Towards Strategic Intelligence – Foresight, Intelligence, and Policy-Making

Foreword by Gregory F. Treverton

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Foreword

Traditional intelligence is inherently predictive, in the sense that it operates by inference. Broader conclusions are based on patterns discerned in evidence. During the Cold War, for instance, if intelligence analysts saw Soviet construction in a trapezoidal pattern, they could confidently infer – that is, predict – that the construction was a surface-to-air missile site. But those “predictions-as-inferences” were necessarily quite short run. They were more predictions about the present than about the future.

And intelligence – at least traditional foreign intelligence was awkwardly positioned to make longer term assessments, not least because it was enjoined in most countries, the United States above all, from taking its own country’s actions into account in thinking about the future. From small countries, that might have been acceptable; most of the time they could safely take the world as given and adjust accordingly. Yet to do so was a paradox even for them: the more important the issue was to them, the more they were likely to try to act to influence its course.

This slim, rich volume covers a lot of ground. It begins with foresight and ends with intelligence. It distinguishes that first subject, foresight, from simple prediction and from forecasting. Unlike forecasting, it seeks a deeper understanding of change and emerges with a range of alternatives, not just a best estimate. In one sense, that difference is akin to that between intelligence “puzzles” and “mysteries” or “complexities.” Puzzles have an answer, though we may not know it. Much of the Cold War’s intelligence wizardry was aimed at solving puzzles about the Soviet Union – how many warheads did their missiles have, how accurate were they? Many forecasts are attempts to solve future puzzles: we will know tomorrow whether last night’s weather forecast was right or wrong.

Mysteries, and still more complexities, have no answer. They are contingent. They depend, not least on how we act. For mysteries, we usually have some history and perhaps some theory, and thus some sense for what factors are important and how they will interact. For complexities, we may not even know that. Instead, many small actors may interact in ways we haven’t seen before, and new ones will arise unpredictably. We begin without history and theory. Perhaps the best that can be done for them is to work to resolve them toward mysteries, by providing structure as events develop. With regard to the Islamic terrorist threat, for instance, the years since September 11, 2001 have added increasing intellectual structure to the problem, as we understand more about,
for instance, how terrorists are recruited (or self-recruited) and what is the nature of the connections between Al Qaeda “central” and its various affiliates or sympathisers.

Chapter 2 provides a useful summary of terms and concepts – from trends and drivers to scenarios and futures studies – and it concludes with a detailed discussion of foresight, distinguishing it at one end from simple prediction and forecasting, and, at the other, from futures studies. Chapter 3 then spells out three varieties of foresight. Unlike traditional foreign intelligence, all of them need to take “us” into account. Desk-work foresight is, as its name implies, primarily an academic exercise, done first and foremost to understand, rather than to respond to a particular challenge or question. The other two forms are kin; both are oriented toward action. Participatory foresight is distinguished by involving stakeholders; it is close to what is called in other circumstances “convening.” It might include decision-makers but might also be done in contexts, like planning a city’s future, where there are no authoritative decision-makers and perhaps a host of entities with some claim to decision. Strategic foresight is aimed at “customer-oriented projects with well-defined targets.” It tends to presume an authoritative decision-maker, who is the key participant.

Chapter 4, wonderfully titled “Fishing in the Pond of Borderless Risks and Threats,” recognises that in a borderless world, the pond of the future is more and more a single one, even as the fishers in that pond – from governments and academics to companies and special interest groups, to media – increase in number. It presents the pond as a series of concentric circles, with intelligence at the end. For instance, the core is “real-time intelligence knowledge, which can only be attained directly and secretly from the authentic sources.” That proposition is provocative and controversial, though it is advanced primarily for the present, not as a matter of foresight. The usual view is that the more forward in time analysis seeks to reach, the more the issues become mysteries to which secret sources are, almost by definition, less helpful. Secret sources can solve the puzzle of the present. They are not likely to add much to the mystery of the future, especially the more distant future.

The final chapter turns explicitly to the intelligence process, and it could stand on its own. It ably summarises critiques of the familiar intelligence cycle, primarily on the grounds that it is an unhelpfully static representation of a dynamic process. It might have gone further, for while the traditional notion of the cycle may not capture the actual process, to the extent it does, that process is pretty tired: it is very linear, animated by requirements and driven by collection in a world where requirements may be unclear but information is ubiquitous.

The chapter also nicely summarises work on the relationship between intelligence and policy, as well as the risks of politicisation. Intelligence is hardly a disinterested activity. Its point is to improve the making and implementing of policy. The chapter is right to emphasise the importance of understanding what policy-makers need, but no doubt
the experience of smaller governments makes that easier than in larger countries. In the case of the United States, it is in many respects the challenge: when policy-makers have a blizzard of sources of information, one critical piece of intelligence’s comparative advantage can be that it knows better what they need. But that is often very hard.

Equally hard is making the process of producing finished intelligence, which is by nature slow and careful, as sources are checked and logic refined, match a policy process in which officials may know their meetings this afternoon but have little idea what they will be doing next week. The chapter wisely recognises there will be spikes and dips in policy’s interest in intelligence, and in those circumstances the interaction needs to be conceived of as a process, not a product. Indeed, a recent study of “successes” by the U.S. CIA’s Kent School for Intelligence Analysis drives home that point: virtually all of the “successes” were interactions over time, not point instance of support, and in two-thirds of the cases the first CIA analytic conclusion was off the mark.

Gregory F. Treverton

March 14, 2014
Acknowledgements

This book is part of my long-term study on how foresight could better provide policy-makers with the knowledge they need to make the right decisions. My two earlier books on the theme, *Practicing Strategic Foresight in Government: Cases of Finland, Singapore and European Union*¹ and *The Evolution of Strategic Foresight – Navigating Public Policy Making*², are strongly based on versatile country-specific summaries. They also base on different practitioners’ and policy-makers’ views on the topic, including e.g. interviews with the former deputy head of Mossad, the vice-chair of the Finnish Parliament’s Committee for the Future, and the deputy director of Singapore’s National Security Coordination Centre (NSCC).

The idea behind this book originates from a discussion with Dr. Matti Saarelainen, Head of Unit at The Finnish Security Intelligence Service (SUPO), who at the time was the chair of the Global Futures Forum³. I first met Matti in 2010 at the Singaporean S. Rajaratnam School of International Studies / Center of Excellence for National Security (RSIS/CENS)⁴, where I worked as a post-doctoral fellow, engaged, for instance, in the above mentioned interviews and summaries.

Once I came back to Finland and met Matti again, he said he had found a figure from my earlier book, which was particularly interesting from the viewpoint of the intelligence community. The name of the figure was *Adjusting Foresight, Intelligence and Inferring for Different Types of Systems*⁵. It was a normative description of an ideal knowledge flow in a national intelligence system. Basically, the figure presented how intelligence knowl-

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³Global Futures Forum (GFF) is a by-invitation-only multinational, multidisciplinary intelligence community that works at the unclassified level to identify and make sense of emerging transnational threats. Its primary goal is to foster the collaborative development of insight and foresight through the exchange of different perspectives among its members. https://www.csis-scrs.gc.ca/pblctns/cdmctrch/gff-2012-eng.asp. GFF shouldn’t be confused with any other forums that carry the same name.
⁴http://www.rsis.edu.sg/cens/about_cens/introduction.html
⁵The Figure 16.1. can be found from my (2012) book’s Chapter 16, page 239.
edge would cumulate, get questioned and refined for use in policy-making, if it followed the principles of strategic foresight. As Matti liked the figure, he presented me an idea that I should write the figure description in the form of a broader model that would work as a project plan, which could be introduced in the next Global Futures Forum. Therefore I rewrote the model description, and eventually the Global Futures Forum accepted it in December 2012.

In February 2013, I travelled to Stockholm to meet with Director Lars Nicander from the Center for Asymmetric Threat Studies (CATS) to further discuss the proposed project. We agreed on a timetable and other details, so that work could begin. The final outcomes of the project were named to be a volume with the title Re-thinking the intelligence – The case of strategic foresight in the CATS publication series, and a presentation of the results at the Global Futures Forum’s final seminar in 2013. Throughout the spring, I consulted with other writers of this volume and planned the detailed objectives.

The next milestone of the project was the Global Futures Forum’s confidential roundtable, Changing Challenges for National Intelligence, organised jointly by CATS and SUPO in Stockholm. The two-day seminar took place in May 2013 and contained keynotes, discussions, and several break-out sessions. Here, the team behind this publication presented the idea and timetable of the study. We also steered several break-out sessions where the potential role of foresight alongside intelligence was discussed. The questions we sought answers for were: a) what kind of interaction exists between the intelligence and strategic foresight machineries in your country, b) should intelligence products and knowledge produced by intelligence services be used in governmental strategic foresight, c) should intelligence services generate strategic foresight products themselves, and d) should the methods of strategic foresight (such as horizon scanning) be used in intelligence analysis and intelligence-related activities. Comments and ideas from the break-out sessions have in many ways influenced the viewpoints discussed in this book.

The Stockholm seminar was followed by the start of the interview process, executed with two parallel questionnaires. My questionnaire focused on the communicational challenges between strategic foresight, intelligence, and policy-makers. “What are the key problems in communication and are there blind spots in the communication?” “How could decision-making be made to act more strategically, to pro-actively steer the duties of intelligence services into emerging issues?” Gregory F. Treverton, Director of RAND Corporation’s Center for Global Risk and Security, kindly consulted us on our plans and aims in regard to the interviews.

The subsequent Global Futures Forum was titled Natural Resources, Economics and Geo-

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6The Center for Asymmetric Threat Studies (CATS) focuses on asymmetric threats in the Information Age. http://www.fhs.se/en/research/research-centres-and-programmes/center-for-asymmetric-threat-studies/about/
7Research ANd Development (RAND) is a Global policy think tank.
politics, which took place in Stockholm in September 2013. The Forum was organised by the Scottish Government and the Swedish Defence Research Agency (FOI). This conference provided many new insights on the multi-national security issues linked to intelligence work and national security. I also visited the Swedish Armed Forces Headquarters, and made several insightful interviews during and after the Forum, including e.g. an interview with Colonel Lars-Olof Corneliusson, the Head of Intelligence at the Swedish Military Intelligence and Security Staff (MUST), Swedish Armed Forces.

The last Global Futures Forum in 2013 was the Community Of Interest – Practise and Organization of Intelligence (COI POI) Conference - *Foresight and Scenario Building methods in intelligence analysis and government bodies*, which took place in November in Glasgow. There I interviewed a few of the keynote speakers, including Director-General Jean-Louis Tiernan from the Canadian Academic Outreach, and we launched this book’s new title - *Foresight and Intelligence*.

Alongside with the minutes and notes made in Global Futures Forums, there have been altogether nine confidential interviews and five to seven public interviews in the project. The interview responses are mostly utilised in the last chapters of this book; the early chapters rely more on theory.
Introduction

Strategic intelligence deals with national or corporate long-term strategic issues. It operates simultaneously with three functionalities: intelligence, strategic foresight, and visionary management. Its customers are senior policy-makers in versatile organisations capable of strategically impacting the game in which they are involved.

Five recent or currently active cases of thorough strategic intelligence actions are Crimea, Syria, and Iran as well as the mortgage and Euro crises. All these cases require understanding of the game-situation, path-dependencies as well as versatile motivations, priorities, and capabilities involved. Secondly they require understanding of their asymmetric, disruptive, and emerging elements and possible wild cards in the game-situation. Further, they require understanding of alternative scenarios, strategies, and visions for crisis management initiatives. All these form the set that should be brought to policy-makers.

Figure 1: Strategic intelligence triangle
This book explores opportunities to enhance strategic intelligence capabilities especially in public policy-making. In most countries and organisations, strategic intelligence does not function as described above. Yet that is how it should function in principle. Keeping intelligence, strategic foresight, and visionary management in separate silos undermines the policy-makers’ strategic capabilities.

Yet, the study of the strategic intelligence capabilities is not limited on public policy-making. Another focal interest of this book is to understand how the principles of strategic intelligence could be utilised within the intelligence community and its practices. In particular, this publication discusses “how we could bridge the gap between the prevailing theory of intelligence processes and its actual practice” and “how intelligence could better bring right-time data for policy makers.” In addition, the book is interested in studying how foresight work could be developed towards strategic intelligence so that it would better serve both intelligence work and policy-making. In this respect, the main research question is “how foresight and intelligence could together better provide policy-makers with the knowledge needed to make right decisions.” This question is divided further into sub-questions, such as “how decision makers could be made to act more strategically, to pro-actively steer foresight and intelligence functions,” “what are the key problems in communication between policy-makers, intelligence services, and strategic foresight functions,” “what kinds of governmental practices should be developed in order to intensify policy-making functionalities,” and “should comprehensive governmental risks and foresight overviews exist, and how could they be created.”

This book is divided into six chapters. Chapters 2 and 3 discuss the principles, practices, and different versions of foresight. The fourth chapter discusses the types of the actors who try to “fish” security or safety related discoveries from the pond of borderless risks and threats. Chapter 5 provides concluded answers to the presented questions, basing on answers from eight dedicated interviews. Finally, in chapter 6, Lauri Holmström and Pekka Riipinen explore the possibilities associated with rethinking the intelligence cycle and process. The goal of this independent study on the role of the intelligence process and the relationship between intelligence analysis and decision-making has been to achieve a set of parameters that can be used to create a more accurate and useful description of the process of intelligence in order to enhance its development.
Foresight as a process and mind-set

Foresight is not predicting but about showing a whole spectrum of future alternatives and asking “what if” regarding each alternative. It is a systematic process for assessing the probability of each alternative’s actualisation and for saying something comprehensive and grounded about the options available in the different cases. The principles of foresight are embedded to strategic intelligence.

This chapter starts out with concept definitions and continues with a discussion on the mind-set and process of foresight. The sole purpose of this chapter is to introduce the principles, processes, concepts, and mind-set of foresight for the intelligence field audience in order to increase actors’ mutual understanding of its strengths and weaknesses. The overlapping parts, i.e. linkages, similarities, and differences between foresight and intelligence are discussed as well.

Concepts

*Futures domain* is sort of an umbrella for the field studying future-related issues in a broad sense. It names a territory that contains a lot of different functions, principles, methodologies, paradigms, and disciplinary approaches such as foresight, futures studies, long-range planning, strategic analysis, intelligence of long term issues, statistics, and so on. Some of these are, however, only weakly linked together in real projects. Intelligence work that studies, for example, the possible paths Al-Qaida could follow in the future can be said to operate within the futures domain.

*Forecasting* is about making more or less linear systematic estimations, statements, extrapolations, projections, or predictions of highly probable future events. In futures domain terminology, forecasting is not exactly the same as predicting, which could refer to e.g. the precise number of times floods will occur over a long period of time in a certain area. A prediction does not usually give estimations of probabilities or ways to prevent the “prophesy,” whilst a forecast is always a probabilistic statement.

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1 However, the difference between these two concepts, forecast and prediction, is not understood exactly the same way in all disciplines. In meteorology, for instance, the weather forecast for tomorrow is not a probabilistic statement. It is merely a synonymous concept to a weather prediction. In economical sciences the word ‘prediction’ refers to the strength of causality between issues. If causality is strong, a statement has some prediction power.
Two characteristics linked to forecasting are **accuracy** and **precision**. Forecasts can be very precise, but quite inaccurate. Forecasts can be self-fulfilling or self-defeating too. Forecasting the possible existence of a condition or technology may make that condition or technology become more likely – this is referred to as a self-fulfilling forecast.

**Wild cards** are improbable big impact events, risks, threats, or hazards that may possibly occur. They are ideas of some kind of a sudden and unexpected event or alternatively a “known unknown” thing, which would have a strong impact on large parts of a society. The probability that they actualise in the given timeframe is usually low – meaning that the probability is something between 5–25%. Yet, they are much more probable than **black swan events** which would truly be “unknown unknowns” with nearly 0% probability. Hence, a wild card is a wild guess of a radical thing that may happen, which goes beyond the current change/transition period.

When a social system is very dynamic, in other words very sensitive to inside or outside effects, it is almost expected that one small event, trigger, or tipping point will sooner or later cause a chain reaction / turbulence in the system. Wild cards are candidates for such trigger incidents. Predicting an Archduke being assassinated in Sarajevo thus triggering World War I, or predicting the burning suicide of Tunis sparking a chain of revolutions in Arab countries, would both have been political wild cards had they been presented before the actual incidents.

**Driver**, or a driving force, is the agent or factor that drives a change forward. The two basic types of drivers in social systems are pulling and pushing drivers. A pulling driver refers to a broad grass-roots level demand for something. For instance, deep public mistrust towards the political systems in Arab countries is a thing that pulls change forward. A pushing driver is, for example, a political decision to put something forward. The most widely recognised example is the American space program. Its most crucial objective was set by President Kennedy: **we will put a man on the moon and return him home safely within a decade**. As Coates and Glenn put it: “surely, the forces at play did not make the man on the moon a likely outcome from incrementally developing military rockets.” Rather, what happened was that a powerful public figure set the goal. That automatically launched a flood of studies on the steps to reach that goal. Its planners had to go

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2 Some literature suggests these events need not be “unexpected.” As John P. Geis has argued: “A slip on the Cascadia fault along the U.S. northwest coast would generate an earthquake measuring around 10 on the Richter scale. This is not a black swan. It’s overdue. It will send a 50–100 meter tsunami across the entire Pacific Basin wiping out San Francisco, Los Angeles, Sydney, Brisbane, Singapore, Tokyo, etc. We know it is coming, but we haven’t planned for it. These kind of things are wild cards too, because they also change everything – even if we know they are coming”.

3 For instance Peter Schwartz (2003) says in his book *Inevitable Surprises*, that there are many “known unknowns” – things we know will happen (e.g., peak oil, Vesuvius eruption, the next great California Earthquake, etc.) though we may not know exactly when. These events are inevitable. We know they will occur, yet because of the difficulty of planning for them, we act surprised when they occur (...) and they have the effect of a “Wild Card” even though there is nothing unexpected or wild about them.

from the macro social goal to forecasts of what kinds of social systems would be implied in order to make that objective real.\textsuperscript{5}

*Trend* is a flow of transformations that cannot be changed easily. A current trend is a push of path-dependence from history, which we believe will continue in the future. One of the most obvious social trends in the western world is the ageing of the population. Thus, a trend is something that can be proven to exist based on statistics or collective agreement. A trend can be identified from time-series analysis or it can be said to exist by experts who are well attached to contemporary transformation. For instance a fashion trend may be hard to identify from statistics but still be seen on the streets.

There are lots of ways to analyse trends. The best known forms are trend impact analysis, trend extrapolation, and S-curve analysis. Trend impact analysis focuses on identifying the sub-trends that a larger trend carries forward and analyses the impact of each of these separately or combined. Trend extrapolation is based on the idea of directly extrapolating the development shown in a historical or current time-series to the future – what if this development continues to the future without any barriers? S-curve analysis is based on understanding the nature of trends and the utilising that knowledge through the analysis. Trends are usually S-curves, which start with a modest pace, but after a while start rapid acceleration until the potential of the trend is consumed and it turns into a slow pace or stagnation. If we make decisions based on trend knowledge, it is very important to know at which stage it is in the S-curve.

*Visionary management*\textsuperscript{6} is a futures-oriented leadership process, which bases on management via vision. The idea is to set a long-term vision and then reflect the present situation against the focused vision. This enables two basic observations. The first is to realise how the organisation’s present performance differs from the vision. The differences are then transformed into new objectives for the organisation. When strategic decisions aim for predictable change and adaptation, visionary decisions aim for discontinuous change, finding new options, and visionary renewal. In the context of strategic intelligence, visionary management can be linked to crisis management initiatives.

*Strategic thinking* is about synthesis: it defines options. It involves intuition and creativity to formulate an integrated perspective or vision of where an organisation should be heading. It is generally intuitive, experimental, and disruptive and it attempts to go beyond what purely logical thinking can inform.

*Strategic planning* is the process of defining a strategy or direction and making decisions on allocating resources to pursue this strategy. It is a process of analysis, breaking down a goal or a set of intentions into steps, formalising those steps so that they can be imple-

\textsuperscript{5}Coates & Glenn (2009), pp 1–4.
mented and articulated according to the anticipated consequences or results of each step. It is clearly an activity that requires strong analytical, logical, deductive, and pragmatic thinking in order to ensure that a particular course of action stays on track. It is in clear contrast to strategic thinking⁷.

*Strategic intelligence* is explained in the introduction chapter.

*Roadmapping* breaks the objective into small parts that should be obtained on the way to the ultimate goal. It establishes a concrete timetable of actions and showcases what things are linked to and have an impact on the path that has been designed.

*Technological forecasting* aims to systematically showcase with empirical data or broad expert analysis that certain technological developments are proceeding in a certain way with high probability. The purpose of technological forecasting is to discuss what new technological products or breakthroughs can be expected or what technological bottlenecks need to be solved.

*Horizon scanning*, also known as *environmental scanning*, is a specific and well-argued theory for how knowledge of certain well-defined research themes can be obtained through gathering knowledge from the environment as broadly and as systematically as possible. Horizon scanning can be divided into two approaches. The outside-in approach attempts to scan the entire operational landscape in order to avoid blind spots. However, this approach is easily hindered by the problem of information overflow. The other approach of environmental scanning is inside-out, which limits the number of fields of interest and the amount of information gathered, but carries the danger of enhancing blind spots by limiting the focus.⁸

*Early warning systems* and *emerging issues analysis* are particular types of operational environmental monitoring systems that aim to detect alarming issues as soon as first signs emerge. They can either be seen as autonomous methodological approaches of general horizon scanning, or as independent methodologies utilising the knowledge produced in a separate monitoring process prior to it. Its process can be divided into three main phases. The first phase consists of the gathering of information, where all relevant weak signals, trends, and issues are collected. It is followed by the second phase, diagnosis, which is characterised by three steps. The first step contains an in-depth analysis of the core of the trends and their potential change and an analysis of the various contexts of the phenomena. The second step includes the selection and clustering of the most relevant trends and issues. The third step of the diagnosis phase consists of the identification and selection of trends and issues that are particularly relevant. Finally, the third main phase formulates an appropriate strategy to react to the relevant trends and issues.⁹ One possi-

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⁹Ibid, 18-19.
ble example of a large international strategic early warning system is the Risk Assessment and Horizon Scanning system (RAHS) coordinated by the government of Singapore.

Corporate foresight\(^{10}\) can be considered to be approximately the same as strategic foresight, except that the concept’s focus on the “corporate” leaves public organisations and NGOs out of its scope. It can be said to have more emphasis on the earlier parts of the strategic foresight process such as horizon scanning, extrapolations, and business environment and competitor analysis and less focus on later parts such as strategy development and planning. This is discussed in more detail at the end of this chapter.

**Futurology and futures studies**

*Futurology* was introduced by Ossip Flechtheim in 1943. Flechtheim’s book\(^ {11}\) (1972) can be seen as a starting point for modern “soft, visionary, or idealistic” futures research, echoing the United Nation’s great objectives. In his book Flechtheim stated that futurology should attempt to solve the following great problems of all human kind: 1) preventing wars and guaranteeing peace, 2) preventing famine and poverty, 3) preventing oppression, 4) enhancing democracy, 5) ending the extortion of nature and enhancing the conservation of nature, 6) fighting against alienation, and 7) creating the new Homo Humanus.\(^ {12}\) In this sense, it may be justifiable to identify futurology as a type of long-range societal “politics” that attempts to change things for the better through pro-active and bottom-up approaches rather than through empirical research and similar types of activity.

*Futures studies* or futures research is not the same as futurology or the French speaking world’s “sibling” approach *La Prospective*, introduced by Bertrand de Jouvenel in 1967, although it has many similar values. Both are highly visionary and pro-active approaches. However, in contrast to futurology and also to most forecasting exercises, futures studies has adopted a vast range of methods and principles from various traditional disciplines, which have been steadily combined and modified into unique holistic and more or less systematic approaches to uncertain futures knowledge. In other words, rather than to predict the future, futures studies seek to connect together various change factors such as driving forces, trends, emerging issues, and conditioning factors in order to envisage alternative futures and, especially, requirements for preferred futures.

To specify the approach of futures studies, Pentti Malaska\(^ {13}\) has identified it as a value-rational field of knowledge, putting it in contrast with all normal sciences, which aim to value neutralism, as will be discussed further in Chapter 5. Futures studies take a stance on dif-

different alternatives and pro-actively describe desired futures images. It attempts to explicate the prospects and consequences of different decisions in order to question or promote certain values or procedures. It claims that even values can be rationally discussed and studied.

One way to categorise futures studies orientations is presented by Olavi Borg. He divides it into all-encompassing grand areas that have different research objectives. Borg states that if the ancient prediction orientation and the modern utopia/dystopia imagination are considered as a unified approach, it can be described as the first grand area of research objectives in futures studies. That would be Creation of interesting future images, visions, and scenarios. The second grand area of research objectives in futures studies is its Ability to support planning and decision-making. Here, its applicability in planning is at a focal point. The third grand area of research objectives in futures studies is Solving the great global questions of all human kind. Finally, Borg’s fourth grand area of research objectives in futures studies is Developing applicable interdisciplinary methodology.

Alongside Borg’s categories, futures studies has been categorised e.g. as follows: Harold A. Linstone’s division to Technical, Organisational, and Personal; Sohail Inayatullah’s division to Predictive, Interpretive, Critical, and Action learning; Roy Amara’s categories of Possible, Probable, and Preferred and his focus areas of Expert evaluations, Scenario processes, and Structural modelling; Ziauddin Sardar’s taxonomy of Colonising and Decolonising; Wendell Bell’s categories of Subjectivist, Realist, and Critical; and Richard Slaughter’s division to Populist, Systems, Critical, and Integral.

Weak signal analysis

The term weak signal originates from seismography and radiology where it refers to signals, pulses, vibration, tremble, or waves that are so small that they are hard to detect. In contemporary futures studies the term weak signal refers to an observed anomaly in the known path of transformation that surprises us somehow. It is based on subjective interpretations and tacit knowledge of something. A weak signal is something we cannot easily link to any known trends or phenomena but can be used for identifying potential crisis or emergence.

Weak signals should not be confused with strong signals, which are things that are already quite well-known, or with trends, which are big transformation processes that we cannot easily stop, such as the ageing of a population. Weak signals should not be confused with drivers or wild cards either.

There are two schools in weak signal detection and analysis. The old school is the traditional extrapolation approach to weak signals or wild cards, and the new school is the pattern management approach to any set of otherwise loose observations or information. The next two sub-chapters base on my previous study on the two schools in weak signal detection and analysis.21

**Traditional extrapolation analysis**

One of the most comprehensive presentations of the traditional weak signal extrapolation approach is presented by Mika Mannermaa in his book22 *Strong future from weak signals*. According to Mannermaa, a phenomenon that has the potential to cause considerable influence but a small probability of coming true is a true weak signal. If a phenomenon has potential to cause only small impacts and also only a minimal probability of coming true, the phenomenon is only “meaningless roaring.” Original trends have high probability because they already exist, but are boring in view of their small effects. Weak signals are “gold nuggets” as they are mysterious and may therefore “explode the bank.”

Hence, the traditional school follows the principles of extrapolation that operates around weak signals or wild cards instead of trends as the extrapolation method usually does. Trend extrapolation, as discussed a few pages above, bases on the idea of extrapolating the historical and current time-series or paths directly to the future. As it bases on hard evidence of existing trend-like transformation, it is a justified and useful approach for highlighting one particular main frame of the transformation. On the other hand, trend extrapolation can be criticised, as it focuses on single one-way causalities within one theme. It ignores the non-linear and overlapping factors of transformation as well as the probable anti-trends, and is therefore deficient in establishing overall views covering all issues.

The traditional weak signals extrapolation analysis is useful in enterprise or organisation consulting which aims to locate new, interesting single ideas or innovations and extrapolate the single (weak signal) ideas for further dissection. It may help the organisation discuss its potential threats or opportunities and question its current path.

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22 Mannermaa, Mika (2004). *Heikoista signaaleista vahva tulevaisuus* [In English: Strong future from weak signals]. Helsinki, WSOY.
However, if the weak signal extrapolation approach, i.e. the traditional consultative approach to weak signals, is critically elaborated from a philosophical standpoint or the viewpoint of the new pattern management school, at least three kinds of general problems can be identified. The problems are conceptual, ontological, and epistemological, as will be discussed below.

In the conceptual sense, this approach mixes plain observations of reality with interpretations regarding them. It also mixes emerging issues, drivers and seeds of change, social understanding of existing phenomena, and actors and subjects of change into a blurred concept of a weak signal. Thus in the traditional approach, a “weak signal” seems to be everything and anything that is related to substantial potential change or can be any idea that is related to futures images, utopias, dystopias, or values.

From the new pattern management point of view, the ontological problem of the traditional approach is related to the attempts to mystify this blurry concept. How believable is it really to suggest that some weak signals (meaning mystical phenomena or “supernatural creatures”) are able to change everything by themselves, and that they are growing in periphery and are just waiting for a good opportunity to “jump” into the main frame in order to mess the existing linear trends and beliefs? Of course, no traditional futurists really believe in such mystical “creatures of free will,” but in the ontological sense the traditional extrapolation approach to weak signals seems to contradict the scientific understanding of societal change at least in some ways. If the nature of societal change is interconnected, non-linear, interpretable, and multi-causal, how could we believe in individual (super) weak signals to determine the future or alternatively tell the future simply by revealing it?

Thirdly, if we look at the traditional approach critically from the new pattern management viewpoint, it also has an epistemological problem. If the concept itself is a blurry mixture of any aspects related to potential change, which may even be further mystified to mean something supernatural, what would this mean epistemologically? How could such weak signals (meaning “supernatural creatures” or future-images-living-in-this-day) be identified after all? The answer based on the traditional approach is that a sensitive futurist observes potential seeds of big change / weak signals and extrapolates the most interesting parts into scenarios. However, is not such a traditional approach to observing, collecting, and sense-making future signals highly arbitrary? Furthermore, what if someone would suggest that s/he can really see the future on the basis of only one signal? Hence, a representative of the new weak signal pattern management school might ask would such allocations not have the potential to blur the difference between the psychic foreseeing or other supernatural predictions and modern futures research and therefore to undermine the credibility of the entire research field?

Intelligence focuses mostly on existing tangible phenomena, whereas futures studies focus mostly on possible futures. This means that their methods of reasoning are different both in the ontological and epistemological senses. Yet, as many tasks in intelligence
analysis operate around analysing weak signals, which are intangible by nature and intuitively gathered and assessed, the previously discussed ontological and epistemological problems are relevant questions also in intelligence analysis. The pattern management approach to weak signal analysis resembles intelligence analysis more closely than the traditional approach, but there are still many differences due to different objectives and time perspectives.

**New pattern management analysis**

For the new school of weak signal pattern management, there is no such thing as a contemporary real weak signal, as we are unable to objectively agree upon one. A weak signal is a completely subjective construction. One thing may be a weak signal to you, but to another it is old information or nonsense. We tend to consider things outside our own domain of expertise as weak signals, and new things emerging within our own domain we tend to ignore or just link to something that already exists.

We can say that weak signals are observations or strange ideas that someone has subjectively reasoned to have some special foresight value. They are based on subjective interpretations and tacit knowledge of something. Weak signals help us manage patterns of chance. Any emerging pattern of chance will certainly give out signals in many ways and one should not rely on only one signal when attempting to reason something. Use of systematic pattern management helps one assess and cluster signals and make conclusions about emerging or changing issues.

People who treat weak signals according to the pattern management approach know there have been many attempts to create systems\(^\text{23}\) to separate objective weak signals from subjective intuition, but these have never really helped identify objective weak signals due to the difficulties outlined above. At best, such software systems have been able to produce lists of issues that some informants consider highly important change factors whilst others treat them as nonsense.

In the new school, weak signals exist in many layers. There are signals of something that could possibly start affecting something else that, in turn, could eventually have a significant effect. Such potential early stage signals are particularly subjective and theoretical. It is very difficult to reach any agreement on possible causalities between intuitive observations and large future events. At the other extreme weak signals are very late tangible signals. To give an example, there is a direct observation of something which gives us a good reason to believe there will be a direct causal effect following that observation (e.g. we see that an airplane is hijacked by a terrorist and we know that it is heading towards New York).

\(^{23}\)The world’s biggest open source databases for collecting and analysing weak signals and wild cards are UK government’s www.sigmascan.org, and EU project iKnow’s http://wiwe.iknowfutures.eu.
When we look at history, we can easily name certain things that were real tangible weak signals at the time, prior to becoming strong signals and later phenomena. For instance, as we have hindsight of the year 2011 revolutions in Arab countries, we can say in retrospect that one true weak signal of the coming events was the NSA’s discovery of exponential growth of text and SMS messages in Tunis in the last 10 years. Another significant signal, stronger and more direct than the first one, however, was the already discussed incident in which a young vegetable salesman burned himself in public in Tunis as a political protest. That was a signal of deep mistrust in the political system, which may have evolved into a collective bifurcation point of full-scale revolution. That signal can be compared to another signal already discussed, the 1914 Sarajevo assassination of the Archduke Ferdinand of Austria, which led to World War I only a month later.

To avoid confusion – in foresight weak signals do not need to be anything as special as the examples above. Those are real tangible and direct weak signals, which are uncommon. Usually weak signals are much more modest; they are anomalies that may tell you about large changes. No matter what type the weak signal, we can only know retrospectively if the detected signal was accurate foresight knowledge or misinterpretation. Furthermore, weak signals are not trigger or tipping points or the thing itself that is changing or doing something. For a representative of the new school, a terrorist carrying a bomb is not a weak signal. It is the target or agent. The weak signal is your direct observation of a man carrying an item that just may be a bomb.

**Scenarios and creation of alternatives**

The last large term explanation discusses the meaning of scenario method in foresight. It will be explained quite thoroughly with some examples as it has a significant role in this book.

*Scenario* is a detailed description of potential developments from the present to the futures. The term ‘scenario’ originates from plot outlines in dramatic arts and from movie directors illustrated sketches, which describe action sequences in movies. The father of scenario construction for futures studies and policy analysis was Herman Kahn, who introduced the term into planning, military, and strategic studies in the 1950s. At the time he worked at the RAND Corporation (Research and Development), which was established as a mutual long-range planning project between the US Army Air Corps and the Douglas Aircraft Company during World War II.25

25RAND became independent from any defense contractors already in 1946 and started to diversify broadly to other sectors of society. Today, RAND is a multinational non-profit institution, whose research is commissioned by a global clientele that includes government agencies, foundations, and private sector firms.
The company that made scenario work well-known throughout the world, during the oil crisis of the early 1970s, was Royal Dutch/Shell. The success story of Shell’s scenarios is presented at the end of Chapter 5.

In any scenario process, the objective is to liberate people’s insights and open up the whole spectrum of future possibilities. It is to introduce novel views that are beyond the existing linear trends and time series, and to help the current decision-making and risk analysis better understand the causes and effects of certain low probability trigger points. And finally, it is to help decision-makers see some perspectives, causes, and effects related to the decisions that should be made today. According to Jerome C. Glenn et al.26:

The purpose of scenarios is to systematically explore, create, and test consistent alternative future environments that encompass the broadest set of future operating conditions that the user might possibly face. Scenarios can help generate long-term policies, strategies, and plans, which help bring desired and likely future circumstances in closer alignment. While writing the scenarios, the process can also expose ignorance; show that we do not know how to get to a specific future or that it is impossible. Furthermore, they serve to bring assumptions about the field they cover to the foreground and can serve as a tool to discuss, test and perhaps re-evaluate these assumptions, for example, about how certain trends or factors interact and shape the field. Scenarios are also used for innovation development, when scenarios describing, for example, future living conditions and specific fields of consumption are used to generate new product ideas.

As Peter Schwartz27 put it, all societal levels – political, economic, social – have their own versions of logic, which can be called the plot of the story:

All cycles have a similar plot, a plot of rising and falling fortunes. All evolution works pretty much the same way. (…) (scenarios) describe how the driving forces might plausibly behave, based on how those forces have behaved in the past. The same set of driving forces might of course, behave in a variety of different ways, according to different possible plots. (…) The purpose of scenarios is to help yourself change your view of reality – to match it up more closely with reality as it is, and reality as it is going to be.

Contemporary scenarios are used especially in foresight, futures studies, strategy work, military intelligence, and long-range planning and there are many different applications of scenarios based on the objectives, context, or nature of the user organisation. We can

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identify two distinctive strategies of scenario work: explorative scenarios and normative scenarios.

Alongside the two general methodological strategies, Coates and Glenn\textsuperscript{28} have identified three specific applications of scenarios:

One is to put forward a future situation and use that as the jumping-off place for further planning, thinking, or research. Another use of a scenario is to present a completed image of some future situation, representing a full story about the future. A third application is to present a situation radically at odds with traditional thinking. By being organized and coherent, the scenario drives home the central point that the organization had to begin thinking in new terms and considering new goals.

All three of these applications of scenario work can be applied in the production of both explorative and normative scenarios.

**Normative scenarios**

In normative scenario work, the author first sets the visions and norms. Hence, at the beginning he can make a jump to non-linear imaginary future images, visions, or objectives that have been named and afterwards attempt to explain how it could be possible to end up with those kinds of futures from the present state of affairs. The method allows the author to leave certain transformations in the path unexplained. When using normative scenario methods, there is no need to ground the storyline to historical and evident insight data in the same way as with explorative scenario methods. Thus, it is enough to say that certain things emerged or happened in a certain year and then launched, for example, a huge demand for solar panels, which again led to new situations.

**Explorative scenarios**

Explorative scenario work explores, according the principle of explorative forecasting, what is possible and probable regardless of what is desirable. One way to do an explorative scenario is to extrapolate an existing trend from past to the future and create a story of how everything might be if everything went according to that extrapolation.

Explorative scenarios must be grounded in empirical evidence and the method requires the identification of a logical path from the present towards possible futures. Explorative scenarios tend to rely heavily on mathematical analysis and formal, quantitative trend forecasting as well as the extensive use of probabilistic methods, meaning that it suggests alternative outcomes. It begins pre-actively with the present as a starting point, examines the various ways in which those forces and components may play out, and

moves forward to the future. In other words, “true” explorative scenario work usually starts from identifying and analysing all the contemporary trends, drivers, actors, obstacles, and objectives that are relevant in future transformation. Next, it explains which issues and drivers could lead to certain types of development and argues how they may interact and co-evolve and why. After that it identifies possible trigger points, which could turn the change away from the identified linear path. Then the method starts to explain how these new paths could evolve in the new circumstances. Finally, the method explains what types of futures there could be at the end of such paths in a certain year, presumed that the development could continue all the way in that particular path. Hence, the “true” explorative method is going from the present to possible futures without knowing at the start where the scenarios will lead to in the end.

Whatever methodological strategy, application, or method is selected, scenario work can in principle be used to produce an almost infinite number of scenarios, which again can be very brief or very descriptive multi-page essays. Nevertheless, a scenario should always be created systematically and it should contain a logical backbone that identifies the variables in the situation under study, sets some overall themes for the scenario, and then assigns qualitative and quantitative values to the scenario variables. From there, one creates the integrated image.

It should be noted that not every projection or statement of future developments is a scenario. What usually passes as a scenario is a discussion about a range of future possibilities with some kind of a storyline from the present to the future, including some data and analysis.

In practical terms, however, one could argue that there are usually not that many basic storylines that a scenario tends to follow. No matter what the working method is, the storylines often follow one or several of the following:

- Everything is fantastic.
- Everything goes very badly.
- Everything goes on as usual.
- One thing works well, but another works badly (e.g. good economy but low happiness, or some gain a lot but some lose a lot).
- Everything starts badly at first, but then will see better days.
- Everything goes well at first, but then turns out badly.
- Society is run by technology or hard economic values.

29Ibid.
31Such as Global Trends 2025: The National Intelligence Council’s 2025 Project.
32Ibid; Godet, Michel; Monti, Régine; Meunier, Franci & Robelat, Fabrice (2000); Godet (1993).
• Society is run by fundamentalism and dogmas.
• Society is run by nationalism and protectionism.
• Society is run by humanistic and liberal values.
• There is a game change (y) because of a trigger incident (e.g. one power falls and a rival takes dominance — or all winners become new losers and all losers become new winners).
• There is a game change (z) because of a trigger incident (e.g. one suddenly takes full dominance and the other falls or is exploited).

The end result of scenario work should not be an accurate picture of the state of the future, but allow for better decisions today.

**Summary of futures domain concepts**

The next table describes and differentiates specific meanings of the twelve most common concepts and practises related to the futures domain. The idea of the table is to present three most focal functions, aims, or aspects of each concept. Function A is the primary, B secondary, and C tertiary content of a concept.

### Table 1 Meaning of concepts in futures domain

<table>
<thead>
<tr>
<th>Concept</th>
<th>Function A</th>
<th>Function B</th>
<th>Function C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participatory foresight = participation</td>
<td>+ alternatives</td>
<td>+ insight</td>
<td></td>
</tr>
<tr>
<td>Strategic foresight = policy orientation</td>
<td>+ insight</td>
<td>+ alternatives</td>
<td></td>
</tr>
<tr>
<td>Corporate foresight = policy orientation</td>
<td>+ vision</td>
<td>+ insight</td>
<td></td>
</tr>
<tr>
<td>Intelligence = insight</td>
<td>+ predictions</td>
<td>+ alternatives</td>
<td></td>
</tr>
<tr>
<td>Horizons scanning = insight</td>
<td>+ assessment</td>
<td>+ participation</td>
<td></td>
</tr>
<tr>
<td>Technological assessments = assessment</td>
<td>+ participation</td>
<td>+ planning</td>
<td></td>
</tr>
<tr>
<td>Forecasting = assessment</td>
<td>+ predictions</td>
<td>+ insight</td>
<td></td>
</tr>
<tr>
<td>Predicting = predictions</td>
<td>+ vision</td>
<td>+ assessment</td>
<td></td>
</tr>
<tr>
<td>Long-range planning = planning</td>
<td>+ assessment</td>
<td>+ policy orientation</td>
<td></td>
</tr>
<tr>
<td>Scenarios = alternatives</td>
<td>+ planning</td>
<td>+ vision</td>
<td></td>
</tr>
<tr>
<td>Futures studies = vision</td>
<td>+ pro-activity</td>
<td>+ alternatives</td>
<td></td>
</tr>
<tr>
<td>Futurology = pro-activity</td>
<td>+ vision</td>
<td>+ planning</td>
<td></td>
</tr>
</tbody>
</table>
Naturally most of the concepts and practices in the table contain many additional aspects and functions that are not mentioned. Thus, the aim is not to provide an exhaustive list of things that each concept stands for, but to present a list of viable focal points that differentiate each concept from the others.

We can also divide the futures domain into a scale with five distinctive classes. The first one is foretelling and prophesy. There the future is deterministic and it has nothing to do with any scientific approaches. Crystal ball is an example here. The second one is predicting, which is common e.g. in meteorology, statistics, and some natural sciences. There the idea is to try to find strong enough causalities that can be used to predict events with nearly 100% certainty. Examples of this are the weather (forecast) for tomorrow, and prediction of floods in a certain area. The third one is forecasting, which usually studies a narrow branch of change and tries to say what is probable and plausible in it. It bases on trend extrapolations, estimations, assessments, causalities, and probabilistic statements. Economists try to forecast next year’s GDP growth and seismologists try to forecast the next volcano eruption.

The fourth one is foresight, which starts with the principles of forecasting, but aims to create a more comprehensive understanding of change and ends up presenting the spectrum of alternatives instead of just one forecast. The fifth one is futures studies,
which has lots of methodological similarities with foresight, but many differences with its objectives. Futures studies are much more visionary, pro-active, and value-rational in comparison to foresight. Whereas foresight attempts to help the decision-makers and other stakeholders to see options, futures studies attempts to vision a better world and make a change towards it.

**Foresight in principle**

The word ‘foresight’ was mentioned for the first time in a BBC broadcast in 1932 by visionary author H.G. Wells, who called for the establishment of “Departments and Professors of Foresight.” This makes the term one of the oldest in the field of futures studies.

The first characteristic of any good foresight is its ability to generate new ideas, which are simultaneously out-of-the-box and grounded. Secondly, foresight is meant to provide a holistic spectrum of interesting events that we can expect with certain level of certainty. The role of such grounded futures knowledge is increasingly becoming the foundation for any new services, products, or business concepts.

Today the term ‘foresight’ refers to a systematic process where one attempts to say something comprehensive and grounded about the futures probabilities, change drivers, change factors, interrelations, and options for actions. The guiding principle of all foresight is that the future cannot be predicted, as it is not here yet. In particular, the forming and outcomes of social phenomena are too complex to be comprehensively understood much in advance. At best, alternative scenarios and some probabilities beyond linear predictions can be attributed to emerging social phenomena. Yet, the future can be created through the actions of today – and therefore partly known too. And much of the future exists already in today’s values, objectives, drivers, and trends and those can be studied systematically.

The process of foresight is meant to be systematic and holistic and it is supposed to integrate hindsight, insight, and forecasting in a meaningful way. The backbone of foresight is (hind)sight which is about more or less systematically understanding the past processes and constraints of change. The body of foresight is (in)sight which is an attempt to comprehensively understand the true nature of the present and its structures, actors, and drivers. The eyesight of foresight is (for)casting which refers to understanding the probable path-dependencies of existing trends, phenomena, and visionary thinking.

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33 Insight, as defined by Clive Simmonds, is the ability to perceive the true nature of a thing, especially through intuitive understanding (in this context, what and how something is happening, who is making it happen and why). Insight is also the ability to look beyond, behind, and through the actions of others to the new principles that they are consciously or unconsciously disclosing. “Insight requires perceptiveness and leads on to the search for the emergent, and therefore for ways to detect it – because you are now looking for something the seeds for which are already being sown.” (c.f. Simmonds, W.W. Clive (1993): Monograph Insight Analysis. p.2–3 September 1993; c.f. Glenn, 2009: Genius Forecasting).
Another key component of foresight is the attempt to pack the holistic understanding into well-defined alternatives. In other words, the core of foresight may be defined as the attempt to pack the knowledge of the elements that create the future into holistic understanding, which again is presented in forms of alternative scenarios, visions, or actions.

Two things are of particular concern in foresight and futures studies:³⁴

- Concern of longer-term futures that are at least 10 years away (though there are some exceptions to this in foresight, especially in its use in private business intelligence).
- Concern of alternative futures. It is helpful to examine alternative paths of development, not just what is currently believed to be most likely or usual. Often futures work will construct multiple scenarios. These may form an interim step on the way to create what may be known as positive visions, success scenarios, or aspirational futures. Sometimes alternative scenarios will be a major part of the output of futures work.

Another way to define foresight has been presented by Richard Slaughter,³⁵ who explains it as a process that attempts to broaden the boundaries of perception

- by assessing the implications of present actions, decisions, etc. (consequent assessment),
- by detecting and avoiding problems before they occur (early warning and guidance),
- by considering the present implications of possible future events (pro-active strategy formulation), and
- by envisioning aspects of desired futures (preparing scenarios).

The European Commission’s A Practical Guide to Regional Foresight (FOREN) has been considered the “European Union’s official definition of foresight” by many foresight practitioners. The definition of good regional foresight practice from 2001 is still a quite valid description.

The FOREN report³⁶ defines foresight as follows.

Foresight is a systematic, participatory, future-intelligence-gathering and medium-to-long-term vision-building process aimed at present-day decisions and mobilizing joint actions.

Foresight arises from a convergence of trends underlying recent developments in the fields of ‘policy analysis’, ‘strategic planning’ and ‘future studies’. It brings together key agents of change and various sources of knowledge in order to develop strategic visions and anticipatory intelligence.

FOREN working group highlighted the value of the participatory element in foresight by saying:

The difference between Foresight and other planning activities relates to the participative dimension of Foresight. (...) Common features of Foresight include: a long-term orientation, the examination of a wide range of factors, the drawing on widely-distributed knowledge, the institutionalization and creation of networks and the use of formal techniques/methods. Formal methods provide more operational results, assess the consistency of different aspects of the vision, help to identify where more knowledge is needed and legitimise the exercise (...) Foresight is a very evocative label for the rise to prominence of participative methods and long-term strategic futures techniques, in the wake of more traditional ways of informing policy planning.

According to the FOREN group, there are different types of foresight that arise from three specific distinctions, these are: bottom-up vs. top-down approach; product vs. process-orientation; and the examination of experts’ views vs. consequences. Foresight approaches are usually a mix of several of these.

- Top-down exercises place less stress on interaction and involve highly formal methods such as the Delphi method.
- Bottom-up exercises are more interactive - they take a greater number of views into account, increase legitimacy, and yield more process benefits but are more time consuming and more difficult to organise.
- Product orientation is necessary if there is a need to inform specific decisions (a report, list of priorities).
- Process orientation is more suitable when there is a lack of networking between key actors.
- As the titles suggests, the fifth type involves examining and articulating the views of experts and the sixth revolves around investigating the consequences of future assumptions.

Furthermore, FOREN gives the following five elements as essential parts of “real” foresight:

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• Structured anticipation and projections of long-term social, economic, and technological developments and needs.

• Interactive and participative methods of exploratory debate, analysis, and study involving a wide variety of stakeholders are also characteristic of foresight (as opposed to many traditional futures studies that tend to be the preserve of experts).

• These interactive approaches involve forging new social networks. Emphasis on the networking role varies across foresight programmes. It is often taken to be equally, if not more, important than the more formal products such as reports and lists of action points.

• The formal products of foresight go beyond the presentation of scenarios (however stimulating these may be) and beyond the preparation of plans. What is crucial is the elaboration of a guiding strategic vision to which there can be a shared sense of commitment (achieved, in part, through networking processes).

• The shared vision shall not be utopian. There has to be explicit recognition and explication of the implications for present day decisions and actions.

Another of European Union’s more or less official documents defining foresight is the Handbook of Knowledge Society Foresight,38 which was published a year later, in 2002. It highlights the fact that since the late 1980s there has been much re-branding of technology, environmental scanning, forecasting, and all sorts of similar activities as foresight, as the term has been linked to many successful exercises. However, all such narrow futures methods are not foresight even if they are called that. In practice, foresight exercises may be limited, but only at a cost. Hence, the authors of the Handbook of Knowledge Society Foresight recommend the use of the term ‘fully-fledged foresight’ to describe those approaches that go beyond the narrower futures methods. Fully-fledged foresight places emphasis on policy networking as well as on longer-term analyses to inform present-day decisions, and it incorporates the following features:

• It is based on the need to inform decision making with knowledge, for policies and strategies need to be based on sound evidence and expert opinion.

• It recognises that this knowledge is widely dispersed and needs to be accessed through social networks.

• It recognises that change is a constant, and that it is important to be aware of the long-term context within which present decisions are being made and will have an effect.

The previous description of fully-fledged foresight tends to be a comprehensive definition of all foresight, but it may be argued that it better describes (fully-fledged) partici-

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patory foresight than desk work foresight or strategic foresight, which are defined at the beginning of the next chapter.

The reasoning goes as follows.

- Only strategic foresight needs to inform decision-making with knowledge for policies and strategies. Participatory or desk work foresight does not need to work for policy-makers.
- Only strategic and desk work foresight need to be based on sound evidence and expert opinions. Participatory foresight can base on stakeholder opinions only.
- Only participatory foresight has to recognise that futures knowledge is widely dispersed and needs to be accessed through social networks. Strategic and desk work foresight can function without social networks.
- Only the last bullet is common for all foresight.
Three versions of foresight

This chapter presents three main versions of foresight, which are **strategic**, **desk work**\(^{39}\), and **participatory foresight**, concluding that strategic foresight is the leading approach from the viewpoint of policy-makers and strategic intelligence. The actual opportunities of utilising or merging certain parts of foresight with the intelligence field will be discussed in later chapters.

As discussed in the previous chapter, foresight methods, principles, and approaches can naturally be divided in various ways. The options contain e.g. human judgement vs. hard evidence, pre-active vs. pro-active, probable-possible-preferred, and many other practical divisions that suit futures studies better than foresight, but which are relevant for both. Nevertheless, not so long ago foresight was considered as one unified set, as can be read from the definitions provided in the previously discussed publications *The Practical Guide to Regional Foresight* and *The Handbook of Knowledge Society Foresight*. At the time it was understood that foresight is merely a set that varies according to used methods or objectives. However, this gradually changed. First, foresight and futures studies were separated. Secondly, “real” or “fully-fledged” foresight was attempted to be separated from other, narrower futures methods or focuses, as discussed earlier. Thirdly, strategic foresight\(^ {40}\) became considered as something a bit different from general foresight. Finally, participatory elements became considered as something that are sometimes heavily used in foresight and sometimes not. That discovery made it natural to start talking about participatory foresight, which is done only together with “non-futurist” stakeholders separately from desk work foresight.

Therefore, my argument is that currently there are three main versions of foresight; participatory, desk work, and strategic foresight. I have come to this conclusion on the basis of my relatively long work in the field, my PhD thesis\(^ {41}\) that studied the theme, and on the interview studies that were done for my previous book\(^ {42}\) and for this book.

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\(^{39}\)The term ‘desk work foresight’ is initiated for the first time here. It involves almost only researchers with academic aims.


• Participatory foresight refers to broad stakeholder involvement and empowerment in a desired futures visioning, anticipation, and co-designing process. It encourages employees, customers, citizens, activists, NGOs, etc. to tackle identified problems and promote preferred visions. Ideally participatory foresight is done with practitioners and stakeholders from a grass-root perspective, but it can be done together with decision-makers as well. In participatory foresight, the alternatives are always co-created together with stakeholders. A participatory foresight element can be a module in desk work foresight and strategic foresight.

• Desk work foresight refers to an academic approach of integrating systematic futures thinking to particular detached research project, planning process, or report writing. Hence, desk work foresight, which is especially common in futures studies, refers to a self-contained project that is done by experts without strong cooperation either with hands-on stakeholders and practitioners or with paying clients and decision-makers. In desk work foresight, the alternatives are created for academic or public purposes. Desk work foresight may sometimes have some participatory elements or modules, and its products can be presented in the same format as strategic foresight products if needed.

• Strategic foresight refers to customer-oriented projects with well-defined targets. It aims to produce strategically viable policy alternatives for public or private decision-makers, who want to stay in power and win political, military, or economic battles. It bases on strategic analysis, but adds a long-term futures aspect to it. Strategic foresight creates strategic and often secret alternatives and they are created either in cooperation between experts and decision-makers or just by external experts. A strategic foresight process can include both participatory foresight and desk work foresight elements when needed.

If we study Jürgen Habermas’ philosophical standpoint in comparison to the three versions, we may conclude the following differences:

• Participatory foresight strictly follows historical-hermeneutic knowledge-constitutive interests. It pursues to remove misunderstanding between people and facilitate communication and ideation so that a deeper mutual understanding is reached. (Experts facilitate stakeholders’ co-design work).

• Desk work foresight follows the emancipatory interest of knowledge more strongly than the other types. It aims to reveal and overcome dogmatism, compulsion, and domination in order to attain more rational social institutions and relations. This pursue is particularly strong in critical futures studies which aims to reveal e.g. organisational, cultural, and unconscious motivations behind people’s decisions. (Experts reveal faults and ideate change).

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43Habermas (1972).
44The original name of this is practical interest of knowledge, but that form is too easily confused with the technical one which is why that name is not used here.
Three versions of foresight

- Strategic foresight strongly follows the technical interest of knowledge, which aims to classify, predict, and control. It pursues to produce knowledge in a way that removes irrationality and chaos, and improves efficiency and order. (Experts produce knowledge that removes ambiguity from decisions).

A brief simplification of the three versions of foresight could be that participatory foresight is for ideation of useful actions together with stakeholders, desk work foresight is for creating new understanding without stakeholders, and strategic foresight is for adding long-term perspectives into strategic analysis.

**Participatory foresight**

Participatory elements can form a part or module in any foresight process, but that does not necessarily make the work participatory foresight\(^{45}\). The term refers to a broader process which contains strong stakeholder involvement and empowerment in a desired futures visioning, anticipation, and co-designing process. Participatory foresight needs to encourage employees, customers, citizens, activists, NGOs, etc. to tackle identified problems with mutually co-designed solutions, and it needs to promote preferred visions for grass-root level action\(^{46}\). Therefore, participatory foresight and participatory planning go hand in hand. Once the threats, opportunities, emerging issues, etc. are mapped together, the process of co-creating alternative scenarios, solutions, services, products, and so on will begin.

It is quite common to begin a participatory foresight project with strategic foresight (if a customer aims to make decisions) or desk work foresight (if the study has more academic purposes). Both these ways of beginning a foresight study aim to create a comprehensive overview of the growing phenomena, trends, and potential seeds of change within a given theme or area of industry. Once a comprehensive overview is mapped, a group of relevant stakeholders start an assessment of the relevance and impact of that foresight knowledge. Next the ideation process, which is based on grounded and mutually assessed foresight knowledge, can begin. This ideation phase should be followed by assessing best ideas, which leads to a rapid concept design phase, and if needed further into rapid prototyping of the most promising concepts. These new alternative concepts and prototypes may contain strategy products, scenarios for developing the organisation or business, service design products, interior design products, solutions to imminent problems, list of needed actions for this year, next year and further, and so on.


\(^{46}\)Enlightenment philosopher David Hume had discovered the Is-ought problem, better known as Hume’s Guillotine, during his study for *A Treatise of Human Nature* (1739). The problem is basically that people do not change their behaviour basing on new knowledge alone (what ought to be done). Emotional ties need to be connected to the new knowledge before it can lead to actions. One way to generate such emotional ties is to make decision-makers and stakeholders realise the needed actions by themselves (cf. participatory foresight and co-design).
As emphasised in the previous passage and Figure 3, participatory foresight can be a standalone process or operate as an intermediating method between e.g. strategic foresight and design of actions. Either way it works hand in hand with the principles of service design and its two ‘siblings’ or rival concepts ‘co-design’ and ‘design thinking.’

The concept of service design has strong European roots. The concept and the idea behind it originate from the domain of marketing research. The concept was introduced for the first time by Lynn Shostack in 1982. She proposed the integrated design of material components (products) and immaterial components (services). This design process can be documented and codified using a “service blueprint” to map the sequence of events in a service and its essential functions in an objective and explicit manner. Furthermore, modelling and blueprinting offer marketers a system that can lead to the kind

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47 Service design is a relatively new field of expertise. It has mostly developed over the past 20 years. The deepest historical roots of both design and service design are in arts, crafts, and organised planning. Later the actual concept of design with many of its sub-areas such as architecture and jewellery as well as textile, furniture, and graphic design started to emerge. Then service business development, service marketing, industrial design, and especially ergonomics, interaction design, usability design, and information design grew out from the thick root of design.


of experimentation and management necessary to service innovation and development.\textsuperscript{50}

Design thinking is an American approach. To be more specific, it is an invention of the design agency IDEO, now further developed and studied at d.school: Institute of Design at Stanford. In d.school, design thinking means a practical approach to understanding the processes that can be linked to the development of any organisation, product, or service.\textsuperscript{51} In d.school, design thinking is a process rehearsed in collaboration with students and customers. At its core are doing, radical collaboration, and empathy towards the end-user – prototyping and testing having important roles as well. Students are taught to come up with ideas quickly. Sometimes they are only given a few minutes for creative concept development.

Co-design has traditionally referred to designing with, for, and by society supported by societal, cooperative ambition to become more sustainable. Nowadays, it also refers to an upstream and downstream method, and to an idea of giving a voice to the silent people of the organisation who have traditionally not been involved in the design process. In brief it is a set of process and tools for collaborative engagement of users and stakeholders.\textsuperscript{52}

Participatory foresight processes should not only produce foresight knowledge, but also useful new ideas and concepts for the customer.

**Desk work foresight and the interests of knowledge**

Desk work foresight refers to a more academic approach of integrating systematic futures thinking to a particular research project, planning process, or report writing. It may sometimes utilise some participatory elements or modules in its processes, and it may aim to create a comprehensive overview of the future, as strategic foresight does.

In theory, desk work foresight aims to establish better foundations for the future by revealing and overcoming dogmatism, compulsion, and domination in order to attain more rational social institutions and relations. This pursue is especially strong in critical futures studies which aims, for instance, to reveal organisational, cultural, and unconscious motivations behind people’s decisions (experts reveal faults and ideate a change). In practice, the end product of desk work foresight is often a report together with a list of recommendations, mainly done only by futurist researchers who have studied the theme.

from the outside. A desk work foresight report is usually read by fellow researchers and government officials, but not by decision-makers.

Hence desk work foresight, which is especially common in governmental, university, EU project’s futures studies, and in think tanks, refers to a self-contained project that is done by experts without strong cooperation either with the hands-on stakeholders and practitioners or with paying clients and decision-makers. In desk work foresight, the alternatives are mainly created for academic or public purposes.

**Strategic foresight**

In brief, strategic foresight is a process that attempts to add long-term overview and alternatives to strategic analysis. In more detail, it enhances an individual’s or organisation’s ability to understand emerging risks and opportunities, path-dependencies, drivers, motivations, resources, evolution or co-evolution, and causalities that are linked to the “game-situation” at hand. It also aims to open up the spectrum of currently viable alternative actions and decisions in a situation that is under constant change. In other words it opens alternative futures by forming the space of possible, plausible, probable, or preferred futures paths in a way that help the decision-makers make better informed and prepared decisions.

Hence, in a philosophical sense strategic foresight aims to classify, predict, and control. It pursues to produce knowledge that removes ambiguity, irrationality, and chaos from decision-making and improves order and efficiency of policy-making. In practical terms it is concerned with the organisation’s overall strategic plans and means of achieving its long-term objectives.

Strategic foresight\(^{53}\) is a special case among foresight as it is so strongly oriented towards the needs of decision-makers or paying customers and places great focus on strategic issues and “top-down” targets in comparison to the other forms of foresight. It aims to produce strategically viable policy alternatives for public or private decision-makers, who want to stay in power and win political, military, or economic battles. In strategic foresight, strategic and often secret alternatives are created either in cooperation between experts and decision-makers, or just by external experts.

In other words, what differentiates strategic foresight from other types of foresight is its ability to help a (large) organisation to define the terms and conditions in which the “battle” is fought, and whether it should be fought at all. In other words it is more than just a tool in strategic intelligence. It is the other half of it.

Strategic foresight is something that Sun Tzu held in high esteem in *The Art of War*: “Foreknowledge enables a wise general to achieve things beyond the reach of ordinary men.”\(^{54}\)

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According to Sun Tzu,\textsuperscript{55} before you decide to go to war, you must determine all the military conditions as objectively as possible, and in the following order:

- Which of the two sovereigns has the stronger determination to win?
- Which of the two generals is more skilful?
- Which side has advantage of topography, weather, and light conditions?
- Which side has a stronger discipline?
- Which army is bigger and better equipped?
- Which side has better trained officers and men?
- Which side is more consistent in its punishments and rewards?

Sun Tzu said: “after studying these seven conditions I can forecast which side wins and loses (...) If you know the enemy and yourself, you need not to fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will lose in every battle.”\textsuperscript{56}

To be able to make such judgements, you need reliable knowledge of the enemy.

“This knowledge cannot be elicited from spirits, it cannot be obtained inductively from experience, nor by any deductive calculation. It can only be obtained from other men. (...) Hence, spies are the most important element in war, because on them depends an army’s ability to move. (...) It is always necessary to begin by finding out the names of the attendants, the aides-de-camp, the door-keepers and guards of the general in command. Our spies must be commissioned to ascertain these.”\textsuperscript{57}

**The process of strategic foresight**

Averil Horton\textsuperscript{58} has defined the dynamics of foresight process in the following way:

“It has three distinctive phases which are: “input”, “foresight” and “output” (...) each phase creates a greater value than the previous one, as the outputs move up the information value chain from information through knowledge to understanding, and finally to wisdom. However, this value is only realized at the very end of the process and even then often with a significant time lag. Each phase is also more difficult and time consuming, more abstract, and less easy to measure than the preceding one. In a successful foresight process, these three phases will result in taking decisions and actions which will be different to those which would have been carried out in the absence of the process.”

\textsuperscript{54}Sun Tzu (2004, 59).
\textsuperscript{55}Sun Tzu (2004, 7-17).
\textsuperscript{56}Sun Tzu (2004, 17).
\textsuperscript{57}Sun Tzu (2004, 59-61).
\textsuperscript{58}Horton (1999, 6–8).
Andy Hines and Peter Bishops\textsuperscript{59} have defined strategic foresight as “an ability to create a variety of high quality forward views and to apply the emerging insights in organisationally useful ways; for example to detect adverse conditions, guide policy, shape strategy; to explore new markets, products and services.” This is to say that strategic foresight operates in several stages of strategy work – at least in strategic thinking (alternatives and what-if questions) and strategic planning (breaking the objectives into steps), the two main approaches of strategy work as defined by Henry Mintzberg. It can also be said to operate within strategic analysis and market intelligence, to which it provides alternatives that base on long-term overview. Both market intelligence and strategic analysis refer to continuous analysis of relevant market trends, drivers and competitors, competitive environments analysis, and new business opportunities identification, but the first focuses more on comprehensive knowledge gathering and business opportunities intelligence, and the second on evaluation of strategic options in dynamic markets.

Joseph Voros\textsuperscript{60} has created a \textit{generic foresight process framework}, which attempts to specify the universal levels, functions, and methodologies of strategic foresight processes.

\begin{center}
\begin{tabular}{|l|}
\hline
\textbf{INPUTS} \\
Detect what is happening: strategic intelligence, data / web mining, early warning systems, environmental scanning, emerging issues detection, systematic reading, surveys, Delphi, brainstorming sessions, spying, surveillance, and simply talking to people. \\
\hline
\textbf{ANALYSIS} \\
What seems to be happening: trend and cross-impact analysis, social network analysis, data management, FSSF, futures triangle, futures wheel, self-organised map, abduction. \\
\hline
\textbf{INTERPRETATION} \\
What is really happening: causal layered analysis, F-Q mapping, SIF-model, systems thinking, macrohistorical analysis, pattern management, synthesis, induction, falsification. \\
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\textbf{PROSPECTION} \\
How things could go: scenarios, visioning, “what-ifs”, wild cards, visualising options, normative methods, backcasting, strategic thinking. \\
\hline
\textbf{OUTPUTS} \\
Tangibles: getting across insight, logic-deductive conclusions, range of options created. Intangibles: changes in thinking, perception of the minds involved in strategy work, altering the very process of strategy development, new questions. \\
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\end{tabular}
\end{center}

\begin{center}
\textbf{STRATEGY} \\
Policy making, strategy development, and strategic planning.
\end{center}

\textit{Figure 4 Six phases of Strategic foresight process}\textsuperscript{61}


\textsuperscript{61}Figure 4 is mostly adapted and modified from Figure 3 in Voros 2003; and partly from Figure 1 in Horton 1999; Figure 1 in Habegger (2010); Figure 1 in Costanzo (2010); Inayatullah’s (2008) six pillars; Mintzberg (1994); and Slaughter (1995, 1999); and also partly from Major et al. (2001); Voros (2001); and Lieble & Schwarz (2010).
Voros suggests several methods or methodologies for each level. The framework is adapted and modified at Figure 4.

Alongside Voros, the figure bases on Averil Horton’s⁶² three phases of all (strategic) foresight processes: input (its sub-steps: collation and summarisation), foresight (its sub-steps: translation and interpretation), and output (its sub-steps: assimilation and evaluation). It also bases on Richard Slaughter’s⁶³ four types of methodologies that can be employed in (strategic) foresight process:

- Input methods, which are used to gather intelligence from various sources.
- Analytic methods, which are used to analyse and assess factors and their inter-relationships, usually as a first step towards deeper and more detailed work.
- Paradigmatic methods, which seek to deepen understanding.
- Iterative and exploratory methods, which are used to explore future states and to create “forward views” so they are “prospective” by nature.

Furthermore, Sohail Inayatullah⁶⁴ has had some impact on the figure as well. He identified six pillars of futures thinking with capabilities of transforming the futures. The pillars are: mapping (futures triangle), anticipation (futures wheel, emerging issues analysis), timing (macrohistorical analysis), deepening the futures (Four-Quadrant Model, Causal Layered Analysis),⁶⁵ creating alternatives (scenarios), and transforming the future (back-casting, transcend method). The methodology presented by Inayatullah has many similarities with the six steps of Hines & Bishop and the generic strategic foresight framework of Voros, but it is different in many senses.

The objective of the six pillars is to present the pragmatic pro-active process, how one can grasp and change the future with multiple cumulative methods. In that sense it seems like a strategic foresight process, but it does not aim to form a strategy. Instead it aims to find a mutually desirable future objective or image and it can be said to operate almost only on the foresight and output boxes of Figure 4. Specifically, it does not really operate in all parts of foresight, as it merely operates in Interpretation, Prospection, and Outputs, and not so much in Analysis. Hence, six pillars is merely a methodological framework or strategy of participatory foresight or an integrated meta-framework of futures studies,⁶⁶ not so much a strategic foresight framework.

In order to shed broader light to the process, Hines & Bishop’s⁶⁷ “six steps of strategic foresight” should be outlined here as well:

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⁶⁴Inayatullah (2008).
⁶⁶Kuosa (2009).
• Framing – contains guidelines regarding attitude, teams, rational, and objectives.
• Scanning – contains guidelines concerning the system, history, context, and how to scan information regarding the future of an issue.
• Forecasting – uses the information from scanning and outlines guidelines regarding drivers, uncertainties, tools, and alternatives.
• Visioning – contains guidelines focused on thinking through the implications of the forecast and envisioning the desired outcome for the organisation.
• Planning – contains guidelines that develop the strategy and options for carrying out the vision; and
• Acting – contains guidelines for communicating the results, developing action agendas, and institutionalising strategic thinking and intelligence systems.

To summarise, Figure 4 represents a universal strategic foresight process, but it should be acknowledged that strategic foresight can also be practised in several different domains, as listed below, all of which have quite different objectives, contexts, and epistemologies:

• Pragmatic foresight - “Carrying out tomorrow’s business better.”
• Progressive foresight - “Going beyond conventional thinking and practices and reformulating processes, products, and services using quite different assumptions.”
• Civilisational foresight – “Seeking to understand the aspects of the next civilization – the one that lies beyond the current impasse, the prevailing hegemony of techno/industrial/capitalist interests.”

This means that the methods and emphasis of different levels may vary. In some domains ‘foresight analysis’ may only contain some quantitative or economic data analysis practices and include only some data clustering and funnelling practises in its interpretation. That kind of an approach would leave no room for true alternative views, paths, participatory elements, or out-of-the-box thinking, that are important elements in ‘true’ or ‘fully-fledged’ foresight. Therefore, I would argue that we should not use the word ‘foresight’ when we talk about such a narrow scanning, analysis, or intelligence process. It is merely a process of strategic or business intelligence or a narrow surveillance process, not foresight. But it can still be a part of the strategic foresight process.

The objectives of foresight and futures domain

I discussed the objectives and methodological approaches of foresight already in my previous book. As a conclusion, the figure U-curve of actions in futures domain presents the three

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68 These three domains were listed in Wikipedia of strategic foresight in July 2010. I believe that this definition of strategic foresight gives some insight to it, but it is not exhaustive and accurate.
71 Ibid.
vertical levels that currently exist in foresight. Starting from the top, these vertical levels are: a) value rational pro-activity (visioning and initiating “policy” change, b) scenario level (explaining alternatives), and c) pre-active empirical research (studying and reasoning).

a) The top-level of the value rational pro-activity methods include both *) top-down affecting (decision-makers’ view / helping a policy-maker), and **) bottom-up affecting view (view of employee or citizen / empowering people at the grassroot level). In both of these views, an agent wants to start a vision-oriented change either in civil society, a company, politics of a particular country, or at a global level. Strategic foresight is much closer to the top-down view, and participatory foresight, desk work foresight, and futures studies in general are much closer to the bottom-up view.

b) The scenario level is intermediating between the two other levels. The purpose of this level is to produce alternative policy options, visions, and ways to see and tackle hard evidence, data, and identified change. Operations in this level are necessary in all foresight.

c) The pre-active empirical research at the bottom of Figure 5 names the methods, such as statistical analysis, data mining, and time series analysis, which are at the core in gathering, cracking, and studying the change that is underway. Most of these methods and approaches, such as intelligence or data mining, are not solid parts of everyday foresight, but they can and should be utilised in foresight whenever needed.

Figure 5: U-curve of actions in futures domain
The next figure opens the same list of methods and approaches from the point of view of objectives. In other words, what type of outcomes does a cluster of methods aim to produce?

The foresight domain’s seven clusters of objectives are:

- Political views refer to attempts to influence policy-making with one’s own visions and ambitions.
- Selecting the best strategy is the objective of a corporation’s strategy and brand development, corporate foresight, and partly of visionary management as well.
- Identifying viable options for decision-makers is the obvious objective of strategic foresight, and identifying viable options for bottom-up affecting is naturally the objective of participatory foresight in the same way.
- Risk detection is the natural objective of the early warning and intelligence types of functions.
- Empirical research is the objective of all environmental scanning, time series analysis, and statistical functions.
- Participatory assessment is the first primary objective of all workshops and expert panel based methods.
• Creating visions and studying values can be said to be the main objective of all futures research related approaches. This is a particular focal point in critical futures studies, but actually all research operating with intangible futures knowledge.

Corporate foresight that includes market or business intelligence is located very near to strategic foresight in Figure 6. The next sub-chapter will explain the core differences and similarities between the two methodologies.

**Strategic foresight vs. market or field intelligence**

Typically, organisations are well aware of phenomena originating in their field of industry. However, issues and factors in the margins or completely outside one’s field often gain far less attention.

Figure 7 represents the difference between strategic foresight and intelligence related to a market, business, industry, field, or societal sector. Both gather and analyse knowledge, not only relating to the present but also the future, and pursuit to produce good insight and forecasting based on that. However, the difference is that the latter has a narrower focus. It mainly studies issues, phenomena, trends, changes, competitors,
new technologies, new services, customer needs, and weak signals that exist inside one’s field, industry, or sector of the society. The idea is that one’s field is under constant change and contains dozens of important changes and emerging phenomena, which should be known better to be able to make the right decisions. The large white area in the middle of Figure 7 represents that territory.

In contrary, strategic foresight aims to build a comprehensive overview of the outside world phenomena that could or are about to start affecting one’s field and organisations within it. The issues gathered are usually something that already exist or are just prototyped, piloted, or invented in some other societal sector. The large black area in the figure above represents that territory. The idea is that the whole operational environment outside one’s field is under constant change and there are hundreds of changes and emerging phenomena that do not show up inside one’s field. Most of these are not valid, but some will reach one’s field surprisingly fast and start changing its foundations at once. All fields have gone through several such ground-breaking changes that were first ignored, next rejected, and then accepted before old structures finally gave way for new ones.

Horse carriage businesses did not consider the invention of combust engines as a threat or an opportunity. Very soon the industry had totally vanished and a new one
had emerged. News and printing industry did not consider the Internet or its predecessor Arpanet as threats or opportunities. First it was ignored, then rejected and underplayed for years, and finally, a few years ago, accepted as a real game-changer for the field. However, the industry still believes that Internet and digitalisation can be tamed and their industry can adapt to it. The final part when old structures give way to the new is still to come.

There are hundreds or even thousands of similar examples. From the viewpoint of strategic foresight such game-changers do not emerge randomly or without many warning signals. The potential game-changers always look odd, distant, and even pitiful at first, but it is worthwhile to study them. If you manage to recognise a valid game-changer from outside your own field, you can still do something about it. If you recognise a game-changer after it has penetrated your own field, your old competitors know it too, and you already have some totally new competitors that are unknown to you, who try to utilise the novel opportunities before you do.

Figure 7 had a small grey circle at the lower left corner. The very same circle has grown into a very large one in Figure 8. This represents the logic of how another field’s odd, distant, difficult to recognise, and seemingly pitiful phenomenon can suddenly grow big, enter one’s own field, and start affecting the industry far and wide.

**Strategic foresight approach in counterterrorism**

Just 20 years ago cyber terrorism and asymmetric conflicts still seemed like odd, distant, and even pitiful issues from the viewpoint of national security and intelligence services. Luckily, these threats’ game-changing abilities were recognised, debated, and prepared for early enough.

An example of a quite recently recognised, potentially big threat in the field of national security and intelligence services was the weapons 3D printing from metals such as titan. Just a few years ago it was an odd, distant, and even pitiful issue for many, but now first assault rifles have been printed and the print manual was even released on the Internet where at least 15 000 people downloaded it before it was removed. In other words, the weapons 3D printing phenomenon has penetrated the field of national security and intelligence services and needs to be dealt with.

Two emerging examples of potential game-changers are 3D printing of drugs and chemicals at home and nanotraps which refers to putting invisible but unbreakable materials

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13 The Figures 7 and 8 have been ideated by my colleague Jari Koskinen from AlternativeFutures.
to places where they potentially cause huge damage. They both may still seem odd, distant, and even pitiful, as they are at a very early stage. However, they both have lots of potential for future terrorist actions. Luckily, some EU projects and for example NCTb\textsuperscript{76} in the Netherlands have undertaken projects where the potential use of new and emerging technologies for malicious and terrorist purposes is being assessed. In other words, they merge intelligence work, technological forecasting, and strategic foresight in a beneficial way. Yet these cases aren’t examples of actual strategic intelligence, but merely ways of utilising strategic foresight in counter-terrorism studies, as strategic intelligence requires a national or corporate level strategic policy-making dimension.

\textsuperscript{76}National Coordination for Counterterrorism (2011). \textit{Technological developments: Opportunities and threats for counterterrorism and surveillance and protection until 2015}. Publication: j-8731, National Coordination for Counterterrorism.
Fishing in the pond of borderless risks and threats

As emphasised in many interviews and during breakout sessions at the Global Futures Forum (GFF) conferences, the risks, threats, hazards, and challenges of public security and safety are borderless; they do not respect national or organisational borders. One interviewed military intelligence director described the field where intelligence organisations work as a ‘fish pond,’ where the risks and threats are ‘fish’ and the ‘fishermen’ are the organisations that try to identify and tackle existing or emerging risks. Hence, there is one joint pond for all countries, not several separate ponds. Each fisherman or player has his own specific tools and a spot by the pond. All of these various organisations do the fishing for their “masters” which vary between different countries. In some
countries the local dictator together with his inner circle may be the only legal master. In democratic countries the masters may be public policy-makers or authorities, companies, or some national, multi-, cross-, or transnational bodies and so on. In some cases several fishermen fish for the same masters, but the work may not be coordinated by anyone.

The fish pond metaphor is used as the base for Figure 9 but there is one more dimension added to it. This dimension is concreteness and time.

The centre circle of the figure represents the most concrete and direct forms of real-time intelligence knowledge, which can only be attained directly and secretly from authentic sources. The ‘stars’ in the figure represent such secret intelligence discoveries of existing and tangible risks and threats, e.g. activation of a terrorist node. Here, every conclusion detected must be tested – what was really observed and how was this conclusion reached? Central pond intelligence must base on hard evidence, as false intelligence can be dangerous.

The second circle represents less tangible, but still mainly secret forms of intelligence knowledge. The stars in this circle may contain second hand knowledge and assumptions of intentions that contain some complex elements, e.g. there are signs that imply that a terrorist node may have intentions to start recruiting in another country. As emphasised by several interviewees, both military and civil intelligence services base more of their conclusions on open source knowledge than on secretly gathered central pond knowledge. However, without the secret and direct central pond knowledge, the intelligence products would mostly base on assumptions.

The third circle refers to the domain of public knowledge. It contains the knowledge that is available in open source databases, news topics discussed in the media, and conclusions from the current social phenomena and trends. Insight of intentions may be gathered here as well. The knowledge in this circle is socially constructed, meaning that it is constantly created and renewed in social interactions. Basically it is the prevailing insight of the state of the world, e.g. what is going on in Middle-East. These socially constructed phenomena and complex issues are marked with ‘rings’ in the figure.

The fourth circle discusses emerging issues or intentions which are marked with lightning. It contains comprehensive conclusions of the issues that are probably increasing or decreasing their impact in the big picture. This circle attempts to make sense how the complex game situation may play out in the near future, and what kind of new risks and threats we should be prepared for at the moment. For instance, is the risk of Jihadist strikes in Europe going to increase or decrease?

The outermost circle deals with the more distant future risks and threats. The ‘lightning’ issues that are discussed here may not exist in any form yet. This is the circle where the
hypothetic futures alternatives, scenarios, visions, and wild cards are formed. It is also the circle where the understanding of the real-time knowledge, social insight, and summaries of emerging risks are questioned with what-if questions and alternative views. A scenario from the 2013 Syrian situation will serve as an example: what would the worldwide difference in short-term and long-term outcomes be if: a) US airstriked Syria, b) US did nothing in the crisis, or c) US supported Assad’s regime to destroy the foreign Islamist warriors on their soil?

The scenario approach is a useful way to create a ‘lightning’ in the fourth or fifth circle, but the scenario method may vary according to the objectives. If we aim to open the whole spectrum of ultimate hypothetic ways of how a complex situation may evolve in the long run, the best method is a normative one. It means that we first create different long-term visions for the situation and start assessing the things that could drive us into each of those hypothetic alternatives. On the other hand, if we aim to study the alternative ways how a currently emerging phenomenon may play out in the near future, the best scenario method is an explorative one. It means that we extrapolate a few alternative drivers’ (a, b, and c) impacts on the current issue.

Wild cards are another way to create a hypothetic security challenge or ‘lightning’ to the figure. Just like scenarios, they are also linked to the fourth circle, but especially to the fifth. As discussed in Chapter 2, wild cards are big impact events, risks, threats, or hazards that can possibly occur, but they are not probable. The probability that they actualise in the given timeframe is usually something between 5 and 25 %. Yet, they are much more probable than black swan1 events which would truly be unknown unknowns with nearly 0 % probability. Therefore, unlike the next to impossible black swans, the wild cards are an important form of knowledge to be constantly assessed in national security.

Types of fishermen

Figure 10 presents different types of ‘fishermen’ gathered by the pond of borderless risks and threats. These fishermen, or players, are civil intelligence services, police intelligence, military intelligence, risk management, media, academia, strategic foresight, and think tanks. Some of the fishermen focus mainly on the deep centre of the pond, such as many civil intelligence services, some only focus on their narrow bed of reeds in the pond, such as corporate risk management, some focus on all the ‘rocky shores of the pond’, like strategic foresight does, and so on.

If we continue to use the fishing analogue here, all of the fishermen around the pond have their own tools and methods, such as ‘net fishing, worm angling, luring, fish trapping, boat trolling, spinning, dive spearing, dynamite fishing,’ and so on. The rules and laws set by the ‘masters’ limit the tools and shores each fisherman is allowed to use.

Hence, the ‘fish’ or the products that every fisherman produce or bring to the master, whoever it is, are different – as seen in Figure 10.

The spiral figures under each fisherman represent the process in which the products for policy-makers are created. Every organisation has different data gathering, analysis, and synthesis methods in their product manufacturing process. What is usually common for all organisations is that the study process, in theory, follows certain logical steps from data gathering to the final product delivery, but in practice the study never goes like that. There are many zigzags, loops, falsification of original hypothesis, and returns to the data gathering, productions of new hypothesis at the near end of the planned project, establishment of new unplanned research tracks, and so forth. This difference between theory and practice is especially clear with the description of the Intelligence Cycle, which will be discussed in Chapter 6.

**Fishing secret knowledge**

Figure 11 roughly presents the three domains or ‘shores’ of intelligence work that are allowed to fish in the secret deep central pond. Yet, in every country national laws limit the work of the three domains in unique ways.
Most countries divide the ‘deep central pond,’ which refers to secret knowledge gathering, into the domains of police, military, and civil intelligence services. It is very common to divide the ‘central pond’ further into internal and external intelligence, as is the case for example in Germany, France, and the United States. Yet, there are more variations in this. For instance, in the Netherlands the Algemene Inlichtingen- en Veiligheidsdienst (AIVD) merges domestic and foreign intelligence and works in very close cooperation with the national military intelligence organisation Militaire Inlichtingen- en Veiligheidsdienst (MIVD).

The figure above represents the theoretical key target areas of the three domains as regards time and concreteness. In many cases civil intelligence services may focus particularly strongly on the secret central pond alongside with all other forms of knowledge, police equally strongly on secret and societal phenomena and military intelligence equally strongly on secret and societal phenomena plus hypothetic wild cards and scenarios, which will be discussed more later. However, this is only a theoretical simplification, which is not valid in many real life cases.

For example, in the United States the Central Intelligence Agency (CIA), which may easily be understood as a civil external intelligence service whose employees operate mainly from United States embassies, functions and quite often even dominates in all shores of the pond.
TOWARDS STRATEGIC INTELLIGENCE – FORESIGHT, INTELLIGENCE, AND POLICY-MAKING

with a strong independent mandate. Its main objectives are gathering information about foreign governments, corporations, and individuals as well as analysing that information along with intelligence gathered by other United States intelligence agencies in order to provide national security intelligence assessments to senior United States policy-makers. CIA has lots of capabilities to carry out missions overseas. It may for example enforce foreign political influence through its tactical divisions, such as the Special Activities Division.

The Federal Bureau of Investigation (FBI) is a governmental agency belonging to the United States Department of Justice that serves as both a federal criminal investigative body and an internal intelligence agency (counter-intelligence). From the viewpoint of the pond figure, FBI is an internal police organisation that focuses on security threats within the United States, as its main goal is to uphold and enforce the criminal laws of the nation, and to provide leadership and criminal justice services to federal, state, municipal, and international agencies and partners. Its top investigative priorities are: protect the United States from terrorist attacks, i.e. counter-terrorism; protect the United States against foreign intelligence operations and espionage, i.e. counterintelligence; protect the United States against cyber-based attacks and high-technology crimes, i.e. cyberwarfare; combat public corruption at all levels; protect civil rights; combat transnational/national criminal organisations and enterprises, i.e. organised crime; combat major white-collar crime; and finally combat significant violent crime.

The Department of Defense (DOD), alias Pentagon, coordinates both the United States armed forces and the United States national security. Four national intelligence services are subordinate to DOD - Defense Intelligence Agency (DIA), National Security Agency (NSA), National Geospatial-Intelligence Agency (NGA), and National Reconnaissance Office (NRO). Hence, DOD acts as the national coordinating military intelligence body, but its role is obviously broader than that.

Among the three discussed domains or ‘shores’ of intelligence, i.e. internal/FBI type, external/CIA type, and military/DOD type, the role of military intelligence seems to vary the most between countries. There are countries where it functions as the DOD does, then there are countries where the military intelligence is the feared ‘King maker,’ countries where its duty is merely to acquire direct knowledge regarding other countries’ weapons arsenal and intentions, and finally there are countries where military intelligence aims at the most comprehensive and long-term view among the services. This is especially the case in the Nordic countries, such as Sweden and Finland. For example, military intelligence in these countries attempts to combine the long-term and short-term knowledge into their products and to do the needed fishing in every relevant location of the pond.

Swedish Armed Force’s intelligence organisation (MUST)\textsuperscript{2} has two customers for its products: a) the government, including politicians and some ministries and b) the

\textsuperscript{2}Source: Face to face interviews with the Swedish Armed Force’s intelligence organisation (MUST).
military Supreme Commander. However, these two customers have more similarities in their needs than one could perhaps expect. Both have long-term interests and similar common sense in strategic issues. The Supreme Commander operates in the political world as do the politicians. The key differences between the two customers are in their interests in countries’, organisations’, and individual actors’ intentions and incentives as well as in their time horizons and on the development of military capabilities.

Politicians have short-term interest (1–2 electoral periods) in both issues, while the Supreme Commander has a long-term interest, sometimes 1-2 decades or more, in both. The reason for that is the decades long life-cycle of military capabilities development and use. Foresight that includes long-term strategic work, scenario analysis, wild card assessment types of functions, and knowledge of international actors’ probable intentions and incentives is necessary in order to plan what kind of capabilities are needed. For example, a question in long-term military planning could be, should the military be prepared to send troops to jungle, sea, desert, and/or mountains, and which countries would support our mission and how. Therefore, the Supreme Commander needs products that combine all of the elements, and the same product is valid for the politicians as well.

The rest of this chapter will concentrate on presenting the roles of other players around the pond. The discussion around the tasks, processes, organisation, and cycle of intelligence will continue in Chapters 5 and 6.

Risk management

The principles and functions of risk management are defined by the International Organization for Standardization (ISO 31000). Basing on its fundamental definitions, Douglas Hubbard\(^3\) identifies risk management as an identification, assessment, and prioritisation of risks, which is followed by coordination of resources to minimise, monitor, and control the unfortunate events or to maximise the realisation of opportunities.

The distinction between risk and uncertainty is the fact that whereas a risk can be measured by probability of impacts, uncertainty is something more intangible. The key idea behind risk management is that the gain and security value it creates to the organisation exceeds the pain and costs of the process.

Prioritising risk management processes too highly could keep an organisation from ever completing a project or even from getting started. This is especially true if other work is suspended until the risk management process is considered complete.

According to ISO 31000, risk management should:

- be an integral part of organisational processes
- be part of decision-making process
- explicitly address uncertainty and assumptions
- be systematic and structured
- be based on the best available information
- be tailorable
- take human factors into account
- be transparent and inclusive
- be dynamic, iterative, and responsive to change
- be capable of continual improvement and enhancement
- be continually or periodically re-assessed

One way to operationalise risk management or qualitative risk analysis process is presented by Chris O’Halloran⁴, who emphasises the power of breaking the process into smaller steps.

The first step is risk identification, which is the most important part in the qualitative risk analysis process. If you have not identified any risks, it makes it pretty hard to manage said risks, O’Halloran says. Hence, start thinking about anything that could go wrong, no matter how simple, obvious, or trivial it seems. Capturing these obvious risks will get the mind working and lead you deeper into more creative risks.

The second step is risk impact analysis. Once you have identified a list of possible risks, the next step is to ideate lots of hypothesis regarding their potential impacts. Here we can simply analyse or estimate the impact on some pre-defined scale (e.g. 1-5, which stands for low-medium-significant-high-extreme). Then we can estimate what the probability of this risk is, again on a pre-defined scale (e.g. 1-5, for unlikely-possible-plausible-likely-almost certain). These scores can then be combined for a total risk ranking, which can be used to highlight reports etc.

The third step is risk treatment. Once the risks have been identified and given impact and probability scores, we can proceed to think how to treat each risk. According to O’Halloran, risk treatment may end up as one of the following five options: accept, transfer, mitigate, avoid, and exploit:

- Accept – perhaps the risk has low impact and low probability, or the cost to mitigate may be too high. One option is to just accept and monitor the risk.
- Transfer – transferring a risk is quite common through insurance and contracts,

and issuing a contract to a supplier is essentially transferring some of the risk to the supplier, especially in a fixed price contract.

- **Mitigate** – do something to reduce the impact of the risk.
- **Avoid** – perhaps the risk is too great and cannot be transferred or the cost of mitigation is too high. You may choose to avoid the risk, either by changing or removing certain scope items or changing the approach.
- **Exploit** – perhaps the risk has a positive outcome? A change in the exchange rate might mean that you forward to purchase certain materials.

The fourth step is an emergency plan, or plan B, for minimising and transferring risks. The questions to be solved here are: what to do, who gets notified, and who does what when the risk event does occur. It will save time and money to have a plan ready for communication, documenting, and actions in case of emergency. In other words, there should be no debate about what has to happen, it just needs to get done.

The last step in O’Halloran’s qualitative risk analysis process is reviewing and monitoring, as risk management is never over. There should be constant review and updating of the emerging and existing risks. Perhaps the risk’s impacts have changed or the risk itself is no longer a possibility.
Systematic risk management discussed above is a common function especially in big companies’ complex financial and technical projects. It is a method for removing uncertainty from expensive projects and investments. Many principles of risk management – emergency mitigation, plan B, etc. – should be utilised more broadly in the planning processes of other sectors of the society. The very same principles can be used in almost any context.

On the other hand, any actor’s attempt to identify, assess, prioritise, prevent, and mitigate the potential impacts of a few selected risks only focuses on a narrow sector of the pond of borderless threats. Yet, it does have a capability to pay attention on almost all sorts of currently existing issues within its selected sector, including available secret knowledge regarding actors’ identified intentions, larger landscape surrounding social phenomena as well as hypothetic risk escalation, wild cards, emergency scenarios, and so on. But the key word here is risk within a particular project. Such risk is first and foremost a tangible threat whose impacts can be measured by probability and therefore mitigated in a quantifiable way. This leaves most threats and uncertainties with which intelligence and foresight work out of the scope of corporate risk management, as can be seen in the figure above.

**Crisis management**

Crisis is a process in which an organisation deals with a major event that threatens to harm it, its stakeholders, or the general public. The common elements of crises are a threat to the organisation, an element of surprise, and a short decision time.5

Otto Lerbinger6 has named eight general types of crises:

- Natural disaster
- Technological crisis
- Confrontation
- Malevolence (malicious act)
- Organisational misdeeds
- Workplace violence
- Rumours
- Terrorist attack/man-made disaster

Crisis management is strongly linked to risk management, as both work around managing undesired events and more or less tangible threats. Whereas risk management

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FISHING IN THE POND OF BORDERLESS RISKS AND THREATS

attempts to identify, assess, prioritise, mitigate, or avoid potential threats’ impacts, crisis management pursues to deal with potential crisis before, during, and after they occur. Therefore, crisis management is a discipline of skills and techniques that are required to identify, assess, understand, and cope with a serious situation, especially from the moment it first occurs to the point that recovery procedures start.

Allan Bernstein and Cindy Rakowitz identify the mind-set that crisis management requires as an ability to think of worst-case scenarios while simultaneously suggesting numerous solutions. There the trial and error is an accepted discipline, as the first line of defence might not work. It is necessary to maintain a list of contingency plans and to always be alert. From organisations and individuals, the crisis management mind-set requires preparedness with a rapid response plan to emergencies, which would require analysis, drills, and exercises.

According to Joel Brockner and Erika James, the five key leadership competencies that facilitate organisational reorganising during and after a crisis are:

- Building an environment of trust
- Reforming the organisation’s mind-set
- Identifying obvious and obscure vulnerabilities of the organisation
- Making wise and rapid decisions as well as taking courageous action
- Learning from crisis to effect change

These five competences are especially important for civil organisations, such as Crisis Management Initiative (CMI), that attempt to solve social over-generational, complex, and large domestic or international crisis. Public ‘crisis management centres’ which often operate as coordinating units between national authorities and various safety, first aid, and emergency units in case of suddenly occurring undesired events may put more emphasis on joint use of resources, fast preparedness, and smooth communication instead of negotiations between stakeholders of the crisis.

We may say that the third unique domain of crisis management consists of organisations that work with the aftermath, societal cure, and recovery processes of social crises. Good examples of such crisis management work are the ex-terrorist rehabilitation programs.

Crisis management does not operate in a societal vacuum. It needs to pay attention to various aspects around a potential crisis. However, the core idea of crisis management is not to gather secret intelligence knowledge, academically discuss various aspects

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behind a crisis, or generate comprehensive foresight knowledge regarding hypothetic issues. Its main idea is to grasp a potential crisis as soon as the first signs occur, as efficiently as possible, and as long as it takes to start a recovery process.

Thus crisis management should be incorporated to the work around the pond of borderless risks and threats. This was emphasised by one participant of the GFF’s conference “Changing Challenges for National Intelligence” in May 2013: “without crisis management we just discuss the problems, when we should have a strategic role in those (…) We should be able to change the conditions of the futures.”

The role of media around the pond of borderless risks and threats

Media as the ‘societal watchdog’ has a big role in free societies. Sometimes it has been called the fourth state power together with executive, legislative, and judicial administrative powers. Media’s main function operates around public knowledge and insight of social phenomena, but it may attempt to reveal intentions or things that are meant to be secret as well. In principle it attempts to convert ambiguous, fuzzy, and complex issues into the vocabulary of the public so that the society could have better democratic control. In other words, it does not only passively report the current borderless risks and threats, such as the intentions of Al-Qaida or new North Korean leaders. Instead, it participates actively in
such discussions by raising themes to the public debate; it makes statements on various aspects around the issues and reveals new insights that were perhaps meant to be kept secret from the public. Media is an important channel of knowledge regarding global risks not only for citizens, but also for all policy-makers, NGOs, and private companies.

Both the strength and weakness of media is its freedom from political control. Media operates everywhere in the pond basing on its own vision, except in the ‘deep secret’ and the ‘wild cards and scenarios’ areas. This means that sometimes questions are raised by media that are really helpful for national decision-making, and sometimes questions that are really delicate, such as the case of WikiLeaks.

Therefore, media is a ‘fisherman’ among other actors. Its role, tools, and objectives differ from the others, but its overall role is significant. As one of the breakout session participants put it in GFF’s Stockholm conference in May 2013: “media should be put to the middle of the triangle, as it works like that in the real world” and “a politician who only thinks about the next election cannot close his eyes on foresight or intelligence products anymore if those are on the news.” Hence, it was suggested that media should be deliberately given a bigger role in the middle of the triangle whose operational corners are intelligence, foresight/think tanks, and policy-makers. This way both intelligence and strategic foresight would get a proactive edge and could operate more strategically.
The role of academia

Academia is named as another ‘fisherman’ around the pond. It refers to a large group of actors who carry out academic work. Basically, it includes all university research centres and departments as well as governmental organisations and research centres doing academic work. The definition of academia easily includes many public think tanks, which may hire some less academic, former high-level practitioners. Depending on the definition, academia may contain the academic work that is done in private companies, and NGOs as well.

Academic work differs from administrative work, business, technical work, voluntary work, security, journalism, and creative work in many ways. The key difference may be defined via Jürgen Habermas’ three knowledge-constitutive interests: technical, hermeneutical, and emancipatory interests. As discussed already in Chapter 3, technical interest refers to human nature’s deep-seated need to classify, predict, and control the natural environment. Positivism, as a firm representative of this interest, sees knowledge in these terms and its naturalistic accounts of human possibilities often regard human history only from this point of view. Second is practical interest, which is temporarily modified to form hermeneutical interest of knowledge. This refers to our deep-seated need to understand life, nature, and ourselves. Third is emancipatory interest, which refers to our deep-seated need to reveal and overcome dogmatism, compulsion, and domination.

Unlike the others, academic work may be motivated simultaneously by all three philosophical interests of knowledge, or by any of the three separately. Anyway, it aims at objectively tested and novel knowledge. It also aims to produce wisdom and understanding instead of profit, physical tasks, products, better administration, or decisions, etc.

Academic work is usually expected to follow the rules of science, which are e.g. objectivity, self-correction, reiteration, accumulation, systematic method, value-free approach, abductive reasoning, and especially fallibilism. The last one was introduced, much later than the others, by Karl Popper, an advocate of freedom of thinking, and a diehard opponent of all pseudo-sciences and fundamental dogmas. As Popper put it, the concept of scientific method is understood in many pseudo-sciences as a synonym to systematic approach. Yet, according to fallibilism, a theory is scientific only if it is refutable by a conceivable event. Every genuine test of a scientific theory is therefore a logical attempt to refute or falsify it, and a single genuine counter-instance falsifies the whole theory. Hence, it is logically impossible to conclusively verify a universal proposition by

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9 Singaporean R. Rajaratnam School of International Studies (RSIS) is a good example here.
10 Habermas (1972).
12 Popper (1979).
reference to experience, but a single counter-instance conclusively falsifies the corresponding universal law.

However, in the academic work of intelligence studies, international politics, threats and risk assessment, and so on, the rules of science cannot be followed in the exact, strict form. The reason for this is the complex and intangible nature of the research object. We cannot make any clinical test arrangements around Al-Qaida to see whether e.g. ‘local political stability’ correlates positively with the weakening of the Al-Qaida network. The academia can only gather all relevant knowledge into a comprehensive set that can be analysed and interpreted based on enlightened assumptions. Yet, the same ideals of science should steer the academic work regarding intelligence.

In 2008, the Canadian Security Intelligence Service (CSIS) initiated a new attempt to better link academic work with the intelligence domain. The initiative is called an Academic Outreach program. Its main objectives are:

- To draw from the expertise generated in the realm of research on security issues and to bring that knowledge to bear on CSIS investigations. This task is carried out by building context around investigative topics that challenge the understanding that analysts and collectors have of those issues.

Figure 15: The shore of academia
• Create awareness within Canadian academics of CSIS priorities.
• To contribute to a better informed public discussion of security in the country.

Our interviewee Director-General Jean-Louis Tiernan\textsuperscript{13} from Academic Outreach described his organisation’s work as a social lubricant that helps various types of organisations to share knowledge and communicate issues related to national security better. The knowledge gathering methods of Academic Outreach contain workshops, conferences, expert briefings, interviews, and commissioned studies.

Some ¾ of the experts and organisations Academic Outreach works with come from outside Canada and broadly represent universities, think tanks, foreign governments, NGOs, and business. In other words, it is not only intelligence’s pursuit to utilise academic knowledge, but a broader attempt to suck in all relevant open-source early warning, intelligence, and foresight knowledge and to disseminate that knowledge back for the academic community. As Tiernan put it, “you might be surprised to find out how frequently professors and researchers contact us as they look for practical, useful issues to recommend their PhD students to focus on.”

According to Tiernan, only a small number of Academic Outreach activities lead to the production of reports, but those are important as they are made available to the public. The issues they address are roughly 90 % short-term (Iran’s nuclear ambitions, China’s economic reforms and their consequences on the country’s stability, international terrorism, etc.) and just 10 % emerging ones. However, the big context of emerging issues, such as the future of food security, significance of 3D printers for Al-Qaeda, or future driverless cars, may have high relevance for Canada.

**The roles of think tanks and strategic foresight around the pond**

Methods and objectives of think tanks and strategic foresight operators can vary a lot, yet they are merged here as a single ‘fisherman,’ because they operate more on the outer shores of pond than the other fishermen. They both have a similar freedom to raise shocking ‘what-if’ questions, to look at issues ‘out-of-the-box,’ to liberate people’s insights, to take over generational overviews, to build strange scenarios, wild cards, and options for actions, and to make bold commentaries and conclusions regarding the status quo or probable futures.

Another thing common for both think tanks and strategic foresight is their potentially all-around nature. Both can operate inside various types of industries and organisations, including academia, governmental institutions, private companies, NGOs, foundations, labour unions, political parties, and so on. The reason for this is that both are merely functions or ways to think in a different way rather than organisations with strict

\textsuperscript{13}Date of interview: 26.11.2013.
rules. Furthermore, both are expected to debate hypothetical futures issues and both can operate as independent consulting companies, cooperatives, or non-profit organisations. One of the world’s most well-known non-profit think tanks operating in the field of strategic foresight is the RAND Corporation.\footnote{RAND is a nonprofit institution, whose research is commissioned by a global clientele that includes government agencies, foundations, and private-sector firms. Additionally, generous philanthropic contributions, combined with earnings from RAND’s endowment and operations, make possible RAND’s Investment in People and Ideas program, which is used to support innovative research on issues crucial to the policy debate but that reach beyond the boundaries of traditional client funding. www.rand.org}

What differentiates think tanks that operate inside universities, such as Singaporean RSIS\footnote{www.rsis.edu.sg}, from academic departments are their partly different objectives. Whereas academic departments mainly pursue to make academic research and teaching, academic think tanks also aim to participate on societal discussion with a more liberal mandate. Yet, both pursue to produce good quality new knowledge and publications, and education is often a part of academic think tanks’ work as well.

What makes strategic foresight different from any future-related work inside the academia is that academic institutions aim to produce new public knowledge that have a focus on either basic research or applied research and strategic foresight has a ‘top-
down’ target-oriented focus and concentrates on decision-makers’ or paying customers’ needs, strategic issues, etc. Hence, as discussed in Chapter 3, strategic foresight aims to produce strategically viable policy alternatives for public or private decision-makers who want to stay in power and who want to win political, military, or economic battles. In strategic foresight the alternatives are strategic and quite often secret, and they are created either in cooperation between experts and decision-makers, or just by external experts. Yet, very similar work can be done within the academia, but its approach is more desk work foresight than strategic by nature.

In the corporate world pure think tanks are rare. Strategic foresight does not exist as an independent unit inside a company very often either, but its functions are often integrated into planning and strategic work. If a company has an operational foresight team, it often functions as a matrix organisation meaning that selected people across company units meet within certain intervals in order to gather and assess futures knowledge. In many cases, however, corporate futures work does not exceed limited business intelligence or risk assessment.16 Sometimes private companies do very good strategic foresight work by themselves as is the case with e.g. Royal Dutch/Shell and sometimes they buy such work from dedicated consulting agencies, doing only a part of the work independently.

The international oil enterprise, Royal Dutch/Shell, became a forerunner of corporate foresight and scenario method in early 1970s. Shell’s corporate foresight became possible thanks to Pierre Wack, who described the full ramification of possible oil price shocks. Farsighted executives took Wack’s work seriously and decided to form a new department called Group Planning. They provided the new group with sufficient resources and invited Wack to lead it. However, Wack’s team was not interested in prediction; their goal was the liberation of managers’ insights and deep participation with those who must decide and act.

Peter Schwartz17 has described Shell’s success story. Wack’s team was assigned to look for events that might affect the price of oil, a very common duty in business intelligence. Oil prices had been very stable since World War II and companies usually considered oil as a strategic commodity, whose price would be kept low by consuming nations by any means, as their economies depended on it. But there were several significant events in the air that Wack’s team identified.

Firstly, U.S. oil demand was rising while its own oil reserves were becoming exhausted. Then, most Islamic oil producing countries’ OPEC was showing signs of raising its political muscles. Thirdly, the six-day Arab-Israel war of 1967 rose bitterness throughout the Arab world. Looking closely at the situation, the group realised that Arabs could demand much higher oil prices, and there was every reason to believe they would.18

16 Discussed more thoroughly in Figures 7 and 8.
18 Ibid
Wack’s group wrote a set of projected price figures and two scenarios to take place prior to 1975. One story presented the conventional wisdom of oil companies – somehow the oil price would stay stable. In order for that to have happened, a miracle would have had to occur. For instance, many new oil fields would have had to be found in non-Arab countries. The second scenario looked at a much more plausible future – an oil price increase sparked by OPEC. Shell directors listened carefully as Wack presented these two scenarios. The directors well understood the implications of the second scenario, but nothing happened. That was when Wack realised that in order to be truly effective, his team needed to change the managers’ views of reality.

Next Wack’s team wrote new types of scenarios, which were not tales but concrete ramifications of the emerging oil crisis to make people feel those shocks. Prepare to operate in a low-growth industry, Wack told oil refiners and marketers. Then Wack warned the drillers and explorers who sought new oil to get ready for the possibility that OPEC countries would take over their oil fields. Eventually, Wack helped managers imagine the decisions they might have to make as a result of the oil crisis.

According to Schwarz, Wack’s team was right, effective, and just in time. In October 1973, after the ‘Yom Kippur’ war, the energy crisis burst upon the world. Only Shell was emotionally prepared for the change. The company’s executives acted rapidly, and soon Shell, a company that used to be just the seventh biggest, became the second biggest and the most profitable oil company in the world.

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18Ibid
19Cf. Hume’s Guillotine or Is-ought problem, which Wack basically noticed to exist here. Enlightenment philosopher David Hume had discovered the problem during his study for *A Treatise of Human Nature* (1739). The problem is basically that people do not change their behaviour basing on new knowledge alone (what ought to be done). Emotional ties need to be connected to the new knowledge before it can lead to actions. One way to generate such emotional tie is to make the decision maker to realize the needed action by himself (cf. participatory foresight and co-design).
20A few years ago it was discovered that a false memory can be created among people simply by repeating false information over and over again. It becomes very hard to remove that false memory with corrected knowledge. This was clearly shown during the U.S. preparations for the Iraq War after 9/11. As e.g. the U.S. Defence minister Donald Rumsfeld had fed people with repeated accusations about weapons of mass-destruction in Iraq for over a year in TV news, people eventually took that accusation for real. Later, removing that false memory from people’s minds with corrected knowledge was found very difficult. Years after the propaganda, interviewed people said that Iraq was occupied because weapons of mass-destruction were found there. When the same people were then asked, do they not remember that it had been proven that no weapons of mass-destruction were ever found in Iraq before or after the war, they replied that, yes, they actually do remember that. They had heard the correction of the false information several times in the news, but it had not changed the way they saw the case.
21Ibid
22Shell has kept on publishing its scenarios almost annually since the early 1970s. Shell tells that “scenarios help decision makers reconcile apparent contradictions or uncertainties, such as how political change in one region impacts global society. They also have the potential to improve awareness around issues that could become increasingly important to society, such as increased urbanisation, greater connectivity or loss of trust in institutions. By exploring plausible, as well as predictable, outcomes scenarios challenge conventional wisdom. Organisations using scenarios find it easier to recognise impending disruptions in their own operating environment, such as political changes, demographic shifts or recessions. They also increase their resilience to sudden changes caused by unexpected crises like natural disasters or armed conflicts. In an industry often defined by uncertainty and volatility, Shell is stronger thanks to the forward planning capacity that scenarios bring.” The longest Shell scenarios go on to year 2100. http://www.shell.com/global/future-energy/scenarios.html
How could civil intelligence better help policy-makers?

As can be seen in the figures in this chapter, all players around the pond of borderless risks and threats have different objectives, they study the issues from their own unique angles, and they all have some special methods and silent knowledge. All of the players produce specific products that can be used in policy-making as such, as raw material in production of their own products, or in production of meta reviews and national overviews of the situation.

Figure 17 presents an idea how e.g. a civil intelligence agency could better serve public policy-makers by utilising relevant pieces from other shores’ versatile products. Such meta review could be written in a form of alternative overviews or scenarios. Each such product would come to different conclusions as they base on different traditions, knowledge, interpretations, and viewpoints. This would bring more democratic power for policy-makers as they could now decide between true alternatives basing on their values and political mandate.
5.

Building strategic intelligence capabilities for governments

This chapter summarises discussion on “how foresight and intelligence could together better provide policy-makers with the knowledge needed to make right decisions.” A sub-set of this question is “how decision-makers could be made to act more strategically, to pro-actively steer foresight and intelligence functions.” The other questions that will be discussed here are “what are the key problems in communication between policy-makers, intelligence services, and strategic foresight functions,” “what kinds of governmental practices should be developed in order to intensify policy-making functionalities,” and “should comprehensive governmental risks and foresight overviews exist, and how could they be created.” These questions are first answered via the opinions of the selected eight interviewees and finally concluded into two new figures that continue the work presented in Figure 1 in the introduction chapter.

The interviewees referred to in this chapter are:

State Secretary Olli-Pekka Heinonen, acting head of Finland’s Prime Minister’s Office. Heinonen is the highest permanent official in Finland. Unlike his subordinates, he receives all the intelligence products, the national overviews of the situation, and all relevant national foresight reports. He used to act as State Minister in previous three Finnish Governments between 1994 and 2002. Face to face interview date 3.12.2013

Colonel Lars-Olof Corneliusson, Head of Intelligence at the Swedish Military Intelligence and Security Staff (MUST), Swedish Armed Forces. Face to face interview date 17.9.2013

Dr. Gregory F. Treverton, director of the RAND Center for Global Risk and Security, U.S. Treverton used to work as vice chair of the National Intelligence Council (NIC) and as a professional staff member of the U.S. Senate Select Committee. He has long experience on governmental intelligence, governmental strategic foresight, and academic international politics. Face to face interview date: 9.9.2013

Dr. Jari Kaivo-oja, adjunct professor and research director at Finland Futures Research Centre. Kaivo-oja used to work as an adviser in foresight R&D in Crisis Management Initiative (CMI) in CMI’s Helsinki Office and in the Middle East Foresight and Black Sea Peace
Building Network projects. He is a long-term European level foresight expert, who has specialised on various foresight themes. Face to face interview date: 23.10.2013

Lotta Lampela, Intelligence Adviser to the Director of EU Intelligence Analysis Centre (EU INTCEN). Lampela has a background in the Finnish Security Intelligence Service (SUPO), where she worked both in analytical and management functions 2002–2012. Her final post in SUPO was Deputy Head of the Security and Regions Unit. eMail interview date: 3.2.2014.

Confidential break-out group, answers and comments from the participants: CATS / SUPO Confidential Workshop, Stockholm, Sweden, 22 and 23 May 2013. This workshop included roundtable discussions as well as a set of confidential interviews. Notes in possession of authors.

Confidential interview G, “Robin” Director of analysis, civil intelligence service. Face to face interview date: 18.9.2013. Notes in author’s possession.

Confidential interview H, “Bernar” Senior analyst, civil intelligence service. Face to face interview date: 18.9.2013, notes in author’s possession.

Confidential interview I, “Olga” Counsellor to the deputy director of a foreign intelligence service. Face to face interview date: 26.11.2013. Notes in author’s possession.

The interview answers are aggregated under the following five topics.

Challenges in policy-makers’ knowledge needs? What intelligence and foresight actors could do with it?

Heinonen:
“The time span in-between a decision-maker and knowledge producer are usually very different.”

Treverton:
“Decision-makers always want more and more strategic reports but they never read them.”

“Decision-makers always prioritise urgent issues rather than less urgent. Their response on strategic foresight products is quite often ‘yes we should do this but not now.’”

“The decision-makers’ interest should be pushed towards driving forces e.g. what drive Middle-East into something? These arisen issues should be related to things that decision-maker is doing at that moment.”
Corneliussen:

“Decision-making is never linear, but quite chaotic. Military intelligence’s duty is to bring order to the big picture and available options.”

“We have two customers: a) politicians, government, some ministries and b) the supreme commander. They have many similarities in their needs. Both live in political world, and both have the same common sense and general long-term interests on strategic issues. The key differences between the two are in interest on capabilities and in their incentives as politicians have much shorter term interests.”

“There is no official comprehensive list of national interests of Sweden. Some interests are stable, as e.g. the government program limits the sphere of actions, but some interests rise or vanish ad hoc. For example, UN issues are carried out in constant dialogue and negotiation between all the stakeholders. It would be very important for military intelligence to know in advance if there are going to be any potential changes in our national political will. Therefore continuing dialogue with politicians is crucial for us.”

Confidential break-out group, answers from the participants:

“Strategic foresight is related to politicians’ natural interests, but it is harder for them to see the benefits of intelligence. We need mutual vocabularies, education, and communication of the need of democratic control.”

Lampela:

“It is essential that the support of strategic intelligence to the policy-makers is built inside the national policy-making system. This ‘Intelligence Support Architecture’ allows policy-makers to better understand the value of strategic knowledge in their daily-based decision-making, and, as importantly, they will be in a better position to steer the intelligence organisations.”

“There is a need for better mutual understanding: Understanding Intelligence – Understanding Policy-Making. Policy-makers should be made aware of the capabilities and limits of intelligence; Intelligence actors should know their customers, their specific needs, and their timetable.”

“I think intelligence actually should educate its customers more proactively. The intelligence customer/user training could be targeted for ministerial special advisers, and e.g. for those who are in diplomat training or education. These kinds of initiatives from the intelligence side are also a form of building trust, the importance of which can never be underestimated. Personal contacts between intelligence practitioners and policy-makers enhance trust, understanding, and interaction also on organisational level.”
Kaivo-oja:
“In order to understand the policy-makers’ needs, the decision-making processes should be understood better. There is the decision-makers’ original knowledge need pattern, then there are ad hoc changes in their knowledge needs, and then there are surprises in the decision-making situation and process. Hence, the complexity of strategic process is not usually analysed and understood enough. If we do not understand the ‘need pattern’ of decision-makers, decision failures are obvious.”

Heinonen:
“In Finland the Government provides the Parliament some indicator type of knowledge, and knowledge regarding the fulfilment of the Government programme. Yet, parliamentary policy-makers still need business intelligence dashboards, screens, or broader foresight type of overviews as its perspective can be much longer than the Government’s view. In Finland especially the Parliament’s Committee for the future has initiated much long-term visions. Yet, in any foresight work, we should avoid the risk of mixing the Parliament’s legislative and supervising role with the government’s operational role.”

Treverton:
“We should do policy-makers’ client satisfaction analysis of the products, and a ‘post-mortem’ analysis of the products’ accuracy. That way we could better develop the client satisfaction.”

What are the key problems in communication between policy-makers, intelligence services, and strategic foresight functions?

Lampela:
“The communicational challenges between intelligence organisations and policy-makers can be summarised as follows: the message comes too late; the message isn’t understood (e.g. due to different interpretations of concepts); the message comes in a wrong format; the client asks something that the informant does not have the means to answer to; the message doesn’t have relevance in the current situation.”

“Policy-makers and intelligence organisations operate in different rhythms and with different objectives. Intelligence organisations aim to produce objective analysis to support policy-making, but policy-makers get frustrated if that knowledge doesn’t contain direct action suggestions or if the analysis doesn’t support the chosen policy line.”

Kaivo-oja:
“Communication channels are not planned well enough. We really need to know the critical momentums of decision-making. Roadmaps of decision-making pro-
cesses and needs should be produced beforehand (= political decision agenda). We should have answers to questions: When, Who, How, Why? We should also produce Top 10 lists of wild cards for the decision-makers. Such list should be changing in logical order, and it could be created with crowdsourcing and pattern recognition methods.”

“The trade secrets regarding risks are one blind spot area in the communication.”

Corneliussen:
“Linking long-term analysis to intelligence is hard. We do not want to compete with think tanks. Strategic foresight can base on totally hypothetic assumptions. Intelligence must base on hard evidence, as false intelligence can be dangerous. Every conclusion must be tested – what did you really observe and how did you come up to this conclusion?”

“Military intelligence fishes together with many other fishermen around the same pond of borderless risks and threats. Even the “masters” are much the same. The other fishermen are: inside borders and outside borders intelligence, civil service and military intelligence, police, academia, media etc. All fishermen have their own place and tools around the lake.”

Confidential interviewees Robin and Bernar:
“Services and policy-makers do not speak the same language and policy-makers do not understand what strategic foresight is. We should find common concepts. Politicians think in short-term and have many misconceptions. Private companies would like to get intelligence knowledge, but do not have access to secret offices.”

“Service needs a direct contact with decision-makers. If there is an intermediating body, it would need a lot of training.”

Heinonen:
“We need to establish a national knowledge management process, where everyone can utilise the shared sources and bring in new knowledge. The national overview of the situation is one which aggregates. Yet, it is a very difficult task to aggregate many overviews to get a comprehensive overview without the broken phone phenomenon.”

Trevorton:
“The role of media towards decision-makers could be increased.”

“Intelligence needs a direct road to the decision-makers. A strategic foresight unit could be another advisor, a sculptor of alternative views, but not an intermediating body between politicians and intelligence.”
“Strategic foresight usually specifies its limitations. Intelligence should do the same, but usually it does not. Intelligence should be more specific with their products’ blind spots, and emphasise that there is no magic behind the analysis. It should discuss the relevant what-if questions, alternative scenarios, knowledge gaps, and what assumptions we cannot draw from this. Donald Rumsfeld: ‘absence of evidence is not evidence of absence.’”

“The best practices of telling bad news should be thought through. We could deliver personalised bad news by saying that here is the ‘red team’s analysis for your question.’”

“Analysis should be put to the centre of the process. There should be no discussion about preliminary assumptions with the clients. Yet, intelligence should be ready to say that we have now got new information and basing on that we have changed our mind. Decision-makers should be made feel that they see behind the curtain.”

Confidential break-out group, answers from the participants:
“The older generation of politicians expect a report to be a written paper. Something else is easily considered just entertainment.”

“People in services should be trained to use visual + textual + online methods in their communication. 90 % of communication is non-verbal, as can be seen in the personality of the president. Services must handle non-verbal things well.”

Confidential interview Olga:
“Foresight is easy to sell for the decision-makers if it is related to threats or if it raises the right types of questions. Fuzzy packages are hard to sell.”

“Services are very constrained in their communication with policy-makers.”

“Different types of knowledge producers should share knowledge instead of competing with the attentions of policy-makers.”

What kinds of governmental practices should be changed in order to intensify the policy-making functionalities?

Treverton:
“What is needed for intermediating between decision-makers and intelligence are trained people who can utilise both the intelligence products and the strategic foresight knowledge in different parts of the government.”

Confidential interviews Robin and Bernar:
“We need a knowledge transforming unit to train decision-makers and state secretaries to understand what services are saying. Strategic foresight is not right unit to be put to intermediate.”
“Currently no reports of made decisions are done. Media should be there between policy-makers, services, and citizens.”

Confidential break-out group, answers from the participants:

“Crisis management function should be attached to policy-making. We need to aim to change the game, to achieve a strategic role in the game, and being able to change the conditions of the futures. Otherwise, we just discuss.”

“Fusion centre’s\(^1\) role in the middle of customer and delivering service could be strengthened.”

Heinonen:

“The policy-makers knowledge needs are horizontal and holistic, but the State’s approach and tradition on knowledge production is still sectoral and fragmented. In too many cases sectoral knowledge is not in useful format for policy-makers.”

“When government talks about foresight, it usually talks about national economical risks, which is too narrow approach.”

“Due to the interconnections and risk accumulation, the concept of risk is a difficult one. There have been talks about State’s general safety concept. Yet there are no State risk management policies, just controller approach.”

Kaivo-oja:

“Governmental risk assessments are not always made, and knowledge regarding potential risks does not usually reach the decision-makers. Deeper interaction between foresight intelligence experts and decision-makers is needed.”

“Policy-making has an official organisation and a shadow organisation, which is not good. Silos of expertise create problems. We need to break the administrative silos and create networks of shared professional knowledge.”

“The army of political advisors have a too big role in policy-making. They are a ‘special tribe’ who easily overrun political agendas.”

“Group thinking (wisdom of crowds) leads too often to lack of individual courage.”

\(^1\)A fusion centre is an entity where different units within the intelligence and security community and other agencies work together on one or more threats. There are many forms of such centres in different countries, but what is common for all is that they try to meet the demands of modern threats through a multi-organisational approach. Trust has been named as the biggest challenge for the establishment of fusion centres. Read more: Persson, Gudrun (2013): Fusion Centres – Lessons Learned: A study of coordination functions for intelligence and security services. CATS Center for Asymmetric Threats Studies, Swedish National Defence College.
“We need to plan the communication channels better, break the silo organisations, get integrated knowledge management, enhance robust division of labour, build superhero organisation type of thinking, and give more independence to experts. ‘Ordered expert statements’ should be avoided.”

Lampela:
“First of all, it would be elementary that the government would have a capability of strategic intelligence. That is not the case for example in civil intelligence in Finland at the moment.”

“Secondly, it should be made sure that the national strategic security policy is embedded in the national policy-making and administration – here I am talking about the Intelligence Support Structure again. In Finland the national policy-making and intelligence could be interlinked better for example by strengthening the role of strategic intelligence issues in the task list of the Defence Ministry’s Security Committee and nominating the Chief of Strategic Intelligence into a permanent position in the Committee.”

“It is very important to make the high level political leaders committed to the steering of strategic intelligence. The logical next step for the outcomes of the Defence Ministry’s Security Committee would be to take those into discussion in the Cabinet Committee on Foreign and Security Policy.”

“Through this kind of two-level approach to intelligence support it would be possible to ensure a balanced dialogue and push and pull mechanism between policy-makers and intelligence providers.”

Should there be comprehensive governmental risks and foresight overviews, and how could they be created?

Heinonen:
“Foresight and intelligence can help each other. Foresight provides visions and overviews and intelligence provides knowledge.”

“It is necessary to build a national foresight process. We should get rid of the current organisation culture where each organisation does everything by themselves and from the scratch. The process should utilise very versatile knowledge and competences instead of aiming on just a one-eye overview. Research knowledge and intelligence knowledge are only two sources of knowledge. Foresight knowledge, silent knowledge, and many others are very important sources as well. Currently the links do not work.”

“The very much needed governmental comprehensive overview should contain the key drivers that we could mutually analyse and rearrange further. Its prerequisite
is big trust between the actors. It requires also establishing of a long-term participatory knowledge creation culture, good network management, and methods for developing new networks. One more issue to be solved is the question of confidentiality. Especially civil intelligence should know who the reliable users of the overview are, and are there some governmental actors who should not get all the knowledge?”

“One good example of a comprehensive and multi-disciplinary approach on economic issues is OECD’s New Approaches to Economic Challenges. It utilises successfully many versatile disciplines, such as game theory, behavioural sciences, and brain research. The most important thing is that they have really understood that substance is not everything, as the public sector’s organisation culture and the ways politics is being done have a great impact on everything.”

The OECD’s New Approaches to Economic Challenges project’s first step is a profound analysis of the root causes of the previous economic crisis and take stock of the lessons learned from it. This phase identifies links across different areas and potential policy synergies, and could lay a solid foundation to avoid construction flaws at a later stage. The projects second step is to draw on these lessons, deriving their policy implications, and relating them to underlying global trends. The aim of this phase would be to identify key elements of a renewed framework to address complex and interrelated economic challenges. A key component in developing “New Approaches to Economic Challenges” is identification of the areas where OECD countries need to adjust their analytical framework (in tandem with the stock-taking exercise and identification of the related policy implications).2

Heinonen gives Japan’s earthquake preparation system as an example of choosing such flexible, multi-stakeholder approach, instead of an old fashioned robust one. “Japan used to have responsible emergency officials for each duty, but after the massive Kobe earthquake they realised that instead of that they need to have a flexible matrix system, which enables both rapid switches of tasks, and comprehensive coordination and utilisation of cross-sectoral and international help.”

Treverton:
“Intelligence could play a stronger role in governmental overview building. It does not have much to contribute directly to strategic foresight, but at least it has more hired people to work with knowledge.”

“Risk assessment is about safety and it works with precise numbers, which has not been a familiar approach for intelligence. Yet, maybe that could be a good track

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to be followed in intelligence. Military is more strategy and big picture understanding oriented than civil intelligence, but it is still a big consumer of civil intelligence knowledge. Maybe there should be more joint processes.”

“We put all the pieces together, but we never get the whole picture.”

Corneliussen:

“Military intelligence uses many methods in order to bring added value for policy-makers, other intelligence, and national overviews. We bring new topics and act with the topics. We read academic products and do scenarios and horizontal scanning. If we discover in our scenario practice, for example, that all three scenarios that have been made to a particular issue have one single line of thinking in common, then we have identified the core that we should really look. Scenario building is a learning process itself.”

“For the past five years Sweden has had a counter-terrorism national centre, which is a melting pot of all Swedish intelligence services that works with counter-terrorism issues. It contains representatives of all services working together in joint issues. Sweden has had a Borderless threats working group for one year by now (meets only when it is called to assemble), and a joint Cyber security centre. They build Governmental risk overviews.”

Kaivo-oja:

“The public policy-making should adopt the structures of smart government and establish a superhero organisation on its side. The superhero organisation operates outside day-to-day policy-making processes and contains the following parts: smart governance with open leadership and collective sense-making, strategic foresight (diagnosis-prognosis-prescription –processes), automated knowledge quantification, cryptonumerite competences, transliteracy (ability to interpret everything and Big Data), situational awareness, critical needs based analyses, and culture of producing beta versions of knowledge (instead of final truths and outcomes).”

“Government needs comprehensive maps of risk environment. Detection should contain pattern recognition of fundamental reasons behind processes e.g. rising nationalism in Russia. Critical moments of decision-making should be timed. For example for Finland the right time to affect on the EU sulphur directive would have been the moment when it was prepared in the UN agencies, not after it, as was the unfortunate case.”

Lampela:

“To my understanding there is currently one strategically important Governmental document that anticipates comprehensively national security threats in Fin-
land. It is the security and defence policy report\(^3\), which is a very unique product even on the European level, that functions well as a basic document for national futures-oriented security politics. The report has been criticised for the fact that it doesn’t make any policy recommendations regarding the anticipated phenomena. Indeed, the document could be utilised more than it has been: there could, for example, be additional tools attached to it, such as sectoral action plans, short-term assessments, and post-mortem analysis. That way the national security strategy would get operationalised in a structured manner into detailed tasks of each responsible authority. The coordination of that work would suit the best for the Security Committee, provided that the representative of the strategic intelligence is a member.”

“As the traditional intelligence cycle and political process are not synchronised, intelligence may in some sudden and unexpected situations be unable to provide the decisions-makers the rapidly needed answers. This is where strategic intelligence and foresight could narrow down the time gap between the policy-makers’ need and the intelligence provider’s analytical assessment. Strategic intelligence and foresight can identify weak signals that have potential to grow into larger phenomena in the near future. That gives policy-makers a possibility to be prepared for the forthcoming. However, the time range of foresight, 10-20 years ahead, is often too long for policy-makers.”

“Due to limited resources it is difficult to see foresight as part of the intelligence work in Finland for the moment. However, the work of many academic organisations and public and private think tanks could be better utilised by the security authorities. The Canadian Academic Outreach is a good example here. Yet, it is also often stated that a large number of really long-term assessments go wrong.”

**What kind of knowledge should be provided for policy-makers?**

*Treverton:*

“The decision-makers’ response to strategic foresight is quite often, yes we should do this but not now. Yet, if strategic foresight does not change your actions today, it is only entertainment. Therefore, its role and communication needs to be planned well.”

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\(^3\)The security and defence policy reports make broad assessments of Finland’s security and defence policy as a whole. The security and defence policy report is the Government’s basic position, setting out the principles and objectives for Finland’s security and defence policy and providing a framework for its implementation in the different sectors. The report conducts a thorough examination of the change in Finland’s international environment and its effects on Finland’s capability as well as on comprehensive security. The assessment of the environment creates the basis for determining the line of action. Based on these, the reports show the development and resource needs that focus on the different dimensions of the capability, external capability, especially crisis management capability, defence, the maintaining of internal security and the safeguarding of society’s central basic functions. http://www.defmin.fi/en/publications/finnish_security_and_defence_policy
Corneliussen:
“We should talk about issues and topics that have not happen yet, and what policy-makers have not thought or asked yet. Then they get interested in topics that we bring to them.”

“Hindsight is usually a good source of foresight.”

Confidential interviews Robin and Bernar:
“We need to communicate the policy-makers that, in order to manifest democracy, there has to be options. In totalitarian systems services are close to policy-makers. In democracies they should have more autonomous roles.”

Break-out session participants:
“Services should write about the future, rationalise the story with future techniques, use systematic scenario method, merge trends, and formulate the outputs into video clips.”

Kaivo-oja:
“Policy-makers should receive integrated knowledge analyses, situational awareness, strategic foresight, need-based analyses (knowledge channelling system), and critical information analysis that bases on market intelligence, networks analyses, and crowdsourcing.”

Heinonen:
“The governmental knowledge utilisation process is still very immature. We still believe that decision-makers will read all the papers, even though that is usually not the case. Knowledge on paper does not transfer to policy-makers. It is necessary to establish a seamless dialogue, shared knowledge talks and forums between key actors to avoid the broken phone phenomenon. A good example of such dialogue forums are the climate panels, but those are not used enough. Another good knowledge sharing forum in Finland is the Prime minister’s Economic Council, which aggregates all national key economic policy-makers together every month. However, business side has succeeded much better in creation of systematic right-time knowledge for their decision-makers.”

Interview summary: What are current problems in the system?

The big question of this book is “how foresight and intelligence could together better provide policy-makers with the knowledge needed to make right decisions?” The interviewees named at least the following themes as obvious current problems that undermine the potential benefits of this interaction.
• The time spans in which decision-makers and knowledge producers function are usually very different. Intelligence organisations aim to produce objective analysis on their own pace to support policy-making, but policy-makers get frustrated if that knowledge doesn’t contain direct action suggestions or if the analysis doesn’t support the chosen policy line. In addition, due to the lack of synchronising practices, intelligence may in some sudden and unexpected situations be unable to provide the decision-makers the rapidly needed answers.

• The communicational challenges between intelligence organisations and policy-makers can be summarised as follows: the message comes too late; the message isn’t understood (e.g. due to different interpretations of concepts); the message comes in a wrong format; the client asks something that the informant does not have the means to answer to; the message doesn’t have relevance in the current situation.

• The policy-makers’ knowledge needs are horizontal and holistic, but the State’s approach and tradition on knowledge production is still sectoral and fragmented. In too many cases, sectoral knowledge is not in a useful format for policy-makers.

• The broken phone phenomenon should be avoided.

• Administrative sectors may have difficulties in discussing national risks, threats, opportunities, and drivers of change as organisations do not often share a common organisational culture, concepts, or communication forums.

• Political decision-making environment is quite chaotic and decisions to most urgent issues are often done reactively or ad hoc, and easily only one electoral period in mind.

• Politicians receive lots of written reports but they never read them. Yet, knowledge providers believe that they have done their share when they hand in their report.

• There are no comprehensive national long-term strategic foresight or risk management systems available. Knowledge regarding potential risks does not usually reach the policy-makers.

• Knowledge providers undermine the value of their products by mystifying the outcomes and by not naming the potential blind spots and limits of their knowledge.

• Policy-making tools that allow overview analysis be swiftly turned into recommendations and action plans is missing.

Interview summary: What should be done?

The interviewees named the following changes to be done within intelligence, foresight, and governmental practices in order to enhance the policy-makers’ abilities to make better decisions.
• Knowledge providers should try to handle well-focused right-time knowledge for policy-makers.
• Products should be presented in a visual format that is easy and fun to use.
• Products, especially bad news, should be personalised.
• Policy-makers should get a feeling that they see behind the curtains.
• Civil and military intelligence could have more joint processes and make mutual risk scenarios.
• Intelligence could work with precise numbers like corporate risk assessment does.
• Intelligence organisations should educate their customers more proactively. The training could be targeted for ministerial special advisers, and e.g. those in diplomat training or education. Personal contacts between intelligence practitioners and policy-makers enhance trust, understanding, and interaction also on the organisational level.
• We need to train intermediating people who can combine, utilise, and share both the intelligence products and the strategic foresight knowledge in different parts of the government.
• Intelligence still needs a direct route to decision-makers.
• The decision-makers’ interest should be pushed towards driving forces e.g. what drives the Middle-East into something? These arisen issues should be related to things that the decision-maker is doing at that moment.
• The complexity of decision-making processes and their critical moments should be understood better. Knowledge providers should receive a decision-making roadmap and timetable.
• Different types of knowledge providers shouldn’t compete for the attention of policy-makers. They should share the knowledge instead.
• We should conduct policy-makers’ client satisfaction analysis of the products, and a ‘post-mortem’ analysis of product accuracy. That way we could develop client satisfaction better.
• The role of press between knowledge providers, policy-makers, and citizens should be increased. If media would operate between the three, policy-makers couldn’t ignore the messages anymore.
• The role of fusion centres between the customer and delivering service could be strengthened.
• Crisis management function should be attached to policy-making. We need to aim to change the game, to achieve a strategic role in the game, and to being able to change the conditions of the futures.
• Foresight is easy to sell to the policy-makers if it is related to threats or if it raises the right types of questions or things that the policy-makers haven’t thought yet. Fuzzy packages are hard to sell.
• Intelligence products are easy to sell for the policy-makers if those rationalise the story with future techniques, formulate the outputs into video clips, and if they talk about things that haven’t happened yet and which the policy-makers haven’t even thought of.

• It is necessary to build a national foresight process. We should get rid of the current organisation culture where each organisation does everything by itself and from the scratch. The process should be trans-disciplinary, in other words it should utilise very versatile knowledge and competences. Research knowledge and intelligence knowledge are only two sources of knowledge. Foresight knowledge, silent knowledge, behavioural sciences, and many others are very important sources as well.

• Policy-makers should receive integrated knowledge analyses, situational awareness, strategic foresight, need-based analyses (knowledge channelling system), and critical information analyses that are based on market intelligence, networks analyses, and crowdsourcing.

• Public policy-making should establish a think tank organisation on its side that gives rise to bold initiatives outside day-to-day policy-making processes.

• Government should have a strategic intelligence capability, which would contain a comprehensive map of risk environment, visionary elements, and tools for making policy recommendations and action plans basing on focal issues in the overview.

• Governmental comprehensive overview should contain the key drivers that ministries could mutually analyse and rearrange further. Its prerequisite is establishing a long-term participatory knowledge creation culture, good network management, and methods for developing new networks.

• Intelligence Support Architecture should be built inside the national policy-making system. It would allow policy-makers to steer the intelligence organisations and better use their products in their daily decision-making. One key component of such architecture is nomination of the chief of strategic intelligence into a permanent position in Governmental Security Committee.

• Parliamentary policy-makers need business intelligence types of dashboards, screens, or broader foresight type of overviews as its perspective can be much longer than the Government’s view.

**Suggestion for a new model**

Chapter 4 discussed the idea of a *Pond of borderless risks and threats* via the metaphors of fish, fishermen, fishing tools, and different fishing shores. It also opened the different roles of each ‘fisherman’ from the standpoint of policy-makers’ needs. The next figure summarises the core objectives, duties, and products of different types of ‘fishermen’
around the pond into three layers of action. The layers are Situational awareness, Understanding the process, and Options for actions and strategy.4

Situational awareness represents the layer that embeds all secret and direct knowledge gathering actions, but also situational silent knowledge and other horizon scanning5 practices. In other words, the objective of the Situational awareness layer is to update national overviews of the situation and get real-time relevant knowledge such as early warnings for policy-makers.

The layer of Understanding the process marks the objectives to identify and analyse the driving forces behind certain emerging phenomena, changes, and risks. Secondly it aims to map the societal insight into comprehensive conclusions. The main actors who operate with these objectives are academia, think tanks, media as well as risk assessment and management.

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4Figure 9 in Chapter 4 marks the background of this analysis. Figure 18 with the new names of the layers is a summary of the analysis.

5Here the horizon scanning practices are understood not just as a method, but in a very broad sense. Fishermen in each shore do kind of horizon scanning from their own viewpoint, as explained in Chapter 4. Their products can be utilised in building a national overview of the situation, and alternatively directly in all policy-making.
Options for actions and strategy is the layer that discusses, creates, and evaluates the options for changing the conditions of the future. It operates with hypothetic wild cards, scenarios, trends, and out-of-the-box visions and aims to form comprehensive futures overviews for strategic intelligence, viable options for policy-making, and action plans for strategy work.

If we bring together the previously presented three layers of strategic intelligence, an original figure\(^6\) of the intelligence knowledge flow chart, and the summaries of the interviewees’ recommendations, we can formulate a new type of knowledge flow model, as presented in Figure 19. The description can be used as an organisation chart as well.

**Functions in each vertical layer**

Figure 19 has four vertical layers: Situational awareness, Understanding the process, Options for actions and strategy, and Policy-making. The layers are divided into three tracks. The left track just names the layers, but the middle-track names the functions that operate inside each layer, and the right track presents the idea how the versatile

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\(^6\)The original figure of the intelligence knowledge flow Adjusting Foresight, Intelligence and Inferring for Different Types of Systems, was presented in my previous book (2012), page 239.
products should be delivered for policy-makers and utilised in the production of comprehensive strategic intelligence products.

The role of the Situational awareness layer is to gather data and detect what seems to be happening. In principle, horizon scanning mostly refers to automated scanning for the best knowledge of changes in the operational environment. In this sense it may be understood as an engineer and software expert driven function, which utilises all types of written or digital data sources, ICT, and quantitative methods. Yet in this figure, horizon scanning refers to a much broader approach of fishing in the pond of borderless threats and risks, which has been explained in Chapter 4. Here field intelligence is separated from the other forms of horizon scanning, as it has its secret knowledge sources which give it a special role in policy-makers’ eyes.

Understanding the process has two parts: Forecasting and Emergence that break the data into manageable units, builds causalities, identifies drivers and subjects, and verifies phenomena and threats. Both functionalities utilise the knowledge that derives from the early warning level, but in different ways.

Forecasting focuses on quantitative knowledge based on analysis. It is a statistical network analysis and model driven function that gathers relevant time-series, does various trend and cross-impact analysis, and modelling based on that. The function aims to break the data into manageable units and build links and causalities between events. The Forecasting function is carried out by Governmental sector research centres, corporate risk management, and academia’s economical and technological side.

The other function, Emergence, focuses on phenomena that are too complex to be forecasted based on historical knowledge, statistics, or modelling. The function analyses qualitative knowledge with methods from ethnography, social-psychology, political science, etc. It aims to identify driving values and subjects, and verifies early or emerging phenomena and threats. The Emergence function is carried out by think tanks, media, academia’s social and behavioural studies, and for example Academic Outreach.

The layer titled Options for actions and strategy contains two functions: Strategic foresight and Crisis management. Strategic foresight gathers, concludes, and synthesises knowledge from the input of all other teams and systematically creates well-structured strategic options, scenario and comprehensive overviews of the situation, and visions for policy-makers. Alongside such strategic tasks, it does out-of-the-box prospections as well. This means both ideation of novel views and systematic questioning of the other functions’ products. The questioning contains “devil’s advocate type” of functions via what-if questions, counter-arguments, and generation of wild cards.

Crisis management ideates and initiates alternative solutions of how to grasp existing or emerging problems. The reason for raising the crisis management function into sign-
ificant role in the knowledge flow model is that some of the interviewees quite strongly emphasised the need for emerging crisis solving, alongside with the existing crisis early detection, analysis, and strategy plan setting. The argument was that without tangible capabilities to grasp the identified problems early enough and policy-makers’ early involvement in the emerging problem we just talk.

Policy-making function is the last one in the model, as eventually all products and alternative conclusions and recommendations should flow in some form to the policy-makers. The reason for this is the fact that all players around the pond of borderless risks and threats have different objectives, they study the issues from their own unique angle, and they all have some special methods and silent knowledge. All of the players produce specific products (A-I in the figure) that can be used in policy-making as such, they can be taken into multi-stakeholder dialogue and be utilised as raw material in production of other products, or they can be updated, aggregated, refined, and used in the production of meta reviews or national overviews of the situation. Such meta reviews could be written into a form of alternative overviews or scenarios and presented in the form of video or online game.

Therefore the recommended idea, presented in the right track, is that each ‘fisherman’ by the pond of borderless threats and risks should be regarded as ‘intelligence’ producer who should be given a direct or semi-direct path to the policy-maker at least when needed. That way the policy-makers would get more democratic power as they could decide between true alternatives based on their values and political mandate.

As emphasised in the previously presented summary, “government should have a strategic intelligence capability, which would contain a comprehensive map of risk environment, visionary elements, and tools for making policy recommendations and action plans basing on focal issues in the overview.” Such strategic intelligence capability requires good intelligence, strategic foresight, visionary management, and enlightened and committed policy-makers.
Rethinking the intelligence process

Lauri Holmström and Pekka Riipinen

The intelligence process has a vital role in how intelligence is perceived, understood, and used in decision-making. The function of intelligence analysis is to reduce uncertainty. By retaining its distance from the end-user, intelligence can strive to remain objective. However, the relationship between intelligence analysis and policy-making is fraught with tensions which undermine the potential intelligence offers. The main reason for this is the policy-makers’ desire for certainty which is something the intelligence community cannot deliver. To a large extent, this discontent arises from a failure to effectively communicate the different capabilities, limitations, and needs of each party across the policy–intelligence divide. This stalemate has created obstacles that intelligence analysis needs to overcome in order to successfully serve the policy-making community.1

Intelligence has to be in step with decision-making in order to fulfil its purpose. The vast majority of attention in the intelligence community is focused on working on short-term intelligence gaps and requirements. This not only blurs our vision as practitioners, but also distracts the policy-maker from realising the full potential the process of intelligence can bring to decision-making. In addition, it keeps us from finding new ways to develop intelligence and its relationship with decision-making so that both communities could function more competently. Intelligence analysis is an intellectual activity and as such cannot be manipulated or restrained in the hope of improving its results. More than just factual information must be included in analytic products that are delivered in a timely, objective, and approachable manner. The implications of the subject matter of the analysis must also be brought to bear.2

This chapter studies the relationship between intelligence analysis and decision-making by focusing on the role of the intelligence process in this exchange. By analysing interactions between the intelligence community and decision-makers against the back-

2Lowenthal, “A Disputation on Intelligence Reform and Analysis: My 18 Theses,” 32.
drop of theoretical discussion on the matter we hope to achieve a set of parameters that enables a more accurate and useful description of the intelligence process. This proposition of rethinking the intelligence process will contribute in part towards the greater goal of bridging the gap between theory and practice of how the intelligence process functions. In addition, it will advance the work on consorting the domains of intelligence and science closer to each other. How could the intelligence process be rethought and described in a way that would have results on not only how intelligence analysis is carried out but also on how it is understood and used by policy-makers?

This study is rooted in the theoretical and historical discussion on the role of the Intelligence Cycle in intelligence analysis and in the relationship between the intelligence analyst and the policy-maker. Our research addresses the use of strategic intelligence from the practitioners’ point of view. We have interviewed both practitioners and scholars confidentially on the challenges of the intelligence process. The resulting information has then been analysed and used to test our own theory of intelligence, which we have named right-time intelligence. Lastly, we offer our findings and explore ways the academic and intelligence communities can together move forward on this topic.

The research subject
According to Alan Dupont, the classic Intelligence Cycle has diminished explanatory power and less organisational use in the post-Cold War world. This is because the division of the different aspects of the intelligence process into traceable steps reflects the ideas, methods, and organisational currents of a bygone era that does not subscribe to the notion of continuous intelligence support to policy-makers. As the bureaucratic division of intelligence producers and clients erodes, so does the difference between operations and intelligence.

If the Intelligence Cycle is flawed, why should practitioners worry when they have more or less managed with their work so far? Should the Intelligence Cycle even be thought of as an accurate modelling of the intelligence process? The Cycle has real-world implications to how intelligence professionals as well as policy-makers are educated and gain a self-understanding about their professional missions and respective institutional positions. Moreover, because the Cycle keeps the discipline of intelligence intellectually at bay and impedes efforts at improving intelligence analysis as well as the role of intelligence analysis in the decision-making process, it is important to try to replace it with something more valid. This is where academic research on intelligence enters the picture.

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3The term ‘Intelligence Cycle’ is used in the text to refer to each and every representation of the theoretical model of intelligence that identifies itself as a ‘cycle’ and the term is therefore used here interchangeably to denote all cyclical intelligence models. The elements of the standard cycle usually include direction, collection, processing, analysis, dissemination, and feedback.

4The term ‘policy-maker’ is used in the text to refer to all cases of decision-makers to simplify the research in our context.

Stephen Marrin has stated that in many cases practitioners do not welcome academic discussions on intelligence-related subjects because the intelligence community has traditionally viewed scientific interest and research in intelligence matters as far removed from the realities of their daily work. While academic studies can have some relevance in interpreting and contextualising the discernible issues at hand, there is less use for it when working with raw intelligence. We have as our starting point the divide between science and intelligence from where we move on to the relationship between intelligence analysis and policy-making. Until now, aspirations by practitioners and academics alike to generate an alternative to the Intelligence Cycle have not been widely accepted.

We do not expect to change this anytime soon by inventing something revolutionary in the scope of this short study alone. Our aim is to approach the problem through the partnership of academics and practitioners united in the goal of starting a new thread in the larger discussion of supplanting the Intelligence Cycle with something that has empirical validity and can give a more accurate and useful description of the process of intelligence. Thus, our research project carries the promise of evolution – even if not revolution. Whereas the Intelligence Cycle is a product of the Cold War, Sir David Omand has argued that contemporary intelligence services, grappling with structural and cultural transformations of the postmodern world, are more akin to knowledge management industries. This idea also fits with our rethinking of the intelligence process as a conscious move away from the Cycle towards a paradigm that has its footing in the real-life interaction of decision-makers and intelligence analysts.

The historical background of the Cycle is not well known, but it has been the standard for intelligence education since World War II. Our research has been inspired by Kristian J. Wheaton’s accomplished blog postings on the uses, history, and criticism of the Cycle as well as his model of the intelligence process. On the practical side of the intelligence business, we can only agree with Arthur S. Hulnick, who has in many instances noted that people who have worked in intelligence usually agree that the Intelligence Cycle is not an accurate depiction of the intelligence process.

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Problems of Intelligence Cycle

In recent years, the Intelligence Cycle has faced growing criticism from both intelligence scholars and practitioners for various reasons. The most pressing of these is that the Cycle is not a very accurate description of how the intelligence process works in reality. Omand has observed that while the standard Cycle has failed to give a fair description of any single nation’s intelligence production processes, the sequence of steps outlined in the cycle have not matched the responsibilities of individual agencies either. However, Omand gives the Cycle some credit for introducing the rudimentary basics behind traditional intelligence analysis products.\(^\text{12}\)

Hulnick has on many occasions called attention to the fact that, from the very start, the Cycle gives an incorrect description by claiming that policy-makers guide, provide requirements, or task the intelligence apparatus for collection. Nor are intelligence managers involved in the planning and direction of the intelligence process. This is an important discovery from our perspective, since our focus is especially on the relationship between the analyst and the policy-maker in the intelligence process. Furthermore, Hulnick argues that while policy-makers can sometimes express their worries or share planned policy moves with intelligence managers, in most cases the requirements are driven by events, managers, and analysts. This is especially true in domestic intelligence where the main intelligence requirements are well known. Attempts to try to involve policy-makers to supply requirements have not been successful. In this regard, policy-makers want the intelligence community to tell them what they should be worried about and leave the requirements part of the process to be determined by the intelligence system itself. It can therefore be assessed that the requirements vary according to the function. Hulnick also notes that any gaps in the requirements will most likely be filled once collection is already underway, leaving the policy-maker once again out from the process.\(^\text{13}\)

The conceptual framework of the Intelligence Cycle together with the historical tradition of teaching it to new recruits of the intelligence community has led to a situation where intelligence analysts tend to think that policy-makers expect or at least should wait for intelligence to arrive before decisions are made. If the classic Intelligence Cycle is to be trusted, the intelligence process closes with what is commonly referred to as dissemination, the distribution of finished analytical products to policy-makers who then act on that intelligence to make their decisions or give new requirements to the intelligence machinery to start the Cycle anew. However, Hulnick is again blunt in his judg-

ment of this notion because in his experience it is simply false. First, it is not possible to accurately measure the impact of intelligence on policy-making. Second, different intelligence products are received and utilised in various ways. Therefore, it may be safe to say that intelligence is not a driver of the policy-making process and in most cases decisions taken by policy-makers do not require intelligence.14

In the end, the Cycle does not reflect the synergetic nature of intelligence where requirements, questions, collection efforts, analysis, reports, and feedback are thrown back and forth while different players of the process communicate and correlate with each other in varying order. Each Cycle of a given consortium is usually more akin to the bureaucracy of the organisation in question. Sometimes the Cycle is not even a reflection of the bureaucratic structure but a modification of someone else’s Cycle. Lastly, the Cycle creates an image of a very static process that puts policy-makers and the intelligence community too far apart.

In his research, Sir David Omand has recognised three different concepts represented by the Cycle. These are intelligence narrative, professional intelligence identity, and model of intelligence. Each of these concepts illustrates a different aspect of the intelligence process that helps us in the challenge of describing the process of intelligence in a way that is not restricted by the Cycle. The intelligence narrative argues that it is possible to proceed sequentially from one interlinked step to the next in order to produce an intelligence assessment for a client. The identity of an intelligence professional is also included in the idea of the Cycle by the implied separation between the identities of intelligence professionals and end-users. The third and most interesting of Omand’s observations is the Cycle’s postulation that it is possible to coherently model an activity like intelligence “by capturing in a cyclical model the specific functional activities that reveal the essence of what intelligence activity is all about.”15 Omand notes that the interaction between intelligence analysts and policy-makers should be striving away from the stereotype of the Intelligence Cycle towards a sustained and close relationship.16 This idea forms the cornerstone of our theory.

In addition, Hulnick has identified three schools of thought with regard to relevant theoretical models of intelligence: the traditional Intelligence Cycle, the modified cycle, and the matrix model. One of the major flaws of the Cycle is that in all its forms it leaves out the functions of counter-intelligence and covert action. While this is an interesting remark, we have decided not to include this issue in this chapter. In his research, Hulnick has proposed the fusing of traditional models of intelligence with his matrix model. In this rationale, the four main tasks of intelligence (collection, analysis, counter-intelligence, and covert action) lead to the perception of two main variables in intelligence: ‘process’ which

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16Omand, “Is it time to move beyond the Intelligence Cycle? A UK practitioner perspective,” 144.
covers the central elements of the specific functions and ‘sequence’ which handles how the functions associate with each other. This is another insightful observation that we have utilised further. Next, we turn our attention to the analyst–policy-maker relationship.

**Analyst–policy-maker relationship**

In examining the relationship between analysis and policy-making we take as our lead the observation by John McLaughlin that analysis is at the core of the intelligence profession and the interaction between analysts and policy-makers is the ultimate test for all elements of analysis. The interaction between analysts and policy-makers also challenges the intelligence community’s aspiration for objectivity. Because intelligence alone has no autonomous, self-sufficient function and can therefore be understood to exist only to support decision-making, it is important to study what factors contribute to the workings of this relationship. If policy-makers did not see the need for intelligence in their decisions but rather assumed intelligence products to ratify their actions and regarded any adverse estimates from the intelligence community as interference, all intelligence – good and bad alike – is labelled irrelevant. The same applies if the intelligence supplied to the policy-maker simply endorsed the decisions already taken.

Richard Russell has identified two major schools in intelligence–policy relations. Whereas the Sherman Kent school regards it important to retain the distance between policy-makers and intelligence analysts to preserve objectivity, the Robert Gates school argues that it is important to get close to policy-makers in order to make intelligence truly effective. Hulnick has pointed out that elected policy-makers tend to be personalities that have high confidence in what they are doing and are usually acting out the predetermined policy of their party or affiliation. This means that when entering a policy-making job they come equipped with a mindset and plans on what and how to achieve what they want. Here, the desire for certainty once again meets the problem of intelligence products that speak in probabilistic terminology. In addition, policy-makers are seldom well aware of intelligence matters and intelligence systems are not always the best actors in educating outsiders about themselves. In this way, policy-makers usually do not know how the

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21Hulnick, “Intelligence Producer-Consumer Relations in the Electronic Era,” 748.
system really works. If functioning channels of communication existed between the intelligence analysts and policy-makers, the intelligence community would have leverage to decipher the workings of the system to the clients. However, this is rare. Policy-makers come to office with preordained goals and they do not like to get involved with issues that they are not interested in or have not anticipated. In their view, the intelligence community exists to facilitate the attainment of policy goals and not to caution or to produce estimates. When problems arise, the policy-makers can feel disconnected from the intelligence community and start to question the role of intelligence for three main reasons.

First, there are the unrealistic expectations of what a policy-maker can achieve in office. Second, the perception in the policy-making community of the intelligence community as an obstacle to policy can point us to see the difference between the optimistic culture the policy-makers and the intelligence analysts’ culture of scepticism. Third, the experience of the policy-maker that intelligence analysis is too far removed from the day-to-day realities of their world can widen the divide between the two camps.

In the view of Arthur S. Hulnick, the most impressive example on the role of intelligence in decision-making can be derived from the military. There the role of intelligence is tied to the establishment of the military staff system, where it is represented in the same way as operations, logistics, personnel, and communications. Moreover, Jack Davis has observed that intelligence is a vital, active component instead of a neutral player in the armed forces. In the military intelligence is seen as something that can steer decision-making away from failures based on “ignorance or misinterpretation of a current situation.” When tensions arise between the production of intelligence analysis and policy-making they can be summarised as clashes of two different cultures. With regard to the different cultures represented by the policy-maker and the intelligence analyst, they themselves have a lot to do with what the relationship will achieve. It is worth remembering that the policy-makers’ culture is optimistic and grounded in realism. It thrives in an environment where the disputatious nature of policy-making is battled with opposing ideas.

Davis has divided the tensions surrounding intelligence analysis production and policy-makers into three categories in order to more accurately define the flashpoints in the rela-

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24Steinberg, “The Policymaker’s Perspective: Transparency and Partnership” 83-84.
26Hulnick, “Intelligence Producer-Consumer Relations in the Electronic Era,” 752.
28McLaughlin, “Serving the National Policymaker,” T1-72.
tionship and to find ways of administering these tensions. Estimative judgments or views regarding questions that are uncertain can be welcomed by policy-makers but when analysis is perceived as criticism of the policy agenda, tensions tend to form. The second category of facts does not cause a lot of tension unless they deal with methods of establishing the veracity of the facts in question. Davis states that the most serious tensions between the analysts and policy-makers tend to rise from different ideas on the meaning of the available evidence. This is another way of touching upon the problem of what to think of something that is possible to know but is not fully known by either policy-makers or the intelligence community.29

The standard of analytic objectivity held by the intelligence community has facilitated an institutional ethic that tries to steer clear of all biases and political influences while conducting judgments in an environment of substantive uncertainty. However, studies have indicated the value of experience-based mindsets as vital for impactful action in a world where production of analysis is high and deadlines are tight. With regard to objectivity, the mission of the analysts then boils down to curtail different biases by critically assessing the beliefs and exceptions of the analysts’ minds, assessing the sufficiency of the evidence available in formulating a purposeful judgment and evaluating its content. If this professional mission is to be fulfilled, analytic products must carry tangible value for the policy-maker that parallels their professional plan. Therefore, analysts cannot ignore the policy context in which their clients serve or neglect how much information is required to give the analysis its proper background and whether the decision-making process is at the planning or implementation stage.30

Intelligence analysts usually gain insight and experience on the policy-making process through personal connections with policy-makers that are not necessarily built on any official channels of communication. With technology, it is possible to support relationships like these, but technology alone cannot create and establish such connections. At its core, what is needed is a personal relationship between the intelligence analyst and the decision-maker.31 Because the tensions underlined here represent not only the potential to fundamentally disrupt and hamper the decision-making process but also the danger of isolating the intelligence community from the policy-makers, McLaughlin argues that it is worth investing in strategies that can help both parties manage the problems that are most likely to arise in the relationship. In this way, the analytic community can get a better understanding of how analysis can be of help to the policy-maker and what kind of analysis is useful. The analytic community has a larger role to play in this exchange, where the intelligence producers must take the lead in understanding the needs of the client and how they can be answered. On the other hand, the policy-

makers can advance this relationship by deepening their understanding of the role of intelligence analysis and the questions it can address.\textsuperscript{32}

The most important thing about intelligence support to policy-making is the notion that analysis should always try to inform but not prescribe policy. Another key point is that analysis comes in many different forms, where the written document is only one possibility that itself reflects the historical tradition of writing assessments by single analysts, whereas oral reports and other more interactive forms of communication can in many cases serve policy-makers’ needs more adeptly. In practice, the communication between intelligence analysts and policy-makers happens on a number of different levels. The ground rule is that analysis should seek to assist policy-makers in seeing the different options available and how they could play out.\textsuperscript{33}

The comparative advantage of intelligence at the level of strategic foresight can be thought to encompass three different stages. Traditionally, the intelligence community has been able to provide its clients with secrets. The intelligence community also has the understanding and confidence of its clients. Lastly, the confidence of the client is vital in facilitating the role of the intelligence community as an information broker. In addition, strategic intelligence can be made more relevant for the client if the intelligence provider keeps ‘pushing’ even in the absence of demand while at the same time the client can be encouraged to ask specific questions that are tailored to their individual needs.\textsuperscript{34}

The transformative power of technology on the intelligence community as well as the analyst–policy-maker relationship has been revolutionary in its impact and breadth. This is especially true in collection, smart machines already dominating the discipline with the idea that it is easier and cheaper to simply collect everything available and analyse it later. However, Aland Dupont has called attention to the fact that intelligence assessments will remain in the hands of insightful human analysts who must interpret events and trends from an increasingly large and complex mass of information.\textsuperscript{35} At the same time modern electronic systems have sped up both the collection and delivery of intelligence while the time for analysis has shortened. Thus, the elemental problems of intelligence remain the same.\textsuperscript{36} It can therefore be argued that technology has reshaped the processes of intelligence assessment and dissemination and redefined the producer–client relationship.\textsuperscript{37} This can also have serious consequences for the role of analysis with regard to policy-makers’ interest in analysis ver-

\textsuperscript{32}McLaughlin, “Serving the National Policymaker,” 74.
\textsuperscript{33}McLaughlin, “Serving the National Policymaker,” 75.
\textsuperscript{34}CATS / SUPO Confidential Workshop, Stockholm, Sweden, 22 and 23 May 2013. This workshop included roundtable discussions as well as a set of confidential interviews. Notes in authors’ possession. Confidential interview A. notes in authors’ possession.
\textsuperscript{35}Alan Dupont, “Intelligence for the Twenty-First Century,” 22.
\textsuperscript{37}Alan Dupont, “Intelligence for the Twenty-First Century,” 23.
sus the emerging digital environment. Sir David Omand has asserted that for the intelligence community to remain in touch with policy-making and to make intelligence useful, it must operate at cyber speed. For this to function, the Intelligence Cycle is an obsolete model. Moreover, technological developments in the realm of counter-terrorism have in turn reduced the need for the steps of the Cycle to be followed in sequence.

Also, the emergence of commercial, real-time information services on the television networks and the Internet has had an impact on the process of intelligence. The technological revolution has created the system known as ‘pull–push architecture’ where users can pull down intelligence from a networked database in contrast to the past where the intelligence services pushed their products on clients. Omand has noted this complementary effect of the ‘pull’ to the traditional Intelligence Cycle as a fundamental conceptual change in our understanding of how the modern intelligence process works. It is also now possible for policy-makers to get all-source intelligence as well as to read raw and finished intelligence also available to the analyst when they need it. This development also affects the analyst–policy-maker relationship.

**Risks of politicisation**

Olav Riste defines politicisation as “a process that fabricates or distorts information to serve policy preferences or vested interests.” John Gannon has moved from describing the process of politicisation to emphasising the active role of the players that politicise intelligence by defining it as “the willful distortion of analysis to satisfy the demands of intelligence bosses or policymakers.” Gregory F. Treverton builds on this definition to include “commitments to perspectives or conclusions, in the process of intelligence analysis or interaction with policy, that suppress other evidence or views, or blind people to them.” Treverton further recognises at least five distinct connotations with regard to politicisation that can function at the same time. These are: direct pressure, a “house line,” “cherry picking,” question asking, and a shared “mindset.”

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45 Gregory F. Treverton. “Intelligence Analysis: Between "Politicization" and Irrelevance,” 93.
If we contrast these views with Douglas Dearth’s reformulation of Sherman Kent’s three variables of intelligence, we arrive at the basic problem in the politicisation of intelligence. In Dearth’s rethinking, ‘process’ links with the intelligence cycle and its products, ‘profession’ deals with intelligence organisations and ‘politics’ is about the fact that “intelligence is an art relying on assessment and interpretation. Products are therefore subject to ‘political’ influences.”46 Such influences can encompass organisational, bureaucratic, and partisan political pressure and individual or institutional intellectual filters.47 As Riste has noted, the discussion on politicisation is marked by an unclear territory between obvious politicisation and the policy-maker’s authority to choose a policy option regardless of adverse intelligence assessment. It is also important to note that politicisation can take place between the intelligence community and the policy-makers as well as between the higher and lower levels within each domain.48

The analysts’ challenge is to use these tensions to their advantage by upholding meticulous standards of analytic tradecraft whilst increasing the usability of their assessments to the policy-makers. In Jack Davies’ view, the analyst is more responsible for handling the strains in the relationship in a way that serves the national interest. This idea rests on the observation that whereas policy-makers have an abundance of sources from which to draw their information, an analyst within the intelligence community has no comparable alternatives for the production of assessments.49 What also counts is the point in time when the analyst is involved with the policy-maker.

L. Keith Gardiner has identified three stages in the interaction between the analyst and policy-maker. At the first phase the policy-maker has not yet engaged with an issue and is thus not concerned with analysis. In the next step, the problem has matured into relevance but the policy-maker has not made a decision on how to deal with it. Here is the window of opportunity for the analyst to deliver both factual and analytic intelligence. In the third stage the decision has been made on what to do about the issue but not on how to proceed. Therefore the policy-maker’s interest in intelligence is restricted to the ramifications of the proposed action and any adverse analysis will most likely be resisted. At the implementation stage the policy-maker is only interested in analysis that will support the chosen action. Politicisation is possible in the third and final phase specifically if the policy maker’s choice of action is contentious.50

47Andrew Rathmell, “Towards Postmodern Intelligence,” 89.
48Riste, “The Intelligence-Policy Maker Relationship and the Politicization of Intelligence” 182, 186.
49Jack Davis, “Intelligence Analysts and Policymakers: Benefits and Dangers of Tensions in the Relationship” 1009-1010.
If intelligence analysis is not close enough to the decision-making process to get a feel for the political pressures that have an effect on policy-making, it may not be possible to produce such professional analytic products that give substantial value to the policy-maker. Davis has emphasised in his writings that it is not a sign of unprofessionalism on the side of the analyst to discuss policy options to deal with threats and opportunities with regard to general policy when asked to do so. Moreover, the “key to sound ‘action’ or ‘implementation’ analysis is for the analyst to identify plausible initiatives and evaluate them in cost-benefit terms, and for the policymakers to choose what course to pursue and bear responsibility for their decisions.”51

Intelligence analysts should let go of their predilection that they will lose influence with policy-makers if they provided the best professional product to their client. Analysts should use the access they have to the policy-maker to communicate their assessments in a timely manner even if the policy-makers do not like what they hear. Policy-makers appreciate meeting unwelcome events and developments upfront because it gives them more time to decide a way to respond.52 As Treverton has asserted, improved analytic methods alone cannot guard against politicisation, but better analysis is easier to defend against attacks in the policy world. The challenge for intelligence analysis is therefore twofold: provide more but promise less. An essential component of success for both the intelligence and policy-making communities will be to increase the policy-makers’ understanding of the limits of intelligence analysis.53

The intelligence process in practice

Our descriptive model of the intelligence process is centred on the relationship between the analyst and the client. In our view, this is the most important dynamic with regard to intelligence and decision-making. More precisely, the model we are proposing is meant to illustrate the production and utilisation of a single intelligence deliverable. We have for the most part left out descriptions related to the tradecraft of analysis. In our understanding, a heavy focus on the methods and characterisations of the different stages of intelligence work will not solve the problems associated with the current descriptions of the intelligence process.54

During the interviews conducted for this study, we encountered four elements that were deemed critical to the process of intelligence. A common factor with all four features was

51 Jack Davis, “Intelligence Analysts and Policymakers: Benefits and Dangers of Tensions in the Relationship” 1008-1009.
53Treverton, “Intelligence Analysis: Between “Politicization” and Irrelevance,” 98, 102. Treverton has listed the British Joint Intelligence Committee’s process of producing National Intelligence Estimates as an positive example of policy officials and intelligence officials working together to achieve a better result.
that they were present in all our interviewees’ answers and that they are poorly recognised by the Intelligence Cycle. The first and most important of these elements is the relationship between the intelligence provider and the client that is characterised by complete confidentiality and non-publicity. The three other observations are the constant interaction between the stakeholders of the intelligence process, the iterative nature of the process itself, and the constant striving to produce relevant intelligence for purposes of utilisation. We will next describe the process of intelligence as it happens with regard to the production of a single intelligence deliverable.

**The process description of an intelligence deliverable**

The production of an intelligence deliverable starts with a comprehensive analysis of the needs of the client. This usually includes planning how the finished intelligence product matches the client’s requirements as well as how the finished intelligence product will be utilised to support decision-making or other purposes. Any overbearing intelligence requirements and tasking that are in place will likely have a role to play in this exchange between analysis and decision-making. These requirements are usually general and formal by nature. Using business terms, these requirements create frameworks and service areas for the intelligence provider. They also influence the more specific needs analysis that takes place in the beginning of the production of an intelligence deliverable. The analysis of the needs of the client can in turn have an effect on the larger framework of requirements and tasking for it also influences the more practical question of how requirements are communicated to the service and how they are dealt with once they are received.

Needs analysis is a joint effort between the intelligence provider and the client. Most intelligence services go a long way in order to establish a functioning relationship with their clients, where the needs analysis for intelligence deliverables is created through a systematic relationship between the two parties. In government, this usually materialises in the form of permanent bureaucratic bodies, whereas the private sector tends to rely on more informal relationships. The frequency and composition by which these bodies congregate varies. There are usually permanent or seconded representatives from both sides that work together to get the production started. Thus the creation of the intelligence deliverable begins with interaction and cooperation, not in isolation as the Cycle depicts.

The constant striving towards utilisable intelligence is why the intelligence provider is present in the needs analysis phase of the intelligence process. The most relevant requirements are always generated through interaction between the intelligence pro-

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55 Confidential interview A, 9 September 2013, notes in authors’ possession.
57 Confidential interview A; Confidential interview B, 9 October 2013, notes in authors’ possession; Confidential interview D, 31 October 2013, notes in authors’ possession and Confidential interview E, 31 October 2013, notes in authors’ possession.
vider and the client.\textsuperscript{58} The intelligence providers’ role in the needs analysis is to advise the clients, bring them up to date on the existing intelligence and assessments as well to facilitate a more relevant and workable scope for the deliverable. According to many of our interviewees, intelligence professionals working with the client during the needs analysis phase are mostly people with a background in analysis. Granted, this is a fact that varies from one country and organisation to another. However, from the perspective of the broader intelligence process it makes sense that in many occasions the analysts are working with the client. This is practical also because the intelligence professionals’ role in the needs analysis phase is not merely to receive needs and rush off to collect. Despite the risks of politicisation, most of our interviewees choose to work closely and interact with the client instead of limiting their own role to just receiving the needs.\textsuperscript{59} This is a risk worth taking, since it is imperative for the intelligence provider to understand who asked for the deliverable, for what upcoming decision or eventuality is it related to and why.\textsuperscript{60} One private sector professional summed up the reasons for working through interaction rather than in isolation well when he stressed that “every deliverable is about relevance and thus we work in constant interaction with the people who make the decisions the deliverable is linked to.”\textsuperscript{61}

So far, we have established that the intelligence providers’ work with a deliverable does not begin the way Cycle presents it. Echoing Omand, we have come to prefer the term ‘access’ over ‘collection’ for it better describes the actual work. Access also carries a double meaning of that “which is capable of being reached” and “that which is approachable in different senses.”\textsuperscript{62} So when the production of an intelligence deliverable enters the stages of the process that are conducted solely by intelligence professionals, analysis enters the picture. Through careful analysis access is directed to cover the gaps still preventing the deliverable from attaining its full relevancy to the client. Also, in contrast to the Cycle, a linear production line or a sequential chain of events is not what realistically describes the production of an intelligence deliverable. In our view, different phases and methods typical to intelligence unfold almost simultaneously as well as parallel to one another. Naturally, the time used for each phase varies but different phases do not necessarily need to wait for permission to begin. The analysis of already existing information related to the needs of the client starts almost as soon as the needs analysis reaches a point where it becomes possible to envision the information needed. And while access is steered towards the needs related to the deliverable in question and information is extracted, the writing and modelling of the deliverable is already in motion. Not only is this a natural way of working but also highly necessary, for otherwise the intelligence provider could not evaluate the relevancy of the access and information in relation to the deliverable. Thus, in addition to working in parallel the different phases also iter-

\textsuperscript{58}Confidential interviews A, B and D. Notes in possession of authors.
\textsuperscript{59}Confidential interviews A, B and D; CATS / SUPO Confidential Workshop. Notes in authors’ possession.
\textsuperscript{60}Confidential interview A.
\textsuperscript{61}Confidential interview E.
ate. The constant striving towards a relevant and utilisable deliverable dictates this iteration. This is especially a characteristic of contemporary intelligence work because of the dynamic essence of the demands as well as the evolving nature of intelligence targets.

Iteration and parallel workings of the different elements of the process are vitally important for the intelligence deliverable’s relevance because of the nature of the client’s world. The intelligence process needs to keep up and understand the speed and ways of decision-making. Keeping up is not about being first, but rather about being right and producing insight with tangible value. The challenge for any deliverable is that decision-making processes are full of interest spikes and that the client seldom holds off making decisions in order to wait for intelligence to be delivered. The first spike usually occurs when the client comes up with demands during the needs analysis phase. At this point the intelligence provider is rarely able to deliver the requested intelligence. The next spike comes when different actionable alternatives are debated. When the intelligence deliverable begins to catch up and provide support in the form of sense-making to the decision-making process, clients have often already moved on to action. The added challenge for the intelligence deliverable is that intelligence is a process that tends to get better over time. This is why intelligence deliverables find their form through interaction and iteration between the client and the intelligence provider. Otherwise the deliverable faces the inherent danger of irrelevancy, regardless of whether or not it can match the decision-making speed of the client.

Most of the interviewed intelligence providers did not have a systematic relationship in place for regular interaction with their clients when it comes to consulting them about intelligence deliverables still in production. This is because clients have a tendency to pace their work in spikes and because of the questions and answers mentality of the most intelligence providers. The clients tend to lose their interest towards existing needs and the intelligence deliverables still in production whereas most of the intelligence providers want to disseminate the deliverable at hand only after it is agreed to be ready. Yet, this does not mean that rapid changes in the client’s needs cannot influence the deliverable once its production has been initiated. A sudden change of events related to the needs of the client tends to set in motion fresh interaction between the intelligence provider and the client. This tendency is maybe even higher among private sector professionals because of the result-oriented nature of their business. Private sector intelligence providers truly depend on their clients to remain interested in their deliverables. On the other hand, the interaction is perhaps limited here since the intelligence providers feel they are professional enough to steer the work with the deliverable themselves. However, what they cannot predict is how these changes influence the client’s needs or whether they create new interest spikes.

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63 Confidential interview A, Confidential interview C, Confidential interview F.
64 Confidential interview A.
The dissemination of the intelligence deliverable takes place after it is assessed to be as utilisable as possible and judged to cover the client’s needs on the given decision points. Effectively every deliverable reaches a point where it is disseminated in the form of a final product. As there is a need in the beginning, there is support and an answer to that need in the form of a deliverable when the production in question is nearing its end. The intelligence process is ongoing, but the production of a deliverable does have a start and an end. One of the prevailing ways to finalise the process is by disseminating the deliverable in a written form. The intelligence deliverable might be disseminated without too much interaction with the client in order to get feedback on the relevancy of the product. This happens even if it seems that intelligence providers do their best to make the limits of analysis and access understood by the client. Because of this, dissemination is occasionally the one phase where the element of interaction could be less prevailing and isolation most evident. Nevertheless, it does not resemble the Cycle’s depiction for it again fails in many ways. For one, it paints a simplified picture of what dissemination is about and, secondly, it confuses the function of intelligence with the process behind the production of an intelligence deliverable.

Most intelligence successes tend to be processes that were supported and engaged for a longer period of time. Indeed, in many cases the initial deliverable of the intelligence provider has been wrong, inadequate, or irrelevant. As stated before, intelligence deliverables tend to get better over time. This improvement owes a lot to the fact that in time and through interaction between the intelligence provider and the client, the client’s needs become more accurate and specific as their insight on the matter at hand improves. It is also the product of improvement in the intelligence providers’ understanding of the same matter and more importantly of their client’s needs. This shift is not achieved by merely sending the client a deliverable the intelligence provider believes to be finished and hoping that the client will act on its own initiative and get back to the intelligence provider if the product does not meet the expectations. Rather it happens through a close relationship as well as interaction and iteration throughout the process and especially when dissemination begins. The process of dissemination can also happen gradually. As one of our interviewees stressed, the client is always consulted face-to-face on the deliverable before finalising the deliverable. In this way the client will have a say on the relevancy of the deliverable and update the provider with any changes with regard to the needs. The element of iteration in the dissemination phase is exceptionally important to the intelligence provider, for any feedback has to be visible in the final deliverable to guarantee client satisfaction, which is itself a measure of the success of the intelligence deliverable.

There are almost always risks to the sources and methods of the intelligence provider when an intelligence deliverable is acted upon. It is the intelligence provider’s task to

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65 Confidential interview A.
66 Confidential interviews A, C, D, and F.
67 Confidential interview A.
68 Confidential interview B.
consult the client about these risks in order to ensure that the client does not decide against their better judgment and that the access that can be of value to future decision points will remain open and utilisable. Omand has stated that because of risks such as these, the intelligence provider should always find an opportunity to impose its will on whether the intelligence it has produced can be acted upon in the way the client plans to or not. For if the deliverable used to support client’s decision points would endanger the sources and methods used to produce it, this notion needs to be communicated back to the provider in order to create an alternative and less sensitive access to the same information. It can also lead to a joint evaluation on whether the decision to be made is important enough to warrant the risks.

Dissemination is better portrayed in the same terms as the broader process behind an intelligence deliverable. In essence, dissemination is a part of the relationship that seeks to verify that the final intelligence product is as relevant and utilisable as possible. This can only be achieved through close interaction between the client and the intelligence provider. Following these facts, dissemination can be more accurately described as the actual support that is expected from the intelligence provider that matches the evolving needs related to the decision-making process of the client. If need be, this support can stretch over a longer period of time. However, dissemination does not end the production process of the deliverable, for it is very much still in production until the decision the deliverable is meant to support is made.

This section of our study has sought to give a description based on empirical evidence on the intelligence process through a case study on the production of an intelligence deliverable. Since the process of intelligence is never repeated in exactly the same way, we chose to focus our research on the life-cycle of an intelligence product. Moreover, by merely depicting the essential elements that have a role in the production of an intelligence deliverable would in our view neglect the very nature of the process of intelligence. Another counterproductive method would have been to construct a generic descriptive model by working backwards from the end results of intelligence support to clients. In the centre of our descriptive model lies the intelligence provider–client relationship and the three other elements we have recognised as vital to the workings of the process: interaction, iteration, and relevance. All these elements factor into the greater goal of intelligence support to the decision-making process of the client. In addition, these elements and the way they interact with each other are critical to the success of the process of intelligence that yields better results over time and increases client satisfaction.

**Towards right-time intelligence**

The description of the intelligence process presented in the previous section follows in our understanding the factual process behind intelligence support to decision-making. The four key elements characteristic to the process are striving to guarantee the relevancy of the intelligence output for the client. These four fundamentals of the intelligence
process are natural outcomes of the activity that produces intelligence deliverables. Yet there are many ways in which the current way of doing intelligence work still restrains not only intelligence organisations but also their clients from using the full potential of intelligence support to decision-making. Our focus has been to achieve a more realistic and sustainable description of the intelligence process as it unfolds in relation to the production of the most important output of intelligence work, the intelligence deliverable. Yet, we feel compelled to use this opportunity as well as the contributions we have received and reflected on as a part of our research effort to offer a proposal by which the current way of working could be improved in order to process towards better results.

The first three steps
The following three key recommendations are meant to steer current intelligence work towards more timely, accurate, and relevant support for decision-making. In our view, these guidelines are initial steps on our journey towards right-time intelligence.

Focus on long-term relationships, aim for client satisfaction
Both intelligence providers and clients should seek to build a relationship aimed at long-term engagement, support, and learning. This relationship should rely less on institutional solutions and more on client satisfaction and mutual access. While institutional solutions are often adept at bringing civil servants and performing level professionals together, they alone are no guarantee for the attention of the key decision-maker. Client satisfaction should not be misinterpreted as one success after another since failure is bound to happen, but rather as a process of continuous learning based on a shared vision of the relationship and where it is going.

With a continuum in cooperation between the client and the intelligence provider that stretches over to personal professional relationships, the decision-maker is less likely to lose perspective and rush to action. Most of the successes born out of the intelligence–decision-making relationship have been processes that were supported for a long time. The clients, especially the ones used to receiving intelligence and making decisions, easily consider intelligence deliverables as an input ready to be used as such. However, the relationship where the decision-maker understands that most successes might not come from acting on the intelligence immediately, but at the right time and maybe with redrafted policy or action is more likely to turn in to successes for the client as well as the intelligence provider.

Both client satisfaction and access-based relationship are essential for the ‘push and pull’ phenomenon to work with regard to intelligence and decision-making. A constant interaction can enable the clients to pull what they deem important from the intelligence provider and respectively makes it possible for the intelligence provider to push deliverables they believe are relevant for the client. It enables both parties to assess the needs of each other as important. In addition, this arrangement builds more relevance into the deliverables. For example, it can enable the intelligence provider to con-
sult the client on the issues they wish to push to their attention before they disseminate the actual deliverable.

Intelligence should be tied to the rest of functions influencing decision-making as an active and vital component of the decision-making domain. Currently, the best example of this can be found in the field of military intelligence. In short, intelligence should be seen as a tool that can steer the client away from making decisions with little or no impact or at least help them to avoid failure. Measuring the success in the provider–client relationship is not an easy task. Intelligence providers should seek for client satisfaction instead of feedback on every single deliverable. The best sign of this is a long-term commitment to the relationship from the client’s side. A relationship where the intelligence provider is encouraged to present their insights on how to go forward with the deliverable in relation to any and all decision points is in line with the principle of what we understand as right-time intelligence.

**Gear the process around access**

Access is what makes intelligence unique and separates it from other disciplines competing for the decision-makers’ attention. What intelligence already excels at is creating confidential and covert access for the needs of its clients. Intelligence services also create access to the targets and subjects related to needs of their clients or to the information covering those needs. This recommendation deals with both categories, for the same broader philosophy should direct the work related to pair of them.

Clients should have access to discuss and even make judgments about the deliverables in progress as well as about the intelligence. This arrangement would force the clients to study intelligence from another point of view and give them the opportunity to express their satisfaction about the relevancy of the intelligence in relation to their needs. For the intelligence provider it would offer the opportunity to impose their professionalism on what the intelligence actually is or is not as well as what it concludes and what kind of conclusions should not be drawn from it. It would also offer the intelligence provider an environment to assess the relevancy of the deliverable, the relevancy of the access behind the information as well as the relevancy of conclusions presented in it. Moreover, it would offer an environment for the intelligence provider to learn about the client and their way of working for future purposes. Best of all, the mutual access to the intelligence and decision-making would tie the intelligence provider and client together in success and failure and better ensure that neither will overlook each other’s needs and contributions. This way of functioning around access is what perhaps materialises on some level in United Kingdom’s Joint Intelligence Committee (JIC) where senior policy-makers are united with intelligence professionals.69

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69 Confidential interview A, Confidential interview C, Confidential interview F.
The recommendation to gear the intelligence process around access should prevail on all levels of intelligence work, bearing in mind the sensitive nature and the access intelligence providers need to extract information. Access should not only be about disseminating intelligence and making judgments about it, but also about needs analysis. Access should also extend to other levels in addition to key decision-making, whether military, law enforcement, or private sector clients or in instances of strategic intelligence deliverable supporting key decision-making situations or more operational intelligence supporting immediate action. The intelligence provider should create access to the key clients and enable them the same access towards themselves in order to work together on both intelligence and its utilisation. This is especially relevant for the domain of national security where the isolation between the provider and client is perhaps most visible. Again, this is not to say that decision-makers should get to see the details related to the access behind every deliverable but the access for needs analysis and discussions related to the intelligence deliverable need to be there on every key client level.

As stated, the other side of access is related to the work of the intelligence provider. We emphasise the word ‘access’ over ‘collection’ because creating access in order to meet the demands of the client is something the intelligence providers really need to focus on. More and more of actual collection might be done by someone else such as cooperative intelligence providers, different entities contributing to the open source intelligence domain, policy-makers, or companies. Information about the target might also be extracted through means where the collection happens automatically and the true intellectual hard work is related to targeting and directing the access. In some occasions the intelligence provider might facilitate the access and the actual collection could be a joint effort with the client. This could be the case when it comes to supporting different forms of negotiations the client is engaged in.

The practical solutions to gearing the intelligence process around access should resemble the natural environments of the actors in question. This should encompass the existing administrative, legal, political, and cultural frameworks. In a democratic society any covert access for intelligence purposes must be achieved in accordance with the law. The intelligence community should also advise decision-makers on the adequacy of the case for access. Access should be part of the ongoing intelligence function, not something initiated only in relation to the production of an intelligence deliverable. Directing the intelligence provider’s coverage on targets and subjects of interest has to be proactive. If all the work is initiated only through specific tasks, access is usually helplessly out of touch with the real needs of the decision-maker. In addition, lack of access might tempt the intelligence provider to focus collection where existing sources lie, even if they cannot fully access the information the client really needs.

**Empower the analyst**

Empowering the analyst is meant to be in line with the element of striving towards maximum relevancy, towards support that delivers on the promise on utilisable and action-
able intelligence. It sounds grand, but it has a simple content. The goal is to emphasise the analyst’s role and function as a broker. It is meant to turn the interaction and iteration elements that come naturally to intelligence work and that can sometimes feel like nuisances for the intelligence providers to strengths of the intelligence process. The time of the introvert analyst disconnected from decision-making and operations because of the struggle towards objectivity is long gone.

The analysts should be put at the core of the provider–client relationship. A relationship where support is delivered simply by pulling information from the intelligence provider’s structures and disseminating it to the client, has little value and relevance in the contemporary world. The relationship has to materialise as a constant push to direct access where it is most relevant and on target as well as to the deliverance of support full of insight and views on how utilisable the intelligence is in relation to the decision points at hand. The analyst has the ability to live up to the full potential of the intelligence provider–client relationship for they are expected to possess the intellectual skills and tradecraft needed for an outsider to quickly understand the decision-making process and issues relevant to it. They are also professionals with experience in forming insight out of information and thus well suited to disseminate the intelligence deliverable to the client. Thus the analyst should be the one at the centre of the access to the decision-making process, the personification of the intelligence provider towards the client.

Following the conclusion of Sir David Omand, we encourage intelligence providers to place the intelligence analyst at the core of directing the access behind intelligence information. Nowadays the intelligence community needs to be able to deal with two types of demands: the first one is that of directing immediate action like counter-terrorism and counter-proliferation, the other to provide strategic insight for supporting decision-making that strives to stay on top of longer term developments. These demands cover such a dynamic and rapidly evolving environment that it is absolutely imperative to have the analysts working as a broker with direct influence over directing access and disseminating the intelligence to answer the client’s needs. Thus we echo the observation that the intelligence analyst is best suited to direct the access in near real time, the way the current demands require.70

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Towards Strategic Intelligence
– Foresight, Intelligence, and Policy-Making

Foreword by Gregory F. Treverton

Strategic intelligence deals with national or corporate long-term strategic issues. It operates simultaneously with three functionalities: intelligence, strategic foresight, and visionary management. Its customers are senior policy-makers in versatile organisations capable of strategically impacting the game in which they are involved.

This book explores opportunities to enhance strategic intelligence capabilities especially in policy-making and helps to understand how the principles of strategic intelligence could be utilised within the intelligence community and its practices. In particular, the book attempts to answer “how we could bridge the gap between the prevailing theory of intelligence processes and its actual practice” and “how intelligence could better bring right-time data for policy-makers.” In addition, the book studies how foresight work could be developed towards strategic intelligence so that it would better serve both intelligence community and policy-making.

CATS
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