategic and governance decisions.
- An integrated process, the key decision makers will have a better notion of the Critical Success Factors (CSF) and their validity/evolution vis-à-vis of the changing environment.
- Critical-Success-Factors (CSFs) we understand the elements that are vital for a strategy to be successful. A critical success factor drives the strategy forward, it makes or breaks the success of the strategy. The CSFs are those helping to redefine the business model

3.



Game Analogy: Weiqi vs. Chess.

CHESS.

- All resources deployed from the beginning
- Concentrating power on one point leading to the defeat of the opponent (Clausewitz concept of decisive point or gravity point of the battle)
- After some moves (attacks) the manoeuvre space increases as the board offers more free spaces.
- Pieces of different value (almighty queens and little pawns).
- Represent ONE decisive battle
- The player goal is to eliminate the adversary pieces



- Resources being deployed gradually.
- Operating in open spaces creating sustainable positioning.
- After some moves, the complexity increases and maneuver space diminishes. Your future moves depend on your previous positioning (portfolio theory ?).
- Pieces of identical value
- Represent a long campaign in (initially) empty spaces giving strategic flexibility.
- The player goal is to place the pieces and the required reinforcement in time to consolidate NEW positions.



PLAY THE RIGHT GAME.

Complex



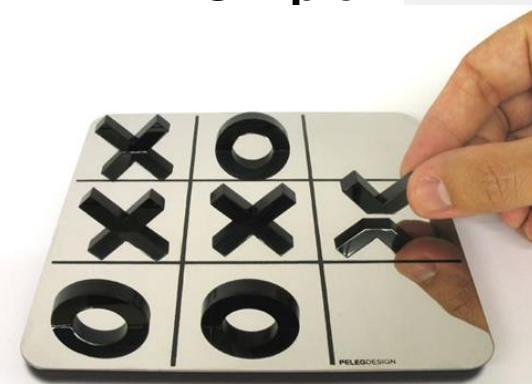
Knowable



Chaotic



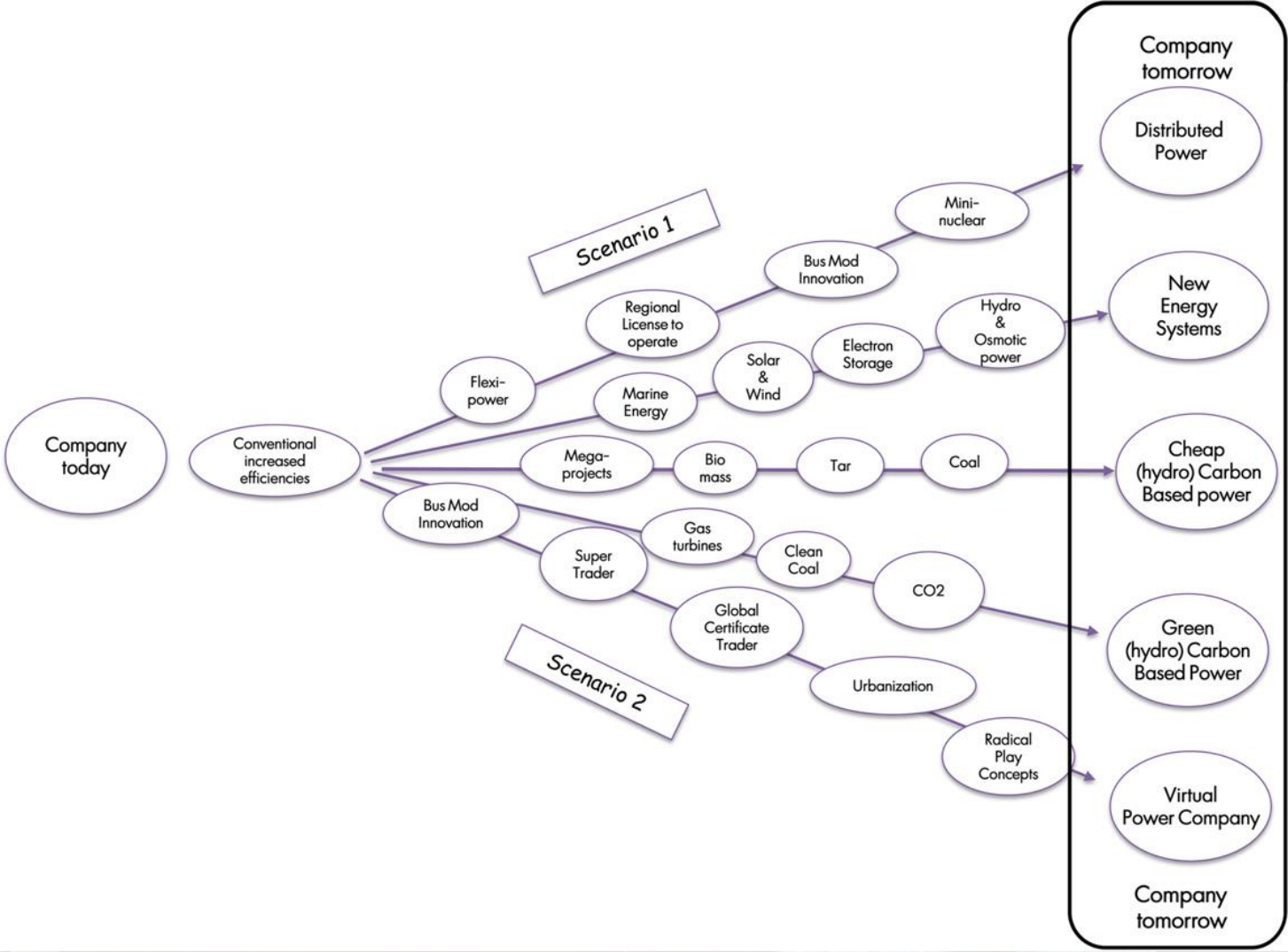
Simple



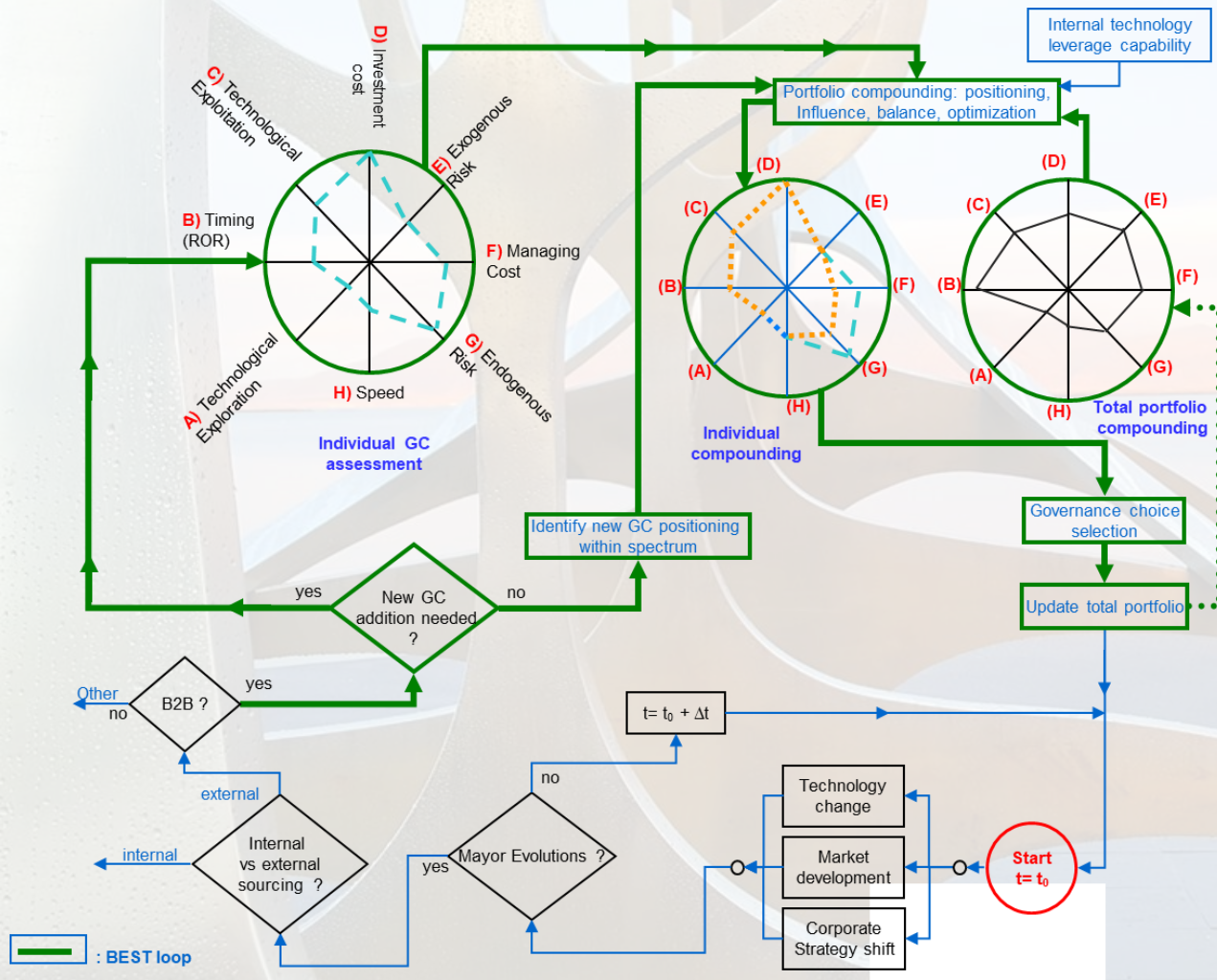
3.

Strategy Approach.

SHELL'S MORE THAN ONE FUTURE.



THE "BEST" LOOP.



Business-to-business
External
Sourcing of
Technology.

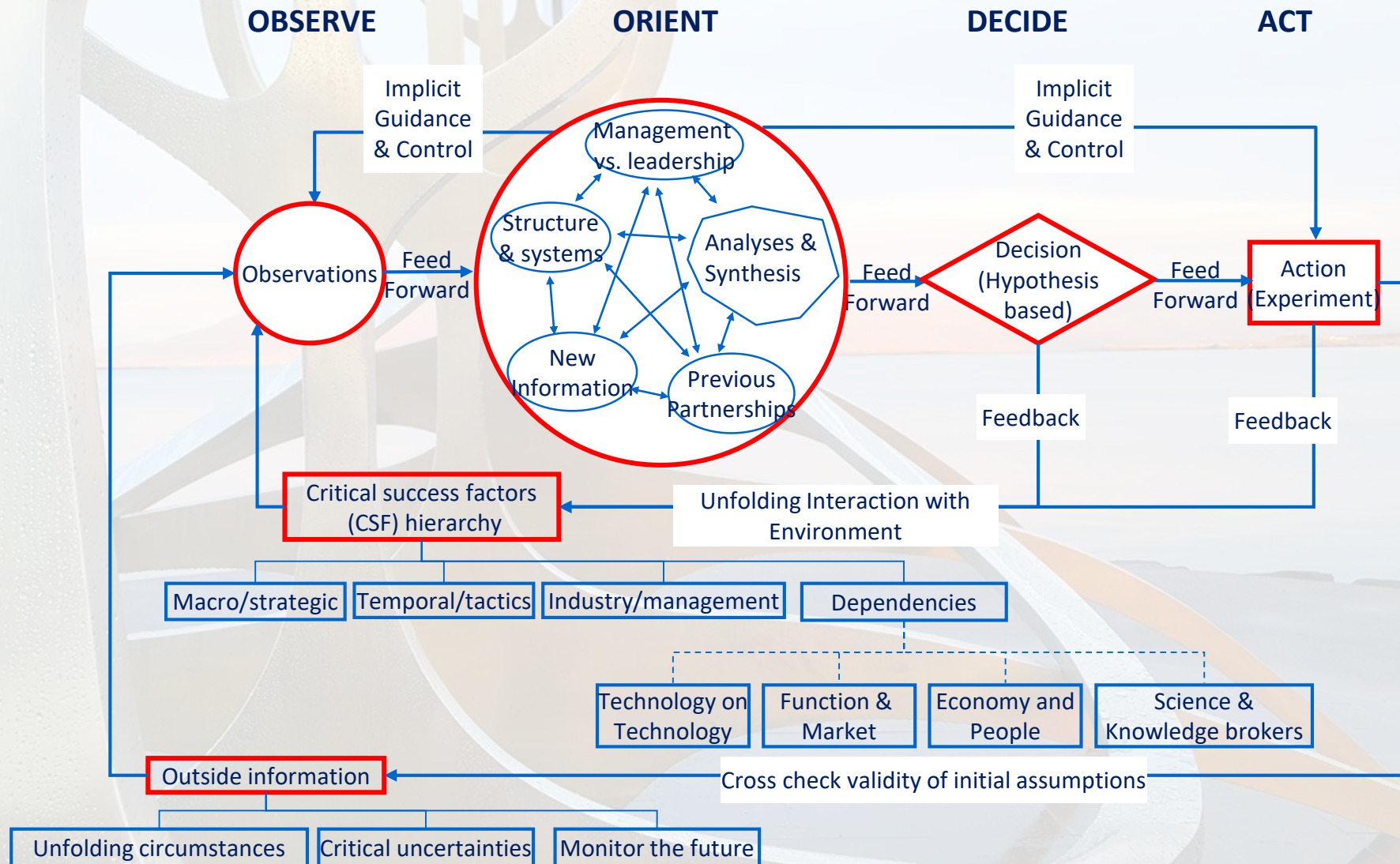
Sabidussi et al.

INTEGRATING SCENARIOS AND FORECASTING.

Scenarios + Forecasting

- Map uncertainty boundaries dictated by the ratio time-for-process / pace-of-change. The smaller the ratio, the less forecasts should be made
- Hold strong opinions weakly
- Provide a framework where divergence/disagreement are welcome. Embrace things that don't fit.
- Avoid linearity in your thoughts. Change rarely unfolds in straight lines
- Look at the technology maturity levels. Either via S-curves or technology readiness levels (TRL) or other methods
- Define a cone of uncertainty. This cone must be time dynamic and not static
- Use uncertainty as an opportunity
- Look back twice as far as you look forward

A TECHNOLOGY STRATEGY LOOP.



BACK TO THE GAMES.

- Keep playing *weiqi* longer and verifying the developments in the four quadrants of the scenario board.
- During the development (in time) there will be domains or local battles where different forecasting technologies will complement and match the strategic analysis.
- The chess logic would work well on this level.
- The multilevel analysis from global to tactics and the dependencies analysis allow choosing the most adequate board and rules of engagement.



THANK YOU.

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