Simple Radical Innovations for Boards of Directors Eager to Solve Grand Challenges

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1. Introduction

Corporations' contribution in solving grand challenges is quintessential. This study recognizes the fundamental role that boards of directors have in setting firms' strategic direction. It focuses on three current divergences between the characteristics of grand challenges and most boards. While the innovations required to resolve such mismatches seem simple, the actual implementation is realistic only for board of directors eager to solve grand challenges.

The late professor Hans Rosling pointed out that, despite our impressions, people nowadays enjoy higher quality of life than ever before.[1] When we look at metrics such as healthy life expectancy, mortality rate under the age of five, access to education and many others, it is evident that nowadays people – especially in developed countries – enjoy a standard of living that was unconceivable until few decades ago.[2] Such sustained progress and prosperity have been achieved predominantly thanks to the efficiency and scale of corporations, that in the past century gained a prevalent role within the society.[3]

At the same time, our species and planet's health are threatened by a series of grand challenges –specific critical barriers that, if removed, would help solve an important societal problem with a high likelihood of global impact through widespread implementation.[4] In most instances throughout the paper, I will refer to climate change as a grand challenge, among others we find eradicating poverty, improving access to health services and education, wealth and income inequality.

1 Hans Rosling, Anna Rosling Rönnlund, and Ola Rosling, Factfulness: Ten reasons we're wrong about the world - and why things are better than you think (London: Sceptre, 2018).
2 Global development data can be retrieved on World Bank Open Data.
3 Charles Perrow, «A Society of Organizations» Theory and society 20, no. 6 (1991).
4 The definition of grand challenges is from Grand Challenges Canada, a Canadian non-profit organization.

Indeed, only with corporations' full and authentic contribution we can hope to solve grand challenges. Thus, the focus on boards of directors – the ultimate corporate constituency responsible for business activities.

In fact, despite some differences in corporate law between countries, most of them agree on the centrality of the board for a firm. For instance, according to the US State of Delaware, «the right to manage the business and affairs of the corporation is vested in a board of directors elected by the shareholders»[5]. The Swiss Code of Obligations takes a very similar stance too.[6] Nevertheless, despite the relevance that the board of directors has for corporate law on both sides of the Atlantic, a vast number of commentators concluded that over the past decades boards of directors essentially abdicated their power.[7]

Below, a reflection on three disparities between current board of directors' features and the nature of grand challenges is presented. Unfortunately, there is not much we can change about the latter which are described as complex, uncertain, and evaluative.[8] Innovation at board level could result in a renewed centrality of board of directors within firms and a higher likelihood of businesses being active players in solving grand challenges.

2. Three discrepancies between boardroom and grand challenges introduction

2.1. Flattening the age distribution curve

In his seminal work on sustainable development[9], Professor Jeffry Sachs ranks climate change as the most significant threat to the health of both humans and planet Earth. He elaborates on its global scale and the slow-moving nature. Additionally, the author stresses that climate change crosses generations as well countries.

This intergenerational factor is particularly astounding when we appreciate that – unless we achieve fast climate change mitigation – the heaviest impacts from climate change are going to affect the lives of very young people and especially those that have not yet been born. Like for the natural environment, future generations have no voice of their own and cannot defend themselves.[10] Thus, it is the responsibility of current decision-makers to embrace the needs of future generations in their assessments.

Being aware of grand challenges' intergenerational dimension I have analysed age diversity within board of directors. By performing a quantitative analysis of listed corporations' board of directors[11] constituting the major stock indexes in the DACH region[12], I could confirm the collective understanding that board of directors are characterized by a limited age diversity. The below paragraphs summarize three key trends around age diversity and its impacts on intergenerational equity.

First, average board size (i.e. the number of directors per board) increased significantly in the past 20 years while the average age range (i.e. difference between the age of the oldest director and the age of the youngest director) and the average age of the youngest director remained stable.

5 Delaware code § 141 (a).

6 Swiss Code of Obligations, art. 716.

7 Melvin Aron Eisenberg, The structure of the corporation: a legal analysis, 3rd print. ed. (Boston, Mass: Little, Brown, 1976); Joseph L. Bower and Lynn S. Paine, «The Error at the Heart of Corporate Leadership» Harvard business review (2017).

8 Fabrizio Ferraro, Dror Etzion, and Joel Gehman, «Tackling Grand Challenges Pragmatically: Robust Action Revisited», Organization studies 36, no. 3 (2015).

9 Jeffrey D. Sachs, The age of sustainable development (New York: Columbia University Press, 2015).

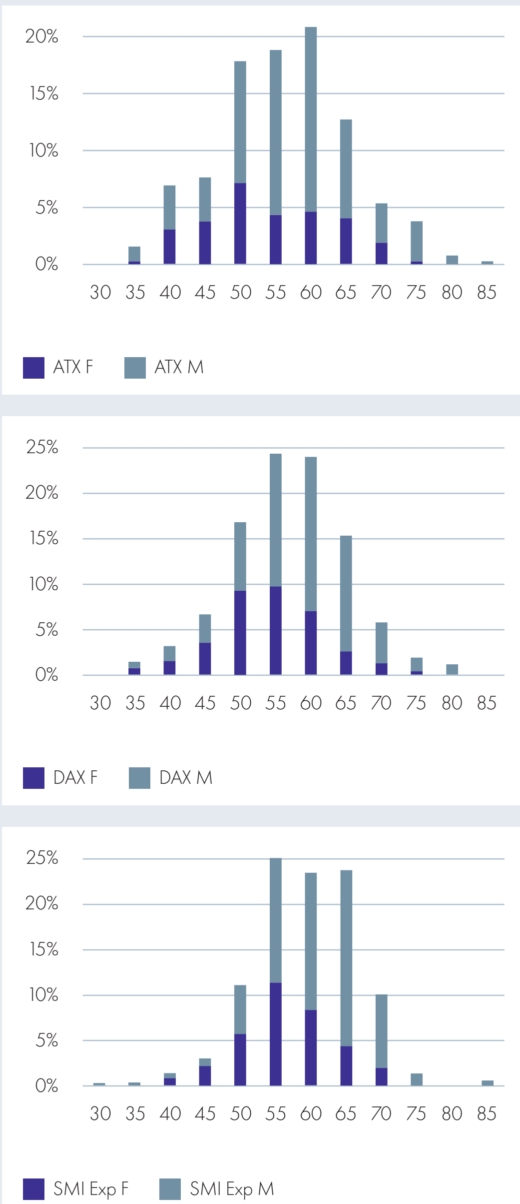
10 Dror Etzion, «Research on Organizations and the Natural Environment, 1992-Present: A Review», Journal of Management 33, no. 4 (2007).

11 For companies adopting a two-tier board system the supervisory board was analysed.

12 As of April 28, 2023, data was retrieved for the listed firms constituting the major stock indexes in Austria, Germany, and Switzerland using BoardEx, Bloomberg and Refinitiv. The Austrian Traded Index Prime (ATX) includes the largest 40 Austrian stocks, the Deutscher Aktienindex (DAX) represents Germany with 40 stocks, the Swiss Market Index Expanded (SMI Exp) tracks the 50 largest listed companies in Switzerland.

Second, the improvement in gender diversity is contributing towards lowering directors' average age across most DACH companies. In fact, since on average female directors are younger than male colleagues, insisting on increasing gender diversity towards a convergence to gender parity is in turn benefitting age diversity (e.g. reducing average directors' age).

Figure 1: Directors' age distribution in 2023 for the constituents of ATX, DAX, and SMI Expanded (F = Female, M = Male)



Third, board of directors are electing very few candidates representing younger generations. As the histograms of Figure 1 show, across the three indexes of companies analyzed, there are no directors under-30s, only 0.13% of all directors are under-40 and as few as 13.1% are under-50. Thus, it is worth pondering on the idea that corporations are currently attempting to solve sustainability challenges without involving future generations in boardrooms' discussion and strategic decision making.

An irrational – and not suggested – interpretation from the above analysis is «let's replace elderly directors with younger ones». In my personal view, this would be extremely not inclusive, counterproductive, and would lead to increasing intergenerational attrition. To be more precise, increasing age diversity at board level would require flattening the age distribution curve. Having a more dispersed representation from different age groups within board of directors would improve intergenerational dialogue – and ideally fairness – in board's strategic discussions and decisions.

2.2. Fusing expertise from different sciences

Another key characteristic of grand challenges is indeed the complexity. For instance, climate change is intrinsically a natural science problem: most anthropogenic activities result in a release of greenhouse gas (GHG) emissions which imply global warming. Given the scale of homo sapiens endeavours, the accumulation of GHG emissions in the atmosphere is resulting in the climate change planetary boundary being close to the tipping point for safe operating space for humanity.[13] Nevertheless, this phenomenon has a cascade of implications of different nature: from mass human migration to biodiversity loss, from ocean acidification to mental health.

Thus, to understand – and solve – complex grand challenges a broad and deep set of expertise is needed. This implies that board of directors, as well at other levels of organizations, would need to gather a diverse set of competences: from physics to chemistry and from medicine to Earth sciences, all in addition to social sciences.

13 Johan Rockström et al., «Planetary Boundaries: Exploring the Safe Operating Space for Humanity», Ecology and Society 14, no. 2 (2009).

Over the past decades, driven by widespread application of the shareholder value maximization theory, most listed companies' board of directors accumulated vast knowledge around managerial topics at the expenses of other sciences. A study on US companies found that directors' capabilities are narrowly centered around management, financial and accounting.[14] The quantitative analysis mentioned above investigates directors' education and confirms the same concentration around social sciences for directors in the DACH region.

The discordant difference between the huge complexity of grand challenges and the common incomplete expertise of boards is evident. Logic would imply that expanding the range of current boards of directors' skills and expertise would improve sensemaking and ability to cope with sustainability challenges.

2.3. Exploring alternatives to strategic decision-making models

Tackling climate change, reducing income and wealth inequalities, and improving access to health services are some of the grand challenges our society is attempting to solve. All of these grand challenges share common traits and are intertwined.[15]

For instance, greenhouse gas emissions and pollution are indeed linked to wealth inequalities. Evidence shows that the richer one is, the higher her environment footprint.[16] This is also reinforced by the ability of wealthy individuals to protect themselves from environmental risks better than poor people.

Companies that want to be part of the solution appreciate the complexity of grand challenges and are interested in maintaining their legitimacy to operate.[17] On this regard, board of directors might struggle to reconcile such goals with the most common decision-making framework used within the boardroom: shareholder value maximization theory. Since the Supreme Court of Michigan's 1919 «Dodge v. Ford Motor Co»-decision, boards of directors on both sides of the Atlantic relied on this view of the firm to take business decisions. Despite an ongoing public and academic debate, the simplicity of the maximization function and the vast economics and management literature that supports it, maximizing shareholder wealth is still today the North Star for most boards.

The need to provide board of directors with an alternative to the shareholder primacy approach has been discussed at length among academics. For years it seemed clear that models developing from the stakeholder theory might take this role. However, this stream of literature has not proven yet to be significantly influencing most boards' decisions.[18]

As simple as it sounds, one alternative to consider is a framework where the value of our planet Earth is maximized.

In substance, we take the maximization function of the shareholder value maximization theory, and we replace the argument substituting shareholder value with planet value. This would require stopping to assess our society as a sum of different stakeholders but as a single unique and complex element: planet Earth. In a way, maximizing the wellbeing of our planet home would in turn benefit all species on Earth – Homo Sapiens too. As a result, companies' activities and directors' leadership would be driven by a sense of purpose to maximize Earth value.

14 Renée B. Adams, Ali C. Akyol, and Patrick Verwijmeren, «Director skill sets», Journal of financial economics 130, no. 3 (2018).

15 The following article lists three analytic facets of grand challenges: complexity, uncertainty, evaluative. Ferraro, Etzion, and Gehman, «Tackling Grand Challenges Pragmatically: Robust Action Revisited».

16 Lucas Chancel and M. B. DeBevoise, Unsustainable inequalities: social justice and the environment, Social justice and the environment (Cambridge, Massachusetts: The Belknap Press of Harvard University Press, 2020).

17 Craig Deegan, «The legitimising effect of social and environmental disclosures – a theoretical foundation», Accounting, Auditing & Accountability Journal 15, no. 3 (2002).

18 R. Edward Freeman, Strategic management: a stakeholder approach, Pitman series in business and public policy (Boston: Pitman, 1984).

The simple elements of this embryonic theory – that could be labelled as earth value maximization theory – would carry at least two major implications. On the one hand, it would reinforce the need for a different set of skills represented at board of directions (as mentioned in section 2.2). In fact, on the side of management and finance experts there would need to be a representation of natural scientists, biologists, physicist, and/or health specialists based on the industry. On the other hand, having directors' adopting these lenses would result in a renewed centrality of boards of directors in the corporate setting. Boards would be seen as the superior body – where different sciences are fused – responsible for setting the strategic direction of companies while considering how firm's products, services, and supply chains impact the value of our planet.

3. The courage to innovate

The innovations described in the prior section might seem simple to external observers but are in fact radical. Looking at composition of board of directors and their historical developments one can understand that most changes in boards' composition happen very slow. Depending on the bylaws and corporate governance statutes, directors are elected annually or every number of years. Nevertheless, evidence shows that most directors have pluriannual tenure.

The urgency of imminent grand challenges is requiring attention and efforts from corporations. For our species to survive, companies have to step in, so it is more a question of pace. The most powerful motivation for corporations to take on grand challenges is the internal pressure from younger colleagues. Multiple studies have proven that younger generations' values and interests are much more focused around the natural environment and societal fairness compared to prior generations.

As a result, as young people populate lower layers of firms and start climbing the corporate ladder, executive teams and board of directors will increasingly feel a pressure for change. Now, boards could take a reactive approach and respond to younger generations demands selectively. On the other hand, they could realize the strategic importance acting proactively to solve grand challenges. In a way, an innovative, inclusive, and informed tone from the top combined with pressure for change from the bottom would lead to faster and more impactful change.

Let's see which boards are eager to solve grand challenges and will implement some of these simple radical innovations.