

The Legitimacy of Safety Management Systems in the Minds of Norwegian Seafarers

B. Vandeskog

Stord/Haugesund University College, Haugesund, Norway

ABSTRACT: All seafarers I have met are concerned with their own safety and all serious shipping companies, national regulatory authorities, unions and larger shipping clients work to improve safety at sea. Formalised risk management systems are at the heart of these efforts, and there is good reason to believe that they have been very successful. One would therefore expect that seafarers had a positive attitude and were committed to their implementation. Empirical data suggests the opposite. During observational fieldworks over the last two and a half years, on eight different ships in Norway, Australia and Malaysia, not one of the observed seafarers expressed mainly positive opinions about the safety management systems imposed on them. The great majority of seafarers whose opinions have been recorded expressed massive negative sentiments. Assuming a Weberian perspective this paper explores how the bureaucratic implementation of such risk management systems may contribute to this picture.

1 INTRODUCTION

This paper assumes that everyone concerned with risk and safety at sea share the same overarching goal: To reduce the risk of accidents and harm, and to increase the safety of every person involved in, or affected by, shipping. Systematic efforts to increase safety at sea began one hundred years ago, and for a long time the greater majority of researchers and safety-professionals agreed on how to achieve it: Through scientific identification of risk factors that could be translated into formal procedures to mitigate them. Recently, however, this consensus has broken and a fundamental tension has developed between those who still see proceduralisation as the only or optimal way to manage and minimise risk, and those who believe some aspects of proceduralisation may generate other, and possibly more, problems and risks than it solves. Operative personnel have given voice to this view for many years (see e.g. Almklov,

Rossnes and Størksen, 2014; Knudsen 2009; Lamvik, Bye and Torvatn, 2008) and members of the research community are increasingly hearing their voices. With the ontology "Trapping safety into rules" (Bieder and Bourrier Eds 2013) the combined voices from below and the sideline can no longer be kept at the periphery.

The critique of procedures should, however, not be understood as a deviation from the common goal: To reduce risks and enhance safety. On the contrary, this critique is an opportunity to open up for inquiries into how even the best intentions, and the tools that initially carried such great promises, may have unintended consequences. Neither should the critique be understood as an attack on procedures and part of a strategy to get rid of them. There can be no doubt that procedures are effective tools that have been successfully applied to reduce the risk of accidents in many fields. As an example the number of work

related personal injuries in Norwegian waters and on Norwegian ships fell from almost 1300 per year in 2000 to just over 200 in 2010 (Sjøfartsdirektoratet 2011). The Norwegian Maritime Directorate who wrote the report argues that this reduction is a direct result of rational risk and safety management systems.

Just as there can be no doubt that seafaring is a dangerous profession (Oldenburg, Bauer and Schlaich 2010) there should be no doubt that seafarers in general take safety seriously. Considering the successes of formal safety management systems (SMS) in making life at sea safer one might therefore expect that seafarers in general had a positive attitude to them, and were committed to their implementation. This does not appear to be the case, however. During observational fieldworks over the last two and a half years, on eight different ships in Norway, Australia and Malaysia, not one of the observed seafarers expressed mainly positive opinions about the safety management systems imposed on them. On the contrary, the great majority of seafarers whose opinions have been recorded expressed massive negative sentiments about them. Seafarers' strong dislike of the tools that purports to make their lives at sea safer appears at odds with what might be expected and is also at odds with the intended outcomes of these management systems.

This article begins with a description of the fieldwork by which the data was collected, as well as a presentation of the data supporting the claim that the observed seafarers dislike the formal safety management systems. It then argues that this dislike represents a crisis of the legitimacy of the SMS in the minds of seafarers. Building on Webers theory about the legitimacy of 'orders', it argues that a formal safety SMS is a type of 'order' that is at odds with the types of 'orders' that traditionally have existed on ships and therefore cannot draw on the sources of legitimacy that traditionally have justified 'orders' at sea. In addition the process of introducing formal safety management systems have failed to draw on emotional and rational sources of legitimacy that possibly could have justified them.

2 FIELDWORK

The data upon which this article is based was collected during eight anthropological fieldworks on eight different ships, with eight different crews between June 2012 and July 2014. Two coastal container vessels, three PSV's, two AHV and one AHV that did a supply run and IMR (Inspection, maintenance and repair) when I was on board. The fieldworks lasted three to eight days; six took place offshore Norway, one in Australia and one in Malaysian Borneo. In addition I have talked with a large number of seafarers when I have met them in various on-shore settings like conferences, visits at shipping companies, meeting seafarers at airports etc. I have mainly spoken with and observed Norwegians, but also one Australian crew, a Ukrainian/Russian crew, officers of Swedish, Polish, Hungarian and Dutch origins, AB's from the Faeroe Islands, Philippines, Malaysia and Finland. This is obviously

not a representative selection of all seafarers, and it may be that other seafarers from other places have different opinions about the formal SMS they have experienced. Wide generalisations from my material to all seafarers can thus not be made. However, my observations so far have left a very solid impression with no exceptions; all my informants were, to a greater or lesser degree, negative about formal safety management systems as they perceive and understand them. This observation is valuable in its own right, and here I present how this negativity is expressed. Thereafter I will discuss the limitations of my findings.

Two and a half years ago I was new to the field of nautical studies and merely wished to learn about life at sea. When entering into a new field social anthropologists commonly adopt an exploratory method in order to let the phenomena at hand inform the research question rather than beginning with a fixed problem to solve. The initial research questions were therefore not linked specifically to safety or risk management and did not aim at discovering or uncovering anything in particular about safety discourses and practices, safety managements systems, non-compliance etc. The safety topic soon became salient, however. Signs, posters, safety policies, safety meetings, risk-assessment meetings, toolbox meetings and talk of such meetings were ubiquitous. Initially I did not prompt questions about risk and safety, but listened to what seafarers said about it and observed how they behaved when doing potentially dangerous jobs. Gradually I became aware that the discourse about the safety management systems among operative seafarers is generally very negative. This negativity is very different from, and strongly opposed to, the discourse communicated through procedures, posters and signs. Gradually I began to ask explicit questions about this topic.

A very common complaint was that the amount of safety and risk management rules and procedures is unmanageable. Only a few days ago I accidentally met eight seafarers at the local airport who were on their way to their various ships. I knew one of them from a previous fieldtrip and he asked me what I was working on. When I said "Seafarers opinions about the safety management systems", all of them instantaneously said that it has become horrendous and that the amount of procedures and paperwork is the greater problem.

Seafarers frustrations over the large volume of safety rules and procedures frequently also highlighted the self-contradictory nature of the documentation involved, e.g. claims that it actually reduces safety rather than increase it. A captain told me that when he enters and leaves a specific port where the sailing is particularly difficult he is made to fill in a number of papers. In addition to safety management paperwork he has to deal with various officials and clients; and do other kinds of paperwork too. It is not possible for him to keep the schedules set by the company and also get the amount of rest that the safety management system requires. And still, as they leave the port he has to do yet more paper work, fill in more checklists where the last of the checks asks if he has had enough sleep. He stated that everybody who knows that port, and the tasks that a master must do, knows that the answer is "NO" and that all

masters tick "YES". "Everybody knows the exercise is a sham, and it would be better if the master had gone to bed rather than fill in that form at that time", he said.

Another officer told me about a checklist for navigating at night. In order to complete it he must put on the light, thus ruining his night vision. One of the questions on the checklist is if he has had ample time to adjust his eyes to the dark. Obviously he has not because he had to turn on the light and destroy his night vision in order to do his duty and fill in the form. He must tick "YES" however, or else risk being held up for non-compliance.

I have also observed that specific SMS requirements may lead to unsafe behaviour. On one trip we left the harbour in thick fog. The officer on duty suddenly remembered that the client required that they perform a risk assessment/toolbox meeting under such conditions and quickly assembled the bridge crew at the back of the wheelhouse. They had to record and tick off that such a meeting had been held. The meeting only took 10 minutes, but during this time no one kept watch and no one operated the horn, in direct violation of standard rules and good seamanship.

On another ship the cook had a minor accident and received a minor burn on her hand. Both the master and the cook were in doubt about reporting it, fearing that huge amounts of extra work would follow. The Master told me about a recent accident where an AB had cut his finger. It was small and insignificant, but they had reported it. Following the initial report the Master had to write a number of other reports, he had been called in to the main office for several meetings during his off-duty period, and received no compensations for it. The Master felt penalised for having reported it, but knew he would also have been penalised if he had not report it and it had been found out. "Hours and hours of paperwork, and absolutely nothing came out of it, or could have come out of it. Some times people cut their fingers and there is nothing to do but let it grow", he said.

A common opinion is that there are ulterior motives behind the safety management systems, or that they have lost their original purpose and are now used mainly for ulterior reasons. Seafarers speculate whether the clients use accident reports to put pressure on the shipping company, claiming safety information is used to get the shipping company to reduce the price of their services, and ultimately to cancel contracts if there are disputes. Another possible ulterior motive that concerns them is how the safety management system is used to control them as employees. One master always made sure to do all the paperwork correctly, then pronounced loudly, for everyone to hear, that this was his "toilet paper - it covers my (...) if anything should go wrong". A third set of claims is that the HSE-Q administrators and professionals are buttering their own toast. "Making ever more complicated safety management systems is a great way to make a career in any oil company, stately directorate or classification society bureaucracy", one officer told me.

Many, if not all, of the seafarers I have spoken to about this matter are worried that the

bureaucratisation of safety, and the safety management systems are undermining seafarers real ability to deal with danger; undermining the technical and relational competence needed to a real job safely.

Recently I have started asking seafarers if they can tell me about where specific safety practices come from; who has made a specific rule; the process whereby it was decided; the reasoning behind a specific way to do something. I never receive clear answers. They refer to IMO, IMS and SOLAS, to clients, classification societies and the directorate. Their explanations are always rather vague and I have never managed to pin a specific behavioural rule down to a specific entity. Seafarers have informed me that every shipping company has its own specific way of meeting the general safety requirements set by classification societies, flag state authorities and clients. But I have yet to meet a seafarer who knows and can explain the background of the specifics of the rules and procedures that make up the safety management tasks they are required to do. As an example, to this day I have not found out the process that lead to the infamous rule that one must always hold on to the rail when climbing stairs.

It may, of course, be that I have only observed and talked with a non-representative and select group of outliers, i.e. seafarers whose opinions on the matter differ greatly from the majority. This is unlikely, however, for a number of reasons. In addition to my observations I have also spoken with a very large number of people involved in shipping in one way or another: Seafarers I have met at conferences, meetings and by chance; former seafarers now working as teachers and administrators; shipping company employees; and fellow researchers. All of them confirm my impression. In total I must have spoken with close to one hundred people about it and only one of them had ever met a seafarer who mainly spoke in positive terms about the safety management system. That comment, however, was quickly followed up with the remark "but he used to work at the HSE-Q department". There is thus strong anecdotal evidence that most seafarers have mainly negative opinions about the safety management systems. In addition there is a growing body of qualitative research that confirms or indicates that my impression is correct (see e.g. Kongsvik og Størksen 2014; Bye og Lamvik 2007; Lamvik et al 2008).

The only method to potentially falsify the claim that the greater majority of Norwegian seafarer's predominately hold negative opinions about the formal safety managements system is to conduct a quantitative study mapping the prevalence and distribution of their opinions about it. It is not certain that this method would produce valid results, however, as the dominant discourse requires seafarers to express that they comply with the SMS. It is widely recognised that people tend to present themselves in accordance with what is socially expected and acceptable (Goffman 1959) even when answering anonymous questionnaires (see e.g. Edwards 1959, Furnham 1990).

3 A CRISIS OF LEGITIMACY

My overall impression is thus that Norwegian seafarers in general are not only irritated by and negative towards the safety management systems, they are suspicious about whether they have any real safety effect, and question what they are really used for. In addition they fear that they may actually undermine their true safety. In the article "Managing legitimacy: Strategic and institutional approaches" Suchman (1995) claims that a legitimacy crisis can be recognised when "audiences begin to suspect that putatively desirable outputs are hazards, that putatively efficacious procedures are tricks or that putatively genuine structures are facades". All of these signs are present among seafarers I have observed and talked with. Consequently it is reasonable to conclude that the legitimacy of these systems is so low that it is best described as a crisis.

Note, however, that seafarers do use the word "legitimacy" when talking about the safety management system and its many manifestations. They talk about specific rules and procedures, and express agreement or disagreement, likes and dislikes, irritation or satisfaction with these; but do not say that they find the system or any of its components "illegitimate". Legitimacy is what anthropologists call an "etical" concept (see e.g. Lett 1990); i.e. an analytical concept applied to the data to identify patterns in the data that the informants themselves have not named, and perhaps not identified. It is thus from an outside perspective that I perceive that seafarers predominantly express negative opinions about the SMS and propose that this negativity can fruitfully be understood as a matter of legitimacy.

The literature on legitimacy is large and the concept has been given many different definitions. This article builds on Suchman's: "*Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions.*" (1995, p. 574). A problem with this definition is that it primarily aims to say something about *organisational* legitimacy and not how specific *decisions* come to be considered legitimate by those it affects. This is easily rectified, however, by emphasising the word "actions" in Suchman's definition rather than "entity". Behind every action there is, analytically, a decision, and if the action is considered legitimate, by implication the decision to do it must also be legitimate. Other researchers have provided other definitions than Suchman, but none of those fit my purpose any better. It is neither possible nor necessary to give an overview of all the other definitions here. For those interested in such overviews see Colvys and Powell (2006) and Suchman (1995).

Legitimacy is a relational concept useful for describing and understanding some of the qualities of some types of relationships between people. In a more straightforward language: It concerns relationships between people who make decisions and the people who are supposed to do what has been decided. The decision-making aspect obviously does not make up the totality of these relationships, but in order to

avoid a cumbersome language I will here talk about it as the relationship between decision makers and their audience. This terminology is in line with Suchman's as seen in the quote above, and highlights that the audience may choose to agree or disagree with what has been decided. In the context of this article legitimacy is therefore concerned with how people judge decisions made by others. It is only decisions that have a certain quality, i.e. a high degree of motivational strength, that are judged to be legitimate. "*The essence of legitimacy is the sense of duty, obligation, or "oughtness" towards rules, principles or commands*" (Spencer 1970, p.126). If the audience judge the decisions, and the ways they are implemented, as so "desirable, proper, or appropriate" (Suchman 1995) that they are obliged to follow them, the decisions are labelled legitimate.

Arriving at a comprehensive understanding of the reasons why the (decisions which together make up the) formalised risk and safety management systems have low legitimacy among seafarers would require a combination of several theoretical and methodological approaches. This article can only present one of these and assumes a perspective inspired by Weber's work on 'order'. "*The subjective meaning of a social relationship will be called an 'order' only if action is approximately or on an average oriented to certain determinate 'maxims' or rules. Furthermore, such an order will only be called valid if the orientation to such maxims includes, no matter to what actual extent, the recognition that they are binding on the actor or the corresponding action constitutes a desirable model for him to imitate.*" (Weber 1964. p 124). Weber claims that there are four different bases for the legitimacy of such 'orders': 1. Tradition – the 'order' is legitimate (right and binding) because it has 'always' existed or is in line with what has 'always' existed; 2. Affectual attitudes – the 'order' is binding because it feels right; 3. Rational belief in absolute value – the 'order' is right because it is the appropriate means to uphold an absolute value like the sacredness of human life; 4. Legal process – the 'order' is right and binding because it has been established in a legal manner.

The safety managements system, as it is talked about by seafarers I have been in contact with, carry all the characteristics of what Weber calls an 'order'. It is a set, albeit vaguely perceived and understood, of maxims and rules (and procedures) towards which their actions are oriented. The organisations that introduced this 'order' have gone to great lengths to convince seafarers to agree with and feel obliged to follow it and to consider the rules and maxims binding. The effort has, so far, not been successful. Using Weber's four bases for the legitimacy of such 'orders' we can then investigate to what extent, and in what ways, the failure is related to a failure in engaging with tradition; failures to arouse and appeal to the right affects; failure to identify the right absolute values and/or the means to achieve these values; or a failure with regard to the legal process whereby the rules and maxims have been decided.

4 THE LEGITIMACY OF SMS RULES AND PROCEDURES

In empirical situations the sources of legitimacy will always be mixed, but they can still be investigated separately. Webers first source of legitimacy is tradition and even a superficial comparison of "traditional" seafaring and seamanship with the formal SMS reveals that there is hardly anything from the tradition that can be used to legitimize the new system. Several studies argue that fundamental aspects of traditional seamanship are at odds with, and maybe even directly opposed to the types of behaviours specified by the new safety management systems. Almklov, Rosnes, Størksen (2014) argues that SMS may marginalise necessary practical knowledge. Bye og Lamvik (2007) argues that the traditional way of coping with risks among Norwegian fishermen and supply ship crew is to ignore the dangers; a strategy in stark conflict with the new safety management strategy. Knudsen (2009) describes how seafarers find the paperwork aspect of the safety management systems to be a threat to "good seamanship". In sum, there seems to be no traditions of seafaring that can be used to legitimise the new safety management systems. There are, on the other hand, many traditional sources that can be used to disagree with it.

Webers second source of legitimacy is affectual attitudes, by which he means the feelings of the audience that somehow influence their judgement that a rule or maxim is so desirable, proper or appropriate that it binds them. Such feelings may, of course, be both positive and negative. Positive feelings may draw the audience towards the rules and maxims. Negative feelings about something that is in conflict with or opposition to the rules and maxims may repel the audience from that and towards the rules. Considering that the formal safety management system consists of rules, paragraphs and checklists, written procedures with a prose like technical manuals, usually in an objective and imperative language, it is difficult to see that specific elements of the system could evoke pleasant feelings. The style of the SMS is intended to evoke neutral affections and a sense of 'objectivity'. To the extent that this type of text does generate feelings it is tiredness, boredom, and various degrees of frustration and therefore also aggression. It is difficult to imagine any positive emotions that the rules and procedures of the SMS might evoke and that could give it legitimacy. At the same time it is easy to imagine the opposite.

Attempts to appeal to feelings are still frequently made, however. It is a common practice at shipping companies to employ former captains as HSE-Q administrators. One of the reasons for this practice is to draw on feelings of identification. The idea is that seafarers will be more willing to listen to, and therefore agree with, the safety management system because one of their own, rather than some landlubber, implements it. Attempts to use communicative techniques that arouse feelings of love and attachment; fear and guilt; and humour are also used. Stories about people who were injured or killed, and references to the family at home who are worried about the seafarer, are presented in newsletters and

on posters. Happy and funny posters with safety messages are taped on walls and put on noticeboards.

Drawing on emotions to legitimise a formal 'order' like the safety management system is, however, both a difficult and risky strategy. Emotions are fleeting, open to manipulation, a matter of interpretation of sensations and impossible to control. The intended emotional message may easily be turned around and used against the sender. An HSE-Q manager/captain may quickly be reclassified as a turncoat who has joined the landlubbers, and the positive emotions of identification be turned to contempt. Happy and colourful posters can be interpreted as childish and a sign of disrespect, etc.

The third and fourth sources of legitimacy are rational in the sense that they appeal to the ability of the audience to reason logically about values, means and processes. Safety management rules and maxims are also (supposed to be) products of logical reasoning and expressed in a language of logical reason. Consequently these sources of legitimacy ought to be far more accessible and easy to draw on than the two non-rational sources. Webers third source of legitimacy is rational belief in an absolute value. The absolute value at the heart of SMS is human life and good health. Appealing to these values ought to be easy and I have never heard or seen anything to suggest that seafarers do not value good health and human life. At the same time comments by seafarers suggest that they do not make direct and clear connections between these values and the specific rules and procedures imposed on them. There is thus no reason to doubt the legitimacy of these values. It seems, however, that these absolute values fail to be a source of legitimacy of the SMS because the audience is not convinced that the SMS is the appropriate means to achieve them. Exploring the many reasons why the SMS is perceived to consist of incomprehensible, irrelevant, wrong and contra-productive means would require far more space than available in this article, but some reasons are quite obvious. The sheer volume of rules and procedures makes it virtually impossible to achieve an overview of all the means. It is difficult to have faith in a 'toolbox' so full that you do not know what tools it contains and cannot find the tool you need when you need it. In addition to the volume the SMS is an amorphous conglomeration of tools (rules, procedures and instructions) at all levels of abstractions and at all levels of achievability. Some of these means are perceived to be OK, but cumbersome. Others, like HSE policies with "zero personal injuries" objectives are seen as absurd, and yet others are irrelevant because they are not aimed at the seafarers, but at actors at a different organisational level. Which leads to the question of education. SMS is a comprehensive system relying on input, processing and compliance at many different organisational levels. Most comments by seafarers indicate that they have not been provided with, or have not been able to retain, a detailed understanding of this greater picture and thus do not see where they fit in.

The point about education and seafarers knowledge leads to Weber's fourth source of legitimacy, i.e. the legal process. In a democracy the majority of voters have received massive education, both formally through school and informally via

public discourses, about the legal process leading to the rules governing and regulating society. This knowledge is vital for how democracies work. People may disagree with a specific decision, but if they are convinced that the legal process was correct they will still feel obliged to follow it. As mentioned I have not met one seafarer who could explain the legal process leading to any of the rules, 'maxims' and procedures of the SMS. I have even asked HSE-Q managers to explain these processes, and have yet to receive and a clear answer.

5 CONCLUSION

There is good reason to believe that the legitimacy of the formal SMS is critically low in the minds of the Norwegian seafarer. This crisis is probably a consequence of a failure to take advantage of the sources of legitimacy available to those who implement and maintain this safety management system. The new safety management systems are fundamentally at odds with the traditional knowledge and behaviour that constitutes "good seamanship" and cannot draw its legitimacy from this source. The SMS is not supposed to evoke strong feelings, and it is therefore both difficult and risky to appeal to emotions in order to legitimise it. The absolute values at the heart of the formal safety management systems are life and health; values that ought to be great sources of legitimacy. However, it seems that during the implementation of the SMS the relationship between these values and the SMS as a set of means for achieving it has been lost to the generic Norwegian seafarer. Seafarers are not convinced that these are the right means, and suspect that they may at times be contra productive. Last, but not least, seafarers lack knowledge both about the larger safety management system and the legal processes whereby the specific rules and procedures that make up the system have been decided.

Drawing conclusions about how to deal with this legitimacy crisis is a far greater task than what can be achieved here. It would require a separate research project and Suchmann (1995) and Blake, Ashfor and Gibbs (1990) provide valuable insights about how to do it and where to go.

REFERENCES

- Almklov, P. G. Rosness, R. & Størkersen, K. (2014). When safety science meets the practitioners: Does safety science contribute to marginalization of practical knowledge? *Safety Science*, 67(0), 25-36.
- Ashforth, B. E. & Gibbs, B. W. (1990). The double-edge of organizational legitimation. *Organization science*, 1(2), 177-194.
- Bourrier, M. & Bieder, C. (2013). *Trapping safety into rules: how desirable or avoidable is proceduralization?* Farnham: Ashgate.
- Bye, R. & Lamvik, G. M. (2007). Professional culture and risk perception: Coping with danger on board small fishing boats and offshore service vessels. *Reliability Engineering & System Safety*, 92(12), 1756-1763.
- Colyvas, J. A. & Powell, W. W. (2006). Roads to institutionalization: The remaking of boundaries between public and private science. *Research in organizational behavior*, 27, 305-353.
- Edwards, A. L. (1957). *The social desirability variable in personality assessment and research*. Ft Worth, TX, US: Dryden Press.
- Furnham, A. (1990). Faking personality questionnaires: Fabricating different profiles for different purposes. *Current Psychology*, 9(1), 46.
- Goffman, E. (1971). *The presentation of self in everyday life*. Harmondsworth: Penguin.
- Knudsen, F. (2009). Paperwork at the service of safety? Workers' reluctance against written procedures exemplified by the concept of 'seamanship'. *Safety Science*, 47(2), 295-303.
- Kongsvik, T. Størksen, K. V. & Antonsen, S. (2014). The relationship between regulation, safety management systems and safety culture in the maritime industry. In R. D. J. M. Steenbeergen, P. H. A. J. M. van Gelder, S. Miraglia & A. C. W. M. Vrouwenvelder (Eds.), *Beyond the Horizon; Safety, Reliability and Risk Analysis*. Leiden, The Netherlands: CRC Press/Balkema.
- Lamvik, G. M. Bye, R. J. & Torvatn, H. Y. (2008). *Safety Management and "Paperwork"-Offshore Managers, Reporting Practice, and HSE*. Paper presented at the International Conference on Probabilistic Safety Assessment and Management, Hong Kong, China.
- Lett, J. (1990). Emics and etics: Notes on the epistemology of anthropology. *Emics and etics: The insider/outsider debate*, 127-142.
- Oldenburg, M. Baur, X. & Schlaich, C. (2010). Occupational risks and challenges of seafaring. *Journal of Occupational Health*, 52(5), 249-256.
- Sjøfartsdirektoratet, N. M. D. (2011). Ulykkesutvikling 2000-2010.
- Spencer, M. E. (1970). Weber on legitimate norms and authority. *British Journal of Sociology*, 123-134.
- Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of management review*, 20(3), 571-610.
- Weber, M. (1964). *The theory of social and economic organization*. New York: The Free Press.