

CHAPTER 1

Samhandling Under Risk (SUR) – Theoretical Foundation as a Common Frame of Reference

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Abstract: The main objective of this chapter is to clarify some key and overall theoretical and conceptual frameworks underlying the research project “*Samhandling* Under Risk” (SUR), as discussed in the various chapters of this anthology. The overall research question is: What are the basic structures of the concept of *samhandling* under risk and how can *samhandling* be created when the conditions are unpredictable? This chapter explains in particular the terms “*samhandling*” (SAM), “the Unforeseen” (UN), “Risk” and “SUR structures”. Furthermore, these concepts are explored more deeply in relation to each other, which also frames the main approach of the anthology. As a basis, a specific understanding of “The Nature of the Unforeseen”, an expanded and customized Bow-tie Model, as well as a clarification of the boundaries enclosing the research field are compared to traditional risk analysis and training in what is already known and in dealing with probable threats. Although the individual studies reported in this anthology also have their own specific angles regarding these concepts and models, they have nevertheless been based on these. The core focus is also on learning in the light of organizational learning and SUR. The boundaries, challenges and the anthology’s focus on learning are also expressed in the more general and overall question: How can we as a society prepare ourselves for the unforeseen, the events and threats at the outer reaches of what we have trained for? A more in-depth explanation about the background of this research project is also given in the preface of the anthology.

Keywords: *Samhandling*, interaction, unforeseen, preparedness, resilience, risk, training, organizational learning.

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Background: Problem and purpose

This anthology focuses on *samhandling* (which equates with “interaction” or “collaboration”) under risk and unpredictable conditions (SUR), when little or nothing goes according to plan. Examples of this may be the terrorist acts that occurred in Norway on the 22nd of July 2011, the tsunami in the India Sea in 2004, nuclear accidents, cyber attacks or unwanted incidents in the health service. Crises like this hit suddenly and unpredictably, and the risk is high. In view of societal security and preparedness, threats and events in the outer limits of what has already been prepared for and trained must also be handled. However, both experience and studies show that it is often the interaction (*samhandling*) itself which fails in such situations (Bammer & Smithson, 2009). One of the main findings from the studies reported in the anthology *Pedagogy for the Unforeseen* (Torgersen, 2015) was that *samhandling* is one of the key processes for both the prevention and handling of unforeseen threats and incidents. At the same time, future research on societal security should not focus purely on previous crises or events. Next time a crisis emerges, it may be in a completely different area that requires a completely different type of knowledge, or other actions and reactions.

The present anthology is based on *samhandling* as a phenomenon under risk and unpredictable conditions. A challenge that this book aims to address is the creation of a bridge of competence between *samhandling* theory, the unforeseen and practical challenges that some industries and sectors may face under risk and unpredictable conditions. The question is thus, whether there may be some basic skills or knowledge structures that different organizations should emphasize in their competence development in order to be better at interacting (*samhandling*) under such conditions. The book’s overall research question is as follows:

What are the basic structures of the concept of samhandling under risk and how can samhandling be created when the conditions are unpredictable? Or, in a more concentrated form: What should be emphasized in order to achieve samhandling under risk and unpredictable conditions (SUR)?

Based upon this question, the anthology tries to drill in *samhandling* as a phenomenon related to different industries and disciplines. The purpose

of this work is to find out if any basic relational processes exist that can give us insight into being better at *samhandling* under risk (SUR), thus forming the approach to a more general, SUR-oriented way of thinking. The approach is interdisciplinary but with a special focus on disciplines such as pedagogy, psychology, health sciences, military science and organization and management, and further applied to various industries and sectors related to practical examples and challenges. In this work, a wide range of research methods have been used.

One way to go is to look back, learn from mistakes made in previous crises and unwanted events. This will provide an important competence basis. However, it is also necessary to try to develop new and other ways of thinking and action options that can be included in the overall competence basis. This is necessary to meet future crises and unforeseen events that can take new forms and frameworks, in completely new ways and different areas than before. Here, there is an improvement potential in relation to today's readiness, but this cannot be achieved using simple and quick, short cut solutions.

Interaction: "Samhandling" Under Risk. A Step Ahead of the Unforeseen is intended to be a research-based contribution to such knowledge. We have seen, all too often, that both research and experience reports from accidents and serious events only investigate the depths of mistakes, weaknesses and deficiencies or what makes a success, to a limited extent. Then the results are usually characterized by general and overall descriptions of current phenomena, where the measures are quantified to be more or less of something, such as *more* and better training on *samhandling* and *better preparation* for meeting unforeseen events. However, *what* should be trained using *which* educational methods is often overlooked or taken for granted, as if there are solutions to this from before, that can be easily picked up and implemented in practice. This is not the case. Such knowledge must be developed step by step and *samhandling* under risk is a contribution to this process.

In other words, the contributions of this anthology attempt to investigate profound processes or forms of knowledge that underlie the phenomenon of *samhandling*, especially under risk and unpredictable conditions. These factors are referred to in this anthology as "structures".

The structures that we believe should be emphasized to develop *samhandling* under risk are referred to as “SUR structures”. If we can identify any of these, it can provide better opportunities for developing knowledge in a more targeted and secure way, compared to developing the skills that are actually needed to be better at *samhandling* under risk.

The individual studies reported in the chapters of the anthology are based on such a foundation in their subject and problem areas, and present specific findings that can help these structures become clearer. In this way, they can form the basis for strategic leadership development, curricula and training plans, both specifically within the problem area and in general, related to the development of competence for SUR.

The final chapter in the anthology (Chapter 28) attempts to build more general and aggregated features of the SUR structures, primarily based on the different findings in the anthology, but also based on individual studies and findings. The aim is that these more aggregated SUR structures, together with the specific findings in the other chapters, can reveal what, in our view, should be emphasized to develop SUR oriented competence, both at individual, group and organizational levels. These structures must, however, be adapted, developed and integrated by the individual industry and translated into the tasks and challenges that the various industries specifically or potentially may face.

Frameworks: *Samhandling*, risk and the unforeseen

There are three key concepts that form a common frame of reference for this anthology. They are “*samhandling*”, “risk” and “the unforeseen” or “unpredictable conditions”. As a theoretical platform, the different studies in the anthology have been based on a common definition and understanding of these – as a starting point. However, that does not mean that the studies have been ruled by these. Understanding of concepts has formed a reference framework, as a research methodological approach, to channel this complex problem area into a manageable research area. Thus, each chapter has its own unique and nuanced understanding of

these concepts, adapted to the specific discipline, industry, and theoretical and methodological foundation. Current understanding beyond the general frame of reference is explained in the individual chapters, where it has been necessary to present the professional nuances in the best possible way.

The term *samhandling*

Generally speaking, theories of *samhandling* concern how relationships occur between people, what is needed for this to happen and what consequences this may have, possibly also with regard to technology, both on an individual, group, and organizational and social level. This may also include international (political) *samhandling* (Torgersen & Steiro, 2009, see also Chapter 2). The key issue is the consequences of such *samhandling*, or what is desired by the *samhandling*.

This anthology deals with *samhandling* in a more practical and situational framework than those found in general theories of social interaction, intergroup contact theory, intersubjectivity and symbolic interactionism, as we can see in the psychological and sociological interaction and interaction theories of, among others, George H. Mead (1934), Gordon W. Allport (1954), Herbert Blumer (1969), Alfred Schütz (2005), Peter Berger & Thomas Luckmann (1966), Émile Durkheim (2000/1895), Max Weber (Fivelsdal, 2002), Erving Goffman (1983) and last but not least, Robert Axelrod (1984; 1997). Such theories and models nevertheless underpin several of the chapters of the anthology, but it is not the purpose of this anthology to provide exhaustive descriptions of these.

In *Interaction: “Samhandling” Under Risk*, on the other hand, we focus specifically on knowledge and competence development related to the concept of *samhandling*, in the context of risk and unpredictable conditions, including more professions to solve common challenges. A similar link between *samhandling*, specific contexts and practice-oriented studies and cases is commonly referred to as “interprofessional cooperation” (Crawford, 2012; Barr et al., 2005). Studies of such complex phenomena require both close industry orientation, exploring the unique challenges of industry and their solutions, and interdisciplinary approaches. In this

anthology, we need to engage with the *samhandling* phenomenon in light of three thematic categories:

- (1) Education and training (educational structures);
- (2) Organization and leadership (organizational structures); and
- (3) Industry-oriented actions and operations (operational structures).

The term *samhandling* (SAM) is widely used in Norway, both by politicians and researchers, in connection with societal security, various reforms and sectoral activities, such as emergency preparedness, health and education. Collaboration is also focused on in supranational networks, such as the United Nations and the Organization for Economic Cooperation and Development (OECD). At the same time, the concept of *samhandling* is used both at the organizational, group and individual levels in connection with strategic management, competence management and training, including technology structures. Collaboration is thus engaged in, in all sectors and at all levels, in relation to how organizations can prepare for and handle unforeseen events.

However, *samhandling* is not self-evident and it does not occur in a vacuum. *Samhandling* is developed and built up by underlying relational processes or structures, between people, organizations and technology. Confidence and reciprocity are examples of underlying structures which may be necessary for *samhandling* (Brown, 2016; Stanton, 2011; Torgersen & Steiro, 2009; Siegrist, et al., 2007; Fukuyama, 1995). However, many studies on *samhandling* focus on its occurrence under predictable conditions, where the outcome does not necessarily involve risk. Examples of this may be *samhandling* at an office or meeting, or well-planned exercises and scenarios in connection with training. But what if the *samhandling* takes place in a risky situation and the conditions are otherwise unpredictable? How do these underlying structures behave and which of them are the most important for *samhandling*? Can different structures have different meanings depending on the phase of the sequence of events – prevention phase, during the event and the recovery phase? Such basic questions are addressed in this anthology.

Relational ambition level and conceptual choice

In this book, we have mainly chosen to use the Norwegian word *samhandling* as a term. A meta-analysis reported in the book *Leadership, Samhandling and Education in Flexible Organizations* (Torgersen & Steiro, 2009, see also Chapter 2), showed that the Norwegian concept of *samhandling* has many shades of meaning and theoretical modes, as well as several practical aspects that distinguish the phenomenon of *samhandling* from other Norwegian concepts, such as *samarbeid*, *samvirke*, *samordning*, *samspill*, *koordinering* and *teamarbeid*. The differences between these are mainly at the relational level of ambition, where *samhandling* is considered to represent the highest level of ambition (see Chapter 2). This means that it fulfils several more underlying processes than the other terms. Similar shades of meaning are also found in the English terms “(social) interaction”, “collaboration”, “cooperation”, “coordination”, “join forces with”, “joint action” and plain “teamwork” or “working together”.

However, none of the different concepts, neither the Norwegian nor the English, may be classified in a uniquely-defined hierarchical system or taxonomy. Here it is not the word or term in itself that is most important. Rather, what is crucial are the underlying processes and forms of knowledge that are defined within the term. The underlying processes create the level of ambition and these are important for practice. However, many people make use of these words differently, causing misunderstandings and different expectations with regard to the content of the term and the practical implications. Therefore, it is necessary to be aware of the specific term’s usage, not least where these concepts form the basis for competence development and concrete action under risk and unpredictable conditions.

Definition

In essence, we have assumed that the English word “interaction” represents one of the highest relational ambition levels. These English-language expressions equate, but are not identical in all cases, with the Norwegian term *samhandling*, as we have seen. Therefore, we have chosen to use the Norwegian verb although the book is written in English. We have also been encouraged to do this by our colleagues internationally, so

that they can also gain insight into the shades of meaning that we think are unique to the Norwegian concept of *samhandling* (see Preface). However, and we emphasize this, the choice has not been easy, as the English expressions in many cases correspond well. Nevertheless, we have chosen to do so, as it may generate further interesting academic and research discussions and analyzes when selecting terms for articulation of nuanced relational processes on complex phenomena (see SUR structures). For example, it may be associated with the development of curricula for training of specific skills in order to improve *samhandling* (see also Chapter 8), where specific areas of competence for training should be expressed and articulated in the plans as a basis for both planning, implementation and evaluation of human resource development. Another example of the need for such conscious and clarified conceptual use is the analysis, identification and conceptualization of specific experiences from events, which in turn form the basis for education and training.

As a starting point for most of the studies in this anthology, the following definition of *samhandling* is used:

Samhandling is an open and mutual communication and development between participants, who develop skills and complement each other in terms of expertise, either directly, face-to-face, or mediated by technology or manually. It involves working towards common goals. The relationship between participants at any given time relies on trust, involvement, rationality and industry knowledge. (Translated from Torgersen & Steiro, 2009:130.)

In Chapter 2, the background of this definition of *samhandling* is elaborated upon. Here, the concept of *samhandling* is also explained and compared with similar words and expressions in English. Nevertheless, there will be some chapters that do not use the Norwegian word, primarily for academic reasons, where the English expression best fits the meaning of content in light of professional traditions and articulation. In some contexts, there will also be some mixed use, where the author has felt that it best corresponds to the academic message they intend to convey. In other words, the concepts of expression and choice of expressions in regard to relational processes are made consciously throughout the anthology, where the main objective is to convey professional shades of meaning

and individuality in the best possible way. Thus, it has not been the aim to use the Norwegian word *samhandling* purely for the sake of the word. Professional nuances and precision in communicating the message have been the main intention throughout the anthology.

Risk and the unforeseen

There are a number of definitions of risk related to different contexts and disciplines (e.g. see Aven, 2014:230–232). In a more general societal perspective, we also find the risk concept associated with uncertainty and dangers related to social development often with the term “Risk society” (see in particular Beck, 1992; Nielsen, 2015). In the present book, the concept of risk is used broadly, with special focus on various types of risks and situations, and the concept that conveys the particular nuance is used in the chapters as necessary.

By “risk” we mean the superset of this anthology, that the outcome of an event that develops under unpredictable conditions may be uncertain or unknown. In consequence, the outcome is unwanted, potentially a risk to life, property, material or other perceived valuables, in general or in a given context. An uncertain outcome can also provide potentially positive and desired consequences, for example, in relation to learning in an educational context, which is not scheduled in advance. In such situations, it is important to seize opportunities to leverage situations for learning and/or desired purposes.

There is a close connection between the terms “risk” and “the unforeseen” (UN). The term “Black Swans” (Taleb, 2007), is often used as a metaphor for surprising and unexpected events. UN in our context is an overarching concept, covering underlying concepts with different shades of meaning, such as the “unpredictable”, “uncertain”, “unexpected”, “surprising”, “unknown”, “unimaginable”, “improbable” and “random” (Kvernbekk et al., 2015:31). As the main framework of this book, the following definition is used to describe UN:

A relatively unknown event or situation that occurs relatively unexpectedly and with relatively low probability or predictability to the individual, group or community that experience and handle the event. (Translated from Torgersen, 2015:30.)

The Nature of UN

“Relatively” is the core part of the definition. An unforeseen event will depend on viewpoint or perspective. An event could occur which is unforeseen for some actors (e.g. society or emergency services), but which is expected and planned for by others (e.g. the terrorist act on 22nd July 2011 at Utøya and the Government quarters in Oslo). An unforeseen event can be described in three different time dimensions: (1) Chronological time, where the event develops in a causal timeline from the first sign of danger (which is/is not identified or ignored), maybe via possible barriers, to an event (UN-0). This way of thinking means that, expressed objectively, there are no such things as unforeseen events – only signs of danger which are not perceived; (2) Messianic time, where the event is perceived to occur without any forewarning; and (3) UN-0, expresses the exact moment when the event occurs and the time immediately following. All events in the two last dimensions will be perceived as unforeseen – especially in UN-0 – as they happen immediately and surprisingly. Those who are experiencing the event will, though, as times elapses, gather information and connect it to former experiences that can indicate the event’s content and possible further progress.

These three time dimensions are key bases for developing training for unforeseen events. When training for UN-0, it is important to focus on the ability to register details during chaos, also called “holding the space”, for concurrent learning and sensing the present.

Degrees of the UN

These are based on Kerwin (1993) and Bammer et al.’s (2009:293) concept of “different knowns and unknowns” related to the concept of uncertainty, primarily from a categorical perspective, such as “known unknowns” and “unknown unknowns”. However, in light of our perspective on UN, a more continuous principle is established. Unforeseen events can neither be “totally unknown” nor “totally known”. However, an event may be close to the unknown from previous similar incidents. Brand new forms of cyber attacks can be an example (Boe & Torgersen, 2018). Such events can be found in a continuum between these fixed extremes, denoted by the “continuum field”. Overall, an unforeseen event is divided into five

main categories or continuum fields – within a degree of (Torgersen, 2015): (1) relevance (to the target audience); (2) probability (of occurrence); (3) how known or prepared the target audience is in advance; (4) warning signs (scope/number); and (5) warning time (for given/identified warning signs and exercises, i.e. unannounced exercises). All of these factors will contain a different degree of the unforeseen. Thus, they are key factors as bases for the planning of learning and training for the unforeseen and can be included as part of the script and varied during training. UN-oriented training has three didactic approaches: (1) intended (known to the directing staff – unknown to the participants); (2) spontaneous (unknown to all, e.g. in a learning/training situation, to be productive elements); and (3) hybrid (planning for possible spontaneous and unannounced situations that are explored in other intended scripts).

UN, SUR and the Bow-tie Model

As a starting point for the analysis of the term “unforeseen” and unpredictable conditions, this anthology is based on a modified bow-tie model (Figure 1). The modified model was developed in Torgersen (2015), based on similar models used in traditional risk analysis (Cruz, Peters & Shevchenko, 2015). The present model focuses on three main phases related to the development of a serious event: preparation, identification

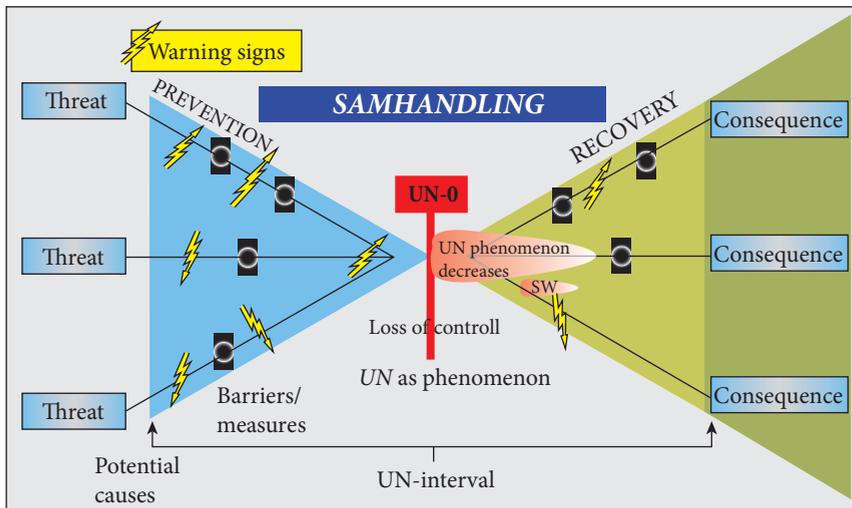


Figure 1.1 “UN SUR Model”, Unforeseen (UN) - Samhandling Under Risk (SUR) Model.

of hazard signals and development of barriers (Prevention, Phase 1), occurrence of unforeseen event or accident (UN-0, Phase 2) and action/stabilization (Recovery, Phase 3). In Torgersen (2015), different types of competencies were required in each of these phases and, thus, different educational arrangements for training and exercises for the three phases were also necessary. This model can also be used more generally to describe a course of events that does not necessarily involve risks with dangerous, harmful or unwanted outcomes. The model (Figure 1) is used as a common reference model in the anthology.

Temporality is an important relationship in the context of UN (Aven, 2014; Kvernbekk et al., 2015). This is because the UN crosses the time span between past, present and future. The model shows that if any threats pass the existing barriers, an accident or dangerous event may occur as a consequence (UN-0). This may in turn cause new events to occur (SW – Sidewinders), while others may be stopped or reduced through the actions or barriers that are imposed along the way. After that, the situation stabilizes again. After such events, experiences can be summarized and lessons learned that can be translated into new practices to prevent similar events later.

In the UN SUR Model in Figure 1.1, the UN is presented as a phenomenon of the temporal structure. Here, we call the time span from danger signals being recorded until the event is stabilized, a “UN interval”. This range shows that “unpredictable conditions” do not only occur at one point but may occur and vary, taking different forms along the way, in a longer course of events within the range. Statistical thinking and probability theory tell us that the more information we gather in the phase before the event occurs, the easier it will be to predict correctly whether the event will occur or not. If the event is completely unpredictable and comes surprisingly and unrecognized, the UN interval will be shorter and extend from the time the event occurred until we have gathered sufficient information to feel we have understood or managed to stabilize the situation. An event is no longer unforeseen once it has occurred. However, the range can be drawn out because some events are of such a nature that they last for an extended period and because they can launch causal chains where the consequences are also unforeseen:

But the more overview and information we have about both the incident and the consequences, the more familiar and clear the situation will be, and then we move from the unforeseen to, if not the foreseen, then at least the familiar or something that has been seen before. Information that is tabled along the way during the event can thus contribute to the development of well-considered hypotheses about the immediate future of the event, which is, of course, particularly important in cases where we must learn quickly. In narrative theory this is called “memory of the present”. (Translated from Kvernbekk et al., 2015:50.)

Thus, concurrent learning is essential for both coping with unforeseen events and utilizing *samhandling* for this.

The field model of SUR and UN

Figure 1.2 illustrates the main framework for SUR and UN research, and this book’s approach is on vulnerability and threats related to situations and events occurring in the unforeseen field (outer field) and of what society and different sectors are already prepared for and have trained for (inner field). “Basic capabilities” means skills, procedures and equipment to prevent and handle events that are already known and which will occur with high probability. This must be at the base (as a foundation),

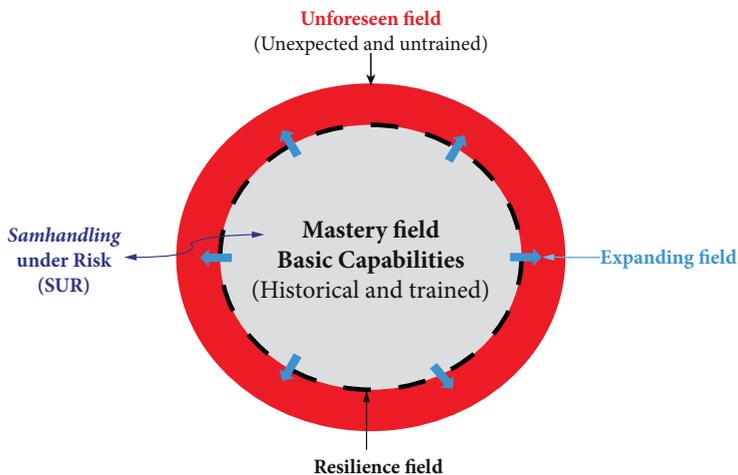


Figure 1.2 Core areas of competence development for *samhandling* under risk and unpredictable conditions (SUR).

trained and practiced, and the vast majority of sectors and emergency rooms have very good control over this competence. That's why they are successful in many cases.

On the outer edge of the mastery field lies *resilience research* (see Hollnagel et al., 2006; Hollnagel, 2014), which also aims to develop barriers and “resistance” towards unwanted events. However, the basic principle here is the focus on events that may occur, that is, assessments based on the frequency of past events and the likelihood of what might happen to the areas in which the assessments apply. There is no barrier or competence here to prevent or master events that are far beyond likely events.

Outside this field, in the outer boundaries of what society can be prepared for, lies the UN field. The core is to investigate challenges and what is needed to express the full potential of *samhandling* in unpredictable risk situations, especially when many actors are involved. These may be situations related to terrorism, natural disasters, nuclear accidents, school shootings, unwanted events in the health sector, but also in sudden challenges that occur at large gatherings of people, such as festivals and sports events. However, unforeseen events can also happen to smaller groups, individuals and in everyday life in general. There may also be situations that do not endanger life or material goods, but where development does not happen according to plan, for example, in the educational context.

This book aims to investigate and identify findings that can contribute to better expertise in the UN field. At the same time, the outer boundaries, DU field, will decrease. That is, what previously belonged to the DU field can eventually be incorporated into the inner fields. Formulated in another way, the goal is to practice the skills to handle unforeseen events and make *samhandling* at risk more familiar and internalized within the organizations, as part of the basic capabilities. This is illustrated in Figure 2 as the “expanding field”, which should continuously expand in terms of competence for *samhandling* under risk and unpredictable conditions, until this becomes part of the mastery field, i.e. that which is already mastered, able to be managed and can be trained thoroughly and concretely. However, and this is very important, at the same time, the competency perspective must also be focused on in the development and training for events and situations that are in the UN field and the kinds of skill

structures and underlying processes that need to be trained should also be included, as this book particularly focuses on. There are, therefore, continuous development processes and competence exchanges in and between these fields. It is essential that these do not stop or stop working on the development of knowledge even if something is felt to be within the field of mastering. Competence structures for *samhandling* under risk and unpredictable conditions will be present in *all* fields, but are emphasized in the UN field. The chapters and findings in this book also include this approach. The last chapter, however, has a particular focus on competence structures for the UN field.

The unforeseen and organizational learning

A traditional view of the unforeseen is that there is always something unplanned, unexpected or unforeseen that happens and it is impossible to build competence and prepare for every possibility. This view is often found in experience reports in the case of accidents, terrorism and other serious incidents, and is then often linked to causality in the development of the event, for example, where danger signals have been overlooked or ignored. Thus, UN is used as one of the reasons why emergency preparedness or barriers failed to prevent the incident from occurring or developing unwanted consequences or injuries. In other words, “the unforeseen” may be used as a legitimate reason for the occurrence of events that it has not been possible to plan for or take action to prevent.

This book attempts to develop a somewhat different basis and approach to unforeseen events. The essence of this thinking is that, to some extent, it may be possible to develop skills to prevent and handle unforeseen events. In the scientific anthology *Pedagogy for the Unforeseen* (Torgersen, 2015), this view was also discussed, both through theoretical analyzes and empirical studies, that it is possible to take a step further in developing the competence to understand the nature of unforeseen events and, not least, that it may be possible to develop the understanding horizon and the competence basis for this. At the same time, it is imperative that this approach is not merely understood as the equivalent of having a toolbox with completed measures. Instead, it is a knowledge-based vision that

is based on continuous efforts, with both basic research and systematic competence development within organizations.

Some previous models for organizational learning have also attempted to incorporate unforeseen events. An example of this is the SECI model of knowledge creation in organizations (SECI: socialization, externalization, combination and internalization), developed by Nonaka & Takeuchi (1997). The core of this model is that competence in an organization is developed through a dialectic process (or spiral) between different actors, organizational levels and forms of competence, especially in the relationship between tacit and explicit knowledge. In a research interview, Ikujiro Nonaka expresses the following:

“I use the example of a strategic planning method – the PDCA [Plan-Do-Check-Act] cycle. This cycle starts with planning, but in reality there is always something unplanned, unexpected, and/or unforeseen that happens. It is impossible to prepare a contingency plan for every possibility. In other words, ambiguity, chaos, fluctuation, and uncertainty are the given conditions that we have to cope with. This is why we propose the SECI spiral. Socialization is about empathizing with reality, and Internalization is about learning by doing. In short, the SECI spiral embraces ambiguity, chaos, fluctuation, and uncertainty. In addition, we even promote what we call “creative chaos” to further embrace diversity. Difference makes differences.” (Kawamura & Nonaka, 2016:648).

However, such models focus on competence or knowledge in an overall perspective, with less interventional measures to develop concrete *samhandling* skills to meet unforeseen events. Conversely, this book tries to identify and concretize more specific areas of competence that can assist in developing *samhandling* skills under risk and unpredictable conditions, through the studies presented in the chapters and primarily based on a concept of communication at a high relational level of ambition (see Chapter 2).

Structure: Four sections of the anthology

The thematic approach to the anthology is both industry-oriented, sector-oriented and cross-sectoral. Most chapters emphasize the use of

concepts, problem areas and examples from within individual industries and agencies/sectors, but also draw lines from overall and cross-sectoral approaches. The anthology presents 28 research studies on SUR (including Chapter 1) and these are organized in four sections, with chapters that focus mainly on concepts and educational perspectives linked to SUR in Section I, chapters that focus mainly on organizational and leadership approaches in Section II, and chapters describing experiences from SUR in different sectors in Section III. Section IV consists of the last chapter (28), based on the main findings from all the previous chapters, and deriving the essence of a basic theory for SUR, showing general structures that should be emphasized to achieve SUR.

Section I (Educational *Samhandling* Structures, Chapters 1–9) introduces research that focuses on the concepts and challenges involved in considering *samhandling* as a separate phenomenon in general and in the light of competence and under unpredictable conditions in particular. This is important for learning and improvement processes, including educational and didactical models for SUR.

Section II (Organizational *Samhandling* Structures, Chapters 10–18), presents research focused on different aspects of leadership, innovation, learning and organization in relevant industries, agencies and emergency management, highlighting different research methods, aspects and shades of meaning regarding the concept of *samhandling* competence under unpredictable conditions.

Section III (Operational *Samhandling* Structures, Chapters 19–27), introduces research focused on findings and concretizing challenges in connection with the concept of *samhandling* in operational and practical relationships, different industries and sectors within society, including the defense sector, health sector, emergency preparedness and anti-terrorism.

Section IV (Theory Construction and The Way Forward for Further Research, Chapter 28), aggregates experiences and findings from all chapters of the book. A number of SUR structures are derived from semantic theory construction. These are described in an overall definition and visualized in a model, which in turn, can form the basis of a SUR theory. Extended learning and educational models will contribute to achieving

this. Further SUR research is needed and one of the ways forward is the global perspective, where different languages and cultures can contribute to a better understanding of SUR issues.

The division into the three sections entitled educational, organizational and operational is not only done to create three professional approaches or “lenses” regarding SUR. Neither is the sequence of these sections random. The sections and sequence are based on fundamental pedagogical thinking about forms of knowledge and cycles of competence and education in organizations (Torgersen & Steiro, 2009; Saeverot, 2017). The core is that learning perspectives, knowledge structures and articulation (identification and conceptualization) of underlying processes for more general, competence-related phenomena (in this case, *samhandling*) and the dissemination of these (Section I – Educational Structures) in a given context (in this case, SUR) should be of importance to the institution. That is, the choice of management strategies and organizational structures, and how competence development should be organized within an organization (Section II – Organizational Structures). It may also be important for practical exercises in a given context (Section III – Operational Structures). Experience and evaluation of this flow will then form the basis for adjustments and improvements in a new cycle. The corresponding cycle and competence gap is also found in the competence-based, quality assurance model “Competence Assurance Framework” (CAF) developed by Skjerve & Torgersen (2007). CAF is based on theoretical models of competence chains and planning of learning and competence evaluation in organizations.

In practice, however, both the sub-elements and structures in these three sections are interrelated and the sequence or flow is interdependent and integrated. The theoretical division into sections and sequence must not be perceived as absolute, causal or categorical. However, this theoretical model of thinking has formed the basis for the sequence of the sections of the book and the selection of the chapters in each section. Apart from Chapters 1 and 2 (in Section I) and Chapter 28 as the last chapter of the book (Section IV), there have been no special academic or educational reasons for the sequence of chapters within each section.

References

- Axelrod, R. (1984). *The Evolution of Cooperation*. New York: Basic Books.
- Axelrod, R. (1997). *The Complexity of Cooperation*. New Jersey: Princeton University Press.
- Allport, G. W. (1954). *The Nature of Prejudice*. Cambridge, Massachusetts: Perseus Books.
- Aven, T. (2014). *Risk, Surprises and Black Swans*. New York: Routledge.
- Barr, H., Koppel, I., Reeves, S., Hammick, M. & Freeth, D. (2005). *Effective Interprofessional Education. Arguments, Assumptions & Evidence*. London: Blackwell Publishing.
- Bammer, G., & Smithson, M. (Eds.). (2009). *Uncertainty and Risk: Multidisciplinary Perspectives*. New York: Routledge.
- Bammer, G. Smithson, M. & the Goilabri Group. (2009). The Nature of Uncertainty. In: Bammer, G., & Smithson, M. (Eds.), *Uncertainty and Risk: Multidisciplinary Perspectives*. New York: Routledge.
- Beck, U. (1992). *Risk Society: Towards a New Modernity*. London: SAGE Publications Ltd.
- Berger, P. & Luckman, T. (1966). *The Social Construction of Reality*. Garden City, New York: Anchor Books
- Blumer, H. (1969). *Symbolic Interactionism: Perspective and Method*. Englewood Cliffs: Prentice Hall.
- Boe, O. & Torgersen, G. E. (2018). Norwegian “Digital Border Defense” and Competence for the Unforeseen: A Grounded Theory Approach. *Frontiers in Psychology*, 9(555). doi.org/10.3389/fpsyg.2018.00555
- Brown, P. (2016). Trust and Risk. In: Burgess, A. et al. (Eds.), *Handbook of Risk Studies*. London: Routledge.
- Crawford, K. (2012). *Interprofessional Collaboration in Social Work Practice*. London: Sage Publications Ltd.
- Cruz, M. G., Peters, G.W. & Shevchenko, P.V. (2015). *Fundamental Aspects of Operational Risk and Insurance Analytics: A Handbook of Operational Risk*. New Jersey: John Wiley and Sons, Inc.
- Durkheim, É. (2000/1895). *Den sociologiske metods regler [The Rules of Sociological Method]*. Copenhagen: Hans Reitzels Forlag.
- Fukuyama, F. (1995). *Trust. The Social Virtues and Creation of Prosperity*. London: Penguin Books.
- Goffman, E. (1983). The Interaction Order. *American Sociological Review*, 48(1), 1–17.
- Hollnagel, E., Woods, D. D. & Leveson, N. (2006). *Resilience Engineering: Concepts and Precepts*. Boca Raton, Florida: CRC Press.
- Hollnagel, E. (2014). *Safety-I and Safety-II: The Past and Future of Safety Management*. Farnham, UK: Ashgate.

- Kerwin, A. (1993). None too solid: Medical ignorance. *Knowledge: Creation, Diffusion, Utilisation*, 15(2), 166–185.
- Kvernbekk, T., Torgersen, G.E. & Moe, I. B. (2015). Om begrepet *det Uforutsette* [About the construct of *the Unforeseen*]. In: Torgersen, G. E. (Ed.), *Pedagogikk for Det Uforutsette* [Pedagogy for the Unforeseen]. Bergen: Fagbokforlaget.
- Nielsen, T. H. (2015). Det uforutsette i risikosamfunnet [The unforeseen in the risk society]. In: Torgersen, G. E. (Ed.), *Pedagogikk for Det Uforutsette* [Pedagogic for the Unforeseen]. Bergen: Fagbokforlaget.
- Nonaka, I. & Takeuchi, H. (1995). *The Knowledge-Creating Company*. New York: Oxford University Press.
- Mead, G.H., 1934. *Mind, Self and Society*. Chicago: Chicago University Press.
- Saeverot, H. (2017). *Pedagogikkvitenskap* [Pedagogical Science]. Bergen: Fagbokforlaget.
- Schütz, A. (2005). *Hverdagslivets sociologi: En tekstsamling* [The Sociology of Everyday Life: A Text Collection]. Copenhagen: Hans Reitzel Forlag.
- Siegrist, M., Earle, T. C. & Gutscher, H. (Eds). (2007). *Trust in Cooperative Risk Management*. London: Earthscan.
- Skjerve, A.B. & Torgersen, G. E. (2007). An organizational-pedagogical framework to support competence assurance activities. In: Aven, T. & Vinnem, J. E., *Risk, Reliability and Societal Safety*. London: Taylor & Francis Group.
- Stanton, N. (Ed). (2011). *Trust in Military Teams*. Burlington: Ashgate.
- Taleb, N. N. (2007). *The Black Swan: The Impact of the Highly Improbable*. London: Penguin.
- Torgersen, G. E. (2015). *Pedagogikk for Det Uforutsette* [Pedagogy for the Unforeseen]. Bergen: Fagbokforlaget.
- Torgersen, G. E., & Steiro, T. J. (2009). *Ledelse, samhandling og opplæring i fleksible organisasjoner* [Leadership, Samhandling and Education in Flexible Organizations]. Stjørdal: Læringsforlaget.
- Weber, M. & Fivelsdal, Egil (Ed.). (2002). *Makt og Byråkrati* [Power and Bureaucracy]. Oslo: Gyldendal.