

Tool-supported Legal Risk Management: A Roadmap

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I. Introduction

In *The Future of Law*,¹ Richard Susskind predicts a paradigm shift in the approach to legal problems from *problem solving* to *problem prevention*:

“While legal problem solving will not be eliminated in tomorrow’s legal paradigm, it will nonetheless diminish markedly in significance. The emphasis will shift towards legal risk management supported by proactive facilities, which will be available in the form of legal information services and procedures. As citizens learn to seek legal guidance more regularly and far earlier than in the past, many potential legal difficulties will be dissolved before needing to be resolved. Where legal problems of today are often symptomatic of delayed legal input, earlier consultation should result in users understanding and identifying their risks and controlling them before any questions of escalation.”

This paper presents a roadmap towards a tool-supported legal risk management. Imagine a future in which some lawyers are also seen as *legal risk managers* by their clients or employers. Susskind considers the legal risk manager as one of the five main future roles for lawyers.² Such lawyers will specialize in the identification of legal risk and will be experts in the structured assessment and treatment of risk in the legal context. Those lawyers focusing on legal risk management will use specialized methods and software tools in their risk assessments. Again we can refer to Susskind:³

“This category of lawyer is sorely needed and is long overdue. Senior in-house lawyers around the world insist that they are in the business of legal risk management – clients prefer avoiding legal problems rather than resolving them. And yet [...] hardly a lawyer or law firm on the planet has chosen to develop methods, tools, techniques or systems to help their clients review, identify, quantify and control the legal risks that they

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¹ R. SUSSKIND, *The Future of Law*, 1998, p. 290.

² See R. E. SUSSKIND, *The end of lawyers? Rethinking the nature of legal services*, 2008, p. 272.

³ *Ibid.*, p. 272.

face. I expect this to change. [...] This could fundamentally change the way in which the law is practised and administered.”

The topic of the present paper is a set of potential future developments; however, I will seek to avoid making predictions. Of course, it is necessary to develop some assumptions about the future, but these are only extensions of current developments, without the addition of anything substantially new. Really new developments, particularly discoveries, are unforeseeable for epistemic reasons.⁴ The present roadmap⁵ for legal risk management is by no means a deterministic prediction, but should rather be read as a discussion of goals and ways to attain these goals. This roadmap should be seen as a contribution to a discussion about future *directions*, rather than as a literal map indicating the path itself. As Winston Churchill put it, plans are of little importance, but planning is essential. Planning views the future in a non-deterministic way, where we can influence central elements of future developments, despite the likely prospect that the plan itself may need to be adapted along the way.

II. Legal risk management

This section introduces legal risk management as the proposed goal for this roadmap. Risk management is today used in many different disciplines as a structured approach for dealing with risk. Enterprise risk management focuses on risks to an enterprise, while financial risk management deals with risks, for example, in an investment portfolio. Engineers use risk analysis, such as to analyze the risk of technical failure of a system. The characteristic element in *legal risk management* is the focus on legal issues in the context of risk. This legal perspective on risk becomes visible in the management of *legal risk*⁶, a perspective which in itself is not new: practicing lawyers already deal with risks on a daily basis. The only proposed new elements are (1) the *conceptualization* of these activities as a type of risk management, (2) the search for more *structured methods* to carry out legal risk management tasks and (3) the possible development of

⁴ See N. N. TALEB, *The Black Swan: The Impact of the Highly Improbable*, 2008.

⁵ See in general about technology roadmapping R. PHAAL, C. J. P. FARRUKH and D. R. PROBERT, ‘Technology roadmapping: A planning framework for evolution and revolution’, *Technological Forecasting & Social Change*, Vol 71, No 1-2, pp. 5-26.

⁶ T. MAHLER, ‘Defining Legal Risk’, in: S. NYSTÉN-HAARALA ed, *Corporate Contracting Capabilities: Conference proceedings and other writings*, 2008, pp. 51-76.

software-based tools to support legal risk management.

The *conceptual question* is a contemporary rather than a future issue. As Wahlgren⁷ has indicated, some of the risk-related work tasks of practicing lawyers can be seen as a type of risk management. According to the ISO, the term “risk management” refers to “coordinated activities to direct and control an organization with regard to risk”.⁸ By relating legal risk management to other risk management approaches, we may contribute to the development of a practical theory of proactive legal practice, which today is rather immature. There is an abundance of theory about how to interpret the law, once a problem arises. But legal theory has relatively little focus on how to avoid problems. Understanding and denoting some of lawyers’ tasks as risk management tasks provides us with a set of risk-related concepts and analyses, which may turn out to be helpful also for the analysis of legal risks.⁹

In my opinion, there are few alternatives to the conceptualization of lawyers’ risk-related tasks as legal risk management. When a lawyer analyzes potential risks (e.g., when drafting a contract) and how to avoid a negative outcome (e.g., when choosing the best wording for a contract), this may *also* be seen as *risk management*. However, the interesting question is not the conceptual or terminological issue of *whether* lawyers do risk management, but *how lawyers should manage risk*. The answer to this second question will be discussed in the remainder of this section. An analysis of legal risk management *methods* is a necessary basis for a discussion of possible legal risk management *tools*, which will follow in Section 0.

A. Legal risk management methods

Susskind’s future of law predicts that “legal risk management, supported by proactive facilities. . . will be available in the form of legal information services and procedures”. Could such *procedures* and *proactive facilities* for legal risk management be based on established risk management methods?

There have been some suggestions in legal literature to use formalized risk management

⁷ P. WAHLGREN, *Juridisk riskanalys: mot en säkrare juridisk metod*, 2003.

⁸ I.S.O., *Committee Draft 2 for Risk management - vocabulary*, Guide 73, 2008.

⁹ See further T. MAHLER and J. BING, ‘Contractual Risk Management in an ICT Context -- Searching for a Possible Interface between Legal Methods and Risk Analysis’, *Scandinavian Studies in Law*, Vol 49, pp. 339-358.

approaches in law¹⁰, but so far, legal risk management is, if anything, still emerging as a methodological approach. The goal for legal risk management is to facilitate the management of legal risk. While risk management also may be carried out informally, there may be some situations and contexts in which a more formalized risk management process and established methods may be advisable. The term *method* is here used as a *codified set of recommended practices*. Interestingly, discussions of explicit practical proactive methods do not have a strong academic tradition in law. However, this does not necessarily indicate that a structured methodological approach is entirely irrelevant for, or inapplicable to, complex tasks typically carried out by lawyers. Rather, the lack of academic studies on practical methods seems to reflect the tradition of leaving the practical methods to the legal practitioners. However, given the increased complexity of legal practice in a diversified international context, it may nevertheless be useful to devote some research efforts to developing practical methods with clear interfaces to methods used in other disciplines.

1. Risk management

In general, risk management consists of one or more *risk assessments*. Typically, a risk assessment involves risk identification, risk estimation, risk evaluation and risk treatment. For example, a strongly simplified version of an engineering risk assessment may (1) identify the risk of a bridge collapse because it cannot withstand an earthquake (risk identification). Then, (2) the engineer would analyze the uncertainty and assess the likelihood and the consequences of a bridge collapse due to an earthquake (risk estimation). The next step (3) would be to assess whether this risk is acceptable (risk evaluation). Depending on the evaluation results, the engineer would then (4) proceed to discuss the effect and cost of possible technical or other measures to manage the risk (risk treatment).

Could a similar approach be used to assess legal risk? This would require a risk assessment that not only focuses on factual events, but also on the application of legal norms to

¹⁰ See **K. REID**, *Risk-e-business: A framework for legal risk management developed through an analysis of selected legal risks in Internet Commerce*, University of New South Wales, 2000; **WAHLGREN**, *Juridisk riskanalys: mot en säkrare juridisk metod*, *supra* note 7; **P. KESKITALO**, *From assumptions to risk management: an analysis of risk management for changing circumstances in commercial contracts, especially in the Nordic countries: the theory of contractual risk management and the default norms of risk allocation*, 2000; **P. KESKITALO**, 'Contracts + Risks

these facts. A legal risk assessment should assess how the application of legal norms may have an effect on the stakeholder.

I suggest as a starting point that a legal risk assessment should concentrate on the identification, estimation and treatment of legal risk. Thus, we need to clarify the meaning of the term “legal risk”.

2. Legal risk

There does not seem to be any agreement about the definition of legal risk in literature and in practice.¹¹ In particular, it is not clear (1) whether legal risk implies that there must be uncertainty about the outcome and (2) whether this uncertainty must necessarily be legal uncertainty, or if uncertainty about facts is sufficient. For the purposes of this paper, I suggest the following working definition of legal risk: Legal risk refers to the risk related to a decision in a legal case.

Two observations should be made with respect to this working definition. First, this definition does not focus on how legal risk is caused, but rather on how legal risk materialises (in a legal case). Second, the definition depends on two other terms, namely “risk” and “legal case”, which both need to be clarified. There is no need to define risk differently than in other contexts, so I suggest we use the definition contained in the draft revision of the risk management vocabulary, issued by the International Organisation for Standardisation (ISO).¹² There, risk is defined as the “effect of uncertainty on objectives.” The use of this definition in the context of legal risk thus implies that also legal risk must be an effect of uncertainty. Uncertainty is defined by the ISO as the “state, even partial, of deficiency of information related to or understanding or knowledge of an event, its consequence or likelihood”. An *event* is, according to the ISO, the occurrence or change of a particular set of circumstances. Thus, in the context of legal risk, uncertainty could be the deficiency of information, understanding or knowledge of a legal decision, its consequences or likelihood. Now we need to introduce at least a preliminary definition of the term “legal decision”. For the purposes of this article, the term “legal case” refers to any type of decision about facts (circumstances), which is taken based on one or several legal norms.

+Management = Contractual Riskmanagement? *Nordic Journal of Commercial Law*, 2006, Vol 2 .

¹¹ MAHLER, *supra* note 6.

The term “legal case”, as it is introduced here, is meant to include at least two types of rather distinct legal decisions. The *first* type of legal decision is the *legally binding decision* by an actor who holds a particular legal power. The ideal type of the binding legal decision is of course a judge’s judicial decision in a court case. However, other relevant decision makers could be authorities or even a third party, like a contract partner, who holds a particular legal power.

The second type of legal decision of relevance for legal risk is the decision which is taken by any actor *in light of the legal norms that apply to the decision*. This type of decision is much less formal and visible than the first type. The decision may not have to be conscious, and it may or may not even be easily discernible in the actor’s behaviour.¹³ This type of decision is not characterized by its bindingness (even though it is possible that the decision has certain binding effects on others), but rather through the direct effect the decision has on the actor’s behaviour. One example of this type of decision is a *compliance decision*.¹⁴ The compliance decision is taken by the complying actor, based on the identified set of norms that apply to the decision. An example is my decision to pay a certain sum of money to someone else, *because* I am obligated to do so. Another example of this type of legal decision is the decision to *bear a negative outcome*, without making any legal claim (e.g. for compensation). In both examples, the actor acknowledges the binding force of the legal norms. For lack of a better name, such decisions will subsequently be referred to as an *actor’s acceptance of consequences*.

We may ask why it is necessary to include this second type of legal decision when identifying legal risk. Isn’t it sufficient to focus on the binding decisions of judges, authorities and others? Doesn’t the bindingness of these decisions represent the core element of the law, as a set of binding rules? The answer is a rather simple combination of empirical facts and pragmatic judgment. *First*, very few legal problems are ever brought to court. In most cases we either comply immediately, or after some negotiations, or simply do not comply with the law at all. This needs to be taken into account when we identify how the law may have an effect on us in the future. *Second*, the actor’s acceptance of consequences is included because its economic and

¹² I.S.O., *supra* note 8.

¹³ The actor may (unconsciously) decide to do nothing. For example, an actor faced with an economic loss does not to make any claim, because no claim would have sufficient support in the law. It would be possible that the actor does not even think about the potential option of making a claim.

¹⁴ A relevant question is how we should deal with non-compliance. Most likely, non-compliance has a different place in the context of legal risk. Non-compliance may be one of the causes of a legal risk, but not of the consequences.

other effects on the actor are to a certain degree comparable to binding legal decisions. From a practical perspective, I am affected both by a judicial decision which states that I have to pay a sum of money, and by my own decision to comply with my payment obligations. Of course, there are differences between the two types of decisions, and these should not be neglected. In particular, my own decision surely has an immediate effect on me, while a future judicial decision may be uncertain both in terms of whether I have to pay and how much I will have to pay. However, these differences do not justify omitting the second type of decision from the analysis of legal risk.

Instead, we should rather highlight how the two types of legal decisions are connected. In the case of a binding decision, the actor is forced to consider the effects of that binding decision, particularly in light of a possible enforcement. If the binding decision does not directly initiate enforcement actions, then the actor is again faced with a decision about accepting the consequences of the decision. Thus, the actor's assessment of its options (including in particular to appeal, to do nothing, to await enforcement, or to comply) can again be characterized as the acceptance of consequences. The important point is that both types of decisions may have an effect on the actor's objectives. This potential future effect is the main reason why legal decisions are of key relevance to legal risk assessment.

3. Risk assessment method

One key difference between the example of engineering risk assessment and a lawyer's risk assessment is that lawyers typically do not follow a standardized method. However, the following *typical practice* may be discerned by comparing the above procedure to the steps that arguably will be followed by many lawyers when analyzing a future situation. Generally speaking, a lawyer might typically (1) identify risks, then (2) *analyse* how the relevant law (or contract) regulates the issue at stake (*hypothetical application of the law*), and then (3) evaluate whether the legal outcome serves the interests of the client, concluding by (4) proposing to *treat* the risk with adequate measures. These measures could then be implemented by the lawyer's client, based on an informal cost-benefit assessment, which also takes the legal validity of the

However, this aspect must be left open for the time being.

measures into account. The key difference between the lawyer's assessment and the engineer's risk assessment lies in the fact that the lawyer typically does *not estimate the risk value*, that is, the likelihood and consequences of the risk. At most, the hypothetical application of the law will include an *estimation of a likely legal output*, which depends on legal uncertainty. However, this output is often not quantified in terms of consequences (e.g., financial) and a likelihood value.

Nevertheless, the above legal practice could be understood as a purely qualitative legal risk assessment method, which may be supported by some of the tools described in Section 0. In addition, it might in some situations even be useful and cost efficient to go a step further and *estimate risk values*, as it is practised in other disciplines' risk management methods. In the following, I will exemplify how a full-scale semi-quantitative risk assessment method could be used to assess the clauses of a contract.¹⁵

B. Example: contract risk assessment

The method discussed below is based on an adaptation of existing international standards for risk management to the requirements of a contract analysis. The relevant standards include the Australian Standard AS 4360/2004 and the currently available draft version of the upcoming ISO standard 31000, "Risk management – Principles and guidelines on implementation". The process of risk management is a continuous one, which is carried out through *risk assessments*. If we want to examine a contract in a formalized risk assessment, then some of the steps specified in the above-mentioned standards need to be adapted. This article may be complemented with literature on the use of the Australian Standard, which explains the details of the general process that cannot be sufficiently covered here.¹⁶

A contractual risk assessment can consist of the following steps:

- Specify the context, target and scope of the risk assessment. What exactly do you want to analyze?
- Identify risk, that is, describe possible events and legal decisions (legal cases), based

¹⁵ This section is based on T. MAHLER, 'How can we manage contractual risk?' *Contracting Excellence*, 2008, Vol 1, No 5, pp. 15-16.

¹⁶ STANDARDS AUSTRALIA and STANDARDS NEW ZEALAND, *Risk Management Guidelines Companion to Australian/New Zealand Standard AN/NZS 4360: 2004 (HB 436:2004)*, 2004. See also STANDARDS AUSTRALIA and STANDARDS NEW ZEALAND, *Legal risk management*, 2007.

on the contract clauses as applied to the contractual relation. Based on the contract clauses and the business context, what legal decisions may have an effect on the stakeholder?

- Estimate the likelihood and consequences (for example, monetary) of each identified risk. The estimation of likelihood should consider both the likelihood of facts and a relevant interpretation of the contract clauses.
- Evaluate the risks, distinguishing between acceptable risks and those risks that should be considered for treatment. This evaluation should be based on both the risk values (that is, high or low risk) and a suitable set of decision criteria.
- Consider how risks can be treated through practical measures or a suitable contract amendment.
- The decision about treatment implementation depends on a cost-benefit analysis.

Consider the following scenario. The management at an automotive supplier requests that a lawyer assess the general purchasing terms and conditions of a car manufacturer. Let us assume that the supplier's management has had positive experiences with risk management in other contexts, and suggests that the lawyer use a standard risk management method. The overall objective is to negotiate a side letter, containing more beneficial terms and conditions regarding those contract clauses that imply too much risk. As a preliminary step in preparing and negotiating this side letter, the lawyer has to clarify *how risk management can be applied to contract drafting*.

The idea of relating contracting with risk management is in itself not new, but there is relatively little literature on how contractual risk management should be carried out in practice.¹⁷ In the following, we will take a closer look at the steps introduced above as they relate to contractual risk assessments. The method has been applied in practical case studies, including the above-mentioned scenario, and is currently under evaluation.

1. Context, target and scope

Every risk assessment should start with specifying its exact scope and target, which in our

¹⁷ See in detail, T. MAHLER, 'The State of the Art of Contractual Risk Management Methodologies', in: H.

context needs to be related to the rules in a contract. Depending on the time available and the importance of certain issues, the risk assessment could *target* either the whole contract or selected parts of it. Of course, if parts of the contract are excluded from the formal risk assessment, they should still be assessed less formally outside the risk assessment. The *scope* of the assessment depends on the client's requirements to cover, for example, certain types of risks or to analyze a particular set of documents. It may be necessary to spend some time on establishing the *context* and describing what the contract aims to regulate. Preferably, this background information should be well-documented and available for review during the remaining assessment steps.

The quality of the risk assessment results depends to a large extent on the available experience about, and knowledge of, the domain in question. Typically, few individuals have a comprehensive understanding of all relevant aspects of a complex business contract. A lawyer is competent to analyze the contract clauses, but often lacks detailed operational knowledge. Similarly, technical experts may lack detailed information about the financial and legal consequences of technical problems. For complex commercial contracts it may therefore be advisable to carry out a contractual risk assessment with a suitable *inter-disciplinary team of experts*, covering, for example, legal, financial, technical, market and other perspectives.¹⁸ A lawyer with experience in risk management could lead the assessment if the main focus is on legal aspects.

Every risk analysis focuses on identifying events (including legal decisions) that may impact the client's objectives or key assets. Therefore, the assessment should specify what the client wishes to protect, by listing relevant *objectives* (including the protection of its *assets*). It is also useful to initially set out how risk will be documented and measured (for example, quantitative or qualitative *risk values*) and what *criteria* for risk evaluation the client wishes to use. Guidance on the latter questions is available, for instance, in literature on the use of the Australian Standard for risk management.¹⁹

HAAPIO (ed), *A Proactive Approach to Contracting and Law*, 2008, pp. 58-72.

¹⁸ However, the costs of such a comprehensive analysis will only be justified for exceptionally high-value or high-risk contracts.

¹⁹ See e.g. **STANDARDS AUSTRALIA and STANDARDS NEW ZEALAND**, *Risk Management Guidelines Companion to Australian/New Zealand Standard AN/NZS 4360: 2004 (HB 436:2004)*.

2. Risk identification

The second step consists of identifying the risks. In general, this involves identifying what, why, where, when and how *events* could impact the achievement of the organization's objectives or the value of its assets. In the context of a contract draft, we are particularly interested in legal decisions that are based on the contract text. Therefore, one possibility for risk identification is to analyze one clause at a time, seeking to find out *how each clause could lead to a legal decision that impacts the organization's objectives or assets*. In practice, this involves brainstorming about likely facts and subsequent decisions that could negatively impact the client's objectives. In this context, the risk identification also needs to consider the *interplay between different contract rules*, which may be relevant to a legal decision. For many decisions, several clauses need to be read in a suitable combination. For example, the contract may include a clause that obligates the supplier to pay consequential damages in case of delay. In order to assess the risk, the analysis of course also needs to assess what impact the applicable law and other relevant material may have on the rights and duties of the contract parties. The outcome of this step is a list and a description of possible future legal "cases", which should include a description of both the anticipated facts and the likely legal assessment thereof. Such "cases" may be either binding decisions by courts or other authorities, or the actor's acceptance of consequences, in recognition of the legal norms included in the contract or in the background law.

3. Risk estimation and evaluation

The analysis could subsequently make an effort to estimate the likelihood and consequence values for all identified legal decisions. The *consequence* value is an estimation, for example, of the monetary consequence of the legal decision. The *likelihood* value is an estimation of the frequency or probability of the decision. The likelihood of the decision may directly depend on the rules contained in the contract. Because the interpretation of the rules is not always certain, this uncertainty should be directly included in the analysis. The likelihood of the legal decision may thus depend on *likely facts* and a *likely interpretation of the contract*. For example, the analysis can combine the assessment of the *factual* likelihood of a delay with an estimation of

the *legal* likelihood of a particular contract interpretation that implies a payment obligation in case of delay. For example, the legal likelihood may be that it is unlikely that the contract can be interpreted to the effect that the client has to pay damages for delay. Likelihood values can be combined based on the basic rules of probability, which can not be covered in any detail here.²⁰

The combination of *likelihood* and *consequence* values renders the risk value, according to which the analyst can prioritize the risks. Subsequently, the team should *evaluate* which risks can be accepted, for example based on their low risk value, and which need be considered for treatment. This evaluation should be based on the client's risk appetite, the balance of risks and benefits in the contract and other criteria, for example, the degree of influence the client has on the manifestation of the event. However, great care has to be exercised with the use of risk values. If the empirical basis for the risk estimation is shaky, as will often be the case in the early phases of a contractual relation, then one should be even more cautious about understanding risk values as reliable and exact predictions of the future. Rather, the risk values should be used as one out of several relevant inputs in a discussion about adequate risk treatment measures.

4. Risk treatment and cost-benefit

The final phase focuses on how the identified risks can be treated. There are two key types of treatment of particular relevance to contracts. First, the risk may be treated by *practical measures* that ensure that a particular legal decision is less likely to happen, or will be less costly. Second, it may be possible to *amend certain contract clauses during contract negotiation*. For example, if the contract includes a clause about consequential damages in case of delay, and the risk analysis team considers that there is a risk that the supplier will have to pay a substantial sum in damages for delay, then the treatment options include both contract amendment (e.g. liability limitation or liability exclusion, the details of which depend on the applicable law) and practical measures to reduce the likelihood of delays. The choice among the treatment options depends on a *cost-benefit analysis*. The benefit corresponds to the anticipated effect of the treatment on the risk level. This benefit needs to be related to the estimated cost of implementing the treatment. The cost-benefit analysis thus results in a recommendation of actions to manage the identified

²⁰ For details see I. HACKING, *An introduction to probability and inductive logic*, 2001.

risks, which can be presented to the decision maker.

C. A methodological supplement

It is difficult to anticipate the potential role of the above introduced approach within the portfolio of proactive legal methods available to lawyers. Today, there is no standard way of analyzing risk in a legal context.²¹ While engineers, IT security experts and enterprise risk managers are increasingly using standardized assessment methods, we lawyers seem to use experience-based heuristics to manage complexity and risk. This established approach has worked well in the past, and we should be very cautious about replacing it. In fact, given the immaturity of methods for legal risk management, it is so far an unrealistic alternative for the daily practice of most practising lawyers. Structured legal risk management should *not replace* existing legal methods, but it could support and accompany existing approaches as a supplementary method. The above described semi-quantitative method for contract risk assessment could be used in a situation where:

- there is a need or desire to obtain a more comprehensive and detailed understanding of the risks inherent in a contract compared to a traditional non-formalized analysis;
- the contract text is stable during a sufficient time to carry out the analysis; and
- sufficient time is available for a detailed assessment — the necessary time depends on how selectively the assessment scope is chosen, but the required time for a detailed risk assessment could easily be several times the duration of a traditional contract analysis.

Legal risk management methods may be used for other purposes besides contract analysis. There are several incentives for adopting a structured approach to legal risk management. For example, in an enterprise risk management (ERM) assessment, the general counsel of a company may be asked to identify and estimate risks within his or her field of responsibility. In this case, the general counsel would need to follow the established ERM method to identify and estimate risk. The need for sufficient overall risk management in a company may subsequently require the law department to identify and estimate risk in their daily practice in order to be able to report consistently. The dynamics of the largely soft-law based trend towards ERM and its implications

²¹ MAHLER, *supra* note 17, pp. 58-72.

for legal practice are difficult to anticipate. In some countries, including Germany, some companies are already required by law to have consistent ERM systems. Such requirements could be extended in the future.

Similarly, a systematic approach to risk management may be requested by customers of legal services. For example, the handbook for legal risk management, issued by Standards Australia and Standards New Zealand, encourages its readers to request that their legal advisors follow a systematic risk management approach.²² However, a key problem with risk management is that it is rather time-consuming, costly and complex. Therefore, any success of the methodological approach may partly depend on adequate and efficient tools.

II. Tools for legal risk management

Risk management is cognitively challenging because the analyst and any other involved experts typically need to handle and take into account a rather complex set of statements about what may happen in the future, in addition to estimations of possibly dependent values of likelihood and consequences. Therefore, risk managers often use targeted software tools, which simplify risk identification, estimation, evaluation, treatment and, not least, communication. Of course, because enterprise risk management and financial risk management are carried out differently, they are supported by specialized tools — the same would have to be true for legal risk management.

How could the above introduced method for risk management be supported by tools? I will propose three complementary approaches, which could be implemented in combination or separately. The three approaches follow naturally from the risk management method. The keywords are (1) legal risk management *procedures and processes*, (2) support for the difficult tasks of risk identification and estimation, which may involve communication between lawyers and non-lawyers, and (3) the implementation within, or interoperability with, existing legal information systems. Moreover, all three types of tools or systems may cautiously introduce selected elements of automation.

²² STANDARDS AUSTRALIA and STANDARDS NEW ZEALAND, *Legal risk management* .

A. Legal risk management process and administration

Tools that structure, simplify and facilitate a coherent analysis are often used to support risk management in other fields. Typically, risk managers need to capture and document the identified risks, their values and potential treatments. These administrative functions are already available in existing risk assessment tools. A good risk assessment tool assists the risk analyst in carrying out the relevant analysis steps in a suitable order, and helps to document all results in a consistent way, ideally in a reusable fashion. However, existing tools are insufficient in a legal context, because legal aspects are typically not adequately integrated into these analyses. Moreover, most risk assessment tools are discipline specific and focus on financial, technical or other issues. Nevertheless, tools from other disciplines, in particular enterprise risk management, might be adapted or extended to support legal risk assessments.

B. Graphical tools to support risk identification and assessment

The second type of tools is likely to be more challenging than the above process and administration tools. Risk analyses often involve brain-storming activities in interdisciplinary groups of experts. This part of risk analyses is often rather difficult, because it requires (1) discussions and agreement about what may happen in the future, (2) the intellectually challenging estimation of probabilities and (3) the estimation of financial or other consequences of events. Different experts will often have diverging views about all of these aspects. This is arguably even more difficult if the risk estimation is not limited to the likelihood of “facts” but also includes the likelihood of “legal outcomes”.

For example, imagine a company that wishes to assess the risk of a particular technical failure leading to liability according to the clauses of a major contract, in the context of the applicable background law. In this example, an engineer would be able to estimate the likelihood of the technical failure, and a lawyer may need to be consulted when the legal consequences are assessed. In the same example, the risk analysis might also need to assess the legal and contractual consequences of market changes, e.g. major raw material price increases. In this case, it would be useful to convene lawyers, engineers and managers together, in order to discuss and

estimate the risk consistently. This clearly requires communication and mutual understanding of the others' disciplinary perspectives. Of course, such communication already happens, and is often successful. However, sometimes such communication may be challenging due to the different methods and concepts used by the different disciplines. Just imagine a meeting where the lawyer brings the customer's general terms and conditions of purchase, under which the product will be supplied (45 pages), together with a book about the applicable law. The manager or the chief risk officer presents a set of spreadsheets that include financial information and risk estimates. The engineer contributes a set of technical drawings and the results of the engineering risk analysis (e.g. a failure modes and effects analysis, FMEA). Such an imaginary, but not unrealistic, meeting illustrates the clash of intellectual concepts behind the different disciplines which need to participate in the risk assessment.

My (unverified) impression from talking to managers and engineers in several companies is that *such meetings often do not happen* at all. Instead, the manager would at best send an e-mail to the lawyer, who then assesses the contract separately, with limited or no regard to the business and technical issues at stake.²³ At worst, the lawyer will not at all be consulted by the decision maker, perhaps to avoid a delay in the contracting process or in anticipation of an incomprehensible and lengthy legalese statement, which is not related to the technical and business issues at stake.

This *communications problem* may be amongst the *causes* for Susskind's observation²⁴ that "legal problems of today are often symptomatic of delayed legal input". Susskind assumes that "earlier consultation should result in users understanding and identifying their risk and controlling them before any question of escalation." However, if communications problems are amongst the causes for *delaying* legal input, then these communication problems may need to be addressed by lawyers and their customers or colleagues. The difficult communication regarding identified risks, their estimation and treatment needs to be supported by a number of complementary approaches, including education, improved internal culture in an enterprise and, possibly, IT tools.

²³ Such an assessment is likely to follow the traditional method as introduced above, in the introduction to section 0. This may, of course, be sufficient for standard cases. However, if the issues are complicated and the law department or law firm has little experience with this type of business, more communication may be necessary.

²⁴ *Supra* note 1.

Tools for communication support should of course be inspired by solutions that have proved successful in other disciplines. In computer science, graphical models are often used in systems design and analysis to illustrate the intended functions of the IT system. The Unified Modelling Language (UML) is a graphical language used for visualizing, specifying, constructing and documenting the artefacts of a software-intensive system. The UML offers a standard way to write a system's blueprints, including conceptual aspects such as business processes and system functions as well as concrete features such as programming language statements, database schemas and reusable software components.²⁵

Visualization is an interesting approach in the legal context because some of the problems outlined above are not that different from the underlying analytical challenges of IT systems development, despite the obvious differences. IT systems development needs to deal with complex technical issues related to hardware and software, and the end product is essentially code, which may be unreadable by humans. This code has a mathematical and logical basis, but what counts is ultimately whether the IT system fulfils the users' requirements, i.e. whether the system works for and with human beings. The latter aspect is captured best in graphical models, which can be understood by non-experts who participate in the specification of the system requirements. Because the code may be illegible, one uses simple graphics to facilitate informed decision making during systems development.

Code is not an unknown concept for lawyers, as observed by Lawrence Lessig,²⁶ who refers to laws as "east coast code" and to technology as "west coast code". However, problems with the readability and understandability of code are treated rather differently in computer science and in law. This is obviously partly related to the fact that source code is not written in natural language and thus may be both *highly complex* and *very difficult to read*, while legal texts do use natural language. Legal texts may be *difficult* to understand for the inexperienced, but they should normally not be completely incomprehensible (even though there are sufficient examples of incomprehensible legalese nonsense).²⁷ Moreover, it cannot be neglected that

²⁵ For an introduction to the UML, see www.wikipedia.org. For more details, see **M. FOWLER**, *UML distilled: a brief guide to the standard object modeling language*, 3rd ed., 2004.. A comprehensive work is **J. RUMBAUGH, G. BOOCH and I. JACOBSON**, *The unified modeling language reference manual*, 2nd ed., 2004.

²⁶ **L. LESSIG**, *Code version 2.0*, 2006.

²⁷ An example can be found in **C. KESSEL and V. PASSAUER**, 'Einkaufsbedingungen in der Automobilindustrie' *Betriebsberater*, 1974, Heft 37.

understandability problems arise for completely different reasons. In most cases, “legalese” is used as a matter of tradition, and legal terms are used because of their specific legal meaning in the relevant legal community (as a *terminus technicus*). However, in some cases, the use of excessive legalese may even be employed as a strategy to inhibit the other party from understanding and appreciating its risks.²⁸ In any case, legal work also has to face the problem of code which is difficult to read, understand and evaluate from the perspective of risk. Nevertheless, lawyers have traditionally been reluctant to introduce (standardized) graphical models to understand, analyze and manage complex legal issues. There may be many reasons for this, not least the lack of availability of such graphical models. However, in addition there may be some underlying problems that could inhibit a modelling approach. Again, the *qualitative perspective* in legal reasoning may make it difficult to press law and justice into formalized and partly quantitative models. Even so, we cannot assess the potentials and limitations of graphical modelling for legal risk management before we have developed and tested such systems.

In risk management there is also an extensive use of graphical visualization methods to support risk assessments. For example, fault trees or Bayesian networks can be used to estimate the likelihood of a risk event. In the following I will sketch a possible approach for the visualization of legal risk. This is illustrated in Figure 1. The graphical models used here are based on the above introduced concepts of legal risk management, which are an extension of the ISO vocabulary for risk management.²⁹

The lower part of the figure is essentially a simplification and adaptation of the CORAS language for security risk assessment, developed by computer scientists and inspired by the UML.³⁰ This part of the figure reads as follows. The event *e* (described in the leftmost vertex), which has the estimated likelihood l_1 , leads to the effect *f* on objective *o* (described in the rightmost vertex). This effect on the objective can be quantified by the estimated values for likelihood l_3 , consequence *c* and their combination, *v*.

²⁸ However, e.g. under German law, the issuer of general terms and conditions “bears the risk” of including an unclear clause, since the courts are reluctant to reduce such a clause to a valid and clearer one, see BGH ZIP 2007, p. 31 = Betriebsberater 2007, p. 177.

²⁹ This paper is based on draft risk management vocabulary, see **I.S.O.**, *supra* note 8. The latter was chosen, rather than the currently valid version (ISO 2002), because it is likely that this draft will be adopted in the near future. Implicitly, I accept the risk that the ISO may deliberate differently.

³⁰ **F. VRAALSEN, T. MAHLER et al.**, ‘Assessing Enterprise Risk Level: The CORAS Approach’, in: **D. KHADRAOUI and F. HERMANN eds**, *Advances in Enterprise Information Technology Security*, 2007.

The upper part of the figure illustrates how the effect is achieved *because* a legal norm *n* is applied to the circumstances of the case, i.e. the event.³¹ The legal norm is derived from a legal source *s*, which may be any source of law or a contract. If there is uncertainty about the norm, then this uncertainty may also be expressed by adding likelihood value to the norm. This likelihood is in Figure 1 referred to as likelihood *l*₂.

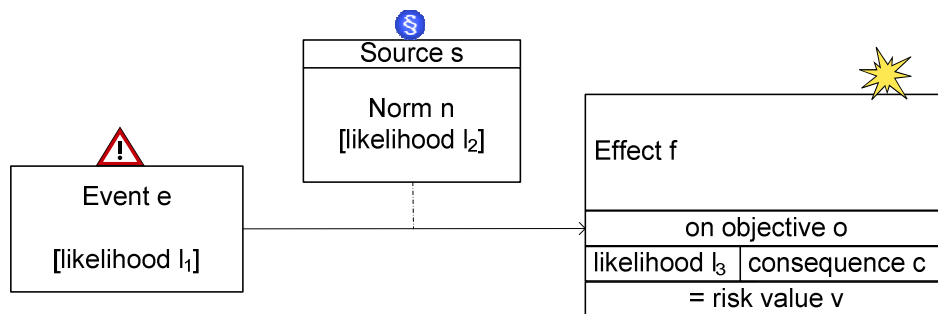


Figure 1 – Modelling legal risk

An example of a simplified legal risk diagram regarding a contractual obligation to pay consequential damages is provided in Figure 2 below. The diagram is meant to illustrate the following risk. In the unlikely event that a delivery is sufficiently delayed to result in loss of profit on the part of Buyer, Seller may decide to pay damages. The payment of damages is based on the contractual obligation to pay consequential damages, including loss of profit in cases of delay. The monetary consequences of the decision (a moderate consequence on the profits from this project) are a result of the identified factual event and the application of the legal norm to these facts. The likelihood of the decision depends on the likelihood of the initiating factual event, and the assessment of Seller's obligations in this event. The model in Figure 2 is simplified in order to illustrate the main features of the modelling approach. In particular, it would be possible to decompose the initiating event by adding further initiating events that contribute to

³¹ This part of the model is inspired by Toulmin's model of legal arguments, see **S. E. TOULMIN**, *The Uses of Argument*, 2003. For a critique of Toulmin's argument model, see **J. B. FREEMAN**, *Dialectics and the macrostructure of arguments a theory of argument structure*, 1991. The Toulmin scheme exists also in other variants, see **G. KREUZBAUER**, 'Visualisierung juristischer Argumentation', in: **E. HILGENDORF** ed, *Beiträge zur Rechtsvisualisierung*, 2005. The Toulmin approach has even been suggested as a basis for risk-based negotiation and decision support systems, see **J. ZELEZNIKOW**, 'Risk, negotiation and argumentation--a decision support system based approach', *Law, Probability and Risk*, Vol 1, No 1, p. 37.

the delay and to add further consequential events and decisions.

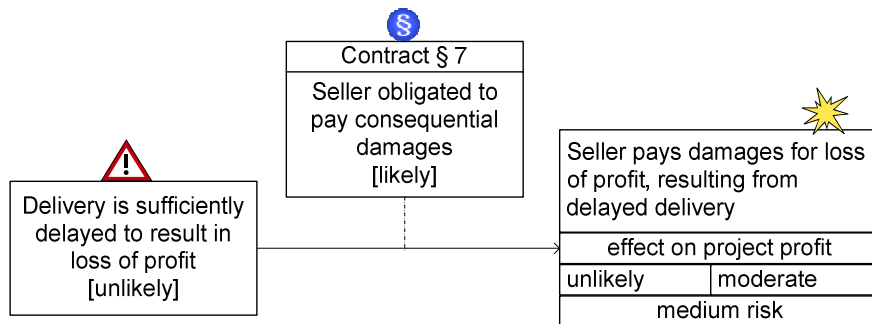


Figure 2 – The risk of obligation to pay damages for delayed delivery

The above examples are insufficient to conclude whether this preliminary graphical modelling language as such is useful. However, the diagrams are only included here as *examples* of graphical models that could support a legal risk assessment. This is a tentative suggestion rather than a comprehensive solution to our problem.

This modelling approach is intended for the type of interdisciplinary legal risk assessment meeting described above. A previous (and more complex) version of the graphical language was tested in a full-scale industrial case study. Of course, the models imply a significant need for simplification, and the risk of over-simplification. However, this is a necessary consequence of introducing a model. If our limited brain resources could deal with all aspects of a complex reality, both today and in the future, then there would be no need for modelling. However, because we have to take bounded rationality³² into account, some degree of selective simplification may in some situations be better communication rather than the full complexity of lengthy legalese documents. In any case, graphical models are not necessarily intended to be used instead of detailed legal analyses, but rather as an additional instrument to communicate a summarized result. If the output of a legal analysis is summarized in a concrete statement about

³² The concept of bounded rationality is used to question the assumption, made in traditional economics and other sciences, that humans can be reasonably described as ‘rational’ entities (for example in rational choice theory). Instead, bounded rationality theory seeks to account for the fact that perfectly rational decisions are often not feasible in practice due to the finite computational resources available for making them. This has also consequences for the way risks can be analyzed and described. For example, a recent article describes the communications problems when discussing medical risk assessments, and discusses ways for simplified and still correct presentation of a medical doctor’s risk estimates, see **G. GIGERENZER and A. EDWARDS**, ‘Simple tools for understanding risks: from innumeracy to insight’, *BMJ*, 2003; 327:741-744, doi: 10.1136/bmj.327.7417.741.

risk and available options to manage such risk, then this output may be better understood and more easily used and implemented by non-lawyers. A suitable graphical legal risk management tool could therefore provide a simpler interface between the legal analyses and the risk analyses carried elsewhere in the organization. Graphical models alone will not solve the problem of delayed legal input, but if successful they may be amongst the measures that can partly solve some of the communication difficulties during legal risk identification and assessment. This again might contribute to an increased and earlier consultation of lawyers, as intended by Susskind.

C. Risk management and legal information systems

Ideally, any support tool for legal risk management should be integrated or interoperable with a law department's information systems. Today, these include at least (1) legal information systems and (2) contract management systems.

First, law firms and law departments use a variety of legal information systems to retrieve legal information like statutory or case law, soft law (codes of conduct), contract templates and legal literature. Some systems already include a limited functionality for contract drafting, based on contract templates. Moreover, some of these systems already include modules which bare the title "legal risk management". The latter typically includes checklists or similar tools to support day-to-day legal work. One example of a risk assessment tool is a German tool on a set of CDs entitled "tool-box of international trade law", where the user of the "risk analysis tool" can retrieve information about particular legal questions relevant to international trade law, with respect to a number of jurisdictions.³³ This type of tool may thus be used to estimate the legal outcome of a standardized set of facts, which are relevant to international trade. However, the tool only focuses on providing rather limited information and thus only covers a minor part of the overall risk management process, and does not offer any support for risk estimation and evaluation in general. Nevertheless, legal risk management tools could in the future be integrated or made interoperable with relevant legal information systems.

The second type of system, which could be a candidate environment for legal risk

³³ VERWEYEN, FOERSTER and TOUFAR, *Tool-Box des Internationalen Warenkaufs UN-Kaufrecht (CISG)*,

management tools, could be contract management systems. In general, contract management is the administration of an organisation's contracts. Contract management includes negotiating the terms and conditions in contracts and ensuring compliance with these, as well as documenting and agreeing to any changes that may arise during its implementation or execution. Today, contract management is in many organisations still carried out in manual processes without dedicated systems. However, e-mail negotiations and paper archiving routines often lead to poor availability of contracts in an organisation. Contract management software promises to solve this problem. Contract management software is intended to support contract creation, to ensure the availability of contracts and to support contract analysis. There are different approaches to contract management, but most contract management systems today allow a selected number of users to upload and change contracts, which then are made available for other users in the company.³⁴ Currently, contract management systems seem to provide limited support for risk assessment. However, in the future, such functionality could and should be added to contract management systems. The contract management system could, for example, assist in assessing the risk in a particular contract text that was uploaded into the database. Moreover, once the risk is identified and assessed, the results of the risk assessment could be used as meta information about the contract, which is documented and available for future reporting and other uses. The identified risks may thus be monitored adequately. The identified risk may also be relevant for the analysis of other comparable contracts, where similar risks could be identified. Thus, it could become possible to consistently manage the risk present in a portfolio of contracts.

D. A cautious approach towards automation

Lastly, it may be possible to cautiously introduce selected elements of automation into legal risk management systems. The need for caution is based on the fact that risk management, at least in the legal domain, needs to involve a considerable amount of human judgement, which is difficult to automate. Nevertheless, it might be possible to use automated systems to support human judgement and analysis. A cautious approach to automation could imply the use of text

2008.

³⁴ A list of contract management software providers is available at the website of the International Association for Contract and Commercial Management, www.iaccm.org.

parsers, that is software for syntactic text analysis, e.g. to select rules that may be a source of legal risk. One option for automation could thus be that a tool extracts some of the conceptual notions³⁵ in legal texts, and makes the results available as a text paste option in a tool based on the above outlined graphical approach. Thus, the text “Seller obligated to pay consequential damages, including loss of profit” in Figure 2 could be extracted from the contract document, identified as an obligation and suggested as a text paste option in the diagram. This could save some time and improve consistency. Moreover, the transparency could be improved if the legal source quoted in the diagram could be made directly available as a link to the full-text version of the legal document.

III. Outlook

Although there are a number of potential benefits to be obtained through the introduction and use of methods and tools for legal risk management, we need to acknowledge the significant difficulties and obstacles.³⁶ For one, lawyers are not trained in risk management methods, and are used to a substantial methodological freedom for all tasks outside the interpretation of the law. Moreover, law is often open to interpretation and legal decisions are not always predictable from the outset, so most legal risk assessments need to deal with rather uncertain assessments. Legal risk assessments may, in addition, be rather time consuming and costly. Consider, for example, the possibilities of failure in a major commercial contract. The consistent analysis of all risks may be more costly than the potential improvement of the contract. Therefore, it may only be cost efficient to carry out a full-scale risk assessment for contracts that either have an exceptional value or that are sufficiently representative of other, similar contracts, so that the risk analysis results also are useful for those contracts that are not analyzed in detail. Last, but not least, clients may be less interested in paying expensive lawyers for a proactive legal risk assessment, compared to a situation in which a risk has already materialized and they necessarily have to face a major and costly legal problem. As a business model, legal risk assessment may therefore have

³⁵ C. BIAGIOLI, E. FRANCESCO, A. PASSERINI, S. MONTEMAGNI, C. SORIA, ‘Automatic semantics extraction in law documents’, *Proceedings of the 10th international conference on Artificial intelligence and law*, June 06-11, 2005, Bologna, Italy.

³⁶ See also WAHLGREN, *supra* note 7, pp. 133-145.

some limitations for law firms.

These obstacles and limitations need to be taken into account in any development of legal risk management methods and tools. Nevertheless, there is sufficient potential in legal risk management to justify further research. The real benefit of new methods and tools for legal risk management can only be verified by defining a method for legal risk assessment, together with initial tool support, and testing these in a suitable case study.