

Role of Leadership Types in Managers' Commitment to Safety

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In this paper, we argue that the relationship between leadership type and managers' commitment to safety is still not sufficiently researched. We believe that leadership type can have an important role when it comes to the demonstration of managers' commitment to safety. First, we outline the research that has been done on the topic of managerial commitment to safety. To broaden the understanding of commitment, we also examine the research that has been done on the field of management. Then we provide examples of different leadership types that could add to the understanding of this relationship. Based on previous studies that have been done in the field of safety and management we suggest a conceptual framework to address the gap in the literature. The framework offers a theoretical basis that can be used for further research on the relationship between managers' commitment to safety, type of leadership and demonstration of managers' commitment to safety. In the end, we also highlight some interesting research directions for future research.

Keywords: Management, commitment to safety, leadership, process safety management, process industry, accident prevention, organizational commitment.

1. Introduction

Management of the process safety is a comprehensive and complex effort for the organization since management has to determine distinct safety requirements, establish a safety management process, design appropriate structure, and decide which activities will be carried out to ensure safety (Li and Guldenmund, 2018). To achieve desired safety outcomes, different policies and procedures are put in place. However, Broadribb (2018) argues that despite all attempts to increase the level of process safety performance, major industrial accidents still present a real threat in the process industry.

We have to have in mind that even if managers actually approve the adoption of safety policies and procedures that are needed, this is not a guarantee that management will properly incorporate them into the existing structure or that will encourage employees to follow them. At the same time, this also does not mean that the aforementioned policies and procedures will be actually adopted by employees. In addition, compliance with safety regulations will not always suffice, since safety regulations do not cover every possible situation. For that reason, Bieder and Bourrier (2013) argue that managers should focus on the development of a "moral sense of safety". Barling and Hutchinson (2000) propose that when trying to enhance safety, managers ought to promote the development of safety commitment rather than safety compliance with standard policies and procedures, which

generally provide a minimum level of safety. It is becoming increasingly evident that in order to enhance safety, a more commitment based management approach is needed. Especially important is the commitment of high level managers. Their position in the organization enables them to make important safety decisions and perform various safety related activities (Fruhen et al., 2019). Safety commitment of high level managers is recognized as an important factor in the prevention of major accidents, since can have a crucial role in the enhancement of process safety in the organization (Roger et al., 2010). High level managers can influence different safety aspect of work and work environment that cannot be controlled by employees or managers on other organizational levels. In other words, even if employees do everything they can, they may still not be able to prevent major accident events without the support of management (Gravina et al., 2017). Therefore, in order to attain desired process safety results, the safety commitment of high level managers should receive more attention.

However, we believe that in order to deepen our understanding of the managers' commitment to safety and demonstration of their commitment, the role of leadership type should also be considered. When managers demonstrate their commitment to safety, they have to adopt appropriate leadership that best supports their actions. The adopted leadership type will have an important influence on how employee interprets

managers commitment to safety and will have a significant impact on safety outcomes. Therefore, we believe that incorporating leadership type in the context of safety commitment and its demonstration can facilitate much needed development on this topic.

In this paper, we first outline the research that has been done on the topic of managers' commitment to safety. Then, to broaden our understanding of commitment, we intensely draw from the field of management, more specific from organizational behavior, since the topic of commitment is considerably more researched in this field. Through this, we aim to address the question of how the concept of safety commitment can benefit from findings in other research fields in order to improve understanding. We also try to shed some light on the role of leadership in the demonstration of managers' commitment to safety. Therefore, we highlight different promising leadership types that have been studied in the context of safety and could present a solid foundation for research. By suggesting a conceptual framework that builds on previous studies that have been done in the field of safety and management we aim to address the gap in the literature. The framework proposed in this paper offers a theoretical basis that can be used for further research on the relationship between managers' commitment to safety, type of leadership and demonstration of managers' commitment to safety. We also highlight interesting research directions that have the potential for future research.

2. Commitment to Safety

In the context of safety management, commitment to safety has been recognized as important in both theory and practice. The special focus is on the managers' commitment to safety since it has been recognized as particularly important. It can be reflected in different ways, including in the adoption and implementation of safety policies, decision making, active involvement, and in the way that managers are able to interact and communicate with employees (Fruhen et al., 2014). In safety research, managers' commitment to safety is usually studied as a unidimensional concept. The term "managers' commitment to safety" has been inconsistently used in the literature for a wide array of different managerial roles and activities (O'Dea and Flin, 2001). This diminishes its importance and impedes research in this field.

In general, most studies examine managers' commitment to safety as one of the various dimensions of a safety climate that is essential for safety in the organization. The focus is on the perceptions of employees, as they have to describe how they perceive their managers'

commitment to safety. Dimension reflects how top managers prioritize safety. Alruqi et al. (2018) point out that items used to define managers' commitment to safety vary considerably between studies, both in content and number. Nevertheless, managers' commitment to safety is one of the most essential and most frequently measured dimensions of safety climate.

Alongside the safety climate framework, managers' commitment to safety has been also studied as a standalone construct; although, to a much lesser extent. Among such studies, some of them confirmed a positive connection between the perception of managers' safety commitment among employees and their safety behavior. However, as researchers (Taylor and Snyder, 2017) point out, the exact mechanism through which managers' safety behavior influences employee safety behavior is not completely clear. In their study, Bowers and Fleming (2018) argued that if employees perceive that their managers are committed to safety, especially if it is clearly demonstrated that safety has a priority over other organizational goals, they are going to comply more closely with safety standards. In addition, employees were also more willing to take on an active safety role. Researchers also point out that Employees can interpret managers' commitment to safety either directly or indirectly. The biggest influence on employee perception can have the engagement of managers in safety leadership; its consistency; design and implementation of policies and procedures; and resource allocation (Bowers and Fleming, 2018).

The importance of managers' commitment to safety has also been recognized in relation to safety standards and management systems. Ghahramani (2016) points out that managers' commitment is one of the crucial factors when it comes to the adoption of safety standards. Especially the commitment of top managers can have an important influence, as they are in the position to facilitate the process. Rajaprasad and Chalapathi (2015) identified managers' safety commitment and safety policy as important success factors when the organization tries to implement a safety management system. Researchers highlighted that safety policy should clearly reflect senior managers' commitment. However, successful implementation of the safety management system will remain questionable if managers' commitment remains "on paper" (Gerede, 2015).

3. Other Forms of Commitment

In the field of organizational behavior, commitment is studied to a greater extent than in the field of safety, let alone in the field of process safety. The concept of commitment is also studied much more in detail and several different forms of

commitment are proposed (Cohen, 2014). Commitment can have various foci. It can either be a commitment to work, to a job, to a specific association, to a career or profession, or to the organization (Swailles, 2002). Here, we draw from the research that has been done on the organizational commitment, as it received the most attention among them. This form of commitment received particular attention since it has an important role in the research of behavior and attitudes (Cohen, 2014). The main focus of research is usually directed toward the effect that organizational commitment can have on employee turnover (Meyer et al., 2002).

Similar to in the field of safety, the organizational commitment was at the beginning also studied as a unidimensional “monolithic” concept (Arnon, 1985); until the idea of multidimensional commitment was developed. Through time, organizational commitment becomes recognized as a multidimensional construct, with several antecedents, various correlates and important consequences across different dimensions (Meyer et al., 2002). In recent studies, the two or three dimensional models of commitment are most prevalent (Zheng et al., 2010). In some cases (e.g. occupational commitment and customer commitment) four or even five dimensional models are also proposed (Keiningham et al., 2015; Blau, 2009).

Organizational commitment is usually defined as the special psychological state which connects employees to the organization. This definition is related to three component model of organizational commitment, that should reflect this psychological state of employees. (Solinger et al., 2008).

3.1 Three components of commitment

As it was indicated earlier, we will focus on three component model of organizational commitment that was introduced by Meyer and Allen (1991) and is regarded as most widely accepted and used (Cohen, 2014). Meyer and Herscovitch (2001) point out that a three component model builds on the premises that commitment ties an employee to a course of action that is relevant to the target (in this case organization) and is accompanied by various mindsets that have important role information of the behavior.

In the development of the model, first, a distinction was made between two components of commitment – affective and continuance (Meyer et al., 2002). Foundation for this was the side-bet or calculative theory and the attitudinal theory (Cohen, 2014). Affective commitment can be described with emotional attachment, involvement, and identification with the organization. Continuance commitment represents the perceived costs that would arise if

one would decide to leave the organization (either by sacrifices of investments made, or by the absence of other alternatives). Then, a third – normative component of commitment was suggested. It denotes a perceived obligation to stay in the current organization (Meyer et al., 2002). All three of the above mentioned components reflects a psychological state of an employee in relation to the organization, and organizational commitment is the aggregate of these states (Solinger et al., 2008).

As mentioned earlier, this is not the only model that was designed to capture employees’ commitment and some authors (Solinger et al., 2008) argue that other models should be used as a general model. However, we will focus on the three component model since it is the most researched and commonly used.

3.2 Most frequently studied outcomes of organizational commitment

Meyer et al. (2002) point out that all three components of commitment have a negative impact on turnover; however, it has also been found that those three components tend to have different impacts on other work related behaviors. In other words, if we can expect that affective commitment will have a positive impact on the positive work behavior, the normative commitment will often have a moderate impact, and continuance commitment will usually be unrelated or would have a negative impact (Meyer et al., 2002).

Regarding the most frequently studied outcomes, affective and normative commitment has been found to have a negative impact on (unwanted) employee turnover, and positive impact on (wanted) on-the-job behavior like attendance, performance and organizational citizenship behavior. On the other side, continuance commitment is also expected to have a negative impact on (unwanted) employee turnover; however, it will be also unconnected with (wanted) on-the-job behavior, or would even have a negative impact (Meyer et al., 2002). In his study, Swailles (2002) also points out the positive link between the affective component of commitment and performance; however, with moderate or small correlations. The relationship between commitment and performance tends to be stronger if financial requirements are lower. In addition to performance, a strong link between organizational commitment and citizenship behavior is also highlighted.

We can clearly see that the concept of commitment is much better researched in the field of management and organizational behavior than in the field of safety. However, as befits all complex concepts there is still a lot of debate and disagreements around organizational

commitment. Swailes (2002) highlights that although the researchers were mostly able to address the reasons why employees can be committed and what can be the foci of their commitment, the description of what commitment is, still needs to be better elaborated. However, we will not be trying to address this issue as this exceeds the scope of this paper.

4. Latest Developments on Safety Commitment

As was highlighted, managers' commitment to safety is usually studied as a unidimensional concept. However, there are some researchers that are aware of benefits, that drawing findings from different disciplines can have for safety commitment research; and have already include a multidimensional model in their work.

Delegach et al. (2017) attempt to expand findings from organizational commitment research to the safety commitment of employees and moved beyond the prevalent understanding of the concept. In their study, they focus on the self-regulatory foci – motivational mechanism, through which various styles of leadership promote commitment among employees. The premise was, that different leadership types will influence different components of commitment. However, they focused only on the two components (affective and continuance) of the three component model; as they are most distinct. The conceptualization of safety commitment was limited to workplace safety. They found out that transformational style can positively influence employees' affective safety commitment, by employees' promotion focus, which also positively mediates the relationship between continuance commitment. On the other side, transactional (active form) leadership style can positively influence employees' continuance commitment, by employees' prevention focus. However, the passive form of transactional leadership did not show a significant relationship.

Quite contrary, Fruhen et al. (2019) decided to focus on the managerial side of this relationship and study managers' commitment to safety from their own perspective. The study focused on the way in which leaders experience and demonstrate safety commitment. They adopted a slightly modified three component model of safety commitment, which was composed of calculative, normative, and affective commitment. They also proposed the categorization of safety commitment demonstration, consisting out of six categories. The results show that proposed dimensions of commitment to safety were able to capture leaders' commitment, and that association with proposed categories of safety commitment demonstration was also proved as expected. From three components of safety commitment, only affective was consistently correlated with the

proposed demonstration of commitment to safety. The connection between affective and normative commitment and their demonstrations was stronger when leaders perceived safety climate in their organization as positive.

5. The Relationship Between Managers' Commitment and Leadership Types

It is evident from the aforementioned research that managers' commitment is paramount for safety. However, no matter how committed managers are, their actions have to be supported with appropriate leadership.

Zuofa and Ocheing (2017) point out that managers' commitment to safety is demonstrated through their leadership; therefore managers have to adopt the adequate type of leadership that will also support their other safety related endeavors. Only in this case, managers' commitment to safety, their safety related actions, and their leadership will be matched. It is expected that different types of leadership will have different implications for the demonstration of managers' commitment (Levovnik et al., 2019).

5.1 Leadership types important for safety

Leadership is, by its definition, an influence relationship in which leaders have the ability to influence followers to work together in order to achieve organizational goals (Daft and Lane, 2015). Therefore, through their leadership, leaders can motivate and encourage employees to strive for better safety results in their organization. As different types of leadership can have both positive and negative influence on safety performance, the role of leadership should not be overlooked (Flin, 2004). A number of different leadership types have been considered by researchers when they tried to address different safety issues. It has been found that transformational leaders are often seen as safety role models, and clearly demonstrate that safety receives a priority over production goals. They inspire employees and motivate them to pursue higher standards of safety. Leaders will also encourage employees to engage in new, safer work practices. Transformational leaders are also capable of showing to their employees that they genuinely care for their safety (Lekka and Healey, 2012).

The role of all three forms of transactional leadership has been studied in the context of safety. Researchers examined the influence of management by reward and both passive and active management by exception. Management by reward can be best seen when they determine safety goals and then observe the results. If desired safety results are achieved, or if employees even exceed the expectations, they

will receive a reward. In active management by exception leader makes a (negative) corrective action if expected results are not meet. In passive form, they act only after a deviation is detected (Pilbeam et al., 2016).

Researchers also argue that destructive leadership type (*laissez-faire*) should also be considered in safety research, as this would provide a more complete picture of the leadership role. In their study, Sandhåland et al. (2017) provide evidence that *laissez-faire* can, through situational awareness, influence the willingness to take risk among employees which can be crucial in a safety context.

In addition, Borgersen et al. (2014) call attention to the small number of research that would attempt to understand the role of new, positive leadership in the context of safety. Their research proved a positive connection between authentic leadership and safety climate perception among employees. Roger et al. (2009) added to this debate that authentic leadership can be important especially for leaders at the highest position in the organization. Nevertheless, it needs to be pointed out that there is still a lack of understanding of what can managers at the highest level do in order to improve safety (Donovan et al., 2016). On the other side, Chughtai (2015) believe that from the positive approaches to leadership, ethical leadership is the most promising, since it can have important safety implications. Their study showed that it can have positive effects on safety compliance and participation among employees.

However, research that has been done so far doesn't answer the question of which leadership type would be the most suitable to express safety commitment, and will managers with a different dominant component of safety commitment also adopt different leadership?

6. Proposed Conceptual Framework and The Road Ahead

We argue that research on managers' commitment to safety should draw from the abundance of studies that have been done on organizational commitment. Notwithstanding that organizational commitment is a more general concept and has been studied with a different goal in mind (how to predict and prevent turnover), findings can be extended to a more specific concept of safety commitment. This is also in line with the research done by Delegach et al. (2017). Authors even point out that focusing on a specific concept of commitment can get better results since a specific

attitude can be a more accurate predictor of a specific behavior than a general attitude. Commitment to a specific target shows how employees value this specific target and engage in behavior that they believe to be beneficial for this target (Delegach et al., 2017). Meyer and Herscovitch (2001) point out that their three component model of commitment can be used to assess how continuance, normative, and affective commitment affect the relevant behavior and selected target (e.g., the achievement of specific goals, organization, change), according to the needs of the researcher. Meaning, if we transfer this to process safety, that we should consider safety important behavior/performance that we strive to attain through safety commitment, and at the same time also consider the target of commitment that is influenced by this behavior. Building on Meyer and Herscovitch (2001) characterization of goal commitment, we can derive examples of commitment to safety important goals: affective commitment – managers want to accomplish safety goals; normative commitment – managers feel a sense of duty (obligation) to accomplish safety goals; continuance commitment – managers have a lot to lose by failing to meet safety goals.

Swailes (2002) argues that one of the reasons why commitment and performance don't have such a strong positive correlation that would be otherwise expected might be in the organization. More precisely, several elements like inadequate management skills, system and policies might prevent highly committed employees to transform commitment into outcomes.

If we transfer this observation from the organizational to a safety commitment framework, we could argue that even most committed managers could not be able to transform their safety commitment into their actions if management skills, systems, and policies would not support this. If we go even further, we can claim, that if managers' safety actions are not supported with the right leadership that will also convey safety, they will not achieve the desired success. In order to improve safety in the organization, managers should demonstrate their safety commitment not only through their actions but also through their leadership. The proposed concept is schematically presented in Figure 1.

In addition, appropriate leadership will enable managers to transfer their safety commitment to employees, elevate the perception of managers' commitment to safety among employees, and also enhance employees' own safety commitment.

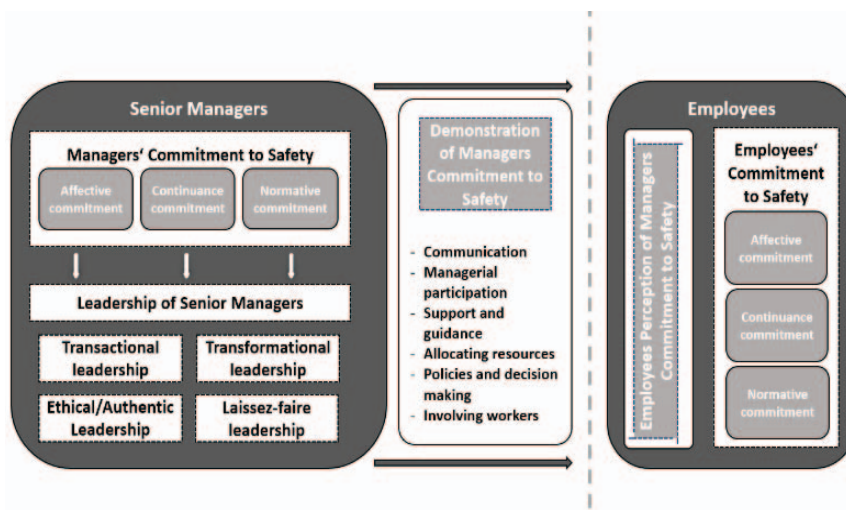


Fig. 1. Proposed conceptual framework for further research

7. Proposals for Further Research

Based on the views that were presented throughout this paper, we argue that future studies should build on the extended, multidimensional concept of commitment and at the same time consider the role of leadership type when they addressing the question of managers' commitment to safety. As Swailes (2002) points out, commitment (attitudes) may lead to desired positive behavior, that will in a cycle, reinforce attitudes. If we can transfer this in the safety related context, this could considerably enhance safety in the organization. Therefore, we propose three directions for future research.

First, we propose that research on managers' commitment to safety should build on findings from organizational commitment research and examine commitment as a multidimensional concept, using a three component model (Meyer and Herscovitch, 2001) or some of its variations. This is applicable either for research on managers' commitment to safety, employee perception of managers' commitment to safety or employee commitment to safety.

Second, we propose that future research should focus on the managerial side and try to understand managers' commitment to safety from their perspective. Since that a large part of the safety commitment research has been focused on the employees' perception of managers' commitment to safety, there is a shortage of research that would directly address how managers demonstrate

commitment (Fruhen et al., 2014); which tasks support demonstration (Kantola et al., 2017); how managers experience their safety commitment (Fruhen et al., 2019); or what can actually shape managers' commitment (Tappura et al., 2017).

Third, we propose that when studying managers' commitment to safety, especially when focusing on the demonstration of this commitment, the role of leadership type should also be considered in order to deepen the understanding of this relationship. As leadership has the ability to influence how employees interpret important safety policies and procedures, this would help to create a more comprehensive picture (Yorio et al., 2015).

8. Conclusions

Research findings from various studies clearly emphasize the importance of managers' commitment to safety when it comes to safety performance and outcomes. However, it is also clear that there is still a lot of work that has to be done on the concept of safety commitment; and that the connection between managers' safety commitment and safety performance should also be clarified. We believe that research on the managers' commitment to safety and the role that leadership type can have in the demonstration of managers' commitment can also deepen our understanding.

With this paper, we hope to encourage a debate on the subject of managers' commitment to safety, and shed some new light on current issues, for

which we believe, that should be addressed in future research.

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