Risk Governance: Basic Rationale and Tentative Findings from the German Banking Sector

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Abstract The fact that, over and over again, companies are surprised by unanticipated risks points to a serious deficit: Obviously, neither risk management nor corporate governance has been able to avert the incurred damage. Are these two highly specialized functions unable "to see the forest for the trees?" For the sake of overcoming the addressed limitations, the management theory-related search for a solution leads to the proposal of a bridging function: "risk governance". We will first introduce its basic rationale in the corporate context before presenting tentative empirical findings from a benchmark study in the German banking sector. Our paper contributes to the development of a generic approach towards the strategic control of risk from the perspective of top management.

1 Introduction and Research Motivation: A New Quality of Risks

In our times, digitized interconnection is the driving force behind the progressive evolution of the way we live, we work, we organize, we decide. The more interconnected companies, media, and society, the more interconnected the risks.

Especially corporate risks today are complex, and cross-linked with every corner of economy and society. They are self-reinforcing as they tend to aggregate with internal dynamics. They are driven by social media and become vibrant almost in real-time with no warning in advance. Therefore, they exhibit a certain "tsunami quality": he who does not act in time will be overrun by the consequences. All things considered, this newly emerging risk landscape bears the potential to threaten the survivability even of old, established, and successful companies (e.g. Robu et al. 2014). As the recent example of Volkswagen 2015/2016 shows: things could go very wrong very fast.

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However, corporate future is not an inexorable fate, it is created by people. Since there are many possible futures, top-tier management should aim towards shaping a sustainable future for the company.

Companies—at least the larger ones—possess a multitude of instruments dedicated to coping with risks. Why then do unforeseen risk escalations still happen, and why are they not avoided anticipatorily before endangering the company's future? The answer may be surprisingly simple: because the existing risk-related instruments are still insufficient or inappropriate. For that reason, our research aims at assessing this assumption by systematically searching for the deficits of existing concepts of corporate risk control before sketching out the risk governance framework. Tentative findings from the German banking sector will direct research to further advancements.

2 Deficits in Existing Concepts of Corporate Risk Control

Large companies and larger SMEs generally possess a risk management function that performs clearly defined tasks: avoiding avoidable risks and identifying, analyzing, taking, securing, and monitoring inherent risks (e.g. Hull 2015; Jorion 2007; Merna and Al-Thani 2008). "Relevant" risk (e.g. Robu et al. 2014), i.e. the aggregation of those risks that have a large impact on the company's value, are particularly subjected to standardization requirements of ISO (e.g. ISO 31000:2009), OECD (2014), and many industry associations. They are measured, evaluated, matched with the risk-bearing capacity of the company, and optimized with respect to the risk-return ratio. And indeed, risk management widens from purely mapping financial risks to covering general management risks and strives for meeting strategic requirements.

Nevertheless, the current status of corporate risk control draws fundamental criticism: In regard to the overall corporate level, risk management operates too mechanistically because it uses standardized risk models and standardized risk management processes to preselected standard risks. It is not surprising that risk management lags behind rapidly changing environmental conditions: interconnected risks in open enterprise systems and risk escalation dynamics are not sufficiently taken into account (e.g. Davis and Lukomnik 2012). Complex, ambiguous risks are managed as though they were simple (van Asselt and Renn 2011, p. 438) and clear. Risk management lacks a built-in recontextualization mechanism and is, therefore, unable to evaluate the appropriateness of its standard procedures and risk preferences from within. Particularly in the aftermath of the global financial crisis of 2008, insistent demands for an opening of risk management to governance have arisen (e.g. Aebi et al. 2012; Battaglia and Gallo 2015; Hutchinson et al. 2015; Mongiardino and Plath 2010), especially in terms of financial institutions. Consequently, its blind spots render risk management a risk in itself.

Another function dedicated to corporate risk control is corporate governance (e.g. Commission on Global Governance 1995; OECD 2004; Shleifer and Vishny 1997). Organizationally tied to board or management level, it is a regulatory framework that takes systemic risks of and in companies into account from a completely different direction: It aims at the application of minimum standards to be complied with at the level of top management. The objective of corporate governance is to ensure that top management and supervisory bodies do not generate conflicts of interest with the various stakeholders of the company and that they avoid risks arising from a lack of top management quality, missing compliance, a lack of transparency, and the neglect of sustainability.

Corporate governance, however, is also limited with regards to the management of corporate risks, because the application of many of the regulations are of voluntary nature ("soft" according to Ahrne and Brunsson 2004) and the rules often lack an explicit focus on the full breadth of the corporate risk landscape. Moreover, it is somewhat mechanistical, since its actions are oftentimes limited to ticking boxes related to formal legal requirements as in "yes, we communicated with XY" or "yes, we involved XY in time" in order to include this in corporate governance reports.

As of this point, operational risk management and strategic corporate governance can be identified as corporate functions that bear reference to corporate risk control, but are increasingly specialized to a degree that leaves them too engaged in their classic portfolio of tasks. This stunts their antennas for issues that seem peripheral to their function but are in fact necessary for grasping the complete picture. Over time, both functions have developed a silo mentality, being isolated from each other. As a result of their functional separation and specialization, sometimes the truly enterprise-threatening risks fall through the cracks; recent examples of 2015/2016 from Germany include Volkswagen's emissions rigging and obvious lack of understanding truthful environmental orientation, or Deutsche Bank's startling number of more than 7000 lawsuits worldwide and the company's obvious lack of truthful compliance. Corporate behavior that may still be legal in a closed system, can be far from legitimacy in an open system—this dynamically self-enforcing lack of legitimacy from outside the company (e.g. Powell 2007, stresses this new-institutionalist perspective) is precisely what creates threatening risk positions.

These deficits raise the question: are there ways out? A first solution is the development of enterprise risk management (ERM) systems (e.g. Gordon et al. 2009; Lundquist 2015; Power 2007): In response to the 2008 financial crisis, the call for an integrated, holistic risk management that specializes in the risks of corporate management came up. The stratagem of ERM is to add "governance" to the traditional risk management in the sense of better controlling the risk management function itself. This, however, does not seem sufficient since this improvement is only aimed at one partial area, risk management organization, but not at risk management functionality. In addition to that, Bromiley et al. (2015, p. 265) state that "academic research on enterprise risk management is still in its infancy, with articles largely in accounting and finance journals but rarely in

management journals". Therefore, even a strategically-oriented augmentation such as ERM will not fundamentally change the basic orientation as a traditional risk management function.

The second solution to the problem seems to be the rise of risk culture. Although increasingly used as a buzzword in management, the intention of establishing risk culture is to set new corporate-wide normative standards that influence the attitudes and the behavior of enterprises in regard to risk management decisions, supplemented by a value-based risk communication and appropriate incentives (e.g. Tirole 2001). This suggestion, however, does not reach far enough, either, since experience with culture shows that—if not executed in daily practice or even prescribed as "cultural change" by the management—it disappears into the nirvana of vagueness.

The sustainable solution could be positioned between risk management and corporate governance: risk governance. The term originates from 2003 when the International Risk Governance Council (IRGC) started to support governments as well as NGOs in addressing global systemic macro risks in a broad political context which involved areas such as security, health, environment, technology, and economics (IRGC 2012; Renn 2005).

Risk governance has only recently been applied to business risks (Stein and Wiedemann 2016). In the course of this paper, we will introduce risk governance as the corporate function that is directed towards the overall regulation of risk management. As pointed out by Rothstein et al. (2006, p. 91), the need for this function has already been recognized: "Explanations of the growing importance of risk to regulation identify three processes; the need to respond to newly created and discovered risks; the growth of regulatory frameworks; and the use of the risk instrument as an organizing idea for decision-making in modernity." Developing this idea further, requires determining exactly what the differences between risk management and corporate governance are, how risk governance can answer the open questions, and where added value is created.

3 Risk Governance Framework: Philosophy, Tasks, and Effectiveness

The necessity of risk governance arises from the fact that corporate governance research and practice do not clearly translate their broad stakeholder perspective into corporate financial management, nor do risk management theory and practice clearly translate their financial approaches into the politics of strategic management, nor is there an elaborated intersection. As highly specialized expert functions, risk management and corporate governance have developed domain-specific competences, but have gradually separated from their adjacent fields, hampering cross-functional communication. Risk-related problems occurring at the functional intersection (e.g. Egoavil 2003) become peripheral, while each expert function addresses the

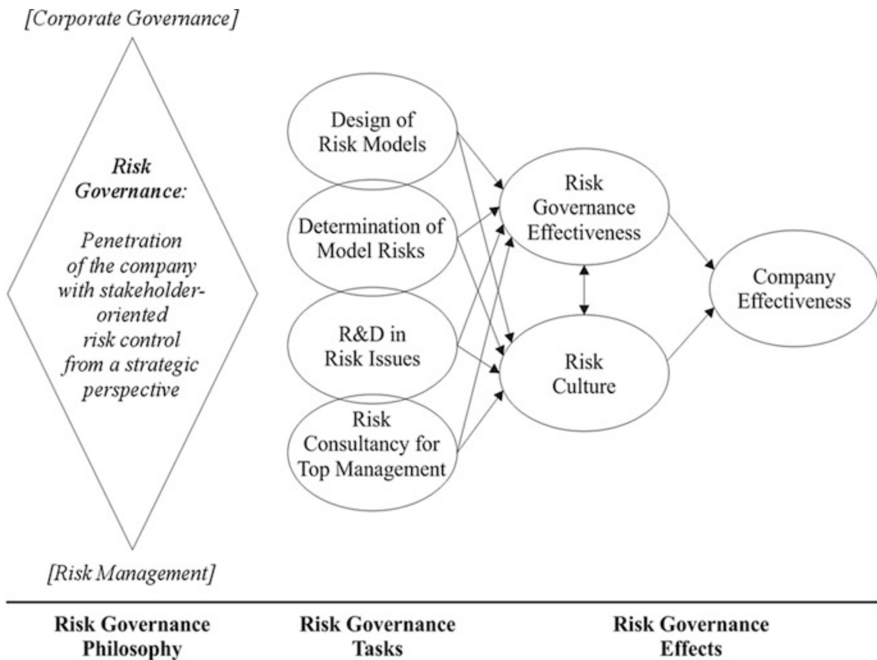

Fig. 1 Basic concept of risk governance

solution of challenges in the center of its own domain in depth. Problems arise at the overall corporate level: in order to cope with the complexity of today's organizations, an additional specialist is needed to communicate with both fields.

As the following outline will show, conceptually combining corporate governance with risk management goes beyond simply mixing the terms. Risk governance will enable organizations to control the risk-related complexity of open organizations under the contemporary conditions of multi-political dynamic environments. The conceptual understanding of risk governance according to Stein and Wiedemann (2016) is depicted in Fig. 1.

Risk governance is a philosophy with the following characteristics:

- Risk governance is the third track between risk-based approaches to governance and the operative governance of risks (Rothstein et al. 2013), translating corporate governance requirements to the management of risks with appropriate distance and independence from top management.
- Risk governance, seen as a corporate function, aims at a proactive risk control throughout the whole company, initiated from within the company and not imposed on it from outside. The intention is to incorporate its basic principle to all corporate decisions: the integration of stakeholder-oriented risk considerations.

- Risk governance is the organizational option for the decentralization of systemic risk control, reducing steering complexity for top management and the supervisory board. While overall governance issues and compliance are tasks of top management and supervisory board already covered by an advanced governance regime, the risk-related issues increasing in complexity are not yet sufficiently balanced. Top management and the supervisory board do not have the time and management resources to dive deeply into those issues, which leaves those tasks to be delegated to a risk governance staffed with specialists.
- Risk governance is a top-down catalyst for risk model issues, requiring a voice directed upwards and demanding implementation of decisions downwards. Risk governance needs the appropriate empowerment as well as an autonomous status to avoid becoming a toothless tiger.
- Risk governance is committed to the norms of "good corporate governance", not only internally, but also externally, sending clear ethical signals to all stakeholders concerning risk-related sustainability. "Good corporate governance" normatively refers to fundamental ethical principles based upon the understanding of a democratic, open, mutually committed society. In transferring that notion to risk governance, it is consequential to consider good risk governance the way the International Risk Governance Council does with respect to global political risks: "Risk Governance is the application of the principles of good governance to the identification, assessment, management, and communication of risk" (IRGC 2015). This means that good risk governance submits to claims such as prudence, participation (e.g. De Marchi 2003), partnership with substantial collegiality (e.g. Orton and Weick 1990), communication and inclusion (van Asselt and Renn 2011), transparency, and accountability—altogether contributing to the sustainability and viability of a company.

Based on this philosophy, four specific risk governance tasks can be specified (Stein and Wiedemann 2016, p. 824–828):

1. **Design of Risk Models.** The first task of risk governance is to design a range of alternative risk models that represent the overall business model in a suitable way. This means specifying different risk models that imply the ways in which risks are seen, prioritized (e.g. Ammarapala and Luxhøj 2007; Ball and Golob 1999), and aggregated (e.g. Anderson et al. 2005; Skoglund et al. 2013) against the backdrop of the prevalent stakeholder conditions before deciding about the appropriateness of the finally selected risk model. Changing the risk model from reactive to proactive (e.g. Hardy and Maguire 2016) will direct the management's perception of risk from actual risks to potential future risks.
2. **Determination of Model Risks.** The second task addresses the determination of model risks. Neither corporate governance nor risk management systematically target those model risks that, according to Derman (1996), generally arise from the use of models that are incorrectly specified or inapplicable to faulty model implementation due to e.g. programming and technical errors, or to bugged application of a model caused by e.g. data issues or calibration errors. Model

risks endanger the success of business models; in order to reduce this effect, the ongoing recontextualization of risk control has to be implemented.

3. **Research and Development in Risk Issues.** Risk governance also covers the R&D tasks in risk issues, to be contextualized for the specific situation of the company. In searching for innovative methods in corporate risk management, such as simulation, forecasting, predictive analytics (e.g. Schlegel 2015), or proactive profiling (e.g. Brooks 2006), risk governance can become the driver for sustainable model exploration. In tracing further developments of risk models, risk governance can integrate new academic progress into currently applied risk models. Digitization is gradually reaching risk governance, methodologically enabling it to use big data (e.g. Kitchin 2014; Simon 2013) as a specific method of pattern analysis based on large volumes of data which opens up new opportunities for detecting company-specific hidden risk patterns.
4. **Risk Consultancy for Top Management.** By enhancing the top management's competences in shaping risk-related behavior by means of risk consultancy, risk governance contributes to the improvement of risk-avoiding goal setting, risk-related transparency, and risk-oriented real-time feedback. Risk consultancy supports top management in coping with business dynamics in terms of flexibly adapting business policy to changing competitive situations and improving the risk-aware fit between the company's strategy, structure, processes, and environment. Risk consultancy also means training top management in respect to integrating, building, and reconfiguring the resources for the company's risk-oriented market responsiveness process.

These four risk governance tasks are not intended to replace either risk management or corporate governance but could complement them in the sense of a meta-level monitoring and advising functionality. They are designed to happen simultaneously as an ongoing repetitive process while being closely interlinked. With the fulfilment of these four tasks, risk governance can efficiently direct overall risk control towards the respective business model. This is expected to result in a well-matched system with high risk governance effectiveness. The implementation of a sustainable risk culture—focusing on cautiousness, transparency, and accountability (e.g. Ingram et al. 2014)—is supported. In the end, top management becomes more competent in terms of risk-related decisions which are expected to increase corporate effectiveness in terms of sustainability, long-term survivability, and value creation by fostering the overall risk robustness of the company.

4 Risk Governance: Tentative Empirical Findings

As a first step of approaching risk governance empirically, we conducted a benchmark study in the German banking sector. The context of banking seems particularly relevant because the European Banking Authority (EBA) explicitly requires

the evaluation of banks' business models in terms of "risk governance" (EBA 2014)—although the EBA leaves this term widely unspecified and only implicitly refers to prior definitions in the financial sector (e.g., FSB 2013; IFC 2012). We, therefore intended to validate our conceptualization of risk governance: are banks—at least unconsciously—already turning towards the outlined direction?

In our benchmark study (Wiedemann et al. 2016), we collected data from 96 regionally active German banks (mutual savings banks and cooperative banks) with total assets averaging 4.8 billion euros during the first quarter of 2016 by using a questionnaire with 44 items. For each of the four tasks of risk governance—oriented at the respective literature and subjected to internal consistency tests—several sets of items were formulated to be answered by risk-related deciders according to the perceived degree of satisfaction on a five-point Likert scale from 1 (strongly disagree) to 5 (completely agree). The aggregated variables indicate how advanced the banks already are in regard to the four tasks. Simultaneously, risk governance effectiveness, the impact on risk culture, and the overall effectiveness of the bank were examined.

The tentative findings of the benchmark study (Table 1) show that the observed banks are (unconsciously) engaged in the risk governance tasks 1 and 2 and less in risk governance tasks 3 and 4, despite still having some room for improvement. This is less surprising since risk transformation is the core of a bank's business model. The finding that risk culture is, on average, already well developed is likewise consistent with industry-specific expectations.

It is revealing to observe how the risk governance tasks correlate with the measured effects. It appears that intensifying all of the four tasks comes along with an increase in risk governance effectiveness. In addition to that, all four tasks significantly contribute to the improvement in risk culture which, in this particular banking industry, is a key objective of financial supervision. Finally, it can be shown that the effectiveness of the bank is directly positively influenced by risk governance tasks 3 and 4 and by risk governance effectiveness overall.

The main findings of the benchmark study can be summarized as follows: The more consciously banks handle the four risk governance tasks, the better they perform in respect to active risk culture and, ultimately, their effectiveness as a bank. Obviously, a positive value contribution is reached by risk governance.

5 Discussion and Research Outlook

The contribution that risk governance is expected to make towards corporate success can, therefore be answered clearly: Risk governance supports the sustainability and viability of the business model. Risk governance is a litmus test, showing whether a company actually scrutinizes its business model proactively to all possible risks and in how far it succeeds in not falling back into a routine mode, but being permanently and repeatedly alert.

Risk governance is not primarily directed towards observing compliance rules. It searches proactively for any imaginable risk and prepares the company not only by

Table 1 Findings of the risk governance benchmark study 2016 (n = 96 regionally active German banks)

Variable	Items	Mean	Standard deviation
T1: Design of Risk Models	• Our risk management is strategic • We know the prioritization of different risks • We incorporate the aggregation of risks in our risk control • We differentiate current and potential risks	3.86	.61
T2: Determination of Model Risks	• We know the model risks of our risk models • We regularly scrutinize our model risks • We apply risk simulation models	3.82	.68
T3: R&D in Risk Issues	• Our search for risks is anticipatory • We talk to each other much about the perceptions of risk • We discuss alternative risk models for the same risks • We regard risk considerations of important stakeholders • We systematically take care of new strategies for risk search • In our risk control, big data plays a role	2.99	.54
T4: Risk Consultancy for Top Management	• Our bank top management is internally well advised in terms of risk control • Our bank top management is externally well advised in terms of risk control • Successful risk control affects our incentives • In our bank, risk control is an issue of viability of the bank • In our bank, risk control is an issue of corporate ethics	3.34	.60
Risk Governance Effectiveness	• In general, I think our risk control system is effective • We perceive risk control as a value generating task of our bank • We listen to those in charge of risk control • Our risk control system improves our competitiveness	3.70	.54
Risk Culture	• We have a culture to deal cautiously with risks • I know how our bank management steers the risks of the bank • Our risk control system is developing in the right direction • I know who is responsible for risk control in our bank • I would say that we have a ‘healthy’ risk culture	4.04	.55
Effectiveness of the Bank	• In the last 3 years, we operated successfully • Our net profit after taxes has a positive growth • We see good perspectives for the future	3.59	.74

(continued)

Table 1 (continued)

	Risk Governance Effectiveness	Risk Culture	Effectiveness of the Bank
T1: Design of Risk Models	+.518***	+.577***	
T2: Determination of Model Risks	+.396***	+.417***	
T3: R&D in Risk Issues	+.415***	+.233*	+.214*
T4:Risk Consultancy for Top Management	+.628 ***	+.402***	+.214*
Risk Governance Effectiveness		+.455***	+.266**

Five-point Likert scale form 1 (strongly disagree) to 5 (completely agree); Pearson correlation coefficients
Levels of Significance: *p $<$ .05; **p $<$ .01; ***p $<$ .001

assessing these risks but also by preventing unofficial, informal, and unauthorized malpractices of corporate behavior. This goes beyond the detection of weak signals (Ansoff 1975) in the sense of a strategic early warning system; it secures future legitimacy for the company which, if ever lost, might endanger the existence of the entire company.

Generally speaking, risk governance helps secure the fundamental livelihood of the company, not only in the sense of economic value but also in respect to cultural values in the sense of risk culture, moving towards combining metrics with culture (Gibbons and Kaplan 2015). Risk governance will also serve as a motor for increasing the company's potential for flexible strategy development in the long run. A dynamic system is expected to pursue values such as preference for breakups and risk appetite, but at the same time oriented towards the long-term rationale of strategic sustainability, making the investments and risks worthwhile. The term coined for this short-term flexibility plus long-term strategic sustainability is "strategic agility" (Doz and Kosonen 2010). Viability of modern companies is linked to their capability to meet the paradoxical demands of being flexible risk-takers and sustainable risk-avoiders at the same time. Risk governance serves to resolve inherent contradictions between short-term flexibility and long-term strategy, which become truly apparent in top management.

Nevertheless, some limitations have yet to be addressed in further research. Related to methodology, scales need further improvement, and a more sophisticated measurement of effectiveness additionally based on objective data is needed. Methodologically rigorous and comprehensive examination of content validity and construct validity (e.g. Johnston et al. 2014; Rossiter 2008) of risk governance are in order. Future empirical and practically-oriented studies can build on the introduced basic rationale, thus providing more concrete results than our tentative findings. Due to the given complexity of the risk control subject in general, methodologically, risk governance research is expected to employ methods related to complex systems analysis. Appropriate methods involve, for example, multi-scale analysis (Ahl and Allen 1996), new forms of agent-based system modeling methods such as (risk-related) pattern-oriented modeling (Grimm and Railsback

2005), and agent-based system simulations on the basis of system dynamics (Sterman 2000).

Related to theory, one of the challenges is the scalability of risk governance. Small and medium-sized enterprises (SME) traditionally do not exhibit governance structures as elaborated as those of larger corporations. Their corporate governance—and, therefore, also risk governance—is more implicit and often consists of the entrepreneur's or founder's leadership behavior. It is known that risk-taking of decision makers tends to increase with growing company size (e.g., Bhagat et al. 2015). For that reason, company size represents a relevant situational factor to take into consideration.

Considering the practical application of our conceptualization raises further questions: how can risk governance be institutionalized in companies, both in the structures and processes? How can a company ensure that different risk governance sub functions such as financial risk governance, HR risk governance, or marketing risk governance are well balanced and not dominated by the one with the best available data? But the most virulent question remains how to apply risk governance in terms of linking it to the company's value proposition, business model, and operating model. This requires creating several processes, some of which measuring KPIs related to systemic risk, risk-related stress-testing of business models, simulating the company's risk robustness, and reporting risk scenarios to top management. This requires getting the strategic deciders involved in risk governance. Using all information on corporate risk proactively will end up in making top management rethink basic business model assumptions and in developing top management's dynamic capabilities (Teece 2007; Wang and Ahmed 2007) in the sense of dynamic capabilities as "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (Teece et al. 1997, p. 516).

6 Conclusion

In summary, risk governance is a functional regulative system located on a higher-order level, designing risk regulation models for risk management, determining model risks, performing research and development in risk issues, and serving as a risk consultancy for top management. Being committed to the norms of "good corporate governance", risk governance is conceptualized to bridge the gap between a comprehensive corporate governance and operative risk management in the sense of translating legal and regulative necessity to economic benefit and value creation.

This basic rationale of risk governance, independently from industry type, contributes to clarifying the ranges of corporate governance and risk management as well as its not yet covered functionalities. It helps identify blind spots in recent research on risk steering and risk control in a risk landscape subjected to constant transformation.

Risk governance, gradually finding its way into companies—not only into financial institutions—and their corporate culture, is neither a structural element that is "nice to have", nor a fig leaf to liability law. It is driven by the changing risk structures associated with business dynamics and the aim of making this an ongoing obligation of top management. There is a strategic need for risk governance in companies on both the functional and processual level. We, therefore, expect risk governance to professionalize the individual risk-related decision behavior of top-tier managers and members of the supervisory board as well as to advance the proactive quality of corporate-wide risk control.

The complex risk landscape of a company is likely to be unpredictable and uncontrollable. Nevertheless, risk governance might increase knowability, reduce uncertainty, and make ambiguity slightly more controllable in the end. For that reason, we anticipate for risk governance to render companies more viable and sustainable for the future.

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