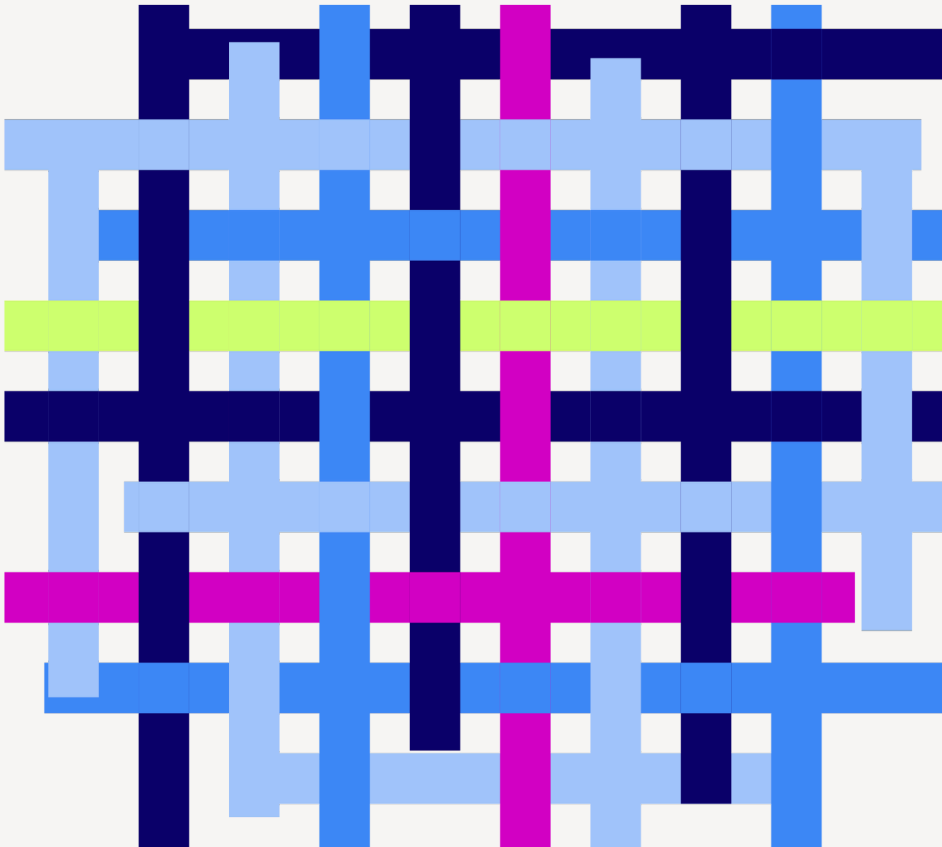
ecoDa The European Voice of Directors

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Complex Thinking at Board Level

A Thought Paper



Navigating a world of increasing complexity

"Complex thinking can be defined as «the ability to observe inter-connected realities, helping individuals understand how diverse elements interact to shape phenomena»"[1].

The environment in which boards operate is changing rapidly, bringing greater uncertainty and interconnectedness across technology, geopolitics, economics and society. While complexity is not new, the speed of change challenges traditional approaches based on prediction, control and standardisation, requiring a greater capacity to navigate uncertainty and constant change.

For boards, this means going beyond traditional oversight: questioning assumptions, considering diverse perspectives, recognising emerging developments and making informed judgements when information is incomplete. The challenge is to identify what matters without oversimplifying, combining clarity and adaptability, data and artificial intelligence with human judgment, and individual expertise with collective intelligence.

Drawing on interviews with board members, academics and headhunters, ecoDa has identified a number of key recommendations to help boards navigate this increasingly complex and uncertain environment.

Key recommendations for board members

- **Build tolerance for ambiguity**: Do not seek to eliminate complexity, but avoid allowing it to lead to decision paralysis.

- **Beware of oversimplification**: Resist the temptation to reduce a complex issue before understanding the patterns, relationships and context that matter.

- **Foster continuous learning**: Ensure that all board members understand key topics and their implications well enough to contribute meaningfully, challenge assumptions and exercise sound collective judgment. This requires ongoing learning, asking new questions and stepping back from the immediate agenda to consider the wider system. Tailored onboarding should help new directors understand not only the company's business model and governance, but also its ecosystem, dependencies, key stakeholders and potential sources of disruption. Continuous learning should be supported by individual development plans, exposure to external experts and unfamiliar perspectives, visits to operations and innovation ecosystems, regular updates on geopolitical, regulatory, scientific and technological developments, and reflection following major decisions or events. An annual **board learning agenda**, linked to strategy and the board skills matrix, can help structure these efforts.

- **Use mental models as tools, not answers:** Mental models can help organize multiple signals, identify patterns and focus attention on what matters. Continuously test them against reality and be prepared to change them when structural changes to the environment happen.

1 Ramírez-Montoya et al.2024 - https://www.nature.com/articles/s41599-025-04929-2

- **Make uncertainty part of the discussion:** Use scenarios and wargaming to explore what could happen rather than trying to predict the future. Consider both downside risks and positive developments, other actors' strategies, new entrants (leveraging deep tech), opportunities, creativity and innovation.

- **Encourage constructive disagreement**: Do not confuse consensus with good decision-making. Different perspectives should be explored before the board converges on a decision. This goes beyond playing devil's advocate (pure « posture » rather than true opposition of views): boards should actively ask whether there is enough constructive tension and positive conflict in the room. When disagreement is consistently absent, the issue may not be excessive consensus but insufficient diversity of perspectives, experience or ways of thinking.

- **Preserve solid ground while remaining adaptable**: Be clear about the organization's purpose, mission, strategic direction and principles, while remaining willing to question assumptions and adapt when circumstances change.

- **Use data and AI to augment, not replace, human judgment:** AI can challenge assumptions, explore options and identify patterns, but boards should remain alert to the risk of homogeneous conclusions and technology-driven blind spots. Combine analytical tools with diverse perspectives (understanding the world views underlying US and Chinese models), contextual understanding and human judgment. Boards should also agree which AI tools may be used, for what purposes and under what conditions, including appropriate safeguards and oversight.

- **Stay attuned to innovation, scientific and technological advances:** Boards need a stronger understanding of scientific and technological dynamics, including emerging scientific paradigms, so that they can assess not only new technologies (including Deep Tech) but also the assumptions, limitations and possibilities underlying them.

- **Rethink the relationship with the management:** Clarify how the board and management can better leverage their respective perspectives, combining management's field expertise and operational knowledge with the board's broader experience, judgement and collective wisdom. The objective is not to blur responsibilities, but to create a more effective dialogue in which different forms of knowledge are brought together to inform better decisions. Board members should take an active responsibility for staying connected to the realities of the business and the wider environment, continuously seeking to make sense of the world.

- **Know when to pause and reflect:** Boards cannot always know in advance when established patterns of thinking are no longer sufficient. Build reflection, questioning and learning into the board process so that the organization can step outside established assumptions when necessary.

- **Engage experts selectively, without outsourcing board judgment:** Rather than systematically appointing specialists in highly specific fields, invite them to contribute through periodic presentations and discussions. Experts may find it difficult to engage fully in the board's broader responsibilities beyond their area of specialisation, making their integration into the board more challenging. This approach allows the board to access specialised knowledge when needed while preserving its collective capacity to challenge assumptions and exercise sound judgment.

- **Assess progress through regular Board evaluation:** Use board evaluations and systematic post-mortem reviews of both successes and failures to challenge established ways of working, identify areas for adaptation and strengthen collective decision-making. Evaluations should assess whether the board devotes sufficient time to emerging and longer-term issues, receives relevant rather than simply more information, considers diverse perspectives, challenges both management's assumptions and its own, and uses scenarios to explore opportunities as well as risks. They should also examine how effectively expertise is combined across disciplines, whether the board fosters psychological safety for constructive disagreement, whether decisions have clear accountability and review triggers, and whether the board has the capabilities required to deliver its future strategy.

  The findings should inform board renewal, succession and development plans, the skills matrix, nomination priorities, Chair and director development, onboarding and the following year's board agenda. This makes board evaluation a strategic adaptation mechanism rather than a stand-alone governance exercise, helping the board learn from experience and navigate complexity more effectively.



1. Embracing complexity without losing clarity or oversimplifying It

There is a natural fear that if we genuinely confront complexity, we may end up knowing nothing. Complexity requires us to acknowledge a **principle of uncertainty**: our understanding is always partial, and some uncertainty is inherent in the phenomena themselves.

The answer is neither to eliminate complexity nor to allow it to produce decision paralysis. It is to develop the capacity to think and act in a world where apparently contradictory ideas can both be valid, and where the challenge is often not to choose one side over the other, but to understand the tension between them and recognize the paradoxes inherent in a complex world.

Simplification can make problems easier to handle, but when applied too early or too rigidly, it can also make us blind to what matters. Complexity therefore requires us to resist the temptation to simplify before we have understood what is important, while avoiding becoming lost in complexity itself.

And it means using possibly data and artificial intelligence to expand our capacity to see and analyse, while recognizing that human judgment remains essential to interpret context, relationships and what may be emerging.

This calls for a different way of thinking and acting: recognizing paradoxes, clarifying purpose and mental models while finding the right level of simplicity, and combining the power of data and artificial intelligence with human judgment.

1.1. Complexity involves paradoxes and tensions

The first paradox is that the world is becoming increasingly complex, even though complexity itself is not new, while the modern pathology of the mind lies in our tendency towards hyper-simplification.

Granted, heuristics suggest that human beings have evolved by developing cognitive shortcuts that enable us to survive and make rapid decisions without having to analyse all the information available[2] (Nevertheless, while simplification is a natural and often useful feature of our cognitive functioning, hyper-simplification can become problematic when it leads us to reduce a complex reality to overly simplistic explanations.

As Edgar Morin argues, excessive simplification can make us blind to the complexity of the world. It can also encourage us to reject perspectives that challenge our preferred interpretation rather than engaging with them.

Another central tension is between clarity and adaptation. If a strategy becomes too fixed, it can blind an organization to new information and prevent it from responding to changing circumstances. If, on the other hand, the strategy becomes too flexible, employees may struggle to prioritize and the organization may lose direction. The challenge is therefore not to choose between **clarity and adaptation**, but to maintain the right balance between them as circumstances evolve.

[2] See Daniel Kahneman, Thinking, Fast and Slow, Farrar, Straus and Giroux, 2011, on System 1 and System 2).

A similar tension exists between the whole and the detail. Boards need to contemplate the **big picture** while at the same time being capable of diving into the details that may change the interpretation of that picture. The detail can challenge the assumptions behind the overall view, while the wider context determines the significance of the detail.

Complex thinking is therefore not about choosing one side of a contradiction. It is about holding the tension between the two and knowing when the balance needs to shift.

The same applies to procedures and expertise. Procedures alert organizations to possible dangers and, while following them usually keeps us safe, existing procedures should never become an excuse for not thinking. Procedures provide a framework for action, but they cannot anticipate every situation. Similarly, experts are competent, but expertise can sometimes rely on unconscious reflexes. An expert may also fail to recognize that the underlying mental model of the world on which their reasoning is based has changed, so we should also question how they have updated that model to account for uncertainty and shifting paradigms. Additionnaly, experts may know what they are doing without necessarily being able to articulate how they are doing it. Competence can therefore sometimes make communication more difficult, particularly across different areas of expertise.

Statistics do not represent the whole of reality either. Automated analysis and AI operate largely through statistical patterns, but statistical patterns cannot capture everything that matters. Data can reveal important signals and relationships, but interpreting their significance still requires context and judgment.

We never know exactly when we need to pause and reflect. Organizations therefore need to remain agile and adaptable, while also developing the capacity to step outside established patterns of thinking, question their assumptions and recognize when a different perspective is needed.

1.2. The right level of simplicity through purpose, mission and mental models

It is tempting to simplify a problem at the outset in order to make it manageable. But if we work with a restricted data set or reduce the problem too quickly, we may lose the very features and patterns that matter. We can become precisely wrong.

We need to **approach complexity without simplifying it away**, while at the same time avoiding getting lost in it. Finding the right balance is itself complex. The objective is not to understand everything, but to identify the main patterns, relationships and leverage points that allow us to act intelligently.

A useful starting point is to work as much as possible with the whole picture and allow clarity and simplicity to emerge from it. This requires seeing things in context and, importantly, seeing things in relationship. Boards need the ability to zoom out and understand interdependencies, while also being able to zoom in when the detail matters.

The experience of LEGO provides a useful illustration. The company distinguishes between necessary and unnecessary complexity, the latter often resulting from burdensome processes, and also between predictable and unpredictable complexity. Rather than seek-

-ing to eliminate complexity altogether, the objective is to understand its different forms, identify the patterns that matter, define appropriate KPIs and trajectories, and develop more dynamic governance frameworks supported by digital processes. In its supply chain, for example, a board-level decision has led to a redesign of the system, with AI supporting continuous monitoring and adaptation. The lesson is not that complexity can be eliminated, but that organizations can learn to distinguish what needs to be managed from what needs to be accepted and navigated.

Organizations also need a sufficiently clear basis from which to act. This is where purpose and mission become important. Returning to the purpose of the business provides a North Star: it helps clarify what the organization is trying to achieve and provides a reference point when circumstances change.

Leadership both shapes and is shaped by purpose. Organizations need to clarify their strategy, develop a shared understanding of their direction, identify and align around key success factors, and regularly return to their purpose and guiding principles.

A well-defined mission can shape an organization in a different way. The principle of "mission over hierarchy" is relevant here. NVIDIA CEO Jensen Huang's formulation,"the mission is the boss", captures the idea that people should make decisions according to the mission, rather than simply waiting for instructions from above. Authority can therefore come from shared purpose as well as hierarchy, allowing organizations to become faster and more adaptive

This does not mean removing structure. Organizations need to find the balance between structuring and culturing: providing sufficient structure and clarity while creating the culture and autonomy necessary for people to respond to emerging situations. This also requires an environment in which people feel able to speak up, challenge assumptions and raise concerns.

Organizations therefore need to become learning organizations. Learning is not only about discussing what went wrong, but also about understanding what went right and why. The ability to question assumptions and learn continuously becomes particularly important when conditions are changing and established approaches may no longer be sufficient. Combining diverse teams with AI can improve problem-solving while reducing the influence of hierarchy. Company culture is ultimately a key factor in enabling boards to address complexity effectively.

Lessons from established corporations[3]

Apple: Simplifying customer experience while preserving technical depth

Steve Jobs's rationalization of Apple's product portfolio illustrates how strategic simplification can concentrate resources and reduce customer confusion. The iPod–iTunes ecosystem provides a complementary example: browsing, purchasing, organizing, and managing music were handled through the wider digital ecosystem, allowing the device itself to remain simple to use. The lesson is not that complexity disappeared. Rather, complexity was deliberately located where it could be managed most effectively. Portfolio and customer-choice complexity were reduced while substantial design, engineering, and integration complexity was preserved.

[3] "Embracing Complexity Governance as a Stewardship Capability in Deep-Tech Firms", Dominique Delporte Vermeiren, October 2026.

Procter & Gamble Benelux: Distinguishing value-adding from non-value-adding complexity

Research into product portfolio management at Procter & Gamble Benelux illustrates the strategic implications of distinguishing between beneficial product variety and the burdens associated with excessive stock-keeping unit (SKU) proliferation. Product variety may support customer choice and market differentiation. Beyond a certain point, however, additional variants can increase manufacturing, supply-chain, forecasting, and coordination costs without generating proportionate value. The lesson is that portfolio complexity must be evaluated against both customer value and the total organizational effort required to sustain it.

Mental models can also help us make complexity more intelligible. They organize multiple signals into coherent patterns and help identify what really matters. Used well, they allow us to simplify without pretending that complexity has disappeared. But mental models are tools, not answers. They need to be continuously tested against reality, because a model that once helped us understand the world can eventually become a source of blindness.

The objective is therefore not to simplify everything. It is to find the right level of simplicity: enough clarity to provide direction and enable action, without removing the complexity that is necessary to understand what is actually happening.

Without sufficient clarity, decision paralysis becomes a real risk. Without sufficient openness, clarity can become rigidity. The challenge is to create enough simplicity to act, while remaining sufficiently open to see when reality is changing.

1.3. From data and AI to human judgment and collective intelligence

The balance between data, AI and human judgment is becoming increasingly important as organizations rely more heavily on data and artificial intelligence. AI should be used as a thought partner, not as a replacement for people.

AI can help boards challenge assumptions, explore different options and improve decision-making. Combining diverse teams with AI can also strengthen problem-solving and reduce the influence of hierarchy by giving people access to new perspectives and information.

The risk, however, is not only **over-reliance on AI** itself. Technology can also reinforce a narrow way of seeing the world if the data, assumptions or models behind it are not questioned. Boards should therefore seek to integrate the rational and the intuitive, combining analytical capabilities with human judgment, experience and contextual understanding.

Illustration: How to make it happen?

Boards should first agree the rules: permitted tools, categories of material that may be processed, requirement for human review of outputs, and logging of use. Public access AI tools should not be used on confidential or privileged material (cyber and training risks). Benefits: improved preparation, judgment and more focused challenge. Larger listed companies may pilot fuller integration, while smaller boards may use lighter features within existing portals or secure, approved enterprise tools.[4] AI does not « augment », but rather provides another source of information (with its own bias), for consideration like other views.

[4] Caroline Stokes, AfterShock to 2030

Human systems become even more important as technology becomes more deeply embedded in decision-making and organizational processes. Complexity cannot be navigated by individual expertise alone. It requires stronger cooperation and more effective use of collective intelligence.

Collective intelligence depends fundamentally on human relationships and trust, which take time to establish and maintain. Organizations therefore need to create the conditions in which people can share information, challenge assumptions, contribute different perspectives and work towards a common purpose.

The concept of **radical collaboration** remains highly relevant: building trust and transparency, creating win-win relationships, fostering cooperative environments, and transforming groups into motivated and empowered teams.

Collaborative capabilities are becoming increasingly critical to organizational success. This is not simply about collaboration within the organization. Cooperation is also becoming increasingly important between companies and across wider ecosystems.

Historically, legal entities were created to share responsibility and attract capital. Today's environment raises new questions about how organizations can cooperate more effectively while remaining compliant with EU competition and antitrust rules. Greater collaboration - and, where appropriate, consolidation - may sometimes be necessary to strengthen resilience.

At the same time, a more uncertain geopolitical environment means that organizations cannot remain open to everything. They need to redefine their strategic space and priorities. Cooperation and information-sharing networks can help identify emerging risks and opportunities, detect developments that remain below the radar, and strengthen collective understanding of a rapidly changing world.

Addressing emerging phenomena requires common knowledge, as well as trust and communication. There is particular value in reaching a situation in which people share not only information, but also an understanding of what others know and how that knowledge shapes collective action.

AI can support this process by facilitating information sharing, strengthening collaboration platforms and networks, and helping involve suppliers and external partners in broader conversations and ecosystems. But cooperation itself remains fundamentally human. Trust, relationship-building and collective commitment cannot be automated. Technology can connect people and augment collective intelligence, but it cannot substitute for the relationships that make collective intelligence possible.

This need for ecosystem-level collaboration is particularly visible in emerging deep technologies such as quantum technologies, where developments can have implications extending well beyond individual companies and sectors. Organizations may therefore need to develop dedicated capabilities to monitor emerging technologies, understand their strategic implications and build the relationships required to navigate them. One possible approach would be to appoint a Deep Tech Diplomat or otherwise institutionalize responsibility for deep-tech diplomacy: continuously scanning technological developments, connecting scientific and technological expertise with strategic decision-making, and helping the organization engage with the wider ecosystem in which these technologies are developing.

Lessons on complexity governance patterns in deep-tech companies[5]

Anduril – Coordinating autonomous systems Anduril's Lattice platform illustrates an approach to coordinating heterogeneous autonomous systems through a common software layer. Such platforms can reduce the operational burden of managing numerous sensors, drones, and robotic assets separately. At the same time, they introduce important governance questions concerning system integration, human supervision, accountability, reliability, and the consequences of autonomous decision support. The stewardship challenge is to ensure that coordination capabilities remain aligned with meaningful human oversight and clearly assigned responsibility.

2. What Complex Thinking Means for the Board

If the environment is becoming more complex, boards need to adapt how they think, how they organize their discussions and how they make decisions. Complexity has implications not only for the knowledge, experience and perspectives that need to be represented around the board table, but also for how boards process information, challenge assumptions and make decisions when outcomes cannot be predicted with certainty.

2.1. The right level of simplicity through purpose, mission and mental models

If the challenges facing boards are becoming more complex, board composition also needs to reflect this reality. Diversity of perspectives, experience and ways of thinking becomes increasingly important, not simply as a matter of representation, but as a way of avoiding collective blind spots.

Board composition should therefore be considered in terms of both knowledge and behaviour. Alongside relevant domain expertise, nomination processes should look for systems thinking, strategic foresight, learning agility, intellectual curiosity, humility, comfort with ambiguity and the ability to listen to and integrate perspectives across disciplines. The objective is not simply to assemble specialists, but to create a board capable of converting different forms of expertise into collective judgment.

One of the risks with certain profiles is the tendency to rely on familiar frameworks to solve unfamiliar problems. Experience is valuable, but experience can also become a source of bias when previous solutions are applied too readily to new circumstances.

CEOs are particularly valued because they are generally seen as pragmatic and clear-minded, with experience of transformation, P&L responsibility and the ability to understand both internal and external environments. They are often comfortable making decisions without complete certainty because they are used to operating in ambiguous environments and managing uncertainty.

Former CEOs can therefore bring significant value to a board. But a board composed primarily of former CEOs may also risk developing a relatively homogeneous perspective. Boards may benefit from a strong combination of generalist experience and more specific expertise, complemented by external specialists when particular issues require deeper knowledge.

[5] "Embracing Complexity Governance as a Stewardship Capability in Deep-Tech Firms", Dominique Delporte Vermeiren, October 2026.

The board needs to balance profiles with specific skills, for example in geopolitics, deep technology, artificial intelligence, sustainability or other emerging areas, with P&L and managerial experience. Cross-sectoral and cross-disciplinary experience can also be valuable because it can expose directors to different ways of framing problems and responding to change. The purpose of diversity is not to create competing silos of expertise, but to enable the board to see the organization from multiple angles.

he more complex the organization, the more important on-the-ground experience becomes. Understanding how strategies, policies and decisions actually play out in different parts of the organization and in different markets is essential to long-term sustainability.

Directors are often selected, in part, for their ability to convey certainty. Yet in a complex environment, clarity may be more valuable than certainty. Boards need people who can provide direction without pretending to know what cannot be known, and who are willing to question established assumptions when circumstances change.

TComplex-thinking capabilities should be explicit in the success profile for directors and Chairs and assessed through evidence-based interviews, references and, where appropriate, board simulations or peer feedback. Assessment should focus on candidates' ability to make decisions under uncertainty, adapt their views in light of new evidence, connect perspectives across disciplines, challenge assumptions constructively and identify emerging risks and opportunities that may not yet be visible through conventional reporting. This would make complex thinking an observable and assessable capability rather than an abstract quality.

Composition reviews should examine whether the current mix of experience creates useful challenge and whether the board has sufficient generational breadth to bring different time horizons and operating assumptions into the room. Board succession is often weaker than executive succession. Many boards lack a formal pipeline, directors tend to serve longer, and nomination processes frequently rely on existing networks. A broader generational base reduces the risk that the board's default models remain those of a single cohort and helps close succession gaps.

2.2. Decision-making in a complex and uncertain world

Complex thinking is not about adding another layer of sophisticated analysis to board work. It is about changing how boards observe, question and decide. It means developing the capacity to see the organization as part of a wider system, to understand relationships and interdependencies, to recognize patterns and emerging shifts, and to make judicious decisions without pretending that uncertainty can be eliminated.

Boards do not need to become better at predicting an increasingly unpredictable world. They need to become better at sensing, interpreting and responding to what emerges while maintaining enough stability to provide direction.

The fundamental challenge for boards is therefore to find the right balance between clarity and adaptability, structure and emergence, analysis and intuition, stability and change, and the big picture and the detail.

The common thread running through all these elements is that the board itself needs to become a **learning system**. This requires not only the ability to question established management assumptions, but also sufficient **scientific and technological literacy** to understand how the environment is changing. Deep tech, in particular, deserves greater attention at board level. While discussions often focus on individual technologies such as AI, many of the most significant developments arise from the convergence and interdependencies of multiple technologies and scientific disciplines, creating new possibilities and sources of value. Deep tech is increasingly being taught in business school, yet it remains relatively underrepresented in boardroom discussions. Boards therefore need to develop the capacity to understand emerging scientific and technological developments and assess their potential strategic implications.The board should not simply review what management has already analysed. It needs to create the conditions for questioning, learning and adaptation.

The board needs both continuity and renewal. It needs to preserve solid ground while remaining willing to question what has previously been taken for granted. It needs to learn from the past without becoming a prisoner of it, and to identify where established assumptions may no longer hold. It needs to provide direction without pretending to know the future. It also needs to create an environment where disagreement, curiosity, learning and adaptation are not signs of weakness, but essential components of good governance.

Critically, boards maintain a dual-horizon perspective[6] on material decisions, balancing near-to-medium-term resilience risks - including climate, geopolitical, supply-chain, technological and resource-related disruptions - with longer-term pathways that remain viable as conditions accelerate and change. This demonstrates anticipatory intelligence by testing decisions across different scenarios rather than relying solely on past performance or a single forecast. It also reveals whether purpose, strategy and risk appetite provide a sufficiently clear reference point for consistent decision-making, highlighting any gaps or tensions that the board needs to address constructively.

Illustration: How to make it happen?[7]

On a material strategy item, the chair (or a designated director) spends time (5-10 mins) outlining one plausible downside cascade and one constructive longer-term path, then tests the proposal against the company's current strategy and any stated purpose or risk appetite. The fact that both horizons were considered during communications are fundamental to the transition. Larger companies can develop the analysis further; smaller boards can keep a shorter review. And the practice can be introduced by the chair or by a short board resolution.

Complex thinking at board level starts with the willingness to ask new questions and different questions. This means creating space to step back from the immediate agenda, challenge established assumptions and consider the organization in its wider context.

This requires a board process that deliberately creates room for uncertainty. Directors need to strengthen their capacity for scenario planning, and board meetings should allocate time to explore multiple scenarios. The purpose is not to predict which scenario will occur, but to understand what could happen, what assumptions underpin the current strategy and how the organization might respond. This can include wargaming different scenarios, testing the strategies and likely responses of other actors, and considering how new entrants or unexpected developments could disrupt existing assumptions.

[6] Caroline Stokes, AfterShock to 2030

[7] Idem

Illustration: How to make it happen?[8]

Larger or higher-complexity boards can do this as an annual or bi-annual multi-day strategic offsite (typically two to four days). Smaller boards can use a shorter intensive of one to two days or stage the work across consecutive meetings. (For optimal learning, it works best as an offsite without distraction.)The sessions are most useful when the outcomes feed directly into the subsequent strategy cycle and when the board reviews whether its composition, information and succession processes support continuous updating of judgment. Boards that need a lower-commitment entry point can test the approach on a single material issue over approximately 100 days before deciding on a fuller offsite.

The board needs to zoom out before making important decisions: to understand the context, see interdependencies and consider what may be changing beyond the immediate business environment. Strategic seminars should therefore not be based solely on management's review. They should give the board an opportunity to explore potential risks and opportunities, challenge assumptions and consider how the company should position itself over the coming years. The frequency of these strategic exercises should reflect the environment in which the company operates. In a rapidly changing environment, strategic reviews may need to take place more frequently.

Uncertainty should not, however, be associated only with disasters. People tend to think of uncertainty in terms of crises and threats, but uncertainty can also be a source of opportunity, creativity and innovation. Scenario planning should therefore not become exclusively a defensive exercise. Boards should also consider what positive developments could emerge and how the organization might be positioned to benefit from them.

Boards should identify the solid ground: what does not need to change and what provides continuity. This provides an important basis for resilience. **Resilience**, however, should not be confused with having survived a previous crisis. A company that has survived one crisis may be better prepared for the next, but survival can also create a false sense of security. An organization may conclude that because it survived one crisis, it will necessarily survive the next.

For companies that have not experienced a major crisis, resilience can instead be tested through scenario analysis, crisis-management preparedness, the ability to think the unthinkable and the capacity to adapt when assumptions change. Resilience should therefore not be viewed as a fixed capability. It needs to be continuously developed and tested.

Complexity also changes the nature of board discussion. Boards should encourage **productive disagreement**. Change is rarely a tidy process, and premature consensus should not be confused with good decision-making. A board that reaches agreement too quickly may simply be avoiding the difficult questions.

The chair's role has a particularly important role in creating the conditions for constructive challenge. The chair and committee chairs need to ensure that board members focus on the right questions, develop a common level of understanding, challenge assumptions, prioritize effectively and have sufficient space to express different perspectives.

[8] Idem

The Chair should create sufficient psychological safety for uncertainty, dissent and changes of view to be expressed. This includes actively inviting quieter or less conventional perspectives and ensuring that hierarchy, status or specialist authority does not close the discussion prematurely.

The Chair should position itself as the architect of complex thinking, by setting the right tone, inclusion and boardroom behaviour.

Constructive divergence should ultimately be matched by disciplined convergence. Once the relevant perspectives and uncertainties have been explored, the board should clarify the decision, the assumptions on which it rests, ownership of implementation, the indicators that could invalidate it and the point at which it should be revisited.

The agenda itself is an important governance tool. Board meetings should include space for emerging issues, longer-term questions and strategic topics that may not fit naturally into the immediate business agenda. External advisers can also be used selectively, including through scenario stimulation in response to an unexpected event.

The board secretariat plays an important role as well. The more strategic the role of the company secretary, the more effectively the functioning of the board can be supported. There is no one-size-fits-all structure: the organization of the board should reflect the complexity and specific circumstances of the company.

Good complex thinking nevertheless needs to remain grounded in concrete information. Boards need access to the right information in order to bridge the gap with management, which is involved in the business on a day-to-day basis. The objective is not to give the board more information, but to give it the right information, at the right level and in the right format.

2.3. impact on the relationship between board and management

Boards and management need to communicate clearly and share a common understanding of what is relevant for decision-making. The same applies to shareholders: boards need to understand what matters most to them.

Management should avoid overwhelming the board with excessive information, as this can paralyse decision-making rather than improve it. Board members need to understand not only the proposals submitted to them, but also the rationale and assumptions behind those proposals.

Yet an important question often remains implicit: what is the question management is actually seeking to answer? Management typically provides information within an agreed, sometimes unexamined, framing. The board's role is not only to assess the answers, but also to bring the underlying question to the table and periodically review it with management.

If directors need to rely on AI simply to digest the material they receive, this may indicate that management has not provided the information in the right format or at the right level. Similar challenges can arise between technical specialists and board members when they do not share the same language or conceptual framework.

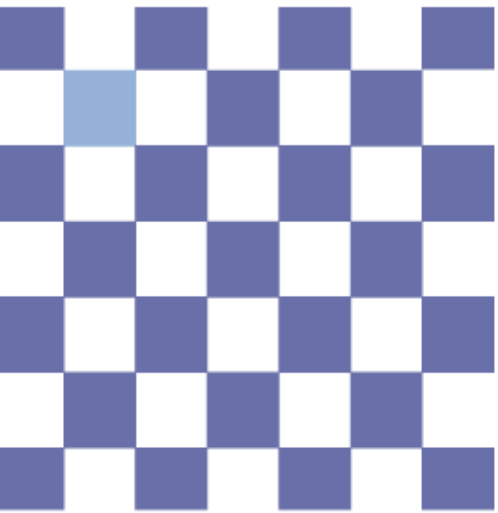
Complex thinking therefore requires an ability to translate complexity into information that is useful for a decision. The objective is neither to reduce complexity to a few simplistic indicators nor to overwhelm the board with detail, but to provide the information needed to understand what matters and make a judicious decision.

The chair also has an essential role in building relationships of trust that allow board members, where appropriate, to obtain direct information from individuals within the company without systematically going through management.

In some companies, management may be reluctant for the board to delve too deeply into operational details. The answer is not to blur the boundary between governance and management, but to build the relationship between them on a foundation of transparency and trust. The board needs sufficient access to reality to exercise its responsibilities effectively, while management needs confidence that such access will support rather than undermine the governance relationship.

Complex thinking also has implications for CEO and executive succession. Boards should ensure that leadership success profiles assess not only experience and delivery, but also systems thinking, learning agility, comfort with ambiguity, stakeholder orientation and the capacity to lead through conflicting demands. A board that develops these capabilities in itself will be better equipped to identify and support leaders who can embed them in strategy, culture and the wider organization.

Complex-thinking boards are better able to select and develop complex-thinking CEOs, who can then reinforce these capabilities throughout the organization.



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The Changing Nature of Complexity and What It Means for BoardsecoDa

What makes the world complex today ?

The issue is not necessarily that the world is more complex than in the past. Over time, knowledge, technologies and management practices have made previously difficult problems more manageable, creating periods of relative stability and, in some societies, a form of generational amnesia about earlier uncertainty.

What is distinctive today is the combination of speed, span and systemic interconnectedness.

Speed comes from the pace at which technological, economic, geopolitical and societal changes are unfolding, often simultaneously. Information and communication technologies have created a shrinking world in which developments in one part of the world can rapidly affect organizations elsewhere.

Span refers to both the number of issues boards need to consider and the depth and scale of each. Geopolitics, resource competition, supply chains, climate change, technological transformation and artificial intelligence cannot be considered in isolation. Each is complex in itself, while their interactions create an even wider field of uncertainty.

Systemic interconnectedness has also become more visible. Scientific knowledge has expanded. Economic globalization has created dense networks of dependencies across markets, organizations and countries. Consequences can therefore propagate across systems in ways that are difficult to anticipate from any single perspective.

Artificial intelligence may add another dimension, raising fundamental questions about knowledge, trust, expertise and the future role of human judgement.

From a world of being to a world of becoming

Many management practices remain influenced by a mechanical worldview based on prediction, control, standardization and certainty. There is a tendency to assume universal truths, search for best practices and favour standardized solutions. As Jean Boulton[6] argues, this way of thinking has shaped modern management but has important limitations.

These approaches remain valuable where cause and effect are sufficiently stable and predictable. Their limitations become apparent under conditions of deep uncertainty, interdependence and emergence.

A practice that works in one context cannot automatically be assumed to work in another. What appears self-evident should not be mistaken for what is universally or permanently true. As Foucault argued, assumptions taken for granted should remain open to questioning as circumstances and contexts change.

[6]. The Dao of Complexity: Making Sense and Making Waves in Turbulent Times, Jean Boulton, published by De Gruyter in 2024

The world therefore needs to be understood less as something fixed that can be fully understood and controlled, and more as something in process - constantly shifting, changing and emerging. This is the move from a world of being to a world of becoming, as Jean Boulton describes it[7].

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Why does this matter for the board?

For much of the modern corporate era, a significant part of organizational complexity could be delegated to management, specialists and established systems of expertise. Boards could focus primarily on oversight, strategic direction and major decisions.
That distinction is becoming less clear. The board cannot simply delegate the task of making sense of the world. It needs sufficient understanding of the forces shaping the organization to challenge assumptions, recognise emerging risks and opportunities, and ask the questions that matter.
This does not mean that board members need to become experts in every domain. It means developing the capacity to see connections, understand different perspectives, recognise the limits of existing mental models and remain alert to what may be emerging.

7. Idem

8. Morin, Edgar. On Complexity. Translated by Robin Postel, introduction by Alfonso Montuori. Hampton Press, 2008

WHAT IS ECODA ?

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