

REAL TIME STRATEGY

When Strategic Foresight Meets
Artificial Intelligence

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Artificial Intelligence

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INVESTOR IN PEOPLE

To all our colleagues who contributed to this book. You give us the means to take the long view.

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– Andreas, Frank, and Florian

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AN INITIAL REFLECTION

This is an unorthodox book in a singular moment in history. Over the following pages, we will paint the picture of how strategic thinking and decision making is being disrupted before our very eyes.

For the record, let us be clear from the outset that the old world of strategic planning is neither dead nor dying. The established rules of the game still stand. The literature around the mechanics of competition and the sources of sustainable competitive advantages remains as valid as it has been for decades. What has changed is the world around us. Globalisation and the hyper-connectivity of people and markets have dramatically increased the volatility of our societies and economies. Among the victims of those developments are the validity and the lifespan of conventional strategic planning. What is the point of the most sophisticated 5- or 10-year strategic plans if they fail to take into account the next wave of populist policies, the next game-changing technology, or surprising changes in the consumer preferences of digital natives? This book is an attempt to establish the need for dynamic strategic management that is capable of reacting to sudden, unexpected moves in the context of our activities, yet still including the long-term focus of strategy.

However, there is an even more profound tectonic shift building up at this moment, and it concerns how people and in particular big, complex organisations, take strategically important decisions. Since humankind has evolved into societies and organisations, the really important and tricky decisions were taken by individuals such as kings, presidents or CEOs, or relatively reduced groups such as parliaments or executive committees. Decision makers base their choices on their own experience and on the advice of their 'inner circle'. The advisors, in turn, draw their wisdom from their experience and from established facts such as statistical offices or the state of academic literature.

By and large, that approach appears to have served us well for ages. However, there are several reasons why conventional decision making might not function as neatly in the future. Globalisation and hyper-connectivity are

some of them. As the complexity of the decisions increases, decision makers hit the limit of what they are capable of factoring in. Given the multitude of issues and the limited attention span of high-ranking decision makers, there is a limit to how much decision makers can reasonably study, absorb, and reflect. Yet, this is not just an issue of the corporate world but also of our entire society. Humankind is failing to address many problems appropriately due to the sheer complexity of issues like climate change. There are just too many factors and viewpoints to take into account, and this leads to the second reason why conventional decision making is in crisis.

The basis for our decision making, the body of established facts, opinions, and ideas has grown beyond what decision makers and their advisors are capable of grasping. In our hyper-connected world, the speed of the discussions has accelerated in popular fora such as social media, and in professional arenas such as academia. Today, we are drowning in a tsunami of facts, figures, fake news, and individual opinions. Therefore, how could one expect professional decision makers to stay on top of this?

We propose a technology-based answer to this technology-induced problem. This book will speak about how we can improve the way we perceive what is going on around (through better, real-time sensing), and how we can enhance the way we process, interpret, and reflect on what we see (through broader, more holistic sense making). Using both levers, decision makers should be able to upgrade their capacity to perceive and understand complex problems and enhance their capability to act on them.

This constellation, the need to combine established strategic thinking with the brave new digital world of Big Data and Artificial Intelligence (AI), has brought the three authors together. Andreas Schühly is a digital native, scenario practitioner and scholar of the cultural aspects of scenario planning. Frank Becker is a complexity scientist and brings in technological expertise. Florian Klein is an expert strategist and scenario planner, and an observer of its evolution. Combining our perspectives, we would like to show you how the frontier between human-based strategic thinking and AI-based sensing has faded, and how decision makers and their advisors might use AI in the future to boost their capacity to take forward-looking decisions.

THREE CHEERS TO UNCERTAINTY

Uncertainty is a fact of life. It surrounds us, forcing us to make difficult decisions. It is also the reason for evolution, as the survival of the fittest implies a capability to understand the rules of the game, anticipate future developments, and execute forward-looking strategies. It may be a nuisance, but it is also the only chance for the smart to prevail in competition.

Throughout history, humanity has always faced uncertainty, but at different levels and in the form of distinct issues. Early humans faced elementary uncertainty, typically related to basic needs such as security, food, or shelter. In our developed world with complex societies and intertwined economies, critical uncertainties have shifted.¹ Decision makers today are typically interested in rather abstract issues like future technology ecosystems, global trade regimes, or changing customer needs. As distinct as these problems may seem, they have one element in common: they reflect uncertainty from our particular perspective. When we seek to ensure survival for ourselves or our clan, or when we assess the potential for market growth for our company, we try to anticipate and solve a specific, defined problem for a particular stakeholder group. They are the type of problems that capable leaders with competent advisors should be able to figure out.

However, a new class of problems has popped up in recent history, and it seems that humankind is really struggling to cope with them. The common denominator among these wicked issues is that they concern not one particular stakeholder group but all of them at the same time, and hence, they involve unstable, complex, and holistic trade-offs. In other words, the traditional forward-looking problem-solving approach to ensure the survival of my clan does not work anymore, and that the logic to solve those problems

is not as straight forward as ‘faster, higher, and more efficient’. Questions around sustainability, depletion of commons, pollution, and climate change are such wicked issues. In addition, migration, global regulatory regimes, and some more profound social questions may also qualify. Our track record in decisively solving wicked problems is dismal, as the past centuries have demonstrated.²

The deeper reason why humankind is facing an increasing number of wicked issues may well be the tremendous success of our species. We have colonised almost all there is to colonise on the Earth, with only outer space as next frontiers. We have connected our societies and economies, and now we are hitting the limits to our growth.³ Unless we quickly find ways to expand our playing field, we will increasingly have to dance to the tune of ‘qualitative growth’ instead of ‘quantitative growth’.

We live in times where we see progress at an exponential pace. As consumers, we see every few weeks new phones with incredible features and extreme computer power. As tourists, we are staggered by buildings being constructed higher than ever before and we can easily travel across the globe. Just going forward without taking a step backwards is the slogan of our times. Had we asked an educated, ancient Greek or Roman at the times of Socrates or Augustus what the future might be like, would anyone have provided an answer describing the Medieval Times? Unlikely.

Furthermore, our time is not only characterised by advancements and success but also by failure and misinterpretation. We always strive for the best, but the best is not always suitable. Just think about aviation, an industry with long planning cycles – neither the fast Concorde⁴ nor the large A380⁵ did win. Times were changing too fast for this industry, and they did not fit into zeitgeist anymore. We do not always know what is going to happen and it is unlikely that at any point we will be able to do so – thanks to uncertainty. However, we need to find ways to cope with it – and make decisions despite uncertainty.

Philosophers across the world aimed at finding solutions to the fundamental questions we face. One of the core authors shaping modern, Western thinking was René Descartes. He must have been a rather suspicious fellow throughout his life. As a philosopher, he focussed much of his work on epistemology – or gnoseology, in the Greek term – in an attempt to answer some fundamental questions around knowledge. How can one know things? How can one acquire awareness and understanding? How can one be sure

of certain facts, and which role does conviction and subjectivity play in the creation of certainty?

Quite unsurprisingly, in his early years, Descartes sought to address fundamental doubts about his own capability to create valid insights. In 1637, he published the fourth part of his *Discourse de la methóde* in which he established a principle upon which he would build his subsequent work: 'Je pense, doc je suis', usually translated as 'cogito, ergo sum', or 'I think, therefore I am'.

The point of Descartes was that 'we cannot doubt of our existence while we doubt [...]'.⁶ This idea became a cornerstone of Western philosophy. In spite of doubt, this idea sought to shape a secure base of awareness. Descartes insisted that, while other awareness can be a figment of imagination, confusion, or mistaking, the very act of doubting one's own life was at least evidence of one's own mind. In this line of thinking, it is required to have a thinking entity to form thoughts, for example regarding itself.⁷

Some years later, in 1765, Antoine Léonard Thomas published an essay reflecting on the work of Descartes in which he aptly captured Descartes' intent: 'Dubito, ergo cogito, ergo sum'.⁸

The idea that 'I doubt, therefore I think, therefore I am' is one of the timeless insights of humankind. Doubt triggers us to reflect and think, and reflection and thinking are what defines us. Without doubt, there would be no research, no philosophy, and certainly no strategy.

THE TRAP OF STATIC STRATEGY

Doubt enables us to have diverging opinions and make choices – and life is full of choices. Our existence is an endless string of decisions we take. Most of them are rather insignificant, but some are big, important, and even life-changing.

In certain circumstances, other people make calls on our behalf. We can experience this throughout our life. Right from the start, our parents make decisions in our best interest for us, even before our birth. In many cultures, they select our names and thereby shape the core of our own identity. Throughout our childhood, they continue to make decisions for us. Obviously, their rationale was to help and protect us, as we were too young to grasp the complexity behind many difficult decisions. We may have been

too impulsive or inexperienced to think things through in a rational way, or we simply had other, more important, matters on our mind. The same sort of logic still applies today when we need medical treatment. Professionals will decide on the best course of action on our behalf. There are all sorts of benevolent dictators around us, and most of them take decisions to make our lives more comfortable, manageable, and structured.

Things get more complicated if decision makers decide on a course of action not only on our behalf but also on the behalf of other people. Teachers need to keep in mind the progress of the entire class, not only of the individual student, when they decide on how to structure their curriculum and how to grade performance. In a similar way, while the politicians we voted for are representing our interest vis-à-vis the rest of society, they should strive to find the best possible trade-off for all involved. In the worst of cases, they will have to make impossible trade-offs between human lives and the wider interest of society. As an example, one could take the case of whether to shoot down a hijacked passenger aeroplane on collision course with populated areas.

Another class of decision makers are managers, or ‘agents’, as economic theory would call them. They typically get their pay check for maximising the profitability of enterprises on behalf of their owners, the ‘principals’, leading to the classical agent-principal dilemma. Some managers will pride themselves for taking a short-term narrow view, but executives of the more prudent sort will balance that objective with other interests to keep the firm sustainable in the longer run. They need to incorporate the concerns of shareholders, employees, regulators, and the wider society – to name but a few – while striving to keep the company well positioned to compete in the market.⁹ Throughout the past decades, we have seen many attempts to maximise profitability, which were purely driven by shareholder value interests, failing; the failed merger of Daimler-Benz and Chrysler, that was announced a ‘wedding made in heaven’ can be taken as cautionary tale.¹⁰ Many managers, therefore, acknowledged the importance of combining shareholders’ interests with stakeholders’ concerns to achieve sustainable long-term profit.

This book is about improving decision-making processes in complex entities within a complex world, which – that much should be clear by now — is a considerable challenge in itself. This endeavour, however, is nothing new at all. The art and science of strategy has existed for thousands of years in the pursuit of the best possible course of action for armies, states, or enterprises. A comforting thought in our fast-paced world might be that its basic rules

still apply. It boils down to knowing yourself and your competition, thinking ahead, and playing to your strengths with an intent to build a sustainable basis to win. If it were just that easy.

Finding and executing winning strategies is tremendously difficult. For one, we always develop strategies under restrictions, such as imperfect information, subjectivity, and time pressure. Next, it is safe to assume that our competitors are at least as smart, resourceful, committed, and agile as we are. Finally and most importantly, life is a bitch.

TOWARDS DYNAMIC STRATEGIC THINKING

In today's world, decision makers have to navigate volatility. Societal values, the political context, and market sentiments are constantly at play with each other – at local, national, and global scale. These ambiguous drivers create unstable equilibria. This is the complex and shifting ground that strategists need to take into account when drawing up their best plans.

By way of example, the challenges that decision makers need to overcome when building their strategy are not just internal complexity and serious competition but to operate within an unruly world. Markets and societies are dynamic. Our world is aging, digitalising, unsure which news it should believe, at the brink of nervous breakdown and torn between short-term greed and a quest for long-term survival. This happens all at once, so of course our world is bound to be volatile, uncertain, complex, and ambiguous.

As a testament to how difficult this is, just consider all the firms, public entities, and societies that have taken manifestly questionable strategic decisions as of late. Mighty companies have fallen because they misjudged their power to keep their respective markets in check despite technological or societal evolution. The list of firms that once shaped and owned huge markets and that nevertheless were toppled from their thrones is long. Kodak, Blockbuster, and Nokia are just a few examples, among many others. Kodak, which owned the analogue photography market, tried to prevent progress threatening existing business, instead of using its unique position to shape the market.¹¹ Blockbuster, market leader in the video rental industry, missed out changes in the business model and sales channels and was eventually overthrown by disruptive players like Netflix (whom they could have easily acquired for \$50 million; Zetlin, 2019). Mobile phone pioneer

Nokia, which was once an undisputed market leader, was unable to meet the customer expectations and hence was replaced by other players.¹² Former certainties such as the constant progress of globalisation, the supremacy of liberalism and democracy, or the ever-deeper integration of European states into one Union no longer stand unchallenged. Today, there are alternative views on what might be the logical course of world order.

Strategy is about making deliberate choices to ensure long-term success. Strategy originates etymologically from the ancient Greek noun *strategos* meaning *the art of army command*.¹³ Like generals, corporate strategists need to make choices on what to do and what not to do. They need to define the battleground, their squad formation, and the weapons of choice before entering any battle. However, strategy is not only about immediate actions, but also the need to ensure way ahead that they have the required capabilities at their disposal. The seed planted today will not bear fruit immediately but will help in the future. Strategic decisions will not always benefit a decision maker directly but will definitely shape the course of action of the organisations and successors in the future. Instead of only basing their strategy on their gut feeling, many decision makers apply strategy frameworks. The problem is: strategy frameworks require us to understand and factor in the dynamism and complexity around us in order to lay sustainable and successful plans. However, in today's world of nested and compounded trends, strategic ambition and reality almost inevitably clash. Leaders have always faced uncertainty and dynamism while developing their plans, however in previous centuries, this aspect was less crucial. War was just a war which concerned only the involved war parties, as long as global supply chains did not exist. Nowadays, the consequences of wars go far beyond the involved parties and direct casualties. To name but a few dimensions, modern wars affect the global news landscape, as well as global supply chains and stock markets. The opinions of people on the other side of the globe was negligible, as long as it stayed there. Today, all of these factors potentially matter in almost any context, all of the time.

Such shifts in the context have a much deeper impact on strategy, as one might expect at first sight, for example the automotive captive bank sector. No need to worry for not having heard about captive banks yet. They are niche players between car producers and the banking sector. When you buy a car, you might come across one of them. Captive banks are typically associated with a car brand and are the preferred provider of financing solutions at the respective concessionary.