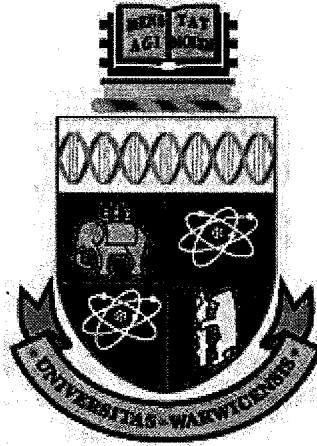


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**Development, Evaluation and Comparison of Scenario
Planning Exercises and their Themes in Real Life Scenario
Planning**

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ABSTRACT

The purpose of this booklet is to present in detail the derivation processes of the prevailing methods in use in real scenario-planning exercises, evaluate these published studies completed for public, institutions and governments, and compare them to each other to see the main differences between them. Having compared the exercises to the literature, we have found that, Peter Schwartz's approach and its derivatives are the most prevailing and applicable method in use by the firms in practice. Although not disclosed straightforward to audience what methodology they have used, it can be seen that they have followed a very similar approach to that of proposed by Peter Schwartz. Six of the case studies we have evaluated had been derived using this methodology or its derivatives. They were also very similar in terms of number of scenarios created and all the internal processes followed as disclosed earlier. Most of them have tried to explore different futures and industries and covered different issues relevant to global economic, technological and social environments. The remaining three case studies we have evaluated had been derived, however, using different techniques. We have seen that derivation techniques used in these studies, especially in Interpublic Corporation and British Airways have changed throughout the years and we do not currently see these methods being employed by strategists. Future of India study, on the other hand, seems to be offering an alternative and easy-to-use technique that can potentially be used by strategists going forward. Overall, we aimed to present the derivation processes for each published study and compare them to each other through a table and commentary, compounded with the discussion section in which we have tried to compare the literature to practice and see the flaws, differences and similarities. Our findings suggest that most scenario planning exercises we have covered especially in the first part are aligned with the theory, but we failed to find any innovative approach in these studies to suggest a revision of the theory.

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Chapter 1: INTRODUCTION

1.1 What is Scenario Planning?

Scenarios are descriptions of possible futures that might happen in the future (Huss, 1987). Similarly, scenario planning is the process of developing these scenarios using conceptual frameworks to facilitate the process. It is crucial for long-term business forecasting purposes and corporate planning decisions and has been widely used for almost more than 50 years. Quantitative methods are generally useful and beneficial for short-term forecasting purposes. However, they also have their own drawbacks and flaws. They are not totally sufficient and reliable when it comes to long-term forecasting due to uncertainty going forward (Huss, 1987). These might be economical cycles, technological advances, environmental and business-related conditions, just to name a few (Wack, 1985). This is where scenario planning comes into the arena to fill in the gap. Scenario Planning is widely used in business world. Some of its applications are the scenarios developed for the forecasts of changes in price and demand in Oil and Gas industry for long-term production planning and/or cost estimation in project management (Bradfield, 2005). There are just as many other areas as the ones just mentioned above that can potentially employ scenario planning for long-term planning purposes.

1.2 Why Scenario Planning is important?

In an environment where increasing uncertainty and unpredictable changes are the only two things that have proved to stay constant over the years, it is of utmost importance for companies, individuals and governments to act quickly and be prepared to embrace the changes that might affect them in the future. Varum and Melo (2010) suggest that scenario Planning is crucial in that being able to identify correctly potential futures from current trends and conditions will keep parties highly competitive and ready-to-act when the business and economic environments eventually start to change, creating competitive advantage for them. In other words, Scenario planning enables its users to see things what others see eventually and use this competitive advantage as a lever to further their aims going forward. It is a flexible approach and, if used wisely and in right way, it might very well benefit the users of it.

1.3 What are Scenario Themes?

In Scenario Planning, theme and scenario development stage is one of the most substantial parts of the process as it seeks to determine the contents of potential futures based on current trends and uncertainties that might occur in the future. It also creates the potential strategies firm can use in the future to act against the then prevailing business and economic conditions the scenarios try to generate. Therefore, it must be given a separate and deep focus since contents or themes establish the dynamics of scenarios and eventual strategies firms rely on in the end. Rotmans (2000) implies that scenario themes are combination of the nature of variables and dynamics of scenarios. These variables could simply be anything from actors to individuals and from factors to companies and governmental bodies (Van Notten, 2003). In other words, scenario themes drive contents of the scenarios and they shape the extent to which alternative scenarios differ from each other. As such, it is an important part of scenario-planning exercises. Therefore, we will try to evaluate these techniques used in practice and compare them to each other.

1.4 What should be expected from this research?

The scope of this paper is limited to the development, evaluation and comparison of theme derivation techniques used in practice by firms. We aim to present how to compare different scenario development techniques and identify the main differences in approaches into developing themes. We do not aim to present new ways of developing scenario themes but rather document the published studies and tools used in them, present the differences and overall structures. We also aim to compare the practice into literature. Frameworks and current methodologies developed by scholars to date on theme development process will be presented in the literature review section and will be criticized. Literature review aims to cover current methods and create a foundation for experimentation part in which published scenarios will be evaluated and compared to each other. In Discussion section the practice will be compared to theory.

1.5 The Summary of the Chapters:

This paper has been structured in six main parts. “Literature Review” section aims to cover the past methodologies in Scenario Planning to familiar our readers with the scenario-planning theories. It also provides the necessary foundation to evaluating several of the case studies presented in the results section. In “Methodology” section, we outline the structure of the study we conducted and the criteria we have used in selecting published studies. In “Analysis & Results” section, we provided nine real scenario-planning exercises, most of them recent and exploring important, recent, and relevant issues through use of several of the frameworks we have introduced in Literature Review section of this paper. In “Discussion” section, we briefly aim to compare the techniques used in practice to the theory presented earlier in the Literature Review Section. In “Conclusion” section, we simply summarized the things completed, talked about the limitations of the paper and further issues that can be considered in future studies.

Chapter 2: LITERATURE REVIEW

This part of the research paper aims to investigate the theories developed and employed by the Scholars in an attempt to shed a light on theme development process. As scenario planning consists of wide range of activities and processes, this part will only be limited to theme development section of the literature to date in scope. Our intent is to reconcile various methodologies developed so far and cover them under one roof to enable the readers to grasp various methods that can be employed in scenario planning. This will also be supported by presenting and differentiating alternative methods based upon their structural differences.

2.1 Introduction and Background:

Scenario Planning has a long past. Bradfield (2005) suggests that people have always interested in learning the future of their time through Scenario Planning. Though not sophisticated, scenarios have mainly been structured to account for only two possible futures, utopias and dystopias without much complexity but unrealistic assumptions. Given the passage of the time, advancement in technology and mastering of knowledge, this has gradually left its place to modern day scenario planning, as we know it. The modern day scenario planning has evolved in two main geographical locations, France and USA (Bradfield, 2005). France and USA has been home to modern day scenario planning schools. These are “Intuitive Logics School”, “Probabilistic modified Trends School” and “La Prospective School”. While former two are referring to USA Schools, the latter is referring to French School. It needs to be noted that there are significant differences between the approaches followed by each school with regards to complexity, qualitative and quantitative scenario derivations and number of scenarios created (Bradfield, 2005). Main differences will be provided in a table at the ends of this chapter to better differentiate different techniques and their implications.

2.1.1 Intuitive-Logics School & GBN

One of the first things we need to discuss is Intuitive Logics School. This school can be regarded as the main origin to modern day scenario planning. The founding father of Scenario Development was Herman Kahn (Varum and Melo, 2010). He first attempted to employ scenario development techniques during his work in Rand Corporation for US

military. His achievements in the area then inspired and led others use and apply his frameworks in an attempt to develop the best scenarios possible for alternative futures. One of the most successful applications of scenario development in modern-day was perhaps executed by Shell, one of the leading petroleum giants. Peter Schwartz was one of the managers of the Scenario Planning division of Shell Corporation and he contributed a lot to Shell's success in predicting future through scenario planning during his service. After his service with Shell Corporation, he founded his own firm called Global Business Network(GBN) and started providing consulting services to firms globally on a range of issues in business panning. His approach should be presented as part of this study. Because his method is in widespread use, we have decided to cover his processes in more detail relative to other ones. According to Schwartz (1991), all scenarios should be developed around a central issue of concern or question. Figure one presented below is depicting this situation graphically.

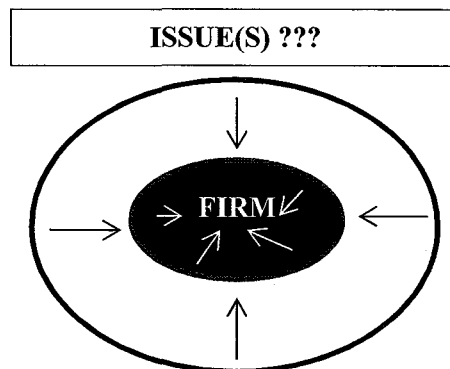


Figure 1: Issue-Firm Interaction

Once this has been established, Strategist can then move on to detecting key driving forces that help him deduce whether the chosen issue is valid or not. Once this stage is completed, one can then start identifying the key factors and rank them according to their own significance for a given scenario. At this stage, Strategists are advised to segment the found driving forces into two categories, certainties and uncertainties. For this, they are encouraged to complete a “STEEP Analysis”, which is an abbreviation for Social, Technological, Economic, Environmental and Political respectively. This little framework helps detect the certainties and uncertainties under each category and create the initial universe of uncertainties that strategists use to conduct scenario planning. A framework for this can be seen in the next page:

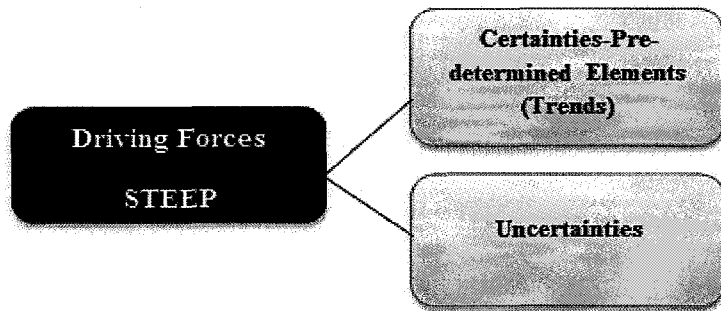


Figure 2: Driving Forces

These uncertainties are then narrowed down through brainstorming or critical thinking to find the most critical ones that matter to issue under consideration. However, there is also another framework that can be used as well. Therefore, we decided to embed this final methodology within Schwartz's approach because it is also used within Schwartz' approach. For instance, Van Heijden (2005) invented a technique whereby uncertainties are narrowed down according to their perceived importance by using an impact-uncertainty matrix to enable the strategists to detect the major and key uncertainties among the uncertainties universe. In this framework, the aim is to separate highly uncertain and high-impact factors from the rest for use in Scenario Matrix and theme development stage. A framework for this can be found below in figure two;

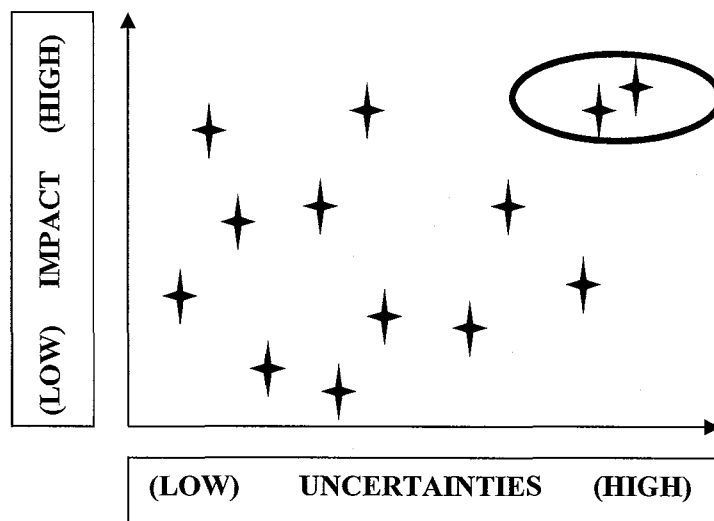


Figure 3: Uncertainty-Impact Analysis

Schwartz reminds that uncertainties not the certainties are the key factors into creating different scenarios because they are what are unclear about the future. Once the final uncertainties are chosen for use in scenario matrix by either using uncertainty-impact framework or common sense, they are written down and strategists start brainstorming what to expect at the each end of the spectrum of uncertainties. This expectation is the very reason why they end up with different scenarios because they form the edge and themes of the scenarios created. Figure three below depicts this issue;

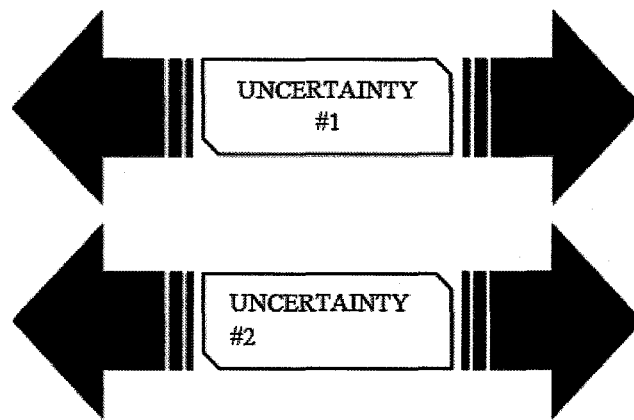


Figure 4: Uncertainty Spectrums

Having completed this classification stage, strategist is now ready for the development of the overall scenario themes or contents. The theme or content of scenarios will be determined through use of a classification matrix. The outcome of the classification matrix reveals the extent to which scenarios differ. The classification matrix helps the strategist in that positioning of various factors underlying the strategy content based upon their perceived significance and surrounding uncertainty will help construct the main themes of different scenarios. Schwartz`s suggest the use of 2x2-matrix just like the one depicted in the next page;

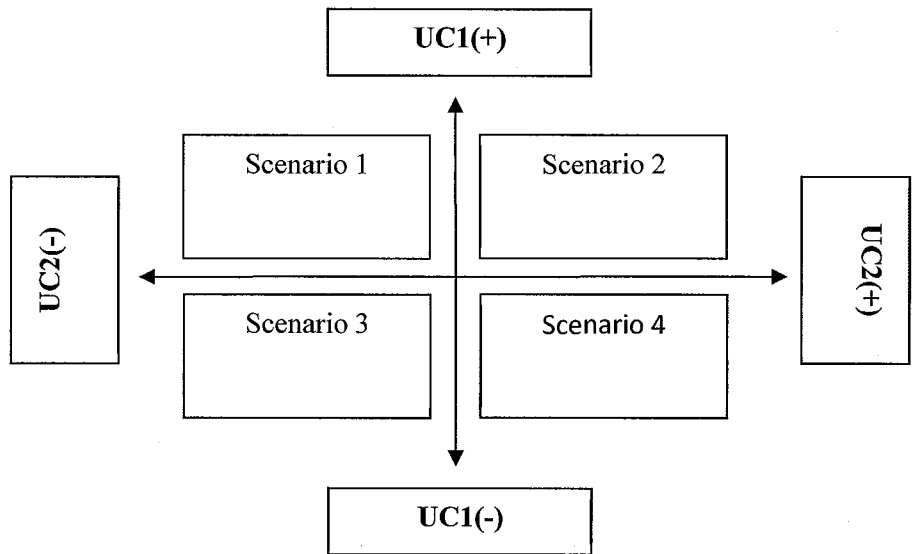


Figure 5: Sample 2x2 Scenario matrix proposed by Peter Schwartz

However, according to Schwartz, these scenarios need to be checked for consistency upon completion. Overall structure of GBN-Schwartz approach can be summarized graphically in figure five presented below;

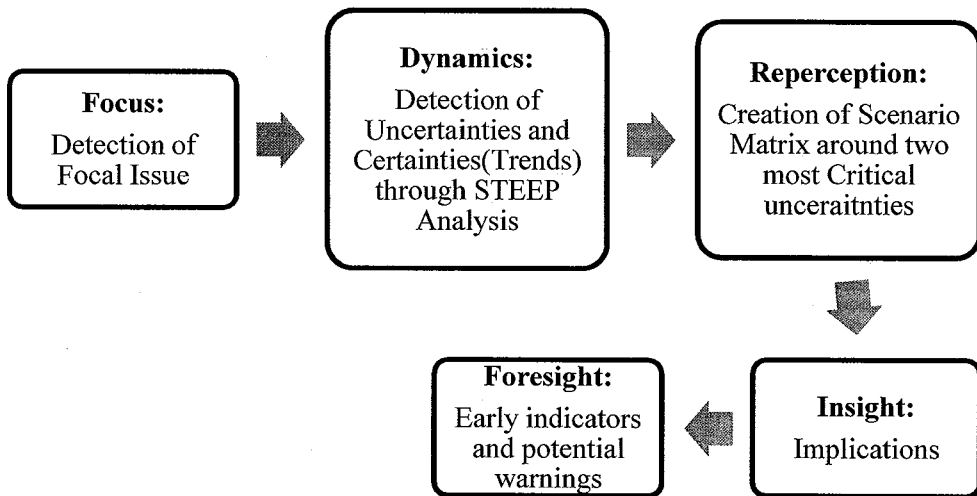


Figure 6: Summary of the Scenario Planning Approach proposed by Peter Schwartz

As suggested before, Peter Schwartz was responsible for developing the Oil Industry Scenario for Shell Corporation. Global Business Network (GBN), a think-tank founded by Peter Schwartz, used his approaches to developing Oil Scenarios. He mainly focused upon the future of oil prices going forward. In one scenario, Shell assumed that oil prices would hike substantially going forward. In the second scenario, they hold onto the status quo. These must have been developed by detecting the certainties and uncertainties in the market as Scenario narratives or themes are built based upon these same certainties and uncertainties detected in the previous section. These assumptions were all based upon then current trends. However, it is helpful to point out that these different scenarios did not aim to predict future at all. They just provided guidance to future state of oil prices under equally probable and different circumstances and environments. Overall, the scenario themes they have developed helped them embrace the potential future states of the industry and hedge the firm's position against these developed potential future states.

2.1.2 French School (*La Prospective*)

Secondly, we need to talk about the French School, named *La Prospective*. This school was founded with the leadership of Michel Godet (Chermack et al., 2001). French School was one of the main Scenario Planning schools along with the American Schools. Chermack (2001) asserts that the French approach is based upon three main steps of implementation. While the first stage of the process starts by scanning the environment of the issue under consideration and electing main elements or variables, second stage focuses on eliminating the least significant of the elements found in the former stage. This elimination process is done using sophisticated mathematical software, morphological analysis and Delphi methodologies (Mietzner *et.al*, 2005). In that sense, it can be regarded as a highly complex and sophisticated approach among all the original schools. That said, this is probably the reason why it has received less attention in the literature and it is not as common in scenario planning exercises as several other methods. The next stage is the most important part in that the elements found earlier are now ready for the development of the themes. Godet (1996) proposes that strategist should conclude the scenario development stage by limiting the scenario themes to hypotheses for the sake of ease.

A recent example to an exercise using French approach is AXA Insurance Corporation. AXA group was planning to bring together their subsidiaries under one roof but before doing so, they undertook a scenario analysis with the help of Michel Godet to see

the potential outcomes of their action. They have aimed to depict the potential futures of the state of their firm in ten years. To do that, they had to put in a context their corporate objectives and profitability requirements and challenges surrounding them going forward (Godet, 2000). It was obviously a quantitative study because, as suggested above, they have based their planning exercise on French School's methodologies. They have also come up with certainties and uncertainties to develop their scenarios. Then, they have managed to derive their scenarios. What was interesting is that they have derived several scenarios with different probabilities of occurrences. In that sense, this study could be considered to have followed a relatively complex and highly quantitative and analytical approach.

2.1.3 Futures Group/The Probabilistic Modified Trend School:

Futures Group is another body of scenario developers. They are associated with one of the underlying branches of the above-mentioned third school, dubbed "The Probabilistic Modified Trend School". They are known as creating the "Trend-Impact Analysis (Bradfield 2005). It is also a highly complex and quantitative scenario planning approach. For this reason it has a similarity to French School, *La Prospective*. Chermack (2001) suggests that scenario themes are built upon three substantial steps that stem from prior stages of issue identification (Focal Issue) and factors selection. In the theme development stage, Chermack (2001) proposes the following order for scenario theme development process; identification of scenario stage or arena, development of alternative futures that might happen and preparation for any contingencies that might arise. The first part of the last part of the scenario planning analysis, theme development process, is the creation of scenario stage. This part of the development process involves a detailed analysis of alternative futures the strategists can potentially generate. Chermack (2001) suggests that all events or future states should be checked for internal consistency and probability. This helps eliminate the least likely futures among alternative futures universe. The second stage of the theme development process focuses on expanding on the predefined and chosen futures found in the former part to plot a more detailed picture of the alternative futures. This part is also used to limit the scope of the narratives underlying the themes. The final stage is about contingencies. Chermack (2001) proposes that all issues and current trends be written down and critically assessed to enable the strategist to realize which direction the current world is leading toward and which one of the alternative futures is most likely to fit to current trend.

2.1.4 Schoemaker Methodology

Paul Schoemaker is another valued contributor to modern day scenario planning. He has developed new frameworks to account for ever increasing complexities of our times. Paul Schoemaker (1995) discusses that there is a simplistic approach to developing scenario themes. In his paper, he proposes that a strategist should simply adhere to following steps in developing his scenarios;

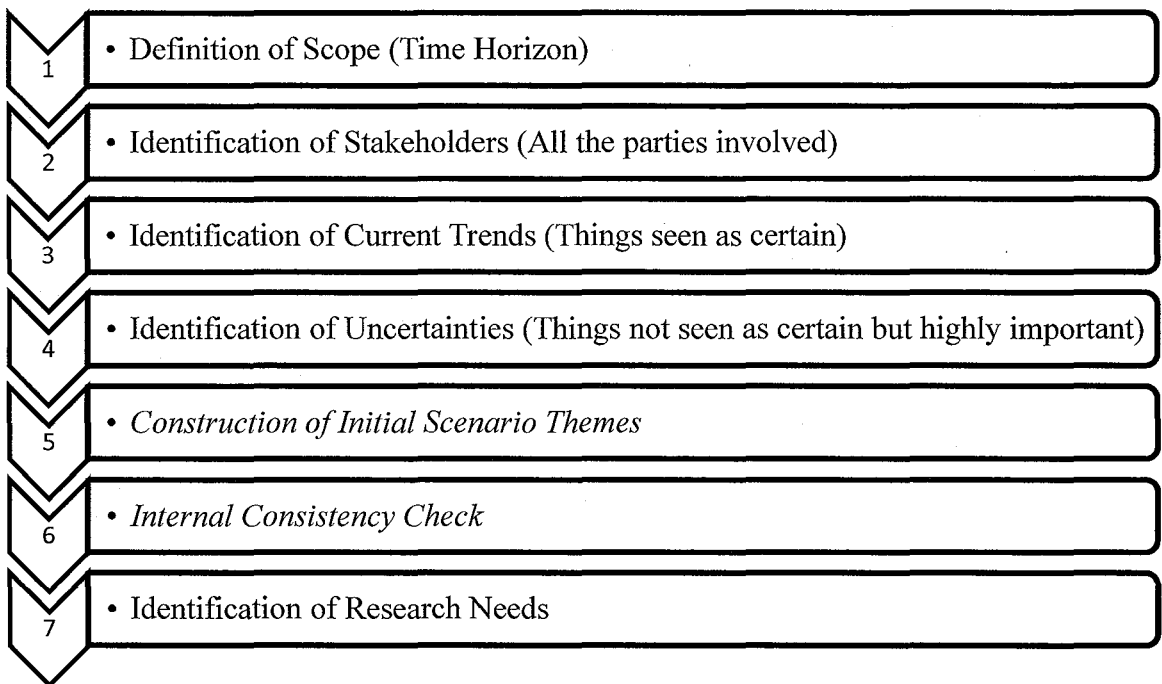


Figure 7: Summary of the Schoemaker's Approach

Schoemaker (1996) asserts that strategists should start their studies by first defining the scope of their time horizon. Once this is done and key stakeholders are detected, they should then identify the trends, the things they see as certain, and the major uncertainties, the things they do not see certain but highly important to their target that are present in their environment. According to Schoemaker, strategists are ready to proceed with the scenario development stage once they are done with the above steps. He suggests that Strategists can elect two different ways to develop their scenarios depending upon his choice. According to him, one approach is to cluster all negative and positive input separately in different groups. This method is probably preferable when the future can be defined as either-or. In addition to that, strategists can use another framework. In this method, it is advised that two main and most uncertain factors be elected and used coherently

to construct the scenario theme. In that sense, it is similar to Schwartz's approach of matrix use. Lastly, there exists another method for scenario theme development. In this final method, one should cluster alternative futures around certain parameters the firm sees significant to its success. Examples to parameters might be degree of continuity and preparedness (Schoemaker, 1995). The seventh step of his scenario-planning framework builds on the sixth step presented above. In this stage, Schoemaker (1995) asks strategists to structure scenario themes that are consistent, probable and harmonious. In other words, there is a need of consistent and easy flow and storyline that make the themes probable internally. According to Schoemaker (1995), there are three different ways of achieving this. The consistency tests proposed by Schoemaker are as follows;



Figure 8: Consistency Test proposed by Schoemaker

The initial step enables one to understand whether the current trends are suitable going forward. The unrealistic ones are advised to be eliminated at this stage to remove their effect from the end product. The second step, to Schoemaker, allows one to reject the uncertainty combinations that cannot mutually exist. This makes sense in that some outcomes cannot indeed exist together due to inverse relationships or low correlations. In other words, only uncertainties that can mutually exist should be used in theme and scenario development. As a final step, it might be beneficial to brainstorm on issues such as whether the trends and outcomes derived earlier in the process are compatible with the stakeholder desires in the future. Undertaking all of these stages in an orderly manner is done with the hopes of structuring the best possible and highly probable scenario themes that can then be relied upon for future use when the need arises for quick implementation of them. Schoemaker (1995) advises applicers of his frameworks to name the different scenarios in a manner that is consistent with the storylines underlying them. This would help differentiate the different scenarios according to their themes in an easier and clear way.

2.1.5 Ringland Methodology:

Gill Ringland's approach is another beneficial guide shedding light as to how to develop scenario themes. His method is somewhat very similar to method proposed by Schoemaker. Gill Ringland's scenario planning framework is as follows;

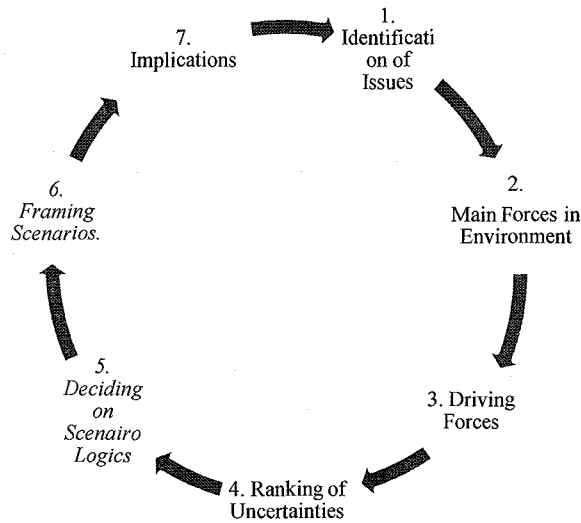


Figure 9: Summary of the Ringland's Approach

The fifth and sixth stage as was in the previous method, are most related to scenario theme development process. Ringland (1998) asserts that trends and uncertainties collectively construct the scenarios. To him, trends are the natural and definable flow within a given time frame. He also reminds that trends are mutual to each one of the scenarios created and as such, they do not actually play any role in generating different scenarios because they already convey what seem to be certain about potential futures. Uncertainties, on the other hand, are contingent events or factors that are not predictable beforehand and as such, they are the main distinguishers between various alternative futures created. Given this issue, he also uses these uncertainties to build scenarios. He reminds that these found and grouped uncertainties and factors together with trends are better utilized and exploited if they are positioned within the firm based upon different divisions that are responsible for dealing with these specific uncertainties or strategic decisions. These enable one to establish main headings under which different scenarios have been grouped. Ringland (1998) advises to establish these main headings or themes as either-or to yield different scenario themes. This creates multiple storylines, hence scenarios, which can be stored as potential or alternative futures. These storylines are helpful in that

a successful scenario generation enables a firm to deploy required defense tools it can use to hedge its position against the very uncertainties and trends it had come up with during the exercise.

There is an example we can provide to Ringland's framework. Ringland presents a scenario analysis for the Information markets which we will cover in great detail in the next chapter. Based upon the disclosed information, their aim was to help an IT firm called ICL to understand how the future of their industry would look like and how they can best allocate their resources to most needed areas to satisfy their customers' needs in a best way possible. They managed to come up with economical and technology related trends to constrain the themes of the scenario themes. Similarly, they also tried to come up with major uncertainties they thought would be substantial to their business going forward. It is important to point out that the trends they came up with were central to both of the scenarios they developed. In other words, both scenario themes have been developed around the same trends, economy and technology-related. Only the uncertainties differed in the scenario contexts. Uncertainties were then grouped together according to the correlations of them to each other. The ones which were correlated has been assigned to same scenario while the others to second scenario. So, in other words, these stages enabled the group to come up with the scenario context or themes which were then used to frame two different scenarios. It is important to remind that opposing uncertainties form the basis of different scenarios assuming trend components are mutual to both. For instance, while innovation, open cultures and trading, deregulation and individualism form the basis of one scenario context together with common trends, the opposing uncertainties, technophobia, closed cultures, regulation and and collectivism form the other one with the very same trends.

2.2 Comparison and Commentary

Different scholars with the hopes of developing theme and scenario development techniques have completed the above-mentioned frameworks. Some of the methods proposed by scholars are more complicated in structure and steps compared to others' methods which are easier to complete and do not necessarily require a wide range of knowledge on software-use and technical skills. This being in mind, the models proposed by Schoemaker, Ringland and Peter Schwartz are the most simplistic and easier-to-conclude in their structure relative to others presented. They are also probably the most

applicable to a wider range of people who might use Scenario Analysis, hence theme development techniques, for scenario planning purposes.

As for methods proposed by French School and Future Group/Probabilistic Modified Trend Models, they are harder for an ordinary person to grasp and complete the steps. This is because they require extensive software use, heavily quantitative and costly. Moreover, they assign variable probability weights to scenarios. Other techniques we have covered so far do not assign floating probabilities but treat the scenarios as equally probable. For these reasons, they can be perceived as relatively more complex approaches as opposed to other methods introduced in this paper. As suggested before by Mietzner (2005), this is perhaps the reason why their use in scenario planning exercises is not as common as some other methodologies proposed by various other schools and scholars. This can further be supported by Bradfield's own argument. He suggests that traditional or older scenario planning requires a substantial investment of time and effort (Bradfield, 2008). It is also believed that the lack of standardization in the scenario planning approaches also cause distortions in terms of time and resource management (Wulf, et al. 2010). Therefore, we can suggest that firms are most likely to employ methods that will cost them less in terms of financial and time management aspects. This very fact is then likely to favor the use of some models over others. This clearly, as will be seen in the next chapter, has led and will lead some firms to employ simpler and more standardized models such as the likes of models proposed by Schwartz. A table summarizing and comparing different methods, prepared by Bradfield can be found in the next page to evaluate the main differences in techniques.

Context/Method	Intuitive Logics Model (GBN-Peter Schwartz Methodology)	French School (<i>La Prospective</i>)	Probabilistic Modified Trend (Futures Group)	Schoemaker Methodology	Ringland Methodology
Purpose	Exploring future through scenarios and constructing unique strategies	Exploring future		Exploring future	Exploring future
Scope	Narrow or broad, Micro or Macro	Narrow-Specific	Narrow-Specific	Narrow or broad, Micro or Macro	Narrow or broad, Micro or Macro
Exploitation Horizon	From 3 years to 20 years	From 3 years to 20 years	From 3 years to 20 years	From 3 years to 20 years	From 3 years to 20 years
Developers (Internal or External?)	Mainly Internal Developers but external consultancy may be called upon	Internal & External	External	Internal & External	Internal & External
Major Tools employed	STEEP Analysis, (2x2) Matrix, Stakeholder Analysis, Brainstorming sessions	Delphi, Morphological Analysis	Trends-Impact, Cross-Impact, Monte Carlo Simulations	Competitor Analysis, Stakeholder Analysis, Brainstorming sessions	Competitor Analysis, Stakeholder Analysis, Brainstorming sessions
Degree of Sophistication and Quantitativeness	Low	High	High	Low	Low
Method of Choosing Driving Forces	Brainstorming, Intuition, Market Research, Expert Reviews (Soft)	High	Time Series Analysis and expert judgment	Brainstorming, Intuition, Market Research, Expert Reviews (Soft)	Brainstorming, Intuition, Market Research, Expert Reviews (Soft)
Scenario Qualities	Scenario themes are defined through the uncertainties combinations in 2X2 Matrices	Matrices of Probable Assumptions based upon key variables	Monte Carlo Simulations create alternative assumptions for alternatives	Depends. Scenario themes can be defined through the uncertainties combinations in 2X2 Matrices or correlated uncertainties can be grouped to form different themes	Uncertainty correlation is undertaken to form different themes which then create scenarios
Scenario Weights	Equally Likely	Probabilities are assigned to each scenario	Probabilities are assigned to each scenario	Equally likely	Equally Likely
Number of Scenarios	Generally 4 based on 2 Uncertainties	However seen necessary	3 to 6	Generally 4 based on 2 Uncertainties	Generally 4 based on 2 Uncertainties

Table 1: Table summarizing different Approaches in the Literature

Chapter 3: METHODOLOGY

3.1 Introduction

The main objectives of this research are to present several scenario-planning exercises to see the techniques used in them in detail and show how to compare and identify the different scenario development techniques used in exercises. The methodology we will follow in this paper is based upon a detailed presentation of the theme derivation processes followed in each exercise as well as comparison of each exercise to one another through a comparison table and commentary section.

3.2 Selection Criteria for the Elected Case Studies

We have elected to proceed with nine scenario-planning exercises in total. These case studies have been chosen from a wide variety of sources, including corporation websites, scenario-planning websites, institutional websites and governmental websites. Most of the case studies are recent and have been completed with forecast horizons well reaching 2020's. The issues covered in exercises well differ from each other. The selection method for the case studies is based upon a wide range of criteria. *Macro-Micro Issues, Industries, Exploration Horizons and Date of Completions, Techniques used and Variety of Issues* have all played important role in the selection process. We tried to follow a balanced approach between the criteria presented above when we elected the scenario planning exercises.

i. **Macro-Micro Issues**

The Scenario Planning exercises can be separated from each other based upon their dealing with macro or micro issues. Some exercises might deal with broader issues like the state of industry while the others more specific issues like the state of a firm in the future. However, for an exercise to be deemed macro or micro, there needs to be information regarding what the scenario planning exercise is benchmarked against. For instance, while trying to understand the future economic state of a country can be seen as a macro issue for that country, it is at the same time a micro issue if benchmarked against the global economies.

Case studies we will be covering in the next chapter can similarly be regarded as macro or micro depending upon the issues they are covering. As will be seen in the next chapter, some of the case studies are dealing with macro issues and the others with micro issues. We tried to balance industry, company and country specific case studies with global ones to enhance the scope of this paper. For instance, while the scenario-planning exercise conducted for Interpublic Corporation and British Airways are company/sector-specific case studies and can be deemed micro, the ones conducted for Energy and Global Economy and Technological-Social Development exercises are global or macro studies.

ii. Industries

We have scenario planning exercises from a wide variety of industries. These are chiefly the following industries; energy, tourism, ad, media, airline technology. We elected to have scenario-planning exercises from different industries to enhance our research and see the unique challenges and uncertainties faced in different industries and their implications on the scenario planning exercises they have conducted. A figure presenting the allocation of exercises according to their industries can be seen in the next page;

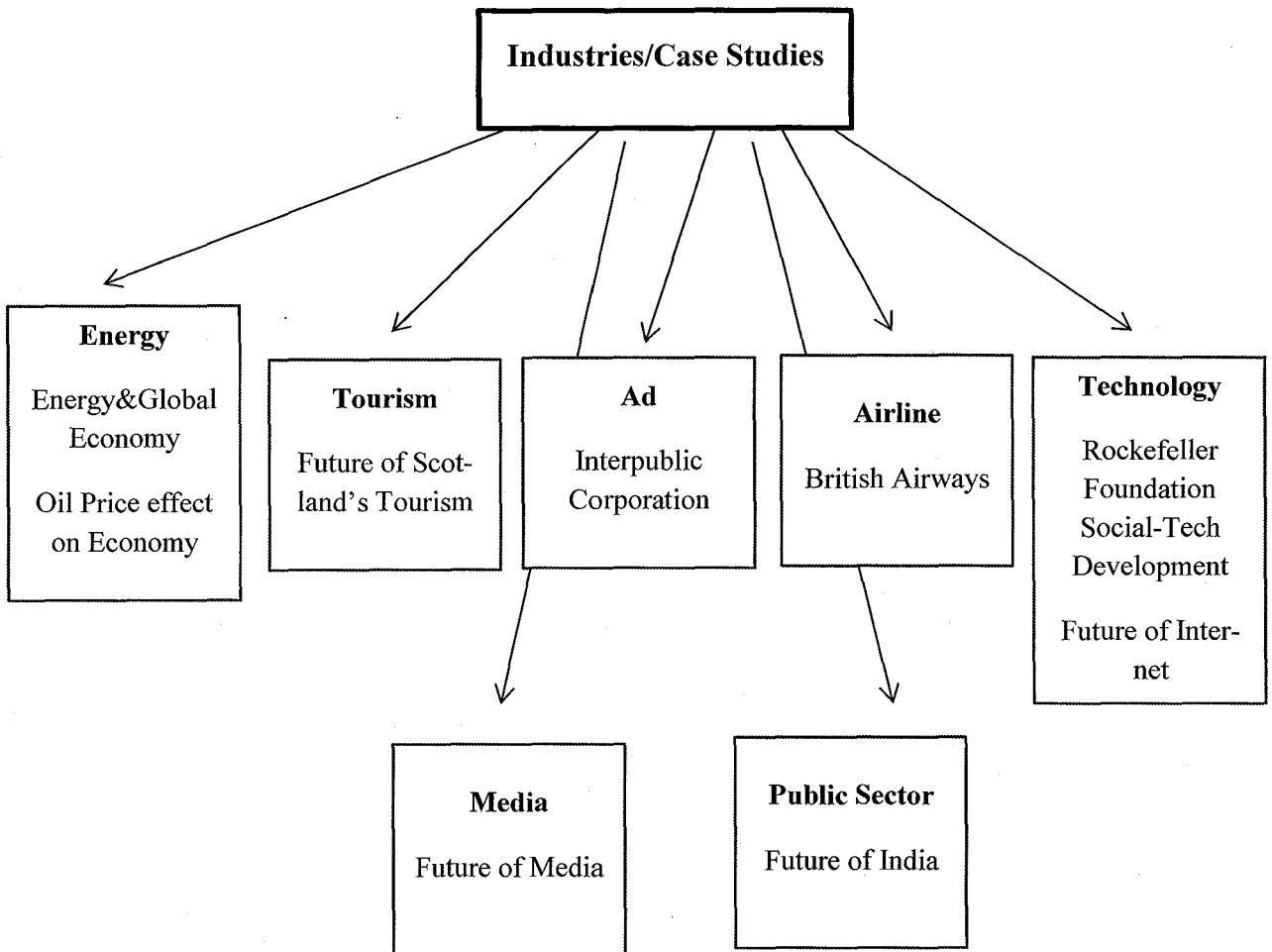


Figure 10: Distribution of Scenario Planning Exercises according to their Industries

iii. Exploration Horizons & Date of Completions

With the exception of only two case studies, Interpublic Corporation and British Airways, all of the case studies we will be covering in the next chapter have forecast horizons exceeding well beyond the time when this paper was written in August 2013. The exploration horizons differ from one case study to another depending on the complexity of future. We have case studies with the following exploration ranges of 5-6 years, 10 years and 15 years respectively.

We have tried to choose recent scenario planning exercises. Most of the case studies with the exceptions of British Airways and Interpublic Corporation have origination dates reaching back mid to end 2000's. The reason why gave more emphasize to recent ones is to see the most recent developments in the exercises conducted. As for the older case studies suggested above, we have decided to include them in our

study to compare their older approaches in the industry to recent practices and to see why the approaches used in them have faded since then.

iv. Techniques Used

We also tried to enhance our case studies according to techniques used. While most of the case studies we chose to cover have employed a similar approach to each other, there were several exceptions. For instance, we can say that almost 70% of the case studies we chose for evaluation and comparison purposes follow similar sets of steps. While they are not all using exactly the same derivation steps, they definitely use the derivatives of the below structure. This structure can be seen below;

- a. Determine the Focal Issue(s) or Question which Scenario Planning will be built upon**
- b. Find the Driving Forces which include certainties and uncertainties**
- c. Form the Scenario Matrix and name the Scenarios**
- d. Narrate the Scenarios**

This structure is very much similar to the set of steps employed by Peter Schwartz and Global Business Network (GBN). It is perhaps because the method is one of the least complicated among all available ones to strategists and requires the least cost and time commitment. However, we also see some other approaches like “Cone of Plausibility” and “Uncertainty-Correlation Matrix” techniques. For instance, the case studies, “Interpublic Corporation”, “British Airways” and “The Future of India” follow relatively different approaches into developing themes than the structure seen above. This is the reason why we decided to include them in our exercises portfolio and evaluated them separately from the rest.

v. Variety of Issues Covered

We also tried to choose scenario exercises focusing on different issues and contexts to avoid constraining our study and thinking to a limited set of issues. We can briefly summarize some of the issues covered in the studies taken together as follows; technological and social development, tourism, future of global energy needs, the state of the economy and consumer sophistication and needs. We can therefore suggest that we tried to touch as many important aspects/issues as possible to enrich this study as

there are many issues shaping the course of future of this world with each posing different challenges to strategists.

3.3 Structure of the Study Conducted

We structured the Results section simply based upon two main parts, Individual Case Studies and Comparison & Commentary. The first part aimed to detail the individual exercises and explore the techniques used in them while the second part aimed to compare the individual case studies to each other.

i. Individual Case Studies Evaluated

We will first present the individual case studies in detail to understand the techniques employed in each one of them. Case studies will be presented by first providing a brief introduction section as to what they are about, when they were developed and why. This will then be followed by detailing the individual theme derivation steps and techniques used in them for each one of the exercises. For this reason, we decided to provide the frameworks they have used in structuring their scenarios. This will be done with the hope that it will support us with better knowledge and infrastructure for the comparison purposes. Finally, we have also decided to talk briefly about the way of content delivery. Here, we plan to evaluate the individual exercises in terms of their presentation forms, “Booklet”, “Video” and “Report”. “Booklet” format refers to client-oriented research that does not have an academic format. “Video” format, as its name suggests, presents the scenarios through videos. “Report” format refers to a more academic presentation. Furthermore, we will look at the language of delivery, which questions whether the scenarios have presented in a story form or forecast form.

Lastly, we have decided to separate cases studies into two parts. In the first part, we have decided to cover six exercises that are close to each other in terms of techniques used and completion dates. In the second part, we combined remaining three case studies that differ from the majority of the exercises evaluated in terms of techniques employed. Furthermore, the first two case studies evaluated in this second part are older compared to others with the exception of Future of India exercise.

Therefore, it might also be better to present and treat them separately from the rest. This was decided with the hope that it would enable one to better differentiate between case studies and techniques used in them and see the evolution in techniques through the passage of time. Finally, these case studies were analyzed in a relatively more detailed way because of the reasons stated above.

ii. Comparison Technique Employed and Comparison Criteria

In addition to presenting individual case studies and explore the theme development techniques employed in them, another aim of this study is to compare the different case studies to each other on a broad range of issues. This was planned to be done through a use of table and commentary section. We will use a simple table to compare the various case studies from a wide range of context. For this, it might be beneficial to provide the criteria against which these published studies will be benchmarked. We will compare these case studies according to their “Clients”, “Developers”, “Industries”, “Focus”, “Origination Date”, “Exploration Horizon”, “Developers of the studies”, “Use of Scenario Matrix”, “Initial number of Uncertainties detected”, “Number of Final Uncertainties”, “Number of Scenarios created”, “Main issues covered in scenarios in the aggregate” and “The way of Content Delivery”. The above-mentioned criteria will be used to compare the scenario-planning exercises.

Chapter 4: ANALYSIS & RESULTS

4.1 Introduction:

In this section, we will be presenting the results of several case studies having been undertaken by different firms. We aim to show the detailed approaches in developing scenario themes of real life scenario-planning exercises. We have structured our presentation of case studies in two parts. In the first part, we will be presenting 6 case studies that are more close to each other in terms of techniques employed in them. In the second part, we will be presenting the remaining three of the case studies that differ in terms of their methodological structure. This is also the reason why we will cover them in detail relative to first six studies. We will also be comparing the approaches undertaken in these cases to each other at the end of the section.

4.2 Scenario-Planning Exercises Evaluated

4.2.1 Part 1

i. SCP Exercise 1: Energy Strategy for the Road Ahead

This scenario planning has been conducted by Global Business Network on behalf of the executives of energy-dependent companies. It was developed in 2007 with an exploration horizon reaching 2020. Their aim was to explore the effects of changes in the energy industry on energy-dependent companies. By providing insights into the future, GBN aimed to help these companies embrace the uncertainties and prepare in advance to come up with better strategies. The theme development process follows following structure; “identification of the issue”, “detection of trends”, “detection of uncertainties” and “creation of themes & scenarios”. We will briefly visit each one of the categories to see the approaches taken.

- **Detection of the Issue:**

The primary issue GBN detected for the energy-dependent companies was about the path of energy industry evolution and the effects of this evolution on these firms for the next fifteen years. Disclosed data suggests that factors like terrorism and

higher demand from the emerging markets could potentially change the future path of energy needs and access to energy, which the GBN believed, might affect the firms most reliant on it. Therefore, GBN structured the scenarios around this issue to address this critical problem.

- **Detection of Trends and Uncertainties:**

We chose to group trends and uncertainties under one roof a part of this case study because we will present a more detailed version in another case study that is very similar to this one in terms of structure. GBN detected that there are several trends that are seen as certainty. These are technological developments in energy sector, regulatory changes in the emerging markets and increasing awareness to climate change issues. Therefore, it can be said that these are pre-determined elements. However, major problems are caused by the uncertainties regarding the energy market. For this reason, GBN created a universe of uncertainties and then narrowed it down to only two key uncertainties to structure the themes and scenarios around. The uncertainties they believed are most relevant to their focal issue were “Shifts in the US Politics and Regulations regarding Energy Sector” as well as the “Changes in the Global Economic Path”.

- **Creation of Themes & Scenarios:**

GBN structured the themes and scenarios around the uncertainties found in the earlier section. These two uncertainties have been placed into a matrix with each spectrum of the uncertainties reflecting opposite situations and each box creating themes through the intersection of the spectrums of the uncertainties. For instance, first uncertainty is about the US regulation on energy sector. GBN assumed that in one case, there will be less carbon focus while in the other one there will be tighter regulation regarding it. As for second uncertainty, “Changes in the Global Economic Path” there is an issue whether economic growth will evolve around emerging or developed countries. So as can be seen, for both uncertainties, we have this issue of polarity which helps create a matrix. Based upon the above framework, GBN decided to come up with four scenarios that are believed to be relevant to energy-dependent companies. These are “Same Road”, “Long Road”, “Fast Road” and “Broken Road”. Each one of them depicts different futures and addresses the focal question differently. While “Same Road” is about maintaining status-quo with still-loose carbon regulation in US and emerging

markets taking the lead in global economic growth, The “Long Road” is about US and world getting tighter on carbon issues due to climate change and economic growth dynamism shifting significantly to emerging markets, fuelling the energy prices caused by heavy demand from these countries. The “Broken Road” is about reversal of the issue tackled in the “Same Road” scenario where US takes the lead in global economic growth and there is loose regulation on carbon issues. However, this scenario comes up with a shock to energy market with higher future prices due to lower investments and R&D initiatives. In the “Fast Road”, there is a faster transition into a state of future where US dominates the global economic growth and there is tight regulation of the carbon emissions. Clearly, this scenario comes up with higher energy prices as well due to tighter regulation and the resulting cost increases. So, firms are looking for alternative energies to tackle this situation. Another reason the US dominates the world economy is that it is benefiting from exporting high quality products to emerging countries, leaving these countries highly dependent on US for imports.

- **Presentation Structure:**

The scenarios in the exercise have been delivered in a pure story form as if they are happening now. Moreover, they have presented the scenarios in a booklet without any use of videos to support and enrich the exercise.

- ii. **SCP Exercise 2: Scottish Tourism: Scenarios and Vision**

This case study has been completed by Ian Yeoman on behalf Scotland Tourism Agency. It was developed in 2004 and their aim was to picture Scotland in 2015. In other words, they were trying to enlighten governmental tourism agency as to what the tourism industry in Scotland would look like around 2015. So this can be regarded as the primary issue that fuelled the scenario planning exercise. Theme development process briefly has the following structure; “Studying Factors and choosing critical elements”, “Deciding on themes” and “Creating Scenarios”.

- **Studying Factors and Choosing critical elements:**

This is the first part of the theme development process in this study. Yeoman together with people from the agency studied various factors including trends and uncertainties that they believed would have the potential the shape Scotland’s future.

Through brainstorming and rationing, they detected that exchange rate, GDP, governance, fiscal policy, safety, disposable income, media and environment were found to be the most critical elements regarding Scotland's future.

- **Deciding on Uncertainties:**

Key uncertainties have been created by combining several of the factors above. For instance, GDP, exchange rate and fiscal policy seem to have been combined to create the first uncertainty called "economic environment". Similarly, "disposable Income", "safety", "media" and "environment" were pooled to create the second uncertainty called "consumer propensity". We also need to emphasize that these uncertainties have alternative ends at the end of each spectrum as opposed to oppositions. For instance, "Economic Environment" has Prosperity and Disinflation/Deflation at the end of each spectrum respectively. Likewise, "Consumer Propensity" has Price Sensitivity and Sophistication at the end of each spectrum. So they cannot really be regarded as opposites but rather alternatives as Yeoman suggested.

- **Creating Scenarios**

The way scenarios were created does not differ much than GBN approach as Yeoman also used a matrix to structure the scenarios around the abovementioned uncertainties. Each edge of the 2x2 matrix refers to a future that is combination of the alternative outcomes of themes or uncertainties. Number of scenarios created was four and their names are "Exclusive Scotland", "Dynamic Scotland", "Weekend Getaway" and "Yesterday's Destination" respectively. "Exclusive Scotland" refers to a future where local economy slumps due to deflation and there is high price sensitivity. The only thing that fuels the tourism in Scotland is the favorable exchange rate that helps create income, however this creates an service export dependency to prop up the local tourism and economy. This is the most negative scenario among all. "Dynamic Scotland" refers to the opposite situation where UK has a strong economy and growth together with higher consumer sophistication. Scotland flourishes as it now become the number one tourism destination in the UK. "Weekend Getaway" paints a future state where the local economy (UK) is still under the drag of deflation. However, there is high consumer sophistication and they still want to exploit the different opportunities available in Scotland, helping fuel the local economy together with more tourist inflow due to favorable exchange rate. "Yesterday's Destination" is about a future where lo-

cal economy is strong, however at the expense of a strong currency which halts the international tourism and source of revenue. Local consumers are not that sophisticated but price-sensitive which limits the activities offered by Scotland. However, stronger local economy still fuels the domestic tourism revenues.

- **Presentation Structure:**

The scenarios in the exercises have been delivered in a report form rather than a booklet or interactive form. In that sense it can be considered to have followed a more formal approach as opposed to the presentation forms of other scenarios in other exercises. They have been narrated in a way as if the alternative futures are happening now.

- iii. **SCP Exercise 3: Future of Oil Prices and its effects on Global Economy**

This case study has been conducted by a group of students in NYENRODE Business University. This study did not have a particular client. The study can be regarded as public. The study was conducted in 2011 and it aimed to explore the implications of potential hikes in the price of oil and its effects on global economy and trade and politics in 2016. As oil is an important part of global trade and business environment, the students planned to explore the potential futures regarding oil prices with the aim of creating guidelines, which firms can rely upon to structure their strategies. It was structured in the following way; “Define future and Determine the scope”, “Brainstorm, detect and narrow down uncertainties through Uncertainty-Impact Matrix” and “Create the Scenarios”. The reason why we choose to cover this case study is that it has a different approach into deciding on Uncertainties. Though it is quite similar to other approaches followed in exercises, the internal process differs and is worth evaluating.

- **Definition of Future, Trends and Scope:**

The students decided that the scenarios should picture the 2016 future so it can be regarded as short-to-medium term forecasting. Also, they decided to limit their coverage to OPEC countries. The issue that fuels the study is the rising oil prices and its effect on global economy, especially on OPEC countries. The trends or certainties

detected were growing environmental issues and the environmental laws that would influence the firms on their energy decisions.

- **Brainstorm, detect and Narrow down the uncertainties through Uncertainty-Impact Matrix to determine the underlying scenario elements or uncertainties:**

This part includes multiple steps. Students first brainstormed, detected and narrowed down several uncertainties that they believed are most relevant to their issue. Their initial sessions of research yielded the following uncertainties; “Political Stability/Instability”, “Adaption of Alternative Technologies”, “New Oil Reserve Discoveries” and “New path breaking technologies”. These were then placed into an uncertainty-impact matrix to detect the most important uncertainties. An imitation of the matrix can be found below;

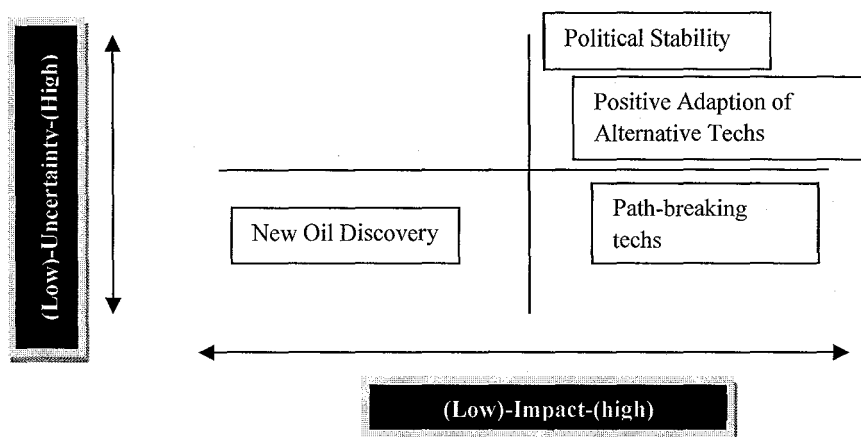


Figure 11: Uncertainty-Impact framework as disclosed in the Exercise

According to this matrix, students have detected that “Political Stability” and the “Positive Adaption of Alternative Technologies” were the major key uncertainties due their perceived relatively higher uncertainty and higher impact outcomes. This helped eliminate the remaining uncertainties and created the final uncertainties the themes and scenarios will be built around.

- **Creation of the Scenarios:**

Having detected the key uncertainties, they then proceeded with the Scenario Matrix we are used to seeing in many scenario planning exercises. The number of the scenarios created was four with each scenario still depicting a picture that is a combination of the sub-outcomes of different uncertainties. These have created the themes and scenarios. “Perfect World” briefly describes an alternative future with high political stability in OPEC countries together with high adaption of alternative technologies that would limit their dependence on oil exports to boost their local economies. “Al Gore? Is that a football player?” depicts an alternative future with high political stability and lower adaption to alternative energies, which limit the sustainability of the oil production at its current pace. Though not disclosed, the name of the scenario probably reflects the arrogance of the OPEC countries in delaying their plans to switch to alternative energies and reduce the dependency on crude oil export at the expense of further pollution. “A crude world” is a low adaption and political instability world where there is excessive demand for crude oil. Compounding this factor is the political instability, which pushes the costs further north and affects the companies adversely. Name reflects the dependency on oil. The last scenario has been named “Chaos Picnic” and it refers to a high adaption and political instability. Political Instability in the OPEC countries pushes the cost of the oil up and forces firms to search for alternative technologies. The name clearly reflects this combination with chaos pointing out to the situation in OPECs and Alternative Ride reflecting the search for new energy sources. As created by the students, picture of the scenarios can be seen below:

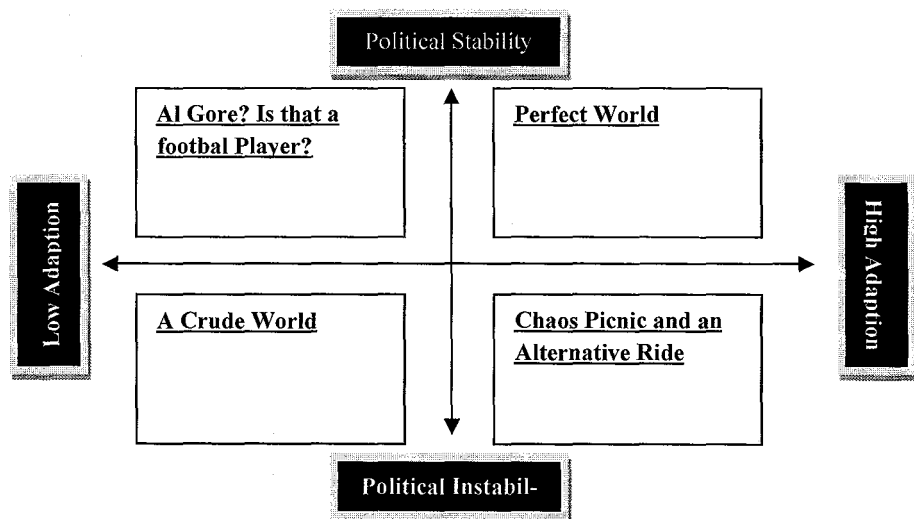


Figure 12: Scenario Matrix Approach as disclosed in the Exercise

- **Presentation Structure and Narratives:**

The scenarios have been delivered using the common paper-based story approach with each one of the scenarios describing potential futures in a story form rather than forecasts. In addition, there has been no use of an alternative interactive media channels like videos to deliver the scenarios.

- iv. **SCP Exercise 4: The Future of Internet**

This scenario planning has been completed by the Internet Society to discover the future of the internet. It is a publicly available exercise and was not developed for a specific client but for industry. The study was conducted in 2009. It had an exploration horizon of 6 years and aimed to explore the state of health of the internet industry in 2015. The disclosed scenario report does not provide full information as to how they conducted the first several steps like deciding on uncertainties and pre-determined things(trends), however, it provides a scenario matrix that hints what these uncertainties are and what each of the scenario tries to depict. So, the whole process can be structured around two main titles; “Focal Issue” and “Scenario Matrix and Scenarios”.

- **Focal Issue:**

They asked the following question to limit the scenario planning and define the borders of the study; “Will the world embrace the open internet model? What model will be more successful? Command or Control? Or Distributed and Decentralized?” The approach is quite different from other case studies because the focal question already has the two uncertainties embedded in the question which means one part of the themes were already determined.

- **Scenario Matrix, Themes and Scenarios:**

The Scenario Matrix provides us with a bunch of valuable information like the names of the scenarios and sub-issues discussed. The imitation of the scenario matrix presented in the exercise can be seen in the next page;

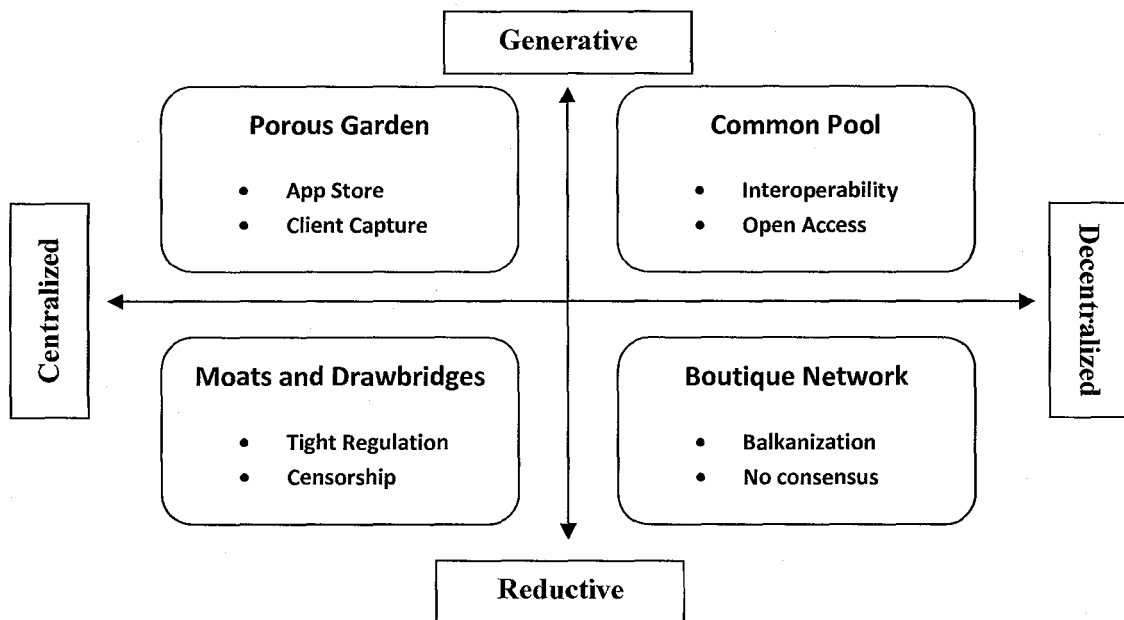


Figure 13: Scenario Matrix Approach as disclosed in the Exercise

Let's briefly analyze the scenarios without going too much into detail. As can be seen, the main theme development approach is Matrix-based with sub-parts of uncertainties generating the borders of the themes and scenarios just as in the previous exercises. While "generative" and "reductive" are referring to the one uncertainty and answering the first two parts of the focal question, "decentralized" and "centralized" are referring to second uncertainty and answering the last two sub-questions posed by the focal question. Therefore, it is obvious that these are The sub-issues discussed are presented above and they all determine the internal details of the different scenarios, supporting their themes. It is important to note that "Common Pool" scenario refers to the status-quo case, so there is basically no change of course. "Porous Garden" scenario refers to a more centralized future of internet with generative technologies. App stores seem to be flourishing in this future with the market power resting in the hands of few powerful companies. "Moats and Drawbridges" refers to a future where there is tight regulation of internet and accessibility by the governments and reductive attitude toward internet-related developments. The internet is dominated by several well-established players and shaped by them. Therefore, it can be said that there is some sort of monopoly over the industry by these dominant firms. In the final scenario,

dubbed “Boutique Network”, there is a decentralized environment. There are many firms shaping the industry as opposed to concentrated and dominant few. However industry is reductive rather than generative and there is lack of cooperation between firms and countries to move forward with internet related developments.

- **Presentation Structure and Narratives:**

The established scenarios have been delivered to audience both in paper-based story and video forms. While the paper based presentation is a typical presentation type, the use of videos to describe alternative futures seem to have enriched the exercise.

- v. **SCP Exercise 5: Scenarios for the Future of the Technology and International Development:**

This exercise was conducted by Global Business Network in 2010 for Rockefeller Foundation. It has an exploration period of 15 years and tries to picture potential futures in 2025. The aim of the study, as disclosed in the paper, was to understand the ways in which technology and social development could evolve together. This was done with the hopes that it might be useful to understand what some potential futures might bring for relatively less advantaged people of the world going forward. The scenario planning has been structured in a way that first starts with the detection of issue(s) and is followed by detection of driving forces, detection and election of uncertainties, and creation of themes through scenario matrix respectively.

- **Detection of issue:**

As with the earlier cases, Detection of issue still comes first before proceeding with the theme development process. In this part of the process employees in the Rockefeller Foundation completed a brainstorm session to find the critical question that the themes and scenarios will be built around. They managed to come up with the following issue; “How might technology affect barriers to building resilience and equitable growth in the developing world over the next fifteen years?” As can be seen, the issue implies that the scenario planning aims to cover fifteen years into the future. This part creates the foundation to starting the actual process.

- **Detection of driving forces that are believed to affect technology and social development:**

The second step was to detect and choose the key driving forces the foundation believed would influence the technology and social development in the countries. The driving forces have been derived by undertaking secondary research and in-depth interview with the senior managers and executives with deeper knowledge of the matters. At this stage foundation segmented the driving forces into two parts, predetermined elements and uncertainties. As with the earlier cases presented, predetermined elements are seen “certain” and as such they stay mutual to themes and scenarios that will be created. For instance, the population growth in emerging countries like China was seen certain. Similarly, another certainty they detected was the expected pressure on energy prices that will be driven by the social development of the society in these countries. On the contrary, uncertainties were regarded as the most important critical factors that were contingent and highly associated with the issue under consideration.

- **Detection and election of uncertainties:**

Having structured the framework in the earlier stage, the foundation then started identifying the major uncertainties. They managed to detect dozens of uncertainties they expected would influence the technology and social development interaction or evolution. However, through critical evaluation of these uncertainties, they managed to narrow down these uncertainties to only two they believed were most important to technology-social development context. These are “Political and Economic Alignment” and “Adaptive Capacity of the nations to technological and social developments”. In other words, the foundation believed these are the most critical and powerful uncertainties that might create differing potential futures ahead. It might be helpful to elaborate a little bit more on each uncertainty to understand better what they really imply. As disclosed in the paper, the first uncertainty deals with the intra-nation collaboration on global issues. The Foundation believed the first issue tries to address how the flow of goods, people and ideas across the borders of the countries will evolve and align and the extent to which political powers and initiatives will deal with the challenges collectively fed by former issue. On the one hand, the world might become a more globalized arena where there is more integration and collaboration between the countries to solve mutual problems. On the other hand, we might equally see a more

polarized world that is not open to collaboration and intra-nation political alignment. As for the second uncertainty, Adaptive capacity of the nations to technological and social developments, there is the critical issue of responsiveness or the adaptive capacity of the nations to challenges of the future. Own research of the foundation implies that education, integration and trust are the primary factors feeding adaptive capacity of the societies. So the second uncertainty was structured around the polarity of high and low educational development, integration and trust.

- **Creation of Themes and Scenarios through Scenario Matrix:**

The next simple step they followed was to form the basic scenario matrix to create the eventual scenarios and different themes. It is wise to remind that themes are about the dynamics of scenarios and as such, every scenario creates its own dynamics and alternative futures around the polarity of the uncertainties detected in the earlier part with certainties like predetermined elements or trends staying constant. So, this step can be summarized as follows;

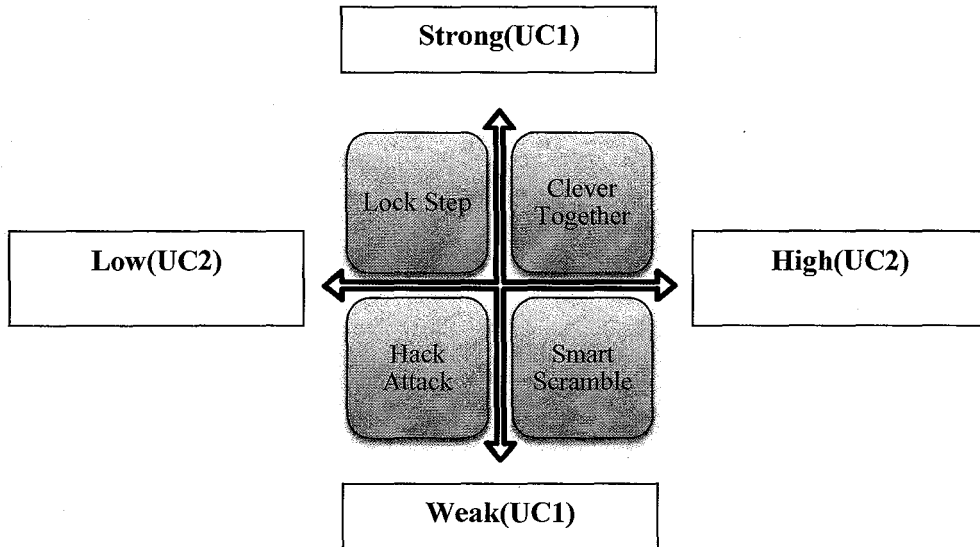


Figure 14: Scenario Matrix Approach as disclosed in the Exercise

As can be seen from the above matrix, the foundation structured the scenarios and themes around two uncertainties as was in the British Airways case. They also came up with four scenarios, perhaps because they believe all of them are equally likely to happen in the future. Now, Let's examine briefly how these scenarios differ in themes and how they are connected to their root uncertainties.

“Lock Step” briefly depicts an alternative future where the theme is about the existence of some degree of political alignment and increasing collaboration accompanied by low adaptive capacity of the developing nations. There is a global issue of pandemic that needs to be tackled down collectively and this is actually achieved through cross-border collaboration. Individual countries are willing to give up some part of their sovereignty in an effort to contain the diseases. So, this reflects why UC1 was regarded as strong. On the other hand, as for UC2, there seems to be less adaption to technological improvements by the developing countries. The primary reason for this is the authoritarian attitude of the governments who are unwilling to share the technological improvements of developed nations with the nationals. Also, there is less entrepreneurial initiation in developed countries due to high government power.

“Clever together” reflects the most positive scenario among all. The main theme here is about the worldwide collaboration of nations to solve global issues like disease, climate issues and energy shortages. The willingness of the nations to cooperate and tackle these issues collectively is benefiting the developing countries domestically thanks to stronger technological exposure. This exposure increases efficiency and adds to the growth of developing countries.

“Hack Attack” is the most negative scenario. It broadly depicts a future where there is minimum collaboration among countries. Therefore, this causes a headwind to solve the mutual problems like terrorism, diseases, and climate issues. Weaker governments, less cross-border interaction does not benefit developing countries as this suppress the technological and entrepreneurial spirit, causing competitiveness problems.

“Smart Scramble” reflects the opposite world of “Lock Step” where there is no initiative to tackle down global issues. Nations are growing more localized and individually. The weaker political and intra-national acts cause workers in other countries to return their own countries. This benefits the developing nations due to imported knowhow and fuels the local development and societal advancement. However, lack of collaboration at global level still limits the extent to which these countries develop due to lack of access to international capital and firms.

- **Presentation Structure and Narratives:**

The exercises have been delivered to audience in a booklet form with a story-based approach as in the majority of other exercises. In addition, all scenarios have been structured to depict present state rather than a future date.

- vi. **SCP Exercise 6: Media 2015: The Future of Media**

This is the last published scenario planning exercise that we will evaluate in the first part. The study was conducted by Unilever, ESPN and Mindshare collectively in 2009 to explore the future of media in 2015. The main rationale behind the study was to explore the future of media in 2015. Given the increasing consumer sophistication and demands, firms should be able to better understand the consumers. To satisfy their needs and attract them to their businesses firms need to be able to reach them through media and they should do it effectively. Basically, this study aimed to explore this issue. They completed the following steps during the construction of the research; “Issue Identification”, “Stripping out Certainties and Uncertainties” and “Construction of Scenario Matrix”.

- **Issue Identification:**

The objective of the research was to understand the future interaction of the consumers with the media so that firms can better able to satisfy the needs of sophisticated and unique consumer groups and tailor their ads ad products accordingly to reach them and lure them to their businesses.

- **Detecting Certainties and Uncertainties:**

Their next step was to strip out the factors they found either as a certainty (Pre-determined elements or Trends) or as an uncertainty. Their studies yielded the following certainties about the future; “Bandwidth gets bigger”, “Information becoming easily accessible”, “Devices becoming sophisticated and more functional” and “Digital generation getting older”. They used these as certain trends in each of the scenarios they created.

Next step was to determine the most uncertain things about the media’s future. Their research yielded several uncertainties, however, as with other case studies, they

narrowed these down to only two most significant uncertainties to construct the scenarios. The uncertainties as disclosed in the exercise can be found below;

The direction of Social Networking
The pace of Technological Innovation
Ability to process more information
The state of mobile world in 2015
The effects of increasing media fragmentation
The future state of customization
The extent to which people and regulators will care about privacy.

Using the above uncertainties, they derived two uncertainties, “Access” and “Attention”. The way they derived these final two factors is not straightforward as opposed to many other case studies we have seen however, they are clearly combinations of the several factors above. For instance, Access might be consisting of two of the above uncertainties, the pace of the technological innovation and the state of the mobile world in 2015. Similarly, “attention” might be the combination of “direction of social networking” and the privacy”.

These uncertainties were then structured to have two spectrums as usual. For “Access”, one part of the spectrum was found to be fluid, the other fixed. Similarly, for “Attention”, one part of the spectrum was fragmented and the other consolidated. These two uncertainties were then crossed to create the usual 2x2 scenario matrix as we know it.

- **Construction of Scenario Matrix:**

Scenario matrix and scenarios have been built through 2x2 cross. Based upon the work of group, an imitation of the matrix presented in the study showing the themes of scenarios, and the names can be found in the next page;

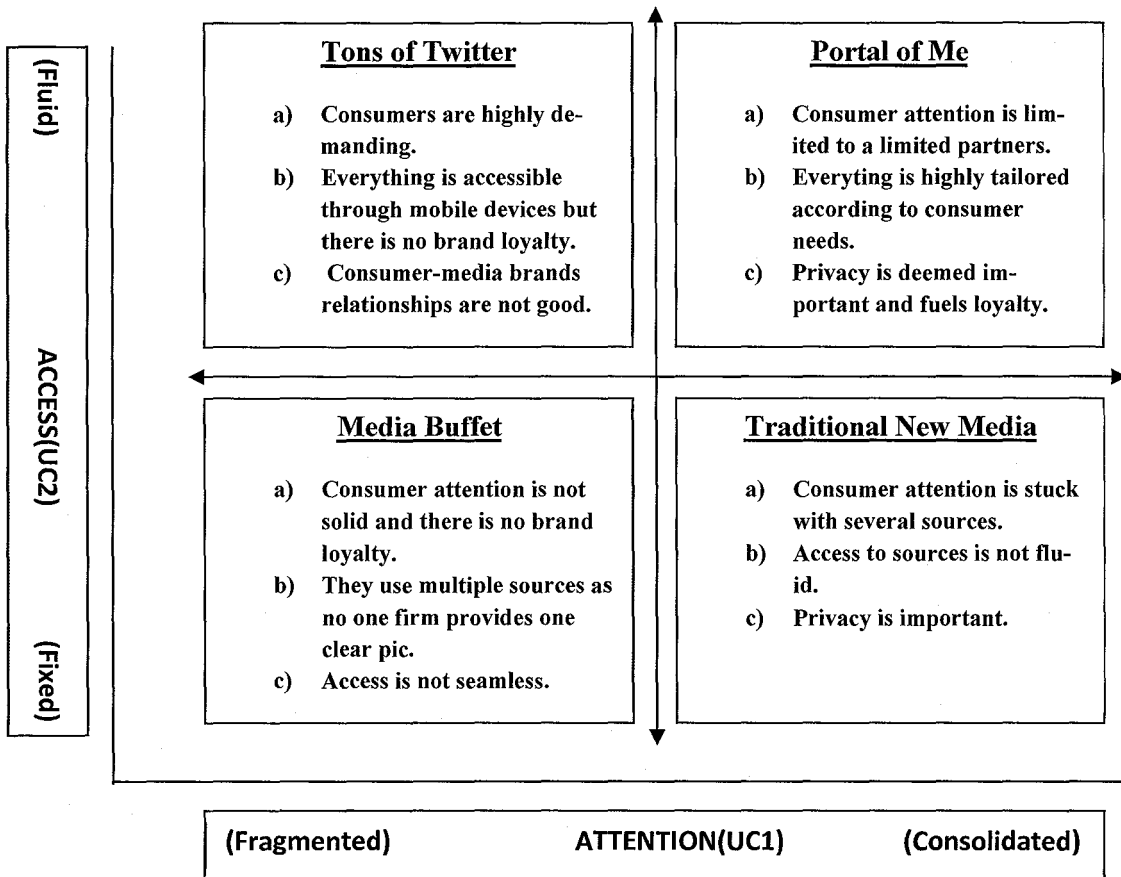


Figure 15: Scenario Matrix Approach as disclosed in the Exercise

Above matrix depicts the scenarios, their names and the themes covered in each one of them. It can be seen that “Traditional New Media” is the least liberal scenario of all. According to Unilever-ESPN-MindShare consortium, this is the base scenario, which reflects the continuation of 2009 environment assuming no change of course. “Tons of Twitter” reflects the most liberal scenario among all, however, team detected that then ongoing situation hinted some things from the content of this scenario, for instance; the increase in the use of consumer-generated data and people getting addicted with media devices and software. Similarly, “Media Buffet” and “Portal of Me” can also said to be providing clues about 2015 media in some sense, however separately. For instance, customization points to “Portal of Me” scenario, occasional consumer disconnects, and turn-offs point to “Media Buffet” scenario. Finally, each scenario has the same weight in terms of probability of occurrence.

- **Presentation Structure and Narratives:**

The strategists for this exercise have chosen to present their scenarios in a booklet form. Scenarios have also been delivered in a story-like form rather than forecasts about potential futures. There has been no use of a video or any other media channel to support the booklet form.

4.2.2 Part 2

The following case studies have been separated from the first set of exercises because we decided to cover them in a rather detailed way to better differentiate between different scenario planning exercises. In this part case studies differ from the rest in terms of theme derivation techniques used. This is the very reason why we wanted to present them separately and in a relatively detailed fashion.

i. SCP Exercise 7 : Interpublic Corporation

This case study is based upon Paul Schoemaker's evaluation of an Ad Agency. The study was conducted in 1995 with an exploration range of 10 years. The reason why Schoemaker chose a firm in this industry is the rapid change this industry has seen up to date. It is an old exercise, however, it is a valuable source to see the advancements in the practice throughout the passage of the time.

- **Detection of Issue(s):**

According to Schoemaker, Ad Industry was not that specialized back in the past. That said, they were mostly executing the customer orders and getting commission out of each transaction. With technology advancing and innovation spreading, their costs of doing business also dropped substantially. So, these ad agencies had to come up with new ideas and innovative designs to justify their increasing margins. This led to a strong competition among ad houses for greater segment of businesses. However, starting from 1960s, their cost structures surprisingly started to surge. This according to Schoemaker was the result of increasing specialization in ad industry. In the past firms were aiming at reaching up to whole of the society. Therefore, this was an era of standardization for ad agencies. However, increasing sophistication ad demand of consumers started to push firms to reconsider their ad strategies. Pressured by

the increasing and unique demands of different consumer segments, firms also started to demand more unique and sophisticated ads from their ad agencies. This increasing sophistication, however, came up with a higher price tag for ad agencies as they were forced to tailor each ad according to the needs and unique desires of different consumer segments. Changes in consumer sophistication, innovation, advancing technology and rapid developments in the ad market also required the need of restructuring to better able to address these issues. So this is one of the reasons why Scenario Analysis was undertaken to account for developments in the ad industry.

- **Detection of Trends:**

Detection of trends is one of the most important processes in scenario analysis. Schoemaker came up with trends he thought would prevail in advertising industry in the future. He believed that a relatively short timeframe of seven years is sufficient for projection in ad industry, as longer timeframes might prove ineffective due to rapid changes in the industry. An initial study and analysis of the ad industry by Schoemaker yielded the following trends that are seen as certain;

- I. High growth opportunities exist in North America, Europe and East Asia.
- II. Food, consumer packaged goods and high technology products are most adaptable to global marketing.
- III. Brand names lose their importance
- IV. Ad agencies will provide services in the marketing and research areas.
- V. There will be further trend toward fee compensation.
- VI. Interactive marketing is becoming highly important.
- VII. Acquisitions will increase.
- VIII. The commoditization of advertising will continue going forward
- IX. New joint alliances will emerge.

Schoemaker reminds that these trends have been derived and developed by asking unique questions by managers and industry experts in the firm.

- **Detection of Uncertainties:**

Similarly, they were also required to detect major uncertainties surrounding the ad market. They also managed to come up with these uncertainties as well. However, the approach they followed in evaluating these uncertainties is very similar to the steps shown in methodology section of this research paper. That said, uncertainties have first been correlated to each other by asking questions and then highly correlated uncertainties have been grouped to be put into same scenarios. Major uncertainties detected can be presented below;

- I. Will the current trend of globalization continue at its current pace?
- II. Will giant ad agencies continue to compete with boutique ad houses in developing ads?
- III. Will advertisers stay sensitive to potential agency conflicts?
- IV. Will the current trend of in-house advertising reverse itself by year 2000?
- V. Is the fragmentation of media conducive to global marketing?
- VI. Will agencies supply more than just ads?
- VII. Will the clients' advertising expenses remain deductible on tax returns?

These uncertainties were developed by studying the industry. Experts and managers had to come up with things they believe are most difficult to assess in ad industry. By undertaking this exercise, they managed to detect these uncertainties in a similar fashion to the detection of trends. The next step was to produce a correlation matrix to identify which uncertainties are similar and which are not. The rationale behind this step is to help understand which uncertainties make sense to group together under same scenarios. The approach we have seen in methodology section suggests that positively correlated uncertainties be grouped under one scenario while the negative ones under another. The sample correlation matrix developed by Schoemaker on Ad Industry uncertainties can be found in the next page;

Correlation Matrix (As presented by Schoemaker in his article):

	U1	U2	U3	U4	U5	U6	U7
U1	X	+	?	No Corr	+	+	No Corr
U2	X	X	+	+	+	+	+
U3	X	X	X	No Corr	?	+	No Corr
U4	X	X	X	X	+	+	-
U5	X	X	X	X	X	+	?
U6	X	X	X	X	X	X	+

The correlation matrix presented above yields the relationships between different uncertainties. According to Schoemaker, positive, negative or zero correlation signs are assigned by asking sample questions. For instance, if a given correlation between two uncertainties is positive, then it means that a “yes” answer to one uncertainty influences the same answer to another uncertainty. Similarly, when it is negative, it means that a yes answer to one does not increase the chances of saying yes to another. For example, we can evaluate the positive correlation between Uncertainty 1 and Uncertainty 2. Uncertainty 1 is about the future of globalization. Uncertainty 2 is about competition among big ad agencies and boutique ones. In this case, it was found that globalization would definitely continue to take place going forward. Therefore, this is a yes answer. Similarly, the reason why Uncertainty 1 and 2 are correlated is because of the fact that continuing globalization will also increase the likelihood of big ad agencies competing with smaller and more specialized ad agencies. Likewise, there is a question mark for the correlation between Uncertainty 3 and 5. The main reason for this is the fact that it is hard to detect a causal relationship between them.

The next step is to identify which uncertainties to group together and which are not. The method proposed by Ringland and Schoemaker suggests that uncertainties with the same signs or high correlation should be included under one scenario. So technically, this means that all positive ones will form one scenario and the negative ones form another. However, there is no need of a clear cut between uncertainties all the time. Sometimes, most or many uncertainties may end up being highly correlated.

Does this mean we only have one scenario to develop in this case? The answer to this question is clearly a no. When this is the case the degree of yes and no to the correlations among uncertainties come in to fill in the gap. As far as Schoemaker has been concerned, this is what he has considered for Interpublic Corporation.

- **How many Scenarios to develop based upon uncertainties correlation matrix?**

This is perhaps one of the most important part of scenario analysis. The way to decide on final number of scenarios is significant. In the case above, the number of scenarios has been decided by questioning the firm for which scenario analysis is done. From this perspective, Schoemaker's research shows us that positive and negative outcomes has been allocated to different scenarios based upon the suggestions made by the firm itself. So firm's own evaluation of the uncertainties yielded the number of scenarios to develop in this case. Below, a figure representing the degree of conformity and unconformity can be seen;

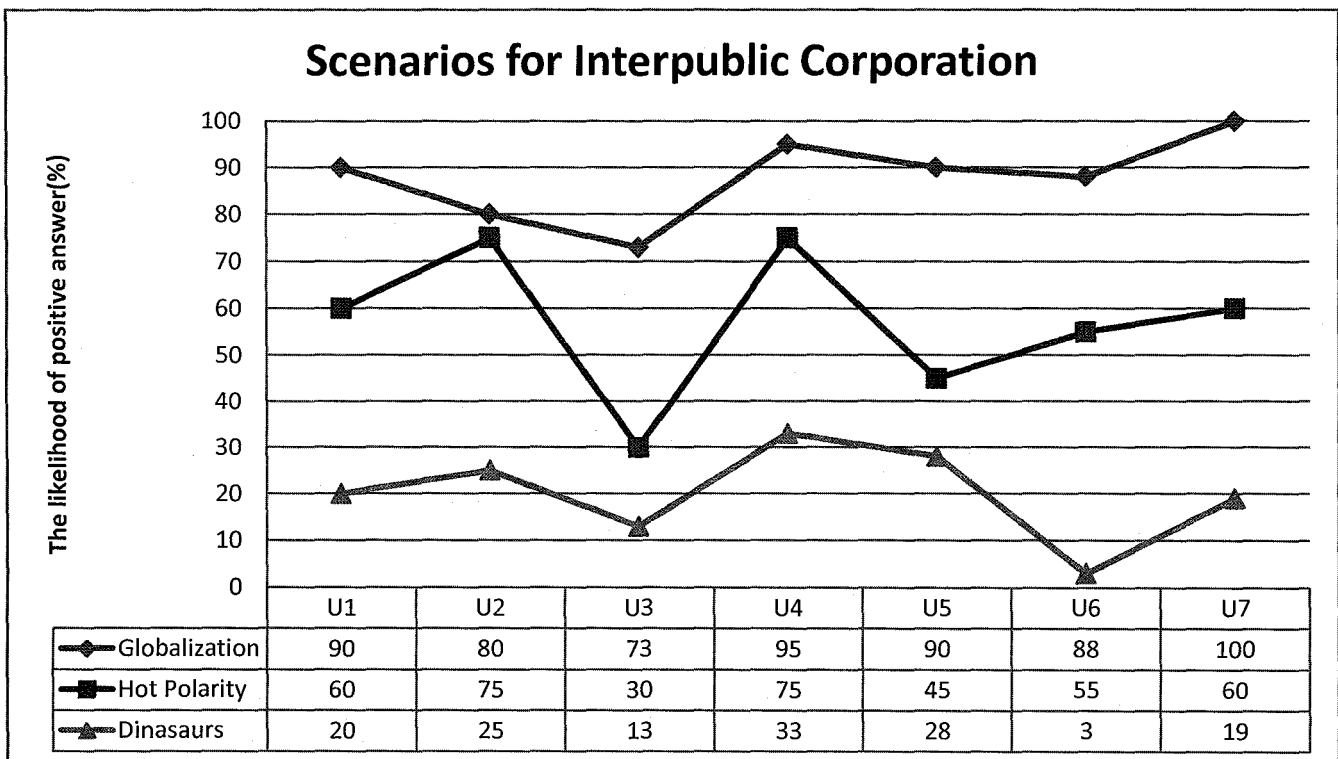


Figure 16. Scenario Table as disclosed in the "Scenario Planning: A Tool for Strategic Thinking" by Schoemaker.

Because this scenario analysis is different compared to one where negative and positive uncertainties were pooled to establish different scenarios, there is another approach of developing scenarios. As can be seen from the correlation matrix, most of the uncertainties correlate positively with each other. In this case, what matters is the degree of a given answer to each uncertainty. In this published case study, the firm itself assigned a certain degree of “yes” answer to posed questions or uncertainties. In other words, correlation matrix enabled the firm to have a scenario with all positive outcomes. However, to enrich the number of scenarios and increase the preparedness to future, it was more appropriate to develop two more scenarios. This being in mind, strategist also came up with a scenario in which all uncertainties have been assigned the lowest degree of probability. To prevent black and white opposition of positive and negative scenarios, they also decided to insert one balancer in between. It is also helpful to remind that the trends they have detected in the beginning of the process are mutual to each scenario. In other words, trends are things that strategists believed Ad Industry will evolve around. That said, these trends had to be mutual to each one of the scenario for consistency. In a similar fashion, uncertainties account for issues for which there is no clear forecast at the time of scenario development and as such, they should be the backbone of the different scenario themes.

- **Themes and Scenarios:**

The next stage in the scenario analysis process is to deliver scenarios based upon the works completed in the previous parts. In Schoemakers’s work, positive future in terms of uncertainties creates one theme while negative and the balancer futures create different sets of themes on their own. The number of scenarios they managed to derive based upon their analysis was three. The name of the scenarios were, “Total Globalization”, “Polarization is Hot” and “Mega-Shop Dinosaurs” respectively.

It is helpful for the purpose of this paper to delve more into detail in terms of themes than the original work. We can clearly see that “Total Globalization” scenario describes a future where all uncertainties the firm came up with seem to occur. So it broadly describes a future where globalization play a huge role in the world with nations becoming more and more integrated to each other. It is a future where giant ad agencies dominate the ad arena and compete directly with more specialized ad agencies. Advertisers seem to stay cautious about agency issues as well. Future seems to

hold a position where more specialized ad techniques replace the existing ones. This is due to increasingly demanding and highly sophisticated consumer groups. Specialization in media also seems to support global marketing. Agencies are expected to convey more than ordinary advertisements to be able to better reach masses. The fact that ad expenses are tax-deductible supports positively the demand for more ad creation by ad agencies, increasing importance of ad agencies in reaching masses to promote their clients' messages. Overall, Total Globalization is an all-positive future for ad agencies and more specifically for the firm under investigation, Interpublic Group. Perhaps, the reason why they named this specific scenario as "Total Globalization" is because it describes a more integrated and globalized world. In addition, it is an all positive utopia for advertising industry. However, it seems to be a tough competition environment. The reason for this is giant ad agencies are stronger than ever and exist in every major market.

"Polarization is Hot" is a balancer scenario in this analysis. Looking at Scenario graph presented above, we can clearly see that the future this scenarios brings evolves in between all positive and more negative scenarios. This is a scenario where the effects of globalization are not as common as is seen in the "Total Globalization" scenario. All uncertainties have a lower probability of occurrence and hence the theme is different from "Total Globalization" scenario. For instance, globalization still exists but at a lower degree as the advancement of local ad agencies perhaps decreases the needs of having global giant ad agencies. However, relatively lower degree of globalization comes up with a cost. Agency issues are problematic and need to be managed wisely. Furthermore, the actions taken by governments to increase their tax revenues negatively affect the ad industry and the firms in general. The business environment seems to be negatively discriminating against giant ad firms as they fail to tap into local markets to meet their clients' demands. The reason why they named this scenario as "Polarization is Hot" is because of the clash between globalization and localization as discussed in the case study itself. The final scenario has been named "Mega-Shop Dinosaurs". This is by far the most negative scenario in this scenario analysis. We can see from the graph that none of the uncertainties exceeds 40% level. This is a future where there is no sign of globalization. Advertising firms and firms, in general, are laggards in terms of embracing technological advancements and inviting cross-border interactions. However, global giant ad firms are not dominant at all due to this very

reason mentioned above. This seems to be creating opportunities for small and specialized ad firms in the local markets. It also enables them to exploit local markets to a full extent without any big competition from bigger players. In addition to these mentioned above, there are some serious agency issues that need to be addressed. Elimination of globalization seems to be creating a huge competition among local ad firms. This is due to their efforts of reaching local clients. Now it would be wise to focus more on some analytics behind this scenario. Firstly, the name of the scenario itself reflects successfully the future it is trying to draw. The name is called “Mega-Shop Dinosaurs” as there is general tendency to move away from globalization that prevents technological advancement and innovative interactions that would otherwise be beneficial for local firms. Also, persistent problems caused by agency issue are also priced in correctly in the name of the scenario.

- **Presentation Structure and Narratives:**

The scenarios have been delivered in a report form, and as such, they can be thought as more formal. The scenarios have been delivered in a pure-story form and there has been no use of a forecast type narration.

- ii. **SCP Exercise 8 : British Airways**

This is a case study done entirely for scenario planning for British Airways. Though it is an old case, the reason why we are evaluating this case study is that it has employed a slightly different approach to scenario planning and it is good evaluating one of the past cases to see the technical changes in scenario planning throughout the years and enrich the scope of this paper. The study was conducted in 1996. It has an exploration range of 10 years. The study was completed by Moyer for use in British Airways. It does not aim to picture the British Airways in particular but the state of aviation industry in general which British Airways is a part of. Moyer (1996) suggests that British Airways transformed from a worse performing airline before 1990s into a highly successful and well-run airline nearly two decades ago. However, it owes this fact primarily to its own successful management of future through scenarios. For these reasons, British Airways had to evaluate its own position and come up with long-term strategies to manage their future risks and gain flexibility on issues that matter most to them. Moyer also implies in her article that because airline industry is highly sensitive

to economic cycles and requires huge capital-intensive investments with high fixed costs, it has to be able to monitor economic conditions carefully and be flexible enough to counteract those things when the sustainability of its future profitability is under question

- **Detection of Issues:**

As with any other scenario planning, British Airways also started its scenario development process by studying first the issues surrounding the firm. Moyer points out that senior officers with good and valuable knowledge of the business environment has been assigned to detect and study these issues for use in scenario planning. These managers have been assigned with particular topics such as IT and airline regulation to constrain their thinking into most substantial topics mattering most to British Airways and airline industry in general. It is important to remind that issues here include both trends and uncertainties just as in the previous case study. However, there is another category, driving forces, which we also have to address. They elected to classify these eleven issues under three groups to constrain their thinking into a manageable universe and to be more effective. These sub-groups are predetermined things, key uncertainties and driving forces. Based upon what have been disclosed in Moyer's paper, these issues can be summarized as follows; growth in population, advancement in IT, advancement in aircraft manufacturing and airline deregulation. British Airways, allocated these issues to these subgroups according to their perceived importance. For instance, growth in population has been allocated to predetermined elements, regulation in airline industry to key uncertainties, and developments in IT to driving forces (Moyer, 1996). While we can think of predetermined elements and driving forces combined as trends in this case study, uncertainties are still the distinguishing elements for scenarios.

- **Trends:**

In this part, we will combine the found driving forces and pre-determined elements. The reason why we do as such is that there is barely a difference between them. Therefore, it can be assumed that there is only a name substitution. British Airways itself assumed that the positive developments in technology, education, world trade and finance are the main trends going forward. While the first two of the trends combined can be regarded as referring to knowledge advancement, education and world trade

world trade and finance can be perceived as referring to economic changes and increasing competition respectively (Moyer, 1996). Therefore, these are the main players which will drive the scenarios and which will remain mutual to all of them.

- **Detection of Uncertainties:**

As suggested before, uncertainties are the distinguishing elements of different scenarios. In British Airways' case, the main uncertainties remain to be changes in the governance and the outcomes of increasing economic growth. British Airways itself has found these uncertainties by conducting its own research by its own experts. However, there was no use of correlation matrix or a similar approach in clustering these uncertainties to derive themes and scenarios in the next part. In that sense, we can argue that the approach employed here in developing these themes differs from the approach used by other firms.

- **Creation of Scenarios:**

Scenarios in this case study have been developed in a slightly different way. Firstly, the number of scenarios created was just two. So, this first seems to be referring to a black and white scenario outcomes. However, this is not the case. The scenarios have been created using a matrix. One part of the axis represents "Governance" while the other "Economic Growth". However, the growth in global economy is not an "uncertainty" on its own. What is uncertain, however, is the fact that economic growth might yield alternative future global economic outcomes that need to be considered in developing strategies. British Airways strategists, while developing the themes, have clearly kept this issue in mind. The names of the scenarios are "Wild Gardens" and "New Structures" respectively.

According to Moyer, "Wild Gardens" scenario briefly reflects a future where existing structures are dominant and it is hard to change old systems with newer ones. Moreover, economic growth is high and satisfactory. However, the structure of the economic growth needs to be addressed. In this future, there seems to be booms and busts in OECD countries. There is fast growth in LDC countries. Wild Gardens reflects a future where existing blocks of structures remain. For instance, European Union/Nafta and Apec liberalization is an important issue. Niche players exist and slot protection has eroded over time. Competition between airlines is substantial and there

is this issue of “Survival of the fittest”. This is perhaps why the scenario has been named “Wild Gardens”. It depicts a picture where existing and already strong airlines compete aggressively with each other in an older and less efficient system. We can easily detect that there is no entrepreneurial spirit in this world because it is just simply the continuation of the past. This is the reason why existing structures are dominant and new structures fail to overtake the older ones. This, according to our own assessment, seems to create a “fight or die” world between existing airlines and firms. In terms of politics and values, there seems to be a no clear vision. Individual governments in Europe seem weak. In terms of competition, airlines strive for the highest yields. So, this negatively affects their profit margins because higher yields come with lowered prices and increasing costs.

“New Structures” is the second scenario for British Airways In this future, new structures are dominant and they seem to be overtaking the older order of the past. Moyer implies that economic growth is still high, but Europe seems to differentiate itself. In Asia and LDC countries, however, growth is not as strong as in Europe. Entrepreneurial spirit is common. New formations are seen as more mergers and acquisitions (M&A’s) take place. There are strong distributors in Europe. Moreover, there is also more competition coming directly from Inter-Europe train companies, which offer equivalent services to airlines in terms of speed, price and quality. Vitality in airline industry also fuels high infrastructure investments. In addition, there is more internal integration for Europe. For instance, European Union supporters flourish in number, which also supports the fact that a more integrated area with freer trade and finance regulations will positively affect the airline industry. As for the name of the scenario, “New Structures”, it seems to be a perfect fit for the future its depicting. The reason for this is that new structures and entrepreneurial initiatives overtake the eroding and older systems of the past, creating a brand economic and business environment. This is perhaps the reason why we see more M&A activities, joint ventures, and cross-border investments between airlines.

- **Presentation Structure and Narratives:**

The exercise for British Airways has also been delivered in a report form. Therefore, it also has a more formal approach. However, the way the scenarios have

been delivered is same as other exercises with narratives having been conveyed in a way as if they are reflecting the present time.

iii. SCP Exercise 9: Future of India

MOD futures Group conducted this case study for its own use in 2009 to explore India's economic and political future in 2020. The reason we included this case study is that their approach is also different from the majority of the techniques used in our published case studies in the first part. This is macro case study in terms of trying to understand the political, social and economic future of India. Therefore, the main intuition behind the study was to explore the possible developments and advancements in these issues. Their approach is actually very straightforward and easy compared to others. Their approach has the following structure; "Focal Issue", "Key Drivers", "Creation of Cone of Plausibility".

- **Detection of Focal Issue:**

What they were trying to discover was the future state of Indian Economy and Politics. As with the other case studies, they started by asking "What will the Indian Development look like in 2020?" They then used this question to structure their scenario planning.

- **Uncertainties:**

They have found that following factors are most uncertain and relevant to India's future;

- i. Economic Development
- ii. Global Ambitions
- iii. Regional Leadership and Relations
- iv. Local Stability

- **Creation of Cone of Plausibility and Structuring of Scenarios:**

MOD futures group created the following table using the Cone of Plausibility method. Once the above uncertainties had been found, the group then started creating a baseline scenario that feeds from one aspect of four drivers. The remaining two sce-

narios, “Alternative” and “Wildcard” were created by changing the main assumptions used in the “Baseline” Approach, hence, created different themes and scenarios. For instance, Baseline assumed that economy slows, India’s leadership is passive, external relations are stable and Local stability worsens due to rising income inequality. This scenario also reflects the current state in India. The remaining two scenarios were generated to challenge current state by manipulating these baseline assumptions. The Alternative scenario refers to a future of India where economic growth is strong, India’s leadership is powerful, its external relations are under question and the state of local social environment is stabilized. In Wildcard scenario, economy is stable, India’s leadership somewhat cools down with perhaps rising neighbor powers, external relations are less stable and local stability is deemed good with improved state of income equality. The graphical presentation of the scenarios can be seen in the next page;

	Scenarios		
Drivers	Baseline	Alternative	Wildcard
Economy	Slows	Grows	Stable
Leadership	Passive	Stronger	Cools
External Rels.	Stable	Under Question	Less Stable
Local Stability	Unequality	Stabilized	Good

Figure 17: Cone of Plausibility Approach as disclosed in the Future of India Exercise

- **Presentation Structure and Narratives:**

The scenarios have been delivered in a booklet form with a story-based structure. They have also been delivered using a present tense form to avoid a forecast type depiction.

4.3 Comparison Table and Further Comments:

We will now summarize the case studies we have evaluated under one table according to several metrics to enable our readers to better compare them as well as the techniques used. It needs to be noted that we have separated our case studies into two sections to address the differences between grouped case studies. Most of the case studies have used a similar approach in deriving themes and creating scenarios, meaning they were completed through similar steps of “focal issue determination”, “deciding on key factors that include trends and uncertainties”, “choosing uncertainties”, “Creation of Matrices and eventual Scenarios around the uncertainties”. This is especially true for the first six scenario planning exercises we have covered. Though some of these steps were combined in some case studies, the final products were very similar to each other. As for the remaining three case studies, we can see that their approach to theme derivation differs from the rest. This is the reason why we have covered and treated them in detail. Table 2 at the end of the section reflects the main differences between case studies under one roof.

I. Brief Evaluation of first six exercises

In the first part of the results section, we combined six case studies deemed similar to each other in terms of structure and techniques used. “Scenarios for the Future of Technology and International Development”, “Future of Internet”, “Future of Oil Prices and its effects on Global Economy”, “Scottish Tourism: Scenarios and Vision” and “Energy Strategy for the Road Ahead” and “Future of Media” case studies were all structured in a very similar fashion.

In terms of date of completions and exploration horizons, all six case studies are very recent exercises, meaning that almost eighty-five per cent of them were completed around late 2000s with exploration horizons extending between six to fifteen years with an average of ten years. Perhaps the case study which has the longest horizon is the one completed for Rockefeller Foundation by GBN. Because, it has dealt with social and technological aspects, it has probably been easier and acceptable for them to extend the horizon as opposed to a case study which has dealt with economi-

cal, energy-related and political ones which are very much vulnerable to sudden or contingent events.

They have also aimed to address important and relevant issues in their exercises. Most of them have dealt with global or macro issues rather than specific or local ones. Economic, social and technological issues, compounded with the uncertainties they bring and the resulting effects on firms, sectors and governments have all played significant role in these exercises. Therefore, it can be suggested that none of the exercises aimed to picture a specific firm or a micro agent in the future through use of scenario planning but rather macro environments like industries and countries.

It is also apparent that they have employed same or similar derivation techniques. As can be seen from the comparison table, they have all started their studies by asking focal questions, followed by, detecting certainties and uncertainties, tapering off uncertainties, and building the themes and scenarios with 2x2 matrix method. The number of uncertainties found in exercises actually differed from case to case, however, on average, the initial number of uncertainties they detected was no more than fifteen. Yet, they all ended up with two final uncertainties to structure the four scenarios through scenario matrices. Some of the case studies detected the most important final uncertainties through use of uncertainty-impact method. The case study completed by NYENRODE students on Oil prices & Global Economy is an example to this case. The others employed a more straightforward method and chose them through use of conventional wisdom rather than uncertainty-impact tool.

In terms of presentation of scenarios and the delivery of narratives, five out of six studies have employed exactly the same method. Except for “Scottish Tourism: Scenarios and Vision” study, they have all followed a booklet form. In Scottish exercise, we see a use of report format. All of the studies have employed present tense to deliver the scenarios to avoid forecast type structure. However, again, except for “Scottish Tourism: Scenarios and Vision” exercise which, in addition to using a simple narration, also used video to deliver scenarios, we do not see any alternative method for delivery of the scenarios because all of the exercises have been delivered in a simple booklet form.

II. Brief Evaluation of last three exercises

In the last part of the results section, we combined the remaining three case studies, “Interpublic Corporation”, “British Airways” and “The future of India”.

In terms of completion dates and exploration horizons, British Airways and Interpublic exercises are relatively older with origination dates reaching back to mid-1990s with exploration periods reaching ten years into the future. Although they are older exercises, we have decided to include them in our study to see the major differences and evolutions in techniques used in practice by firms. In addition to these exercises, we have also included “Future of India” study in this part because the techniques used for theme derivation also differs from the six studies presented earlier in the first section. This study, as opposed to British Airways and Interpublic exercises, is a recent one and was completed in 2009 with an exploration periods of ten years.

Except for Future of India study, the remaining two studies can be said to be more company centric exercises. Although, they can be deemed macro within their industries, they have specifically been derived for specific companies for forward guidance purposes. However, they have still dealt with relevant issues such as the future of advertising and airline industries.

As for techniques employed in them, there are some internal differences worth pointing out. “Interpublic Corporation” Case study have developed the scenarios without using a matrix but around already determined themes, which served as uncertainties. Moreover, the number of case studies created was three as opposed to four, which we have seen in the first six studies. In terms of initial number of uncertainties detected, the number was seven. Yet, they still used all of them to structure their themes and scenarios. This is a big difference from the initial set of exercises where they only had two final uncertainties to structure the themes and scenarios. It can also be said that this technical difference might be due to passage of time and evolution in techniques employed by firms.

In “British Airways” exercise, we also did not see any use of matrix in developing themes and the number of alternative scenarios was only two which, in our opinion, can be considered less relevant because two scenarios can hardly address the possible changes in uncertainties. This is perhaps the reason why the first six and more re-

cent case studies have all been structured around four main scenarios to account for as much possibility as possible. In terms of initial number of issues, they started with eleven elements, which they then segmented as uncertainties, pre-determined things and driving forces.

“The future of India” case study has also employed a slightly different model than we are used to seeing in exercises. They applied “Cone of Plausibility Method” whereby, alternative scenarios are created by manipulating the base case scenario, which feeds from the key four uncertainties detected earlier. This is obviously a different methodology than 2x2-matrix approach. While the case study still relied upon the uncertainties to develop the scenarios, they did not follow a matrix-based derivation approach to decide on themes.

Lastly, in terms of content delivery, we see that Interpublic and British Airways exercises have been delivered in a report format. Future of India exercise, on the other hand, has been delivered in a booklet format. Lastly, the narratives of the scenarios in all exercises have been conveyed to audience in a way as if they are presenting current states.

Overall, we can then emphasize that these three scenario planning studies differ from the rest with regards to number of scenarios created and the approach followed in deriving the scenarios, be it treatment of uncertainties, use of scenario matrices and number of scenarios created. However, all in all, all nine exercises share same or similar qualifications in terms of scenario delivery.

Contexts/Case Studies	Energy&Global Economy	Future of Scotland's Tourism	Oil Price effect on Economy	Future of internet	Interpublic	BA	Tech and Social Dev.
Client	Self-Public	Scotland Tourism Agency	Self-Public	Self-Public	Interpublic Corporation	British Airways	Roc kefeller Foundation
Type of Study	Sectoral/Global	Sectoral/Local	Sectoral/Global	Sectoral/Global	Sectoral/Micro	Sectoral/Global	Global Scenario
Industry	Energy Industry	Tourism Industry	Oil-Gas Industry	Internet/IT	AD Industry	Airline Industry	N/A
Focus	Focus on the US Energy Environment	Focus on the future of Scotland's Tourism	Focus on the evolution of oil prices and its effect on global economy	Focus on the evolution of Internet going forward	Future on AD Industry	Focus on the future of Airline Industry	Focus on the interaction bw Technology and Social Development in Emerging Countries
Origination	2007	2004	2011	2009	1995	1996	2010
Horizon	2007-2020	2004-2015	2011-2016	2009-2015	1995-2005	1996-2006	2010-2025
Developer	GBN(Global Business Network)	Ian Yeoman	NYENRODE Business University Students	Internet Society	Schoema ker	Moyer <i>et.oi</i>	GBN(Global Business Network)
Scenario Matrix used? If not What?	Yes(2X2)	Yes(2X2)	Yes(2X2)	Yes(2X2)	No/Uncertainty Correlation Approach	No/But SC's still created by using two Uncertainties	Yes(2X2)
Number of final Uncertainties	2	2	2	2	7	2	2
Number of Scenarios	4	4	4	4	3	2	4
Key Issues Covered by themes in the aggregate	Energy Prices/Regulation/Alternative Energies/Environmental issues	Demography/Exchange Rate/Economic State/Environmental Issues	Environmental Issues/Regulations/Exchange Rates/Oil Demand-Supply/Social Order	Regulation/Innovation/Security /Compeiteon/trust	Competition bw giants&boutiques/Agency Conflicts/Tax Returns/Globalization	Fuel Costs/World Trade Activity&Finance/Economic Growth	Globalization/Education/Collab oration/Diseases/Integration within and intra nations

Table 2(1): Table summarizing different Scenario Planning Exercises covered.

Contexts/Case Studies	Future of India	Future of Media
Client	MOD Futures Corp	Unilever, ESPN-SmartShare
Type of Study	Local Macro Study	Sectoral/Global
Industry	Public Industry	Media
Focus	India's Economic & Political Future	The future of Media and the implications of changing consumer needs
Origination	2009	2009
Horizon	2020	2015
Developer	MOD Futures Corp	Unilever, ESPN-SmartShare
Scenario Matrix used? If not What?	NO/Cone of Plausability	Yes(2X2)
Number of final number of Uncertainties	2-Collectivized	2
Number of Scenarios	3	4
Key Issues Covered by themes in the aggregate	Neighbourhood relations, economy, local stability	Privacy, Consumer attention, Loyalty, Customization

Table 3(2): Table summarizing different Scenario Planning Exercises covered.

Chapter 5: DISCUSSION

Before concluding our research, it might also be wise to compare our findings in practice to literature or theory to see whether they align with each other. For this task, we will simply ask two main questions and try to build our answers around them to reach a conclusion.

5.1 Does Practice follow the theory presented in the literature?

This is an important question to consider because it helps one understand whether theory is actually applicable to real life situations. Our research and evaluations so far suggest that there seem to be a bias against some of the frameworks presented in the literature. In other words, we can equally say that some frameworks seem to be favored more relative to others. This is perhaps because some of the frameworks presented by the scholars are more applicable to or practical for use in real life situations. At this stage it might be wise to separate the first six studies from the rest for a better argument and evaluation.

5.1.1 Brief Evaluation of first six exercises:

Our observation so far implies that the first six exercises we have seen seem to have followed a very structured and very similar approach into conducting scenario planning. It is very clear that these six studies have followed an approach that is very similar or identical to that proposed by Peter Schwartz. One can easily understand this because the approaches followed in cases are almost identical to his framework. Be it “detection of focal issues”, “Detection of driving forces that include certainties and uncertainties”, “Formation of Scenario Matrix” and “Narration of the Scenarios”, these six case studies follow this simple methodology proposed by Peter Schwartz and employed by Global Business Network (GBN). As discussed before in the literature review, the main strength of this method is perhaps its simplicity and widespread applicability. It does not require any advanced executions such as modeling, advanced software use and strong quantitative background. Its steps are highly simple for use by anyone. However, it is important to note that this simplicity comes with a trade-off.

Although it is one of the least costly and time consuming model that strategists can use to conduct scenario planning, its success is strictly limited to strategists' own success and personal judgments of the issues and factors. Each one of the six exercises has followed this simple methodology and as far as what can be seen from the disclosed material, there seem to be no deviation from this approach.

In terms of issue detection, the approached followed in exercises are consistent with the theory presented in literature. The reason is that they have all started their exercises by asking the focal issue or detecting the main issue(s) of concerns that has then led them to conduct the scenario planning exercise in the first instance.

In terms of Uncertainties and Certainties detection, we see a minor difference in detecting key uncertainties. Almost all of the exercises have detected their certainties and uncertainties by looking at several broad headings like social, technological, economic, environmental and political factors. However, we have seen some differences in terms of uncertainty reduction. The case study, dubbed "Oil Price and Global Economy", conducted by NYENRODE Business School students, have additionally used "Uncertainty-Impact" framework to taper off the uncertainties universe to detect the most critical two uncertainties before proceeding next with the usual step of creating 2x2 matrix around uncertainties to create their four scenarios just as in other exercises. The remaining exercises seem to have used intuition or conventional wisdom when narrowing down the initial set of uncertainties universe. Both Uncertainty-Impact and Brainstorming methodologies are acceptable and have been proposed by Scholars before.

In terms of weights assigned to scenarios, all the scenarios in exercises seem to have been assigned equal weights in terms of probability because there is no indication suggesting the reverse. This is also very consistent with the model proposed by Peter Schwartz and GBN, Ringland and Schoemaker in that they also both assign same probabilities to scenarios created.

Finally, the narratives of the scenarios for the first six exercises follow the suggestions made by scholars. At this moment, there is no indication that there is a divergence in approaches used in terms of scenario presentation because all of the story-lines underlying the scenarios have been conveyed clearly to audience in a true story form rather than ordinary forecasts.

5.1.2 Brief Evaluation of the last three exercises:

It is also significant to compare the approaches followed in the last three exercises to literature. We have found that the approaches followed in these exercises are somewhat outdated and not so common. This is perhaps because of the internal complexities seen in these approaches.

In terms of issue detection, these case studies have also followed the frameworks proposed by Scholars. They have all started their exercises by asking the focal question. Therefore, there is no deviation from the suggested framework despite the fact that these are relatively older exercises.

In terms of Uncertainty treatment, there are some differences worth noting. For instance, the study taken for Interpublic Corporation ended up with seven main uncertainties instead of usual two to generate the scenarios. This approach is obviously different from what is proposed by the majority of scholars who suggest the use of two main and most critical uncertainties to generate the scenarios. As for British Airways exercise, its approach to detecting uncertainties is consistent with the literature. They have ended up with two main uncertainties to structure the scenarios. Finally, for Future of India exercise, we had four main uncertainties instead of usual two as well which is another point of diversion from the literature which in majority proposes the use of two most significant uncertainties before proceeding with the scenario generation.

Another important concept that needs to be evaluated is the final number of scenarios. In all exercises, we can see that the number of scenarios differ from the usual four we have seen in the majority of the literature. Interpublic created three scenarios using seven main uncertainties through use of a correlation-uncertainty matrix, British Airways created two scenarios using two uncertainties and Future of India exercise used four uncertainties to generate three main scenarios through use of cone of plausibility method. These techniques are not as common as the model proposed by Peter Schwartz. The latter method, cone of plausibility is rather a newer methodology that exists in the literature but not as commonly used as the GBN-Schwartz approach.

When evaluating the exercises in terms of scenario weights, they all seem to have followed the equal-probabilities assumption. In all exercises, the scenarios have

received the same weights in terms of probabilities of occurrence. This is also consistent with the literature. Only some schools follow a more analytical and complex approach in terms of treating scenarios with different probabilities, however, we do not detect this issue in any of the exercises we have covered in this section.

The presentation of the scenarios is consistent with the suggestions made by the Scholars. Narratives of the scenarios have all been structured to depict as if they are trying to convey different stories. In that sense, they are not forecasts but different and equally likely futures that may come in the future. This is also one thing theory urges strategists about. In literature review, we have seen that all the narratives are generally advised to be conveyed to audience in a story form rather than forecasts

5.2 Do exercises offer insight that can potentially be used to revise the theory?

This is another issue worth investigating as it deals with the credibility and effectiveness of the frameworks proposed by scholars. Although it is hard to answer this question fully, it might still be answered partially.

So far we have seen that some of the frameworks covered in the literature are more applicable to real exercises thanks, primarily, to their simplicities. As stated several times before, this is the reason why some frameworks seem to be favored relative to some others by firms, institutions and governments. For instance, we have not seen any published study that has employed a framework proposed by French Schools and Futures Group. The lack of use of these methodologies seem to be perfectly correlated to their complexities and hefty requirements. Furthermore, they are more costly and time consuming. Moreover, they require strong quantitative analysis and software use. Given all these issues, firms seem to have ended up with the frameworks that are most applicable, easy-to-use and least costly although the last three exercises we have covered also use less common techniques. This helps explain why Schwartz's approach or its derivatives have been embraced more than others have in the first six case studies we have seen. For these six studies, there is no innovation or major deviation to suggest a potential probe of the underlying theories used in them. They are perfectly aligned with the Schwartz's approach only with very minor differences.

Although it has been more than a decade since Interpublic and British Airways studies were conducted, it might have been considered structuring these exercises

around an approach similar to that proposed by Peter Schwartz of GBN. The reason is that their internal approaches are relatively more complicated as they currently are but they might equally be the best alternatives of their times. However, the approaches followed by agents for dealing with uncertainties and deciding on number of scenarios to generate are harder to complete with the only exception of the method used in Future of India study which is also a simple approach that might be considered by strategists for future use. The stages for Interpublic Corporation exercise was developed and completed by Schoemaker, another Scholar in the field. However, several internal complexities like treatment of uncertainties and their role in structuring the scenarios help us conclude that the underlying theory employed in this exercise could be changed. Although they have not employed a complex model similar to proposed by Godet of French School and Futures Group, their approaches are relatively more complicated when benchmarked against that of Schwartz's. Moreover, these two case studies could have chosen to structure the scenarios around two main uncertainties instead of seven. Moreover, they could have come up with four scenarios rather than three. For British Airways exercise, the use of only two scenarios is obviously abrupt. Here, the approach followed in practice by British Airways does not really help make it more credible or any more acceptable. Therefore, we can suggest that the underlying theory used in the exercise could be revised to account for this issue just described earlier. As disclosed in the comparison table in the literature review, majority of the literature proposes the use of at least three scenarios with four being the industry-wide norm.

Chapter 6: CONCLUSION

6.1 Discussion of findings and Overview:

We have started our research first by conducting a literature review of the prevailing methods available for use in scenario planning process. By doing so, it was hoped that it would create a more intense foundation on theme and scenario development techniques and present a more integrated and structured way of disclosing these techniques under one roof. Furthermore, the individual and unique techniques have been provided as part of this paper to enable our readers to be briefed on different techniques available for use in the literature. We tried to compare these techniques to each other and present simple examples to each one of them.

In Methodology section, we aimed to present the structure of the study we have conducted as well as the selection criteria for the exercises chosen for evaluation and comparison purposes.

In Results section, we presented nine case studies conducted by several corporations, governments, institutions and students. All the scenario development techniques used in cases have been presented in detail and compared to each other through use of a comparison table as well as a commentary section. We have evaluated the case studies in detail to see how they managed to derive the themes and scenarios. This has enabled us to see the major differences in approaches used. Moreover, we have compared the exercises and the techniques used in them to each other by benchmarking them against certain criteria in our table and commentary section.

In Discussion section, we aimed to compare the practice to theory and see whether practice follows the theory and, if so, to what extent. It can be understood that some frameworks presented in the literature are definitely embraced more relative to others by strategists working in firms, institutions and governments. GBN's Peter Schwartz's approach is highly praised and has a widespread use in practice. This is because of its simplicity and easy-to-use structure. However, we also saw an alternative approach which also simple to use and can potentially be used by strategists. The cone of Plausibility approach is an example to this. Its use might even spread more going forward.

Finally, it might be wise to briefly comment on some other issues. We did not intend to construct new frameworks and approaches for use in scenario planning. The reason is that there are already plenty of powerful methods proposed by scholars. Some of these methods are simple enough for an average person to grasp if (s)he has the necessary background information on the business and its environment. Methods proposed by Schwartz, Ringland and Schoemaker can be shown as examples to that although there is less use of the latter two. we can detect that the majority of the approaches we have seen so far seem to be highly correlated to one proposed by Schwartz. This makes sense in that the steps in his framework are relatively simpler compared to some other methodologies, French school and probabilistic methodologies, to name a few. Some of these techniques are more complex in nature in terms of software use and numerical weight and require advanced executions by professionals and, as such, they are out of reach of an average person to comprehend and execute. Tools proposed by French School and Probabilistic are typical examples to this issue as they require advanced quantitative modeling by experts. This is probably the reason why we did not see any published scenario planning exercise that employs one of these frameworks.

It is also wise to remind once again that it was not our intent to present tools of deriving strategies to be used for alternative futures based upon the themes and scenarios developed. This requires different processes and management expertise and is totally out of scope of this paper.

6.2 Contributions:

This research contributes to scenario planning literature in terms of providing an in-depth presentation of the prevailing techniques, applications of them on real life cases and comparison of techniques and various case studies to inform the audience about scenario planning process. Our main objective was to collectivize the various methods in the literature, present them briefly, elect one of the most prevailing methods and present it in detail and finally, evaluate and analyze the real case studies published by showing the methods employed and comparing them to each other. Our research is valuable because, we tried to show in detail a very famous model presented by Peter Schwartz. That said, we also tried to support it by talking about the various other little methodologies prevailing in the environment to enrich the methodology and show sup-

porting new frameworks of other Scholars'. We also presented various case studies and tried to show how the theme and scenario derivation process actually works in real life as well as the comparisons.

6.3 Limitations:

As for any research, this research has also its own weaknesses. Firstly, we did not have the time to cover many real cases, given the time limit, scope and limitations. Furthermore, we were limited to cases disclosed by scholars to make our own argument. While this has been beneficial to better understand the processes involved in deriving different techniques, it limited our work to materials disclosed in these articles. As such, our arguments are as credible as what is credible in these materials. Furthermore, this paper did not aim to generate new frameworks from scratch for use in Scenario Planning, which might have been considered if there hadn't been time or scope limit as to the content of the overall research.

Overall, it can be emphasized that this paper aimed to review past methodologies on Scenario theme development area and present collectively in detail some real life scenario planning exercises to understand the techniques used in them and compare them to each other to see the major differences.

6.4 Further Research:

Finally, it might be wise to propose some further research suggestions. The reason why firms, governments and institutions undertake Scenario Planning must be clear by far. They aim to picture and explore potential futures based upon current trends and uncertainties so that they can be ready for these so-called alternative futures when they come true, if they ever do. By undertaking these studies, they also aim to generate strategies that would address the individual issues faced in alternative scenarios and themes. However, the validity and effectiveness of their strategies depend strictly on the validity of the underlying judgments, insights and tools used to conduct scenario-planning exercises. At this point, two natural questions arise: "*Are firms, institutions and governments successful and effective at detecting key issues of concern, trends and right uncertainties that they can use to conduct scenario planning exercises and generate strategies?*" and "*Are frameworks proposed by Scholars effective at capturing all aspects of*

issues that need to be considered to picture alternative futures?”. If the intuition behind conducting scenario planning is to embrace the future uncertainties and develop effective strategies in advance, then it is also natural to question whether these frameworks, judgments and works conducted are worth the time and effort. Therefore, it might be wise to consider next whether these developed scenarios and various frameworks used in published scenario planning exercises actually hold true or are able to picture consistent and relevant futures when their desired horizons are reached. If there is a major deviancy between what firms picture in their scenarios and what future actually brings, then this would mean a waste of time and resources. Of course, no scenario planning exercise is able to picture all possible alternatives in a limited set of scenarios as there are many contingencies related to the future that might not have been considered. However, assuming these extraordinary contingencies are stripped from the course of the future, scenarios should at least be able to partially reflect the then prevailing environments to make the already done work credible and relevant. Therefore, another research can focus on measuring whether the already expired exercises have been credible and relevant and whether the tools and frameworks underlying them have been effective at providing guidance to agents in terms of accounting for as much aspects as possible.

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