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The scenario method as a Economic forecasting approach

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Abstract

The science of economic forecasting is considered futurism, and the latter represents the direction of the American school when it represents foresight. The traveler is spoken and represented by the French school, and together they represent a defined and systematic integration that expresses future options, and prepares the scenario. The intellectual fruit of both schools, and one of the most important methodological techniques in it, controls the variables of a phenomenon, in order to come up with a set of One of the solutions with a far horizon to be present today, and what has proven this is that it is not confined within a specific and its wide spread at the global level.

Keywords: foresight, Economic Forecasting, scenarios.

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1. INTRODUCTION

The need to anticipate future changes and implement a rigorous and flexible strategy that helps shape events is one of the greatest challenges facing leaders. Even if this is the case, the goals are clear and the ability to anticipate the future remains essential for success at a strategic level, evenif it comes with great risks that require understanding. Better tools and means for effective strategic planning. Scenario planning or analysis is a strategic planning method that allows organizations to develop flexible long-term strategies. Central to this process is the creation of highly realistic scenarios that allow decision makers to envision creative images of an acceptable future world.Scenarios generally take into account situations. It's logical and acceptable, but - contrary to expectations - it's about situations and problems that may not exist at the moment. Analysts usually choose viable but impracticalscenarios. Familiarize participants with the scientific concept of future forecasting and scenario planning and its main axes, which are reflected in the nature of future forecasting and its components. Objectives of the Science and Philosophy program: Predicting the future and its relationship to the system of excellence, and the relationship between strategic planning and sustainable development with the anticipation of the future and the indicative methodology for analyzing the future. Innovation as a tool to shape the future and show participants how organizations can develop tools for strategic analysis to ensure they can deliver excellence. Provide participants with the ability and expertise to assess the institution's strategic position in view of possible future developments from the above, the following main question can be raised:

To what extent can the technology of the scenarios be taken into account?

technique effective in prospective studies?

2.Introduction to forecasting:

2.1-**Definition of forecast:**

Strategic foresight is a systematic approach that aims to go beyond current expectations and explore likely future developments. Its purpose is to determine the political implications for the present.It uses a range of methods such as horizon scanning, megatrend analysis and scenario planning. (Commission, 29 June 2022, p. 1)

a systematic and participatory process to gather future information and develop a medium and long-term vision to enable today's decisions and mobilize collective action. (Andersen and Rasmussen, 2014, p. 12) , Foresight helps governments adapt to a rapidly changing world.In forward-thinking organizations, foresight provides a powerful context for policy development, strategic planning, decision-making, and even testing and evaluation. Longer lead times allow companies to anticipate and prepare for tomorrow's problems instead of just reacting to yesterday's problems. Foresight can also support innovation by examining how problems might develop, improving efficiency and reducing unintended consequences. The purpose of forecasting is not to predict the future but to devise informed strategies for a range of likely futures (Canada, 2022, p. 1).

2.2 levels of prognosis:

according to I. Milles (2002) and R. Popper (2008) is: (Turturean, 2022, pp. 213-114) 2.2.1. The pre-planning or framing phase is the anticipation phase of theproject in which the

promoters are involved and the promoters have mutually agreed on the goals and arguments interested parties, form a working group and establish a research methodology.

2.2.2 Addition of a recruitment phase for the core team (scientific/administrative coordinators and thematic/methodological experts) created as part of the scoping, new members (e.g.G. Process facilitators, speakers and panelists) who are also important to the forecasting process.

2.2.3 Generation is the most important step in the process whereby existing knowledge is combined, analyzed and synthesized, resulting in new information and vision for the future.The development phase consists of three distinct phases: the exploration phase, the analysis phase and the anticipation phase.

2.2.4 The action phase is the phase in which the prediction results must be disseminated in order to influence decision makers. Incremental actionscan impact prioritization, decision-making, innovation, and change.

2.2.5 Renewal is a phase of continuous monitoring and evaluation of the impact of the forecasting process and can provide valuable information inthe forecasting phase according to the future forecasting program.

2.3 Prediction in practice: The purpose of forecasts is both to guide decisions today and to raise awareness of future challenges and opportunities. Most foresight projects concern national, social or industrial issues, but individual companies also look ahead to better anticipate the future and develop better strategies. According to RAND Europe, there are four main methodological approaches approaches to prediction:

•Scenarios or images of the future.

• Delphi Research: Collection of opinions based primarily on input fromexperts.
• Panel - Group discussions involving both experts and non-experts.
• Games and other methods of brainstorming, creative thinking and generating new ideas (A. Rialland, 2020, p.1494).

Classification of future methods according to their type:

Futures Simple Taxonomy of Research Methods by Theodore J. Gordon, Jerome C. Glenn groups forecasting methods into two groups: quantitative and qualitative methods.

Classification methods by their nature

Qualitative	Quantitative	Semi-quantitative
Methods providing meaning to events and perceptions. Such interpretations tend to be based on subjectivity or creativity often difficult to corroborate (e.g. brainstorming, interviews)	Methods measuring variables and apply statistical analyses, using or generating (hopefully) reliable and valid data (e.g. economic indicators)	Methods which apply mathematical principles to quantify subjectivity, rational judgements and viewpoints of experts and commentators (i.e. weighting opinions)
1. Backcasting 2. Brainstorming 3. Citizens panels 4. Conferences/workshops 5. Essays /Scenario writing 6. Expert panels 7. Genius forecasting 8. Interviews 9. Literature review 10. Morphological analysis 11. Relevance trees /logic charts 12. Role play / Acting 13. Scanning 14. Scenario /Scenario workshops 15. Science fictioning (SF) 16. Simulation gaming 17. Surveys 18. SWOT analysis 19. Weak signals /Wildcards	20. Benchmarking 21. Bibliometrics 22. Indicators / time series analysis 23. Modelling 24. Patent analysis 25. Trend extrapolation / impact analysis	26. Cross-impact / structural analysis 27. Delphi 28. Key / Critical technologies 29. Multi-criteria analysis 30. Polling / Voting 31. Quantitative scenarios / SMIC 32. Roadmapping 33. Stakeholder analysis Source: R. Popper (2008)

Souce : (Turturean, 2022, p. 114)

3.Scenario method for foresight :

3.1Definition of Scenario method for foresight:

The scenario method is often credited to Herman Kahn of the Rand Corporation, who developed a method for analyzing alternatives in the context of the Cold War between the United States and the Soviet Union in the 1950s and 1960s. In the late 1960s and early 1970s, Shell Oil successfully used scenarios to develop its strategy and was therefore better prepared than its peers for the sharp rise in oil prices in the 1990s.70

Scenarios are structured visions of the organization's future environment or target area and development opportunities. Scenarios are created based on the various outcomes of development trends that are expected to affect the actual problem. Scenarios can be quantitative and based on model calculations and extrapolations from past events.Scenarios can also be qualitative, consisting of stories or essays that describe different but plausible futures. The scenario is therefore neither a prophecy nor aprophecy. The scenario describes a sequence of events aimed at showing development possibilities and their consequences (Andersen and Rasmussen, 2014, p. 15). The term scenario describes a vague concept that is used and abused and has various shades of meaning. Scenario can be understood as "...a generic name for various approaches such as SRI (formerly Stanford Research Institute) strategic planning scenarios, the Godet scenario method, and theBattelle scenario technique."In theory, scenarios are a synthesis of different pathways (events and actors' strategies) leading to possible futures. In practice, scenarios often only describe certain sets of events or variables" (Reger, 2005, p. 223).

Scenarios were helpfully defined by Michael Porter: "Scenarios are acoherent picture of what the future might look like - not a prediction but asingle possible future outcome." (Ringland, 2010, p. 1495) .

Many authors define a scenario as follows:

description of a possible future situation (conceptual future), including development paths that could lead to such a situation in thefuture. In contrast to the conceptual future, which only represents a hypothetical future, the scenario describes the developments, dynamics and forces that give rise to a concrete conceptual future.

The purpose of the scenarios is to generate indications of future developments by observing a few relevant key factors. There are three things to note about this process:

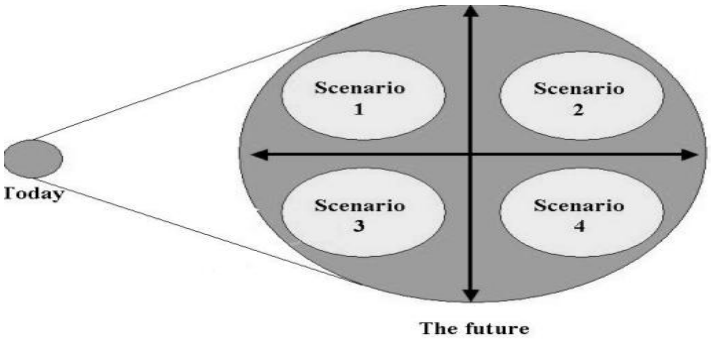
First, the scenario does not paint an overall picture of the future; Rather, its true function is to draw attention to one or more specific and distinct areas of reality. (Kosow and Gassner, 2008, p. 10)

3.2Scenarios are characterized by: (Andersen & Rasmussen, 2014, p. 16)
• Focus on elements of the future that are unpredictable (or difficult to predict).
• systematic structuring of existing knowledge.
• Identify likely alternative futures.
• Ability to contain discontinuities.
• the ability to be both qualitative and quantitative.

3-3purpose of Scenario method for foresight:

The basis of the future scenario is that it aims to deal with UNCERTAINTY. Scenarios are structurally distinct stories about how the future might unfold and what impact it is intended to have on a specific area/company. They are presented in a way that stimulates imagination and thought and creates visions of the future. Scenarios challenge assumptions and established truths; They can be used for strategic development and innovation at company level, in a specific planning context, or at national or sectoral level. A keyrequirement for scenarios to be truly useful is that they are credible and internally consistent, i. HVolume. logically compiled and relevant to today's decision makers. The figure below illustrates scenario construction as a projection into the future, showing the wide range of uncertainties related to the present and how different scenarios incorporate these uncertainties into comprehensive frameworks of possible alternative futures. (A. Rialland, 2020, p. 2).

Figure 1: Scenario as a projection into the future



Source: (A. Rialland, 2020, p. 2).

Scenarios can be used in forecasting processes in three ways. First, the scenario process itself can be used to challenge 'mental models' and/or create a common understanding among stakeholders about the development potential of the target sector (e.g. technology). Second, scenarios can be used to test or verify the robustness of existing strategies against possible future events. Finally, scenario processes can be used to formulate common visions and strategies for target area (Andersen and Rasmussen, 2014, p. 19).

3.4Different types of scenarios:

There are many types of scenarios and different ways to classify them. Both creative and communicative aspects are used and various authors refer to the decision-action approach. he spoke of "mission scenarios", "problem scenarios" and "action scenarios". Operationally, there are forward and backward scenarios, scenarios can show the forecast results consistently and convincingly. Scenarios can be exploratory or prescriptive. “Revelation” means , starting from past and present trends and towards a viable future.

Alternatively, van der Heijden distinguishes between internal and external scenarios. Internal scenarios deal with the future on an individual level, withthe possibility of action linked to a personal goal. External scenarios are mental models of the outside world from which a set of possible future events is projected. Dammers (2000) develops different types of scenarios based on five variables as shown in the table below. (Reger, 2005), We believe that scenarios should include three or four scenarios: (Bezold, 2010, p. 1514)

-First Scenario: it should be the organization's best estimate of the most likely future: This is the expected future.For the development of this scenario it isnecessary to collect available knowledge about trends and forecasts, toidentify key forces in the area and to clarify organizational assumptions.

-Second Scenario: You have to think about "what could go wrong". Organizations face many challenges. This second "hard" scenario should contain a series of ambitious but not overwhelming challenges.

-Scenarios Three and Four: Discover the Paths to Amazing Success.If environmental forces were able to create visionary outcomes consistent with the organization's vision, what would they look like and what would be the path to that visionary state? The third and fourth scenarios are intended to show different ways that lead to visionary results.

3.5The evolution of scenario method:

In the last decade, the development of the scenario method has accelerated thanks to publications by authors such as van Notten et al., Aligica, Bradfield et al., Borjeson et al., Hiltunen, Zurek et Heinrichs, Bishop et al. experienced a remarkable acceleration al. for the. al., Stewart, Saritas and Nugroho and van Vliet et al.

works by van Notten et al.and Borjeson et al. dedicated to the typology and classification of scenarios. Bradfield et al. conducted a comparative analysis of three schools of scenario building, namely the intuitive logic school, the modified probabilistic trends school, and perspective. Hiltunen's work mainly focused on the relationship between weak signals, maps and scenarios.Aligcia described the role of the epistemological element in scenario construction, which aims to reduce complexity and uncertainty, expand knowledge while creating new knowledge,

while presenting arguments for researchers who question the scientific nature of the scenario. Method .

The work of Żurek and Heinrich is dedicated to presenting possible ways of linking scenarios at different geographic scales in international environmental impact assessment.

The authors distinguish five possible binding modalities, namely: equivalent, coherent, coherent, comparable, and complementary. The aim of Bishop et al. There was an idea of possible screenwriting techniques.The authors demonstrated the benefits, strengths, and weaknesses of 23 techniques grouped into eight categories. Stewart's work is dedicated to presenting the experiences of Australian futurists in the area of a new approach to scenario building based on integrated theories, in particular Wilber's AQAL (All Quandrant, All Level, All Lines, All States, All Types) theory. Saritas and Nugroho combine systems prediction, network, and scenario analysis methods to propose an "evolutionary scenario approach" that explains how the future might unfold based on mapping incremental changes and dynamic or variable aspects affecting a set of circumstances about a person specific period characterize span of time. The results of van Vliet et al. show that the use of structuring tools can have a negative impact on creativity in the lab, but this impact appears to vary between tools.The problem of using scenarios to predict the future is ever present in leading journals dedicated to technological change. (Joanicius NAZARKO, 2013, p. 1)

4. Methodologies underpinning scenario planning :

It is based on a variety of methods ranging from qualitative to quantitative techniques. Among them are planning scenarios: (Sapong, 2016, p. 79)

4.1 Intuitive logics:

Intuitive logic as a scenario planning method is referred to as the ‘’Shell Approach’’ due to its extensive use by the Royal Dutch Shell planning team. These are often 'soft' techniques used to develop managers' thinking skills inrelation to their local practice and organizational environment. What sets them apart from other tried-and-true storytelling methods is that they use eclectic techniques and activities that are often informal, but which can force actors to ‘’think outside the box’’. These activities can include brainstorming, lateral thinking, strategy discussions, mind mapping, and wildcards.

4.2 Trend and cross impact analysis:

Connecticut-based Futures Group in the 1970's and RAND Corporation in 1966 are known for the development and use of trend analysis and cross-impact analysis. The methodology is suitable for uncovering changing environmental trends and their possible future impacts by mapping and extrapolating historical data sets. Trend impact techniques rely heavily on historical data and often on forecasting techniques such as time series to extrapolate the likely impact of a set of scenarios. On the other hand, cross-impact analysis is often used to “critically assess changes in the probability of events that might introduce biases into naïve extrapolations of historical data” in impact analysis trends. Techniques commonly used in trend analysis and cross-impact analysis include the Delphi method, in which expert opinion is sought and sought to plan alternative pathways, impact assessment techniques, often computer-based; for example simulations and games, often based on game theory and other quantitative approaches. Recently, “soft” techniques such as counterfactual

thinking have been increasingly used to integratecertain quantitative approaches into cross-impact and trend analysis.

4.3 Competitive intelligence:

The systematic collection, evaluation and use of publicly available information about competitors is referred to as competitive intelligence. The Society of Competitive Intelligence Professionals (SCIP) defines CI as: an ongoing process of ethically collecting, analyzing and disseminating accurate, relevant, specific, timely, predictable and useful information affecting the business environment, competitors and the organization itself.

5.The role of scenario methodology in sustainable development:

Average ability to face the challenges and uncertainties of the future and to react quickly to their symptoms, based on visionary and long-term national values and goals in all sectors, corrective licenses. And in this R&D travelhome. This then becomes your chance to adjust and understand external indicators and manage their variables and future occurrences, and therefore your chance to seize opportunities and prepare for any risks. Its roots can be extended by predicting the near future and extending it from one year to five years, then the middle future, i. H. the future stretching out over ten years, and finally the distant future, a future stretching out over ten years. of summer. Agriculture in large areas affected by serious crises(growth of world population, world food and famine, sources of energy and pollution, war and peace and world conflicts).Economic, social and cultural programs. future, future, future, future, future, future, future, future, future, proactive future, human capital, future, future, future, population and youth and their impact on the economy, human resources, the labor market, skills, future Jobs and future plans. Predicting the future of the game and future expectations And the future economic dimensions of the economy and the future, future, future, future, future, sustainability, sustainable development and future directions Future environment, climate change, carbon emissions, future directions and of course there will be requests for externalResponses and interfaces, after every internal decision and internal reaction to every external change, to accurate accounts of the mutual influence between internals, and this is otherwise the task of future studies.
future studies should be started on the basis of established methodological pillars. In this context, government agencies and various local and future private institutions.It can be a good and great future to measure and monitor the results of future predictions. Operational mechanisms to shape the future through partnerships or participation between government and private sector to position the country as a destination for the future through international platforms and remittances. (fahmi, 2019, p. 1)

5. Conclusion:

The art of developing scenario planning initiatives and policies based on correct readings. To serve future directions in such a way that they lead toprogress.

government work system.

The art of predicting the future using scenario planning and the applicability of plans. Challenges, spillover effects, ways to overcome them and innovative solutions. Mechanisms for predicting the future and how to translate them into feasible plans and scenarios. skills and elements of development planning to build on post-governmentevents. The options available and how they contribute to optimal policy direction, prioritization and planning for the future. Construction phases and analysis of the scenario. Goals of future scenarios. Basis for measuring the possible

reactions (actions) of all stakeholders to the developments covered in the respective scenario. The three elements of the scenario: initial conditions, future course and future situation. Draw attention to the anticipated potential for disruption or change in each scenario.

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