

# The Application of Structured Analytic Techniques for Identifying the Real Potential of Reindustrialization in Romania

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**Abstract:** Although Romania moved on from a communist regime 30 years ago, the problem of adapting the industry to the rigors of the capitalism and globalisation era is still current. The old communist system where industry and agriculture were at the core of the economy, even if they weren't competitive at all in a global market, proved to be very hard to adjust and we find ourselves, 30 years later, in a situation where Romania's industry struggles to find its own path towards performance. Today, it appears to be an overwhelming need for proper reindustrialization considering a rising potential given by the multitude of resources Romania has on its lands and underneath its soils. At the same time, nearly every past government stated at some point that this reindustrialization should be a priority, but neither of them succeeded in properly drafting a feasible strategy with that goal. Considering that, we think that a possible way for a suitable result on a reindustrialization study can be the application of structured analysis techniques used more frequently in the intelligence analysis. This type of techniques can be the basis of development at a firm level in any domain, but can also be used on a higher level, including a whole industry. Therefore, this paper aims towards the clarification of the aspects that can highlight the use of structured analysis techniques with the purpose of identifying the real potential of reindustrialization in Romania. In the end, the result of an analysis having these types of techniques at its base can be relevant for the decision maker and Romania could finally find the proper way to approach reindustrialization.

**Keywords:** *reindustrialization; structured analysis; intelligence; Romania, industry.*

**How to cite:** Diaconu, A.I., & Moraru, A. (2019). The Application of Structured Analytic Techniques for Identifying the Real Potential of Reindustrialization in Romania. *Logos Universality Mentality Education Novelty: Economics and Administrative Sciences*, 4(1), 1-9. doi: 10.18662/lumeneas/08

## 1. Introduction

Even since the 18<sup>th</sup> century, when the first empirical talks about the importance of industry in the economy emerged, the world realised that industry will be one of the main engines towards prosperity. The industrial revolution was one of the most innovative periods in our history. Since then, a lot has changed in the structure of the world GDP, especially considering that the services made up to 65% of the world GDP in 2017, according to World Bank data. Despite that, industry still plays an important role and an important amount of big companies' world-wide focus on development in the industry sector (Kent, 1949: 30-34).

As for reindustrialisation, the concept has its origins exactly from the fact that industry had a big contraction due to the rise of services in the economies. Following that contraction, certain countries (amongst which we distinguish Romania also) faced a wave of economic disruptions, characterised by high unemployment rate and huge inflation. Therefore, the concept of reindustrialisation was included in the “Europe 2020 – a European strategy for smart, sustainable, and inclusive growth” strategy. It specifies, among others, initiatives that are of key importance for the growth of industrial competitiveness in the EU, that is, “Innovation Union”, “Digital Agenda for Europe”, “Integrated Industrial Policy for the Globalisation Era”, and “New Skills for New Jobs” (Krawczyński, Czyżewski & Bocian, 2016:1). In other words, we are talking about a new age reindustrialization that takes into consideration the technology progress and also the services impact and need.

Furthermore, we think that a process such as this should be done properly and with thorough research in order for the result to be the expected one. That is why the techniques used for finding the best way to implement reindustrialization, if that's the case, are of high importance. In that direction, we are proposing the use of structured analytic techniques, which consist of information analysis qualitative research, with the purpose of finding the real potential of reindustrialization in Romania (Georgescu, 2018:10). These techniques can be an useful instrument towards economic development, regardless of their conclusions, and can save a country (in this case Romania) of big spending towards a purpose that might not be efficient after all (Porter, 1980: 25-32).

## **2. Theoretical basis**

### ***2.1. Reindustrialization***

Following the forced industrialization in the communist era in Romania, the country was facing difficult times regarding the efficiency of its businesses. Therefore, we assisted to a rushed deindustrialization with which many people disagreed at that time. Lots of businesses disappeared and certain people got rich with the scraps. Despite that, following Romania's accession to the European Union, the priorities in the country are trying to be aligned to the EU priorities (Krugman, 1988).

In the EU context, as stated above, the need for reindustrialization appeared once we discovered new technologies and established new ways to perform in each domain, including industry. Therefore, the so named "Industry 4.0" specifies the set of technologies and concepts that constitute the vision of the industry in the future. It's the guarantee of bigger innovation, flexibility and reliability along with top quality standards in engineering, planning, production, operation and logistical processes" (Krawczyński, Czyżewski & Bocian, 2016:10).

Back in the 1984, The Yale Journal on Regulation published a paper that supported coordinated actions and competition as a solution to reindustrialization. According to that article, "efforts to strengthen the U.S. economy by creating a central administrative body to plan and coordinate a national industrial policy promise to be either ineffective or a cure worse than the perceived disease (...) If the United States is to continue its long-term economic growth while preserving its democratic valued, it must look to the principles of economic and political liberalism which the Founders embraced and which have made their American experiment the most successful economic system in history" (Miller, Walton, Kovacic, Rabkin, 1984: 37). Considering that approach, even if it seems old and obsolete, we cannot forget that the economy is cyclical and, since the first signs of trade back in prehistoric times, till the advanced economic relations in the 21<sup>st</sup> century, the economic forces behaved somewhat the same. Therefore, the view that states we should look back and set our possible reindustrialisation on past experiences is still current. What we would add to this is that this to this retrospective thinking a different type of approach that would surely bring some added value: prospective thinking. Past experiences should mix with scenarios and potential futures in order to find patterns and be able to choose the best option.

## ***2.2. Structured analytic techniques***

Structured analysis uses specific structured techniques in response to the negative impact of the limitations and cognitive pitfalls from the information analysis process, which results in less subjective final results (Tyson, 2010: 25). Each technique offers a path that other analysts and managers can follow in order to see the basis from which the analytical thinking started. These techniques are frequently used within a team or group in which each step of the analytical process exposes analysts to divergent or conflicting perspectives (Heuer, Pherson, 2011: 35-37).

Structured analytic techniques can be used by analysts who do not have advanced knowledge of statistics, mathematics or econometrics. Among the most important such techniques we can name: structured brainstorming, cross-impact matrix, verification of key hypotheses, indicators analysis, analysis of competing hypotheses, pre-mortem analysis and structured self-criticism, "what if?" analysis or scenarios analysis, each involving a set of specific features, as follows (Moraru, 2016: 51-56):

- **Structured Brainstorming**

This technique is a simple exercise, usually at the beginning of the analytical process, aimed to obtain relevant information or insights from a small group of knowledgeable analysts. The purpose of the group is to identify a list of relevant variables or forces that may influence the analysed object, a full range of assumptions, key players or stakeholders, available evidence or sources of information, potential solutions to a problem, potential outcomes or scenarios, potential answers that can be given to an opponent or competitor for an action or situation.

- **Scenario analysis**

Scenario analysis identifies multiple ways a situation could evolve. This form of analysis can help policymakers develop plans to exploit any possible opportunity or avoid risks that the future may have. There are three different techniques for generating scenarios. The first is called the simple scenario technique, and is a quick and easy way for an analyst or a small group of analysts to generate scenarios. It starts with the present analytical line and then explores other alternatives. The second is named analysis of alternative futures and it is a more systematic and imaginative procedure using a group of experts, often including decision-makers and trained personnel. The third technique is called generation of multiple scenarios, which can lead to the creation of more scenarios than the first two. It also

requires a mediator, but using this technique can greatly reduce the possibility of less expected events to happen.

- Pre-mortem analysis and structured self-criticism

These two easy-to-use techniques allow a small team of analysts who have worked together to effectively determine the accuracy of their conclusions. Pre-mortem analysis uses a form of reframing, in which the question reformulation from another perspective allows the analyst to look at it from a different angle and find different answers. Often, future events do not happen as we would expect. Therefore, a possible reduction of this uncertainty may be challenging the estimates made.

Through structured self-criticism, analysts answer a set of questions about a variety of factors, including trust in the source, the analytical processes used, critical assumptions, diagnostic testing, information gaps, and the potential to be misled about the conclusion drawn.

- Cross-impact matrix

If structured brainstorming identifies a list of relevant variables, forces that may influence the analysis subject or key players, the next step may be to create a cross-impact matrix, using it as a support for the group to view and discuss the relationships between each pair of variables, forces or players. This can be a learning exercise that allows the team or group to develop a common knowledge base about each variable and the relationship between them. It is a very simple but effective learning exercise.

- "What if?" analysis

By performing a "What if" analysis, the analyst imagines that an unexpected event has occurred and then, with the retrospective advantage, analyses how it might unfold, taking into account its potential consequences. This type of exercise prepares the analyst's mind to recognize the early signs of a significant change, allowing the decision maker to plan an appropriate reaction early. Such an analysis can be a tactful way of alerting decision makers to potential errors that they might make.

- Analysis of competing hypotheses

The technique requires that analysts begin with a complete set of plausible hypotheses and not with a single hypothesis that is most likely. Analysts take each sample, one by one, judging its consistency or inconsistency. The central idea is to reject hypotheses, rather than to confirm them. The most likely hypothesis will be the one that will have the

least evidence against it, not necessarily the most evidence in its favour. It is advisable to use software programs to increase the efficiency of this method. They provide both an individual platform that analysts can use to sort out their assumptions and facilitate their discussion, as well as an online environment in which analysts can compare their conclusions.

- Verification of Key Hypotheses

Another commonly used technique is checking key assumptions. This requires the analyst to explicitly list and discuss the most important working hypotheses that underlie his analysis. For any explanation regarding current events or future developments, it is necessary to interpret incomplete, ambiguous and even possibly misleading evidence. In order to fill in the blanks, the analyst must make assumptions about a competitor's intentions, the processes he uses in the competitive space, his strengths, the confidence or accuracy of the key sources, the validity of previous analyses on the same subject, the presence or absence of relevant changes, in the context of the activity, and others. It is important for these assumptions to be explicitly known and questioned in order for the result to be correct.

- Indicators analysis

Indicators are observable actions or events that are monitored to detect or evaluate changes over time. For example, indices could be used to measure changes that point towards an unwanted state, such as a financial crisis, an imbalance in the internal market, or an inappropriate economic decision. They also reveal a desirable state, such as economic reform or market growth. The particular value of the indices is given by the preparation of the analyst's mind to recognize the early signs of a significant change that could otherwise be overlooked. However, developing an effective set of indices is more difficult than it might seem.

The techniques mentioned above are not the only ones used in structured analysis methods, but they are amongst the most important ones. The others are used, most of the time, in connection with one or more of the mentioned techniques with the purpose of streamlining the analysis process and obtaining an exact result.

By implementing and using this types of techniques within a company or within a structure that aims towards the competitive environment, along with other steps that accompany the analysis, the results can be the construction of an intelligence product with beneficial effects and aimed at identifying sustainable competitive advantages for companies or for the market as a whole (Moraru, 2017:26).

### **3. How can structured analytic techniques be used in the context of reindustrialization in Romania? Proposals and conclusions.**

The techniques presented above are used most frequently for the use of companies present in the competitive environment (Fuld, 1995:45). Therefore, it can lead to the creation of competitive advantages inside a specific market. However, the structured analytic techniques can have use in the macroeconomic environment. Specifically, the process of reindustrialization is complex and, if done wrong, it can mean a big loss in the state's development process.

For this process to have the best results, a thorough analysis is needed prior to any measures and any steps. By implementing a specific system that uses structured analytic techniques, like the ones mentioned above, as part of a rigorous research of the industry sector, with its full characteristics and specifics, will surely be able to mitigate the risk of failing in the reindustrialization implementation.

First of all, a team should be created with the purpose of researching and concluding the reindustrialization problem in Romania. The team should consist of specialists from the whole industry sector, alongside economists and analysts. At the same time, regarding the research, a process containing steps of determining the information need, collecting information, information analysis and disseminating the result, that will have structured analytic techniques at its core, should be implemented.

As an example, the risk of setting the incorrect premises regarding the cost/benefit ratio of reindustrialization, together with the risk of wrongly identifying the areas in which reindustrialization will be beneficial for the economy, can be mitigated by starting the discussion with a session of structured brainstorming inside the initial discussion team. Using this technique at the beginning of the process will give a lot of answers to the general problems that might appear and will give a good head-start to the team charged with this research.

Furthermore, as soon as the team has its initial premises established through the structured brainstorming step, an analysis team can go through techniques such as analysis of competing hypotheses, cross-impact matrix or scenario analysis in order to create specific hypotheses/scenarios on which the future reindustrialization can be based on. Preparing for the most relevant or probable risks when starting a process so complex is a key factor that determines its success or failure. Having more than one scenario for what might happen prior and after the start of investments into specific

industry sectors in order to achieve reindustrialization can prove to be providential.

In the end, the use of these type of techniques should provide enough intelligence to answer to a couple of questions (Krawczyński, Czyżewski & Bocian 2016: 119):

- Does a return to the industry make sense for Romania?
- Is Industry 4.0 a good idea to attain this goal in the context of the Romanian economy?
- Is it worth increasing perforce the size of industry by any possible means of financing, support and discounts in Romania?

The choice of focusing or not on a possible reindustrialization in Romania should be made by the political decision makers, especially considering the directions set by the European strategy regarding this subject. Also, the choice of techniques and methods used to reach to relevant conclusions is also the responsibility of decision makers and, regardless of which ones they will choose, it is impetuous that a thorough analysis is made on the market in order to determine, with the lowest risk possible, the best way of action with the lowest possible cost for Romania.

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