A R T I C L E

Paigniophobia: Daring to Use a Serious Game in China

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Abstract

An important challenge in a foresight process that includes scenario generation for a third party is the effective dissemination of the work and collective thinking produced. Traditional approaches usually have limited success. The paper presents a case study on the use of a gamification technique, namely "The Scenario Exploration System" (SES), for the dissemination of scenarios in China. The case study provides an account of the process, including challenges, concerns, results and lessons learned. The paper argues that SES, offers a useful alternative for disseminating the results of a foresight process, while being effective in engaging stakeholders with scenarios and fostering futures thinking.

Keywords: China, 2030, Gamification, Serious Game, Scenarios, SES.

Introduction

"Foresight is a systematic, participatory, prospective and policy-oriented process which, with the support of environmental and horizon scanning approaches, is aimed to actively engage key stakeholders into a wide range of activities anticipating, recommending and transforming technological, economic, environmental, political, social and ethical futures" (Georghiou, Harper, Keenan, Miles, & Popper, 2009).

The main purpose of using scenarios in foresight is to make decision making more robust and future-proof by outlining what the future might be, showing plausible alternatives and using them to sensitize decision makers and stakeholders about uncertainties. This empowers people to prepare for the future, to become what is widely called 'futureproof', in effect to become resilient (UNDP, 2014).

Scenario development is considered the leading method during the prospection stage of a foresight process. As a foresight process, we follow Voros Generic Foresight Process Framework consisting of 4 consecutive stages: 1) inputs, 2) analysis, interpretation and prospection, the so-called foresight phase, 3) outputs and 4) strategy (Voros, 2003).

A common concern among foresight practitioners is to ensure participation and foster dialogue among stakeholders in one or more phases of the overall foresight process, in order to increase its legitimacy (Saritas, Pace, & Stalpers, 2013).

When a foresight process is linked to policy-making, foresight practitioners should tailor foresight phases to policy functions to achieve greater impact (Da Costa, Warnke, Cagnin, & Scapolo, 2008). In this context, broader engagement in the 'exploration phase' and 'decision making phase' should be pursued (Da Costa, Warnke, Cagnin, & Scapolo, 2008).

From a practitioner's point of view, a major challenge encountered during the last stages of scenario development and more specifically during the refinement stage is to engage stakeholders, expert groups and policy makers, with the tentative scenarios produced during previous stages (usually deploying a combination of participatory and non-participatory methods) to get feedback and insights for their finalization.

Another challenge related to the impact of a foresight process, is to manage to engage the "clients", policy makers in our case, with the produced scenarios in order to discuss possible strategies and the overall strategic orientation of the policy.

Recently, the use of gamification techniques and serious games in at least one phase of a foresight process has gained increasing attention from both researchers and practitioners, as a means to foster engagement and appropriation and achieve eventually greater impact. From our own experience in using games, we have observed that they can create engaging experiences and increased interaction among participants, facilitating both the exploration and strategic orientation phase and hence achieving greater impact. According to Dufva, games can also "be used to support internalising knowledge, communicating and sharing ideas, increasing and broadening participation and creating new futures knowledge" (Dufva, Kettunen, Aminoff, Antikainen, Sundqvist-Andberg, & Tuomisto, 2015).

The paper presents a project case study discussing challenges and providing insights from a practitioner's perspective on the use of a gamification technique, namely "The Scenario Exploration System" (SES), for the effective refinement and dissemination of scenarios in China. The paper is composed of two parts.

In the first part, we provide a brief review of the existing theory on the use of serious games in foresight and a short presentation of the SES.

In the second part, the case study is presented with a view to providing an account of how the project was designed, executed and experienced by the project team. More specifically, background information is provided. Specific cultural dimensions, perceived by the project team as possible

threats to the successful use of SES in China, are discussed. An account of the related fears (phobias) the project team faced is provided, followed by a presentation of the strategic choices made at several aspects of the project. A content analysis of notes from meetings and emails exchanged among the project-team members throughout the project implementation period, helped us testing the validity of our recollections and allow us to critically reflect on the process followed, an account of which is presented here.

The paper concludes with the presentation of findings with regard to participants' feedback on the process. Participants' feedback presented in this paper derives from both quantitative and qualitative analysis of a post-event survey comprising both close and open questions.

PART I

Part I-1: Serious Games in Foresight

Foresight has been long a terrain for using games. As Dator puts it "games are the closest we can come to actually […] pre-experiencing alternative futures so as to have a wider understanding of what might be viable preferred futures" (Dator, 2017). While the first known example goes back to the war games played at the U.S. Naval War College since 1866, the last decade has seen a plethora of new game concepts, using traditional tools or utilising the new internet capabilities (Candy, 2018). There has been an explosion of new platforms of play and an emergence of exciting new markets and genres of games (Fullerton, 2014). In his extensive mapping of foresight methodologies, Popper (Popper, 2008) includes simulation gaming and role playing and puts them among the most creative and interactive methodologies (Foresight Diamond, Figure 1).
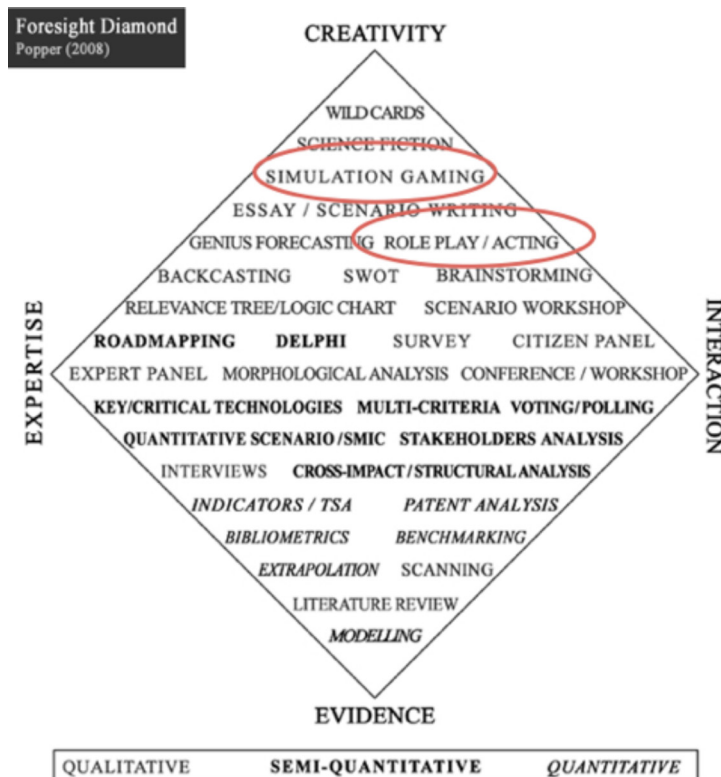

Figure 1. Foresight Diamond (Popper, 2008)

Naturally, the increasing popularity of the concept of gamification, that is the application of game-design elements and game principles in non-game contexts, has also affected the field of foresight. Many games were developed on different platforms, serving different objectives. They are both IT-based tools and physical games. The latter includes card based games introducing different future developments as well as board games for exploring futures (Dufva, Kettunen, Aminoff, Antikainen, Sundqvist-Andberg, & Tuomisto, 2015).

Dufva suggests a classification for the foresight games according to their specific objectives, ranging between providing information, offering first-hand experience, and/or being used as an idea generation platform (Figure 2) (Dufva, Kettunen, Aminoff, Antikainen, Sundqvist-Andberg, & Tuomisto, 2015). Usually, foresight games serve multiple objectives or can be used differently in order to serve different objectives.
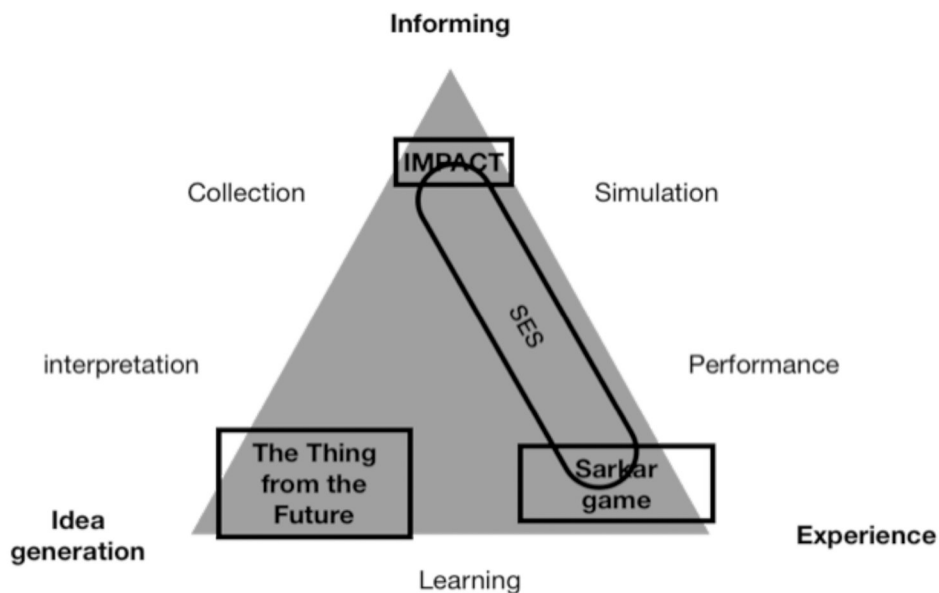

Figure 2. Three main purposes of games in foresight (Dufva, Kettunen, Aminoff, Antikainen, Sundqvist-Andberg, & Tuomisto, 2015)

Another classification can be introduced between traditional physical games and IT-based games. IT-based foresight tools engage up to thousands of players in collaborative scenario development (e.g. Foresight Engine[1]), knowledge creation and trend scanning (such as Co:tunity[2] and TrendHunter[3]). However, usually the outcome of these IT-based games is a massively unstructured dataset that needs to be analysed and interpreted (Schatzmann, Schäfer, & Eichelbaum, 2013).

On the other hand, it seems that greater engagement is achieved through the use of physical games, which include card-based games, board games, and role-playing (Dufva, Kettunen, Aminoff, Antikainen, Sundqvist-Andberg, & Tuomisto, 2015). Recent popular and quite different examples of such games, serving different purposes ranging from simple idea generation to the creation of new insights and sensing new experiences (Figure 2) are the following:

- "SES" (Scenario Exploration System), developed by the JRC Policy Lab in cooperation the Hawaii Research Center for Futures Studies (HRCFS) and the Center for Postnormal Policy and Futures Studies (CPPFS) (Bontoux, Bengston, Rosa, & Sweeney, 2016). SES can be played in two different modes (simulation or role-playing mode) and may be used

for information and strategic orientation or for experience generation.
- "IMPACT", a foresight game focusing on the future of work, developed by Idea Couture, and funded through kickstarter ("IMPACT by Idea Couture," n.d.), aiming mainly at providing information about future jobs.
- "The Thing From the Future" developed by the Situation Lab to offer a mind opening and fun experience (Candy, 2018), for idea generation.
- The "Sarkar game", created by Joe Voros and Peter Hayward, is a role-playing game based on theories of social change aiming at helping participants get a better understanding of the future (Inayatullah, 2013).

Finally, the fun experience is an often underestimated aspect of foresight games. Indeed, as explained by Inayatullah (Inayatullah, 2017), while foresight games are not introduced for the fun per se but for enhancing productivity and efficacy, the fact that they are fun to engage in increases their power to reach their serious objectives.

Part I-2: Methodological Approach - SES

The Scenario Exploration System (SES) is a serious gaming platform that was developed by the European Commission's Joint Research Centre to facilitate the practical use of scenarios from foresight studies (Bontoux, Bengston, Rosa, & Sweeney, 2016). The SES offers the opportunity to four *'scenario explorers'* representing different stakeholder groups (typically policy makers, businesses, or civil society organisations) to take action to reach their long-term objectives. They do so across three-time horizons starting from the present in a context created by a scenario while interacting with each other under the judgment of a *'public voice'*. A full session consists in the consecutive exploration of two contrasting scenarios in which participants keep the same roles and objectives.

The fact that the SES is based on future scenarios, creates a safe space to simulate possible responses connected to any issue of interest to the participants. Its set up is a vast oversimplification of reality but it still provides enough complexity to challenge participants in a way that is usually perceived as realistic. Also, the fact that *'scenario explorers'* only have a limited amount of resources to spend over their complete exploration and can only take one action per round, focusses minds and pushes them to prioritise and be strategic.

PART II Case Study

Part II-1: Background - The problem

Since 2012 the research team has been involved in two consecutive foresight projects in China (DRAGON-STAR and DRAGON-STAR-PLUS) which focused on the future development of the research and innovation landscape in China, with the objective to enhance the on-going bilateral cooperation policy dialogue between the EU and China by providing a long-term perspective.

Within the context of the DRAGON-STAR project, the first foresight exercise concluded in 2016 with the production of four scenarios on the research landscape in China by 2025 (Christofilopoulos & Mantzanakis, 2016). In order to communicate the results of the study, entitled *"China 2025: Research and Innovation landscape"*[4] and to engage the relevant stakeholders in a discussion about possible strategies, a dissemination strategy, based on traditional tools, was designed. The outcome of the foresight exercise was largely communicated through presentations to stakeholders and conferences, publications in scientific or thematic publications, and through the production of a top-quality monograph that was distributed electronically and in-print form. Nevertheless, and besides the substantial resources invested in scenarios' communication and dissemination, the actual use of the "China 2025" report has remained largely uncertain, and

especially whether it has served its objective to engage stakeholders in a more strategic long-term thinking and planning.

The second phase of our foresight work, titled China 2030[5], initiated back in 2016 in the context of the follow-up DRAGON-STAR[PLUS] project and mostly focused on the innovation environment in China, the uncertainties, and the specific opportunities for cooperation between the EU and China (the work was performed by KAIROS Future, FORTH[6]/PRAXI & Phemonoe Lab). For the refinement of scenarios produced and the initiation of a strategic orientation process aiming at discussing long-term strategic possibilities for policy making and policy decision we decided this time to invest in tools and dissemination processes allowing for greater engagement with 'China 2030' scenarios, introducing also an assessment component.

As we were aware that in recent years, gamification techniques and serious games have offered increasingly useful tools to engage with scenarios and futures thinking, the project team looked for solutions in this direction.

The above-described characteristics of the SES game, as well as its relative easy adaptability to different scenarios, made it an ideal candidate in our quest for more effective ways to communicate the outcome of our foresight work in China. Hence, we decided to use the game, exploring its potential in engaging our main target group, namely the Chinese and European policy makers, in a long-term policy discussion based on our set of "China 2030" scenarios.

The question of participation

The project in its conception called for instrumental participation -following Fiorino's (Fiorino, 1990) and Stirling's (Stirling, 2006) participation rationales- in the sense that what was sought from the outset was stakeholders' trust, acceptance and commitment (Saritas, Pace, & Stalpers, 2013).

The poor results in terms of engagement with the scenarios, generated from the DRAGON-STAR project –no substantive feedback was received during the presentation or online dissemination of the produced set of scenarios- in combination with our objective to initiate this time a phase of strategic discussion about long term possibilities, led us to opt for approaches allowing great engagement. The latter had in effect a significant bearing on the participation dimension in the DRAGON-STAR[PLUS] project. In our effort to ensure this time active engagement of the stakeholders, we chose to experiment and introduce the above mentioned gamification technique that proved to be in tune more with the concept of 'substantive' participation rather than the 'instrumental' one (Saritas, Pace, & Stalpers, 2013).

Challenges arising from cultural differences

Hofstede (Hofstede, n.d.; Minkov & Hofstede, 2012) describes six cultural dimensions that define national cultures and affect the organisation and operation of the society: Individualism versus collectivism, Power Distance, Masculinity versus Femininity, Uncertainty Avoidance, Long-term versus Short-term Orientation, and Indulgence versus Restrain. For most of these dimensions, China is placed at the opposite side of the Western countries, indicating a substantial cultural chasm that could create additional challenges for the successful use of SES China:

- Collectivism: The social value of the group within Chinese society and the tendency of Chinese people to avoid open disagreements and to comply with the opinion of the majority (Dong, 2009) could have a large impact on a role-playing game. This cultural dimension could affect a game aiming –among other things- to reveal diverging, or even opposing dynamics of various actors in different futures.
- Masculinity: Chinese society is a strongly and openly gendered masculine society, with specific expected gender roles regarding the expression of emotions. While men are supposed to be tough, winning is important for both genders. This dimension could also

affect game effectiveness and interaction between male and female participants, adding concerns regarding the freedom of expression of female participants.

- Power distance is the extent to which the less powerful members of organizations and institutions accept and expect that power is distributed unequally. This cultural dimension could also affect game operation, especially when high-level officials are playing at the same table as lower level members of society.
- Uncertainty Avoidance deals with a society's tolerance for uncertainty and ambiguity. According to Hofstede, China is among the societies least tolerant of uncertainty. This characteristic adds additional challenges for "playing" a game whose core function is to confront participants with intrinsically uncertain situations.
- Long-term Orientation deals with change. In a long-time-oriented culture, one of the basic notions about the world is that it is in flux and preparing for the future is always needed. In a short-time-oriented culture, the world is essentially as it was created, so that the past provides a moral compass, and adhering to it is morally good. China is ranked among the most long-term oriented countries, and the Chinese society is used to following specific long-term strategies (e.g. five-year or ten-year plans). However, the conception and the drafting of these long-term strategies is largely a top-down complicated process (involving the highest-level management) while there is limited flexibility in their implementation (both characteristics can be seen as quite opposite to the logic of the SES).
- Indulgence is about being free. In an indulgent culture it is good to be free and doing what you want to do is a good thing. In a culture as restrained the Chinese, the prevailing feeling is that life is hard, and duty, not freedom, is the normal state of being. Composing and testing strategies, and at the same time having fun (e.g. playing SES China), seemed a priori distant from the Chinese culture.

At first glance, considering all the cultural elements presented above, applying the SES in China could be perceived as a major challenge. Indeed, the SES had been designed by Europeans for European users in a Western liberal context and perspective, assuming a division of roles which is in phase with a society infused with liberal, western values. All the more, it gives a strong place to a *Public Voice*, a strong element in Western democracies that might not be perceived as being so relevant, or even as making trouble in Chinese society. Consequently, applying the SES to mixed groups -consisting of Chinese and European participants- could be perceived as a strong challenge: the aforementioned Chinese cultural characteristics in confrontation with European ones (and their subdivisions) would pose a significant challenge for the successful use of the SES.

However, an experienced practitioner or facilitator can easily understand that the design of the SES focussed on creating a safe space and allows for high levels of adaptability to diverse socio-cultural contexts and specificities. First of all, the safe space created by imaginary future scenarios allows to explore alternative futures without challenging today's world. This opens the door to exploring spaces outside of today's cultural characteristics without being perceived as challenging the status quo. Secondly, the SES turned out to adapt well to different positions regarding Hofstede's six dimensions of culture. Fundamentally, the tool was developed to help policy makers take the long-term into account. This is a strong plus when engaging with Chinese culture. Regarding the other dimensions, as the scenarios were about how China and the EU could engage with each other, there was always a recognition that the various actors could behave according to their typical patterns, something that the SES could very easily accommodate. The Chinese roles could conform to their own culture and a Chinese person taking the role of a western actor could allow him- or herself to behave 'out of character' without any consequence beyond the scenario exploration. Making participants take up roles around the table is also a powerful way to step out of the social hierarchy prevailing in real life.

Part II-2: Paigniophobia[7] - A practitioner's perspective

Drawing on the existing literature, the use of serious games in foresight, such as the SES, allows the active and close interaction among stakeholders, enhances learning in forward-thinking, while offering at the same time a fun experience (Dufva, Kettunen, Aminoff, Antikainen, Sundqvist-Andberg, & Tuomisto, 2015).

Nevertheless, whilst academic evidence demonstrates the benefits of the use of games to address engagement problems across a wide range of contexts, developers of serious games often face (like in our case) a challenge in making a compelling business case for their use (Petridis, Hadjicosta, Guang, Dunwell, Baines, Bigdeli, Bustinza, & Uren, 2015). The corporate world can be biased, even in the mere reference of the word 'game'. Therefore, there is a critical need for support from top executives and an effective top-down communication process in order participants not to perceive 'games' as foolish activities (Petridis, Hadjicosta, Guang, Dunwell, Baines, Bigdeli, Bustinza, & Uren, 2015).

In our specific case, an additional challenge was added due to the unique Chinese cultural and societal characteristics and special communication norms. The research team was not aware of any serious foresight games having been tested in China before, neither had any tangible examples of previous use of serious games with medium and higher level governmental stakeholders. Moreover, the existing literature on the cultural differences between Europe and China, and personal previous first-hand experience, alarmed the research team of several potential culture-related risks.

The cultural differences and challenges due to the lack of any previous experience of using a serious foresight game in China, especially with such a diverse mixture of participants[8], have blown up the uncertainty related to the success of using the SES.

For a long period during the preparation phase and prior to the implementation of the SES China workshop, the project team has suffered from anxiety and various fears. In order to describe this stressful situation, often experienced by foresight experts, we have introduced the term "paigniophobia", that comes from the Greek words "παίγνιον" (pégnion = game) and "φόβος" (phobos = panic, fear), and includes the various game-related fears (phobias):

- Phobia that the game would not be approved and perceived seriously by the participants;
- Phobia that the game would not prove effective to communicate the scenarios and engage the participants in an open long-term discussion;
- Phobia that the participants would not be able to play sufficiently the game roles, taking into account the above mentioned cultural differences;
- Phobia of not being able to offer a genuinely fun and creative experience;

According to the American Psychiatric Association (APA), "a phobia is a type of anxiety disorder, defined by a persistent fear of an object or situation". The phobia typically results in a rapid onset of fear and is present for more than six months. The affected person will go to great lengths to avoid the situation or object, typically to a degree greater than the actual danger posed" (Winerman, 2005).

It should be clarified that the use of the term phobia and of the related metaphors, might be an exaggeration, however it is selected in order to emphasize the general tendency of many practitioners not to experiment out of fear of not being taken seriously, or to be politically correct. This tendency of "playing safe" deprives themselves from using innovative although sometimes unconventional tools and methods that could maximize their work's potential and impact.

As the usual treatments for phobias, again according to the APA, are counselling, medication, and exposure therapy, the project team chose the latter and took the decision to proceed with the workshop.

The reasons underlying our choice were our desire to experiment, to test uncharted waters and

to see how we could reach out to stakeholders more effectively. The fact that the SES had already been used in (European) multicultural contexts helped us believe in the potential of the SES and existing experience in using it made us dare take the risk.

Part II-3: Strategic choices made

Taking into account all the aforementioned challenges, namely the cultural challenges and the assumed bias of the corporate environment towards 'gaming', as well as the lack of any previous record, we made a number of strategic choices with a view to minimizing all the associated risks and delivering a fruitful process.

Design of the event

We tried to mitigate the risks associated with the use of a serious game by designing and delivering a hybrid event comprising both conventional and experimental elements. Thus, the event consisted of two parts: the conventional one had the form of a 3-hour session during which the scenarios were presented and the experimental one was a workshop session during which the SES was applied.

Communication

Prior to the event, we intentionally avoided using the word "game" in the correspondence we had with the participants. We tried instead to brand the second part of the event as a hands-on workshop session. Participants were not fully informed about the specific tool and the heuristics of the game. Somehow, we preferred to be in a grey zone, creating the expectation for something innovative and sharing little information with the participants without however misinforming them.

Participants

All the participants of the workshop were selected by the project team on the basis of their expertise and their language skills. With respect to the latter, the objective was to ensure that participants had sufficient English language skills in order to engage fully and participate in equal terms with their European counterparts in the process. Detailed demographic data were not collected, however 24 out of the 39 participants were Europeans and the rest were Chinese. In addition, 14 were coming from Academic institutions, 20 from Government (central, local and other governmental agencies), and 5 from enterprises.

Facilitation

We invested a lot of time and energy in the preparation of visually appealing game sets (boards, cards, etc) and the training of 'masters' in order for them to be able to guide participants efficiently throughout the process. Specifically, a special training session that included a full game testing, was organised in Shanghai the day before the workshop. We also chose as game masters persons who had previous experience in facilitating. In addition, we decided to pre-assign roles that were close to the participants' real life occupation instead of letting them randomly choose their roles. The working language was English, while the game masters supported few players with limited language skills: explaining concepts, content of game cards or actions taken by opponents. In very few cases bi-lingual participants helped us also to translate specific terms.

Part II-4: Results, Discussion and Implications

The workshop was organized on May 16, 2017, in Shanghai and included a morning session during which the scenarios generated were presented to the participants and an afternoon session where the SES China edition was applied. As previously explained, the SES China edition was

developed by the DRAGON-STAR[PLUS] foresight team with the help of the JRC, aiming not only to offer a basis for an EU-China conversation on long-term cooperation in science, research and innovation, but also to identify and analyse potential strategic policy actions and approaches from the various stakeholders. The team used the 4 scenarios (Figure 3) developed in the context of the DRAGON-STAR[PLUS] project (Christophilopoulos, Larsson, Mantzanakis, & Ilieva-Koleva, 2018), while the game roles were adapted accordingly. The main objective in our case was to create conversations between European and Chinese stakeholders involved in R&I and to feed long-term strategy development. Over the course of a session of the *China 2030* edition of the SES, four explorers representing two Governmental Policy Makers (one from Europe and one from China), an Industry and a Research or Technological Organisation (RTO) act over three rounds to reach their visions in a 15-year time horizon.
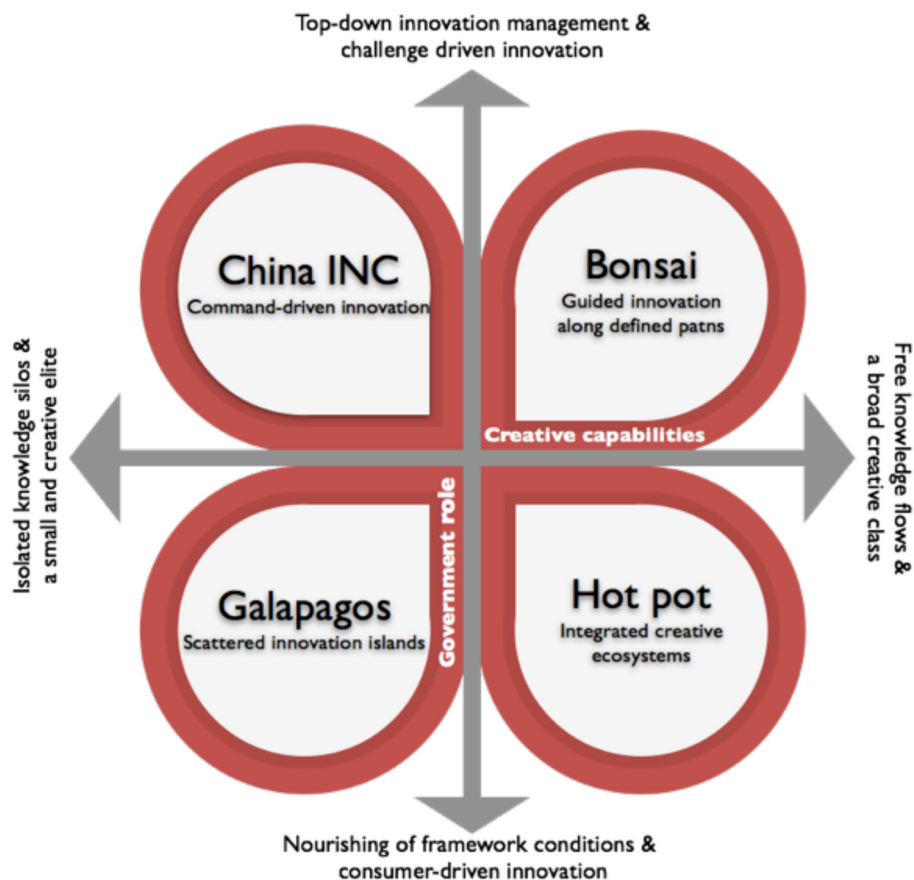

Figure 3. The China 2030 Innovation Scenarios developed in the context of the DRAGON-STAR[PLUS] project

The following analysis is based on content analysis of participants' record sheets (*Explorer Record Sheet*) filled out by the players during the game and participants' feedback on the process, as it derives from a post-event survey comprising both close and open questions.

In the Shanghai SES workshop there were 31 participants in total, including the Minister Counsellor in charge of research from the EU Delegation in Beijing and the President of the Chinese Academy of Science and Technology for Development (CASTED). At each of the five tables formed, participants interacted and experienced plausible futures through roleplaying practicing one of the five (5) different possible roles: Chinese Government, European Commission,

Industry, Academia and Young Researcher/Public Voice. There were also game masters at each table guiding the process. The game masters were four Europeans and one Chinese person, all of them members of the project team. They had been previously trained on the game process and had strong facilitation skills.

The first reactions from many participants encountering the game boards (Figure 4) were surprise and reluctance, quickly replaced by curiosity and a positive attitude to follow the process and experience something different.
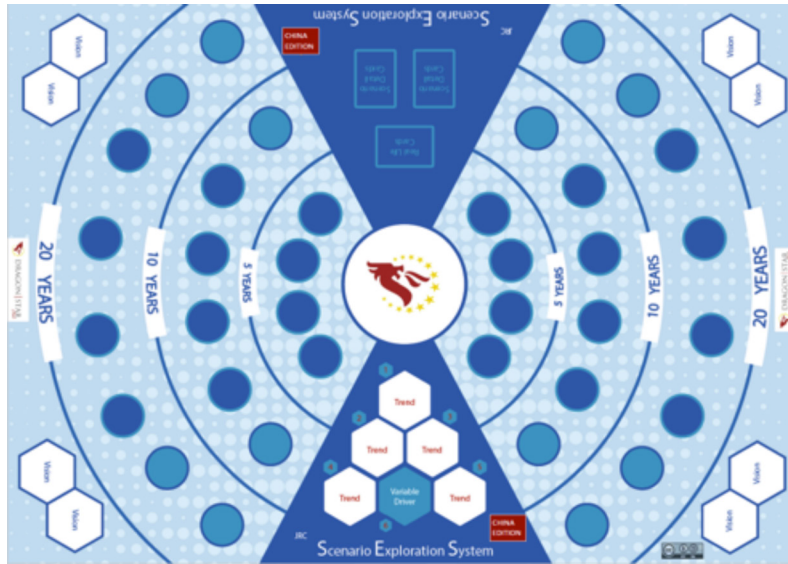

Figure 4. SES China game board

Figure 5. Participants playing SES China, 16 May 2017, Shanghai

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During the scenario exploration session, participants took roles that they refined according to their own wishes and faced unexpected challenges on the journey to achieve their long-term objectives. This journey took place according to the scenario script delivered by the game master. Most participants had no difficulty eagerly following the script, immersing themselves in the requested roles.

It should be noted that the role distribution in any SES session may be performed in various ways to serve various needs (participants could choose to play their real-life role or explore a contradictory role to explore the future from a different angle). In the Shanghai session, the project team has pre-assigned the roles to the participants, so that the different roles (EU & Chinese policy makers, RTO, and businesses) were taken by participants holding similar roles in real life. There were five (5) tables hosting five (5) main roles on each: Chinese Government, European Commission, Industry, Academia and Young Researcher/Public Voice.

However, with regard to the assignment of roles, it was observed that in some cases Chinese participants who were assigned the role of the Chinese government experienced difficulties in the role-playing process. More specifically, they had difficulties to conform to scenarios according to which the Chinese government did not want to cooperate with Europe. This behaviour can be attributed to the social value Chinese people assign to the group, especially taking into account that the exercise took place within a specific context of activities aiming to foster EU-China cooperation.

In general, participants engaged in vivid discussions, exploring alternative future paths. More specifically, by exploring contrasting scenarios they had the chance to reconceive their space of freedom, realizing the importance of the systemic elements. They also composed, described and tested strategies for achieving their long-term vision and they engaged in meaningful discussions about the long-term. They understood that there is no one-size-fits-all strategy in today's complex and rapidly changing environment.

After the end of the exercise, all participants were given a questionnaire to evaluate the methodology (Figure 6). According to the feedback received, SES China was considered a deeply learning (87%), surprising (87%) and fun experience (70%) by the vast majority of the participants.

In addition, SES China was highly valued among participants (by 77% of the participants) for its capacity to serve as a tool for helping to understand the scenarios, while 78% of the participants declared that SES China helped them to establish a future oriented perspective and to develop a strategic perspective.
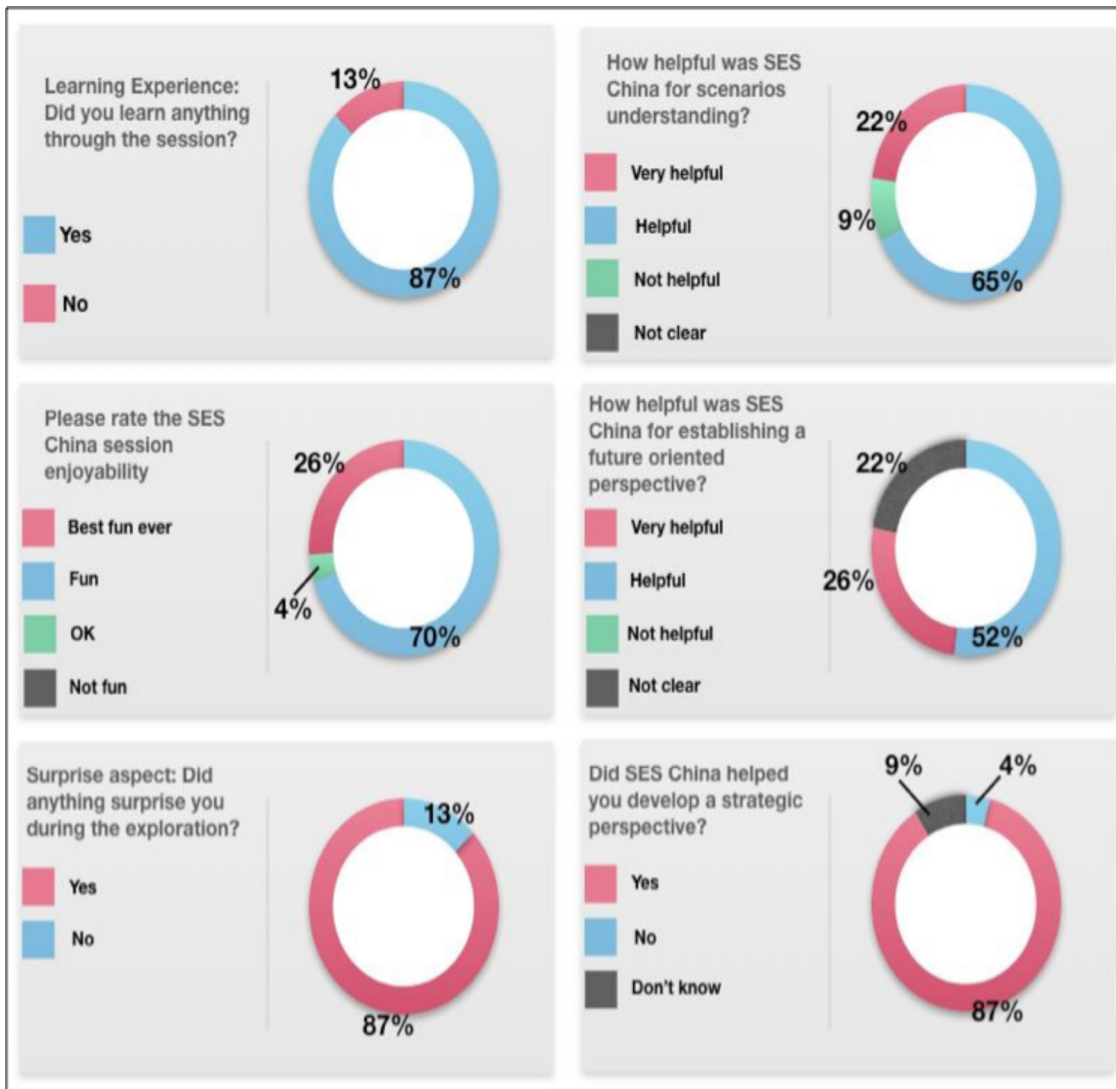
Figure 6. Participants evaluation of SES China in Shanghai

Furthermore, the answers received from the participants in two open text questions, are worth mentioning. For the question: "What element(s) created the most enjoyment?" many participants focused on the role-playing dimension highlighting the negotiation component. Other stressed the unexpected reactions of some players with regard to their decisions throughout the game. The following direct quotes from the open-ended questions in the survey are indicative:

- *I was amazed by the unexpected decisions from other players;*
- *It helps us imagine the future and take actions;*
- *It helped me see the dynamics of actions;*
- *The collaboration part is the most exciting element I enjoyed adopting a role and work well on it;*
- *It was great taking part in negotiations on future actions discussing balance decisions between participants;*
- *Listening to colleagues and the different views and choices made;*

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- *The approach to think strategically and to project my ideas in the future;*
- *The whole structure, innovative, dynamic collaboration. People get in the role.*

With respect to the question: "How will you remember this scenario exploration session?" the following answers are indicative, confirming the quantitative findings from close-ended questions:

- *A fun experience;*
- *Inspiring hands-on practice;*
- *Interesting exchange with people;*
- *Interesting to learn about Dragon-Star Plus & Joint Research Centre. An interesting experience;*
- *Nice and new experience;*
- *It is a very enjoyable session and it made the comprehension of each scenario case to understand;*
- *Cooperation. How to think based in real life. Open mind to imagine. Interesting, fun and inspiring;*
- *Helps pose many questions;*
- *A very nice learning exercise and pleasant afternoon;*

Besides the final positive feedback, it should be underlined that the initial participant reaction facing the game setting, was a mixture of curiosity and reluctance.

Critical factors

We assume that the following factors were of critical importance for the success of the initiative: (i) the sound organisation of the game session that includes a suitable game setting, the logistical support, the selection of the participants and the good preparation of the game masters at every table; (ii) the commitment from the top-level participants (especially the EU's Minister Counsellor and the president of CASTED) to participate in the "game"; and (iii) JRC's name and experience behind the game, created a safe atmosphere and provided the necessary legitimacy that allowed the smooth and successful implementation of the SES session.

We invite practitioners taking into account or conducting further research on all the above-mentioned factors, when designing similar 'high-risk' activities.

Running a pilot before the event provides a timely opportunity to wind-tunnel design specifications and collect valuable feedback, mitigating this way all the associated risks.

The identification of the abovementioned factors is based on our interpretation of the process unfolding and as such, it should be treated more as a set of hypotheses for further research than conclusive results, something that would be beyond the scope of a case study.

Conclusions – From Paigniophobia to Paigniophilia

The experience of using serious games in traditional setting like a workshop with high-level policy makers is limited, while the use of such games in China is completely unknown. The research team had no previous reference of using the SES or any other serious foresight game in such a group of participants, and naturally was seriously affected by 'paigniophobia'. Nevertheless, as the previous experience of applying traditional communication tools (presentations, printed reports, scientific publications, etc) had proven insufficient for engaging the target audience (policy makers) in a strategic discussion about policy options, the team decided to adopt an experimental approach, investing all the available resources in developing and testing a version of the SES for China-EU Innovation landscape.

During the game session, participants had the chance to actively engage with the scenarios produced. By participating in a role-playing game and exploring two contrasting scenarios for the innovation future in China, they composed, described and tested strategies for achieving their long-term vision and they engaged themselves in a long-term discussion. They reported experiencing unexpected challenges on their journey to achieve their long-term objectives. They also discovered spaces of freedom and they valued the importance of the systemic elements, realizing that there is no one-size-fits-all strategy in today's complex and rapidly changing environment.

Above all, a large majority of the participants found the process to be a fun and useful activity. We conclude that when critical factors such as the above-mentioned ones are taken into consideration for the design and execution of a game session, SES consists of a valuable tool that can be used without any 'phobia' from foresight practitioners in Europe and China.

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Notes

1. http://www.iftf.org/what-we-do/foresight-tools/collaborative-forecasting-games/
2. http://cotunity.com
3. http://www.trendhunter.com
4. http://www.dragon-star.eu/china-2025-research-innovation-landscape-report-just-released/
5. http://www.dragon-star.eu/china-2030-research-and-innovation-landscape-just-released/
6. Foundation for Research and Technology Hellas
7. Paigniophobia comes from the Greek παίγνιον (game) and φόβος (phobos= *panic*, *fear*)
8. European and Chinese participants from government, academia and business areas

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