

WHISTLEBLOWING SYSTEMS: A SYSTEMATIC LITERATURE REVIEW ON THE DESIGN SPECIFICATIONS AND THE CONSIDERATION OF THE RISK FOR ORGANIZATIONAL INSIDERS TO BLOW THE WHISTLE

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Abstract

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Whistleblowing systems as internal company instruments for prevention and detection of compliance violations are increasingly recommended both in academic and practical literature. In the European Union, the discussion is currently activated by the EU legislation for better protection of whistleblowers, which needs to be transferred in national law by the member states end of 2021. This literature review examines the literature for the design specifications developed for whistleblowing systems under consideration of the risk for organizational insiders to blow the whistle. The purpose is to review the design specifications developed in scientific studies, the data basis on which they are built whether and, if so, how the risk for organizational insiders to blow the whistle is taken into account. A comprehensive database of literature has been examined. The result is systematic categorization of the specifications for the design of whistleblowing systems. Moreover, we conclude, that there is a lack of data basis for clear specifications. The research shows that in the design of whistleblowing-systems there is a lack of discussion of the risks for whistleblowers to suffer social and professional disadvantages.

Keywords: Whistleblowing, Compliance, Whistleblowing System, Compliance Management System, Empirical Research

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1. INTRODUCTION

In practice, it is extremely difficult to clear corrupt structures and other white-collar crimes in companies. The detection of these delinquencies is often only

possible through information from persons involved. This is also supported by empirical findings, that show the most common way for employers to detect internal misconduct are tips from employees (ACFE, 2018; ACFE, 2016). However, the majority of

employees observing misconduct are “silent observers”, who keep their knowledge about doubtful behaviour and procedures to themselves (Kölbl & Herold, 2010). Motivating whistleblowers to pass on such insider knowledge is therefore essential.

Additionally, the competitive relationship between (primary) external and internal information gathering (Herold, 2016, p. 60) makes the disclosure of information on internally managed channels essential for the organization. Reporting maladministration perceived within an organization to external parties might have serious negative consequences for the organization concerned, like reputational damages or augmented legal scrutiny (Miceli & Near, 1985). For employers “internal whistleblowing is an important mechanism by which they maintain control over the firm and protect its resources” (Stikeleather, 2016, p. 3).

Given the need for insider information to combat corrupt structures and the potential problems when wrongdoing and malpractice are not reported internally but externally, organizations have a proprietary interest in channelling insider information through internal communication ways. Furthermore, the reporting procedure and the context in which information is received, such as institutional factors, influence the effectiveness of the whistleblowing (Vandekerckhove & Phillips, 2019; Ciasullo, Cosimato, & Palumbo, 2017; Skivenes & Trygstad, 2017; Mayer, Nurmoohamed, Treviño, Shapiro, & Schminke, 2013). Accordingly, internal whistleblower systems should be tailored to the needs of insiders who are potentially willing to provide information.

One of the barriers preventing potential whistleblowers from reporting perceived misconduct is the fear of personal and professional disadvantages (Lowry, Moody, Galletta, & Vance, 2013). Therefore, it is essential for organizations to concept and design internal whistleblowing systems considering this aspect.

The subject of this literature review is whether and how the consequences threatening an insider willing to provide information are taken into account in the conception and design of internal whistleblowing systems. The attempt is to identify, summarize, and analyse the findings of different studies on this topic (Tranfield, Denyer, & Smart, 2003). The purpose is to provide a comprehensive overview of the current state of research. This overview of what is known should lay the foundation for further research on whistleblowing systems.

An employee or other stakeholder perceiving maladministration or misconduct in his organization undergoes a process until he decides to disclose his information by blowing the whistle (Vandekerckhove & Phillips, 2019; Zhang, Chiu, & Wei, 2009). The first step in this whistleblowing process is the decision of whether or not to disclose the information. This decision is influenced by situational, personnel, and organizational factors and circumstances (Kölbl & Herold, 2010; Mesmer-Magnus & Viswesvaran, 2005). Consequently, the research area on whistleblowing systems can be structured according to the areas of influence: situation, person, or organization.

In this paper, we focus on the organizational dimension of the whistleblowing system. We analyse the literature about organizational factors increasing the willingness of persons to blow the whistle.

Our main concern is the risk linked to reporting misconduct for professional and personal drawbacks. With this, the paper contributes to the improvement of the design of whistleblowing systems in order to increase the number of reports received within organisations.

Since whistleblowing systems are increasingly implemented, the paper helps organisations to structure more efficient whistleblowing systems. At the EU level, an obligation has now been introduced for certain companies to set up a whistleblower system. Besides the regulative pressure to implement whistleblowing systems, there is also a genuine advantage for organisations to receive reports of wrongdoings internally. Receiving an internal report reduces reputational risk and helps to reduce criminal liabilities for company officers.

Although there are prior reviews of the whistleblowing literature (Lee & Xiao, 2018), research about the organizational obstacles to blow the whistle is missing. This paper wants to fill this gap with a focus on the risk for whistleblowers in reporting perceived wrongdoings.

There is no focus on specific legislation. The laws relevant to whistleblowing vary across countries. This should not influence the results of our study since we are exclusively focusing on internal whistleblowing. Normative issues involving ethics, morality, or philosophy with regard to whistleblowing are not considered in detail. More general issues of ethical decision-making and behavioural ethics in organizations have been reviewed comprehensively elsewhere (e.g., Valentine & Godkin, 2019; Treviño, Weaver, & Reynolds, 2006; Singer, Mitchell, & Turner, 1998).

This paper proceeds as follows: first, the term “internal whistleblowing system”, which is the focus of this review, is defined. Provided is an overview of the types of empirical studies conducted on whistleblowing and the methodological issues raised in those studies. Subsequently, the results of the systematic literature review are analysed with regard to whether or not the risk for internal whistleblowers to disclose information has been taken into account.

2. DEFINITION: INTERNAL WHISTLEBLOWING SYSTEMS

Whistleblowing is “the disclosure by organization members (former or current) of illegal, immoral, or illegitimate practices under the control of their employers, to persons or organizations that may be able to effect action” (Near & Miceli, 1985, p. 4). This definition is used by most researchers (Miceli, Dreyfus, & Near, 2014; Bjorkelo & Bye, 2014). It allows the phenomenon “whistleblowing” to be investigated in all individual aspects and their variations (Miceli et al., 2014).

In the political debate and the legal and economic literature, there are several other approaches towards a definition (Ciasullo et al., 2017), essentially paraphrasing the definition by Near and Miceli (Lewis, Brown, & Moberly, 2014). Each of these definitions points out a different aspect of the phenomenon “whistleblowing”. Even the understanding of the very term “whistleblowing” varies in particular societies and cultures (Vandekerckhove, Uys, Rehg, & Brown, 2014). Focusing on a single aspect of the phenomenon,

alternatively proposed definitions are, however, often influenced by assessments of whistleblowing behaviour, the desirability of whistleblowing, or the person who blows the whistle itself (Lewis et al., 2014). For these reasons, and because the focus of this contribution lies in internal whistleblowing systems and not on aspects within the framework of the whistleblowing definition, no new definition will be developed here.

A whistleblower, as defined above, is a person within an organization who reports an instance of maladministration perceived in the organization to a person or organization who is able to effect action. The recipient of the information must therefore be in a position to possibly take action against the reported instance of maladministration. This can be a person or organization outside the organization where the instance of maladministration was noticed, such as law enforcement agencies, government agencies, or even the media. Alternatively, the person deciding to blow the whistle may address a person or designated department within the organization concerned.

This review focuses exclusively on the factors of blowing the whistle inside of the organization concerned. Thus, within the definition of whistleblowing we focus on those who use internal channels to blow the whistle, and not external channels (e.g., to the media).

Internal whistleblowing channels are designed to receive reports of alleged illegal, immoral, or illegitimate practices within the organization, whereby employers retain control over the information received. To fall under the term of internal whistleblowing, the reporting of misconduct must take place outside the regular hierarchy, for example, via confidential hotlines. In addition or alternative to a confidential hotline, an internal whistleblowing system can also consist of an ombudsperson or the organizations' compliance or audit department as recipient of whistleblowing reports.

3. METHODOLOGY AND SCOPE OF REVIEW

The literature on whistleblowing research has been growing strongly in recent years. At the same time, consultancies and other commercial companies in this area became more and more.

To acquire an understanding of the topic and of what has already been found out, a systematic literature review was conducted. The first goal is to identify, summarize, and categorize the existing knowledge (Fisch & Block, 2018) on the specifications for the design of internal whistleblower systems, given in the literature. In order to assess the quality of the respective specifications, next to the underlying data situation and methodology is of interest. The results found should then be analysed in regard to whether or not the risk for whistleblowers to blow the whistle is taken into account in the research.

Due to the extensive literature on the topic of whistleblowing, the systematic literature review is an appropriate way to minimise bias in the research and exclusion process as well as to provide an audit trail for the approach and conclusion drawn in the review process (Tranfield et al., 2003). The methodology used for the systematic review is based on Tranfield et al. (2003).

Database research of publications on the subject of whistleblowing and all related aspects provided a comprehensive picture of the publication and study situation. In line with the extensive orientation of the analysis, comprehensive keyword groups were formed. All of the keywords came from words and word groups from the fields "Compliance", "Risks/retribution/punishment or similar", "White-collar crime", "Company organization". The search string "whistleblow" in truncated form (i.e., the abbreviation of the search term to its root) and each of the keywords was entered into three databases (JStor, EbscoHost Business Source Premier, ECONBIZ) for title, abstract, and keywords. JStor archives 2.600 academic journals from different disciplines. EbscoHost Business Source Premier has more than 500 active journals from the field of economics and business. ECONBIZ is a service provided by the ZBW Leibniz Informationszentrum Wirtschaft. ECONBIZ includes articles, eBooks, and working papers from the fields of economics and business. By using these three databases, we have a very broad overview of the scholarly literature in economics and business.

The search, conducted between October and December 2019, resulted in a total result of 1100 publications after exclusion of non-scientific contributions, obvious blunders, and duplicates. Due to the scope of the research question - providing an overview of the specifications made for whistleblowing systems - those publications giving recommendations specific for a legal system or country, as well as sector-specific ones, were excluded. Including only publications with scientific claims resulted in 311 scientific journal articles.

The selection process based on titles and abstracts was oriented to the relevant aspects in the decision-making system of a whistleblower. As described above, in this research we exclusively focus on the organizational aspects of whistleblowing. We do not consider the situational and personal characteristics that contribute to the willingness to report perceived wrongdoings. Therefore, in consideration of the titles and abstracts, the predictors for whistleblowing were excluded as regards the characteristics of the whistleblower, the characteristics of the misconduct and the characteristic of the wrongdoer. The main excluded studies here were, for example, the ones referring to the character or social characteristics of a (potential) whistleblower, his moral attitudes, the influence of his relationship with the colleagues and supervisors, or the type of grievances (reported or to be reported).

Also excluded were the perceived organizational responsiveness toward whistleblowing, perceived consequences of blowing the whistle as well as perceived or actual organizational retaliation as determinants for the decision to disclose the information internally.

Not included were moreover studies examining why firms choose to implement internal whistleblowing systems since this review only focuses on the various aspects of the conception and design. Relevant were consequently the research findings on organizations that have already decided to implement such a system.

In the end, we included 45 studies in the in-depth analysis; 28 out of this were papers with an empirical approach. Out of the empirical papers, 19 had experimental settings. Only one paper was purely theoretical driven.

In the sample, we had 18 different journals. Nine articles were published in the *Journal of Business Ethics*, seven were published in the journal *Behavioral Research in Accounting*, and six in *Auditing: A Journal of Practice & Theory*. No other journal had more than two articles in the sample.

The main focus was on literature in which specifications for the design of whistleblower systems were made on the basis of scientific research. Since several studies focus exclusively on accounting-related misconduct (e.g., Lee & Xiao, 2018), it is necessary to note that no distinction is made in this review as to the type of reported or to be reported misconduct. Given the diverse research questions and directions of studies, we included also those results, that do not lead to concrete specifications but still provided helpful research results for our research question. In addition, studies were also included which did not aim exclusively at insights into the design of a whistleblower system but at least also produced such insights as one of several results.

4. RESULTS – ORGANIZATIONAL COMPONENTS AND THE CONSIDERATION OF THE RISK FOR INSIDERS TO BLOW THE WHISTLE

Already focusing on the organizational factors that can influence the whistleblowing process, the factors, that were discussed in the relevant studies are very diverse. A distinction can be made between the informal organizational context, like the ethical culture, and the formal organizational context like policies, processes, and programs (Kaptein, 2011). The field can be divided into categories ranging from measurable “hard facts” (e.g., protective measures an organization is providing for whistleblowers) to soft and in part generalizable facts (e.g., the culture in an organization).

We cluster the results as follows:

- incentives (6 publications);
- internally/externally administered reporting channel (4 publications);
 - anonymous reporting channel (6 publications);
 - organizational responsiveness and characteristics of the report recipient (6 publications);
 - explicit protection (4 publications);
 - culture (3 publications);
 - Organizational justice perspective on the implementation of internal whistleblowing procedures (3 publications).

4.1. Incentives

As one possibility for organizations to influence both the whistleblowers' decision to file a report at all and to do so internally is to provide incentives. Incentives are understood as benefits of blowing the whistle for the whistleblower. This could be monetary/cash rewards or financial bounties for reporting, career advancement, the guarantee of a continuing employment contract, and recognition.

Research focuses on the question of the effectiveness of incentives in encouraging whistleblowing and the circumstances under which such incentives are more or less effective.

4.1.1. State of research regarding this organizational component

The relation between compensation or internal rewards and internal whistleblowing intentions was the subject of a study conducted by Stikeleather (2016). He conducted an experiment with 118 participants at a large American university which “consisted of a progression of three between-subjects conditions, termed the No Whistleblowing, Unrewarded Whistleblowing, and Rewarded Whistleblowing conditions” (Stikeleather, 2016, p. 16). According to the study, there can be a significant increase in the rate at which workers report observed internal misconduct when they are offered a financial reward for internal whistleblowing. There was also a significant increase observed in an experimental setting where full protection from any costs of blowing the whistle was guaranteed, therefore Stikeleather concludes “that communicating a potential benefit of reporting misconduct, specifically a financial benefit, can motivate some workers to blow the whistle who might otherwise remain silent” (Stikeleather, 2016, p. 31). Furthermore, he provides empirical evidence, that one of the organizational factors¹ influencing the rate of internal whistleblowing is the level of fixed compensation, which is paid for doing so. He recommends that employers should recognize that their compensation policies significantly influence their ability to rely on internal whistleblowing as a control mechanism.

Pope and Lee (2013) researched whether financial rewards in the private sector are effective to increase the intention to blow the whistle. Using an experimental setting with 97 part-time MBA students, they found that a financial bounty has the potential to increase participants' propensity to report questionable acts. According to them, the receipt of an incentive payment is seen as an aspect moderating “the impact of being classified as a whistleblower” (Pope and Lee, 2013, p. 606). To counteract the whistleblowers' feeling of futility of taking action, they suggest that compliance programs should incentivize whistleblowing.

Using an experiment questionnaire completed by 201 internal auditors, Xu and Ziegenfuss (2008) found a positive association between financial incentives – such as cash incentives or guaranteed employment contracts – and the internal reporting intent among internal auditors. Regarding reward systems within organizations they concluded, that by maintaining a reward system the management at least signalizes to the employees that it encourages reporting rather than discourage.

All these three studies recommend incentivizing internal whistleblowing. The data basis gives a very homogenous picture regarding the desired effect of incentives. However, it should be noted that all three studies are based on experimental settings that cannot capture reality, especially when measuring “intentions”.

¹ The other one is the strength of their moral convictions about reporting internal misconduct.

Table 1. Relation between incentives and internal reporting intentions

<i>Study</i>	<i>Connection between ...</i>	<i>and ...</i>	<i>connection</i>
Stikeleather (2016)	An offer of a financial reward	Internal whistleblowing intentions	+
Pope and Lee (2013)	Financial bounty	A propensity to report questionable acts	+
Xu and Ziegenfuss (2008)	Financial incentives	Internal reporting intent	+
Brink, Lowe, and Victorovich (2013)	An offer of an internal reward	Increase in internal reporting intentions	-

Divergent from the above studies, Brink et al. (2013) suggest rather emphasizing employees' ethical obligation to report internally. Organizations should not offer internal rewards, but dedicate resources towards actions that will strengthen intrinsic motivations for internal whistleblowing. This recommendation is based on an examination of the impact of an internal incentive on employees' intentions to report fraud and to the choice of the reporting channel. Using an experimental setting of 81 evening and executive MBA students from US-universities as participants, Brink et al. (2013) found a lack of increase in internal reporting intentions following the addition of an internal reward. Furthermore, they found that when an internal reward is provided, the intentions to report externally (to the SEC) are lower when the evidence of misconduct is weak relative to strong.

Chen, Nichol, and Zhou (2017) examined "whether the effectiveness of incentives encouraging internal whistleblowing is a joint function of the framing of such incentives (a reward for whistleblowing or penalty for not whistleblowing)

and the strength of the descriptive norms supporting internal whistleblowing (strong or weak)" (p. 1757). In a lab experiment with 147 undergraduate students they found, that compared to rewards penalties lead to a greater increase in internal whistleblowing when descriptive norms supporting whistleblowing are stronger. The results suggest that the effect of formal control (i.e., an incentive encouraging internal whistleblowing) depends on the informal controls (i.e., descriptive norms supporting whistleblowing) that are already in place in an organization.

In another study, Boo, Ng, and Shankar (2016) investigated whether and to what extent close working relationships could undermine the effectiveness of different types of incentive schemes to promote whistleblowing. Conducting a between-subjects experiment with 123 auditors, they find that regardless of the presence of a close working relationship, a penalty-based (in opposition to a reward-based) incentive scheme increases the whistleblowing propensity.

Table 2. Factors influencing the effectiveness of incentives

<i>Study</i>	<i>Result</i>
Chen et al. (2017)	Penalties for not blowing the whistle lead to a greater increase in internal whistleblowing when descriptive norms supporting whistleblowing are stronger.
Boo et al. (2016)	Regardless of the presence of a close working relationship, a penalty-based incentive scheme increases the whistleblowing propensity.

All the mentioned results are based on experimental settings. An experiment can only simulate the real-world situation of a (potential) whistleblower to a narrow extent. Another limitation comes from using students as participants in the experiments - like Stikeleather (2016), Pope and Lee (2013), Brink et al. (2013), and Chen et al. (2017) did. Due to at least only a little experience with real-world whistleblowing situations, their response might not be directly transferrable to a real-world company setting.

4.1.2. Consideration of the risk for organizational insiders to blow the whistle

In all studies that came to a clear positive effect of incentives on whistleblowing intentions, the risk exposure of whistleblowers was relevant. The first two studies were built on the assumption that risk is a deterrent for potential whistleblowers.

Thus, the study conducted by Stikeleather (2016) based on the assumption that for employees the fear of incurring retaliation for blowing the whistle is one primary concern. Part of the considerations used for developing the hypothesis is that workers will expect employers to protect them because internal misconduct harms employers themselves². On the contrary regulators and other external institutions have no chance to protect whistleblowers internally. Based on a model of the whistleblowing process,

in the study of Pope and Lee (2013), it is considered that a report is only done if the expected benefits outweigh the costs of reporting. This led them to the conclusion that organizations can minimize the costs linked to blow the whistle and maximize the benefits by modifying their policies.

In the third study, Xu and Ziegenfuss (2008) argue that their concluded requirement to keep a reward system makes sense because people are simply afraid to blow the whistle because most popular whistleblowing stories like Enron or Worldcom had a negative outcome for the whistleblowers.

4.2. Internally or externally administered reporting channel

Organizations can administer and operate their whistleblowing system internally or externally. An internal reporting channel could be within the Human Resource or Internal Audit Department (Zhang, Pany, & Reckers, 2013). Alternatively, organizations can use an independent third-party provider for their whistleblowing system.

4.2.1. State of research regarding this organizational component

Research regarding this organizational component focuses on the question of whether reporting intentions differ from reporting perceived misconduct internal or external.

² Different to financial statement fraud or environmental dumping which could be tacitly encouraged by employers, according to Stikeleather.

Conducting an experiment with 130 evening MBA students Zhang et al. (2013) examined the efficacy of externally versus internally administered reporting channels. They found that an external reporting channel may overcome previous poor responsiveness to internal whistleblowing in the organization's history. It can as well reduce the reluctance of less-proactive people to report.

Gao, Greenberg, and Wong-on-Wing (2015) claim that external reporting channels may be more effective than those administered internally in promoting whistleblowing among lower-tier employees. They argue that the risk of retaliation is lower. Additionally, their 369 undergraduate business students-experiment revealed that an externally administered reporting channel moderates the bystander effect.

Kaplan, Pany, Samuels, and Zhang (2009) assume that there may not be an increase in fraud reporting by maintaining an externally administered anonymous reporting hotline. In two experimental studies with 91 evening MBA students from a US-university, they figured out "that reporting intentions were stronger when the anonymous reporting channel was administered internally rather than externally" (Kaplan et al., 2009, p. 285). Also obtained through an experimental study using 207 evening MBA US-students, Kaplan, Pope, and Samuels (2011) provided evidence that the willingness to report fraud to an internal auditor is significantly stronger than the willingness to report to an external auditor. They assume that the employees are not aware of the rules for professional confidentiality of external auditors. They suggest that internal auditors should reflect on ways to leverage the apparent advantage they have as an internal reporting channel. As an example, they mention that the reporting intention could be further strengthened if internal auditors promote stronger professional relationships with employees.

Overall, the findings are not clear. The result of the two studies leads to the conclusion that internal reporting channels should be preferred, whereas the two other studies come to the opposite result. However, the transferability of experiments conducted with students - the research method of all four studies - to real settings is questionable.

4.2.2. Consideration of the risk for organizational insiders to blow the whistle

The risk for a potential whistleblower to blow the whistle is not explicitly taken into account in any study regarding this requirement for the design of a whistleblowing system. Rather, this is an aspect considered in the preliminary conceptual considerations regarding the study structure, or in the reflection on it.

One of the parameters in the study of Zhang et al. (2013) is based on the cost-benefit analysis that they are supposed to be part of the decision-making process of someone blowing the whistle. They assumed that elements of the cost-benefit equation a potential whistleblower is setting up when deciding whether to use an internally or an externally administered reporting channel will be changed by information on the outcomes of previous whistleblowing incidents. Gao et al. (2015) argued that an important component of personal cost is the retaliation a whistleblower faces.

In three of the studies, it is presupposed that a whistleblower might have negative consequences to face. Kaplan et al. (2009) assumed in their research question that third-party providers of anonymous whistleblowing hotlines claim to assure better protection of an employee's identity than if a report is made via an internal number. In the study of Kaplan et al. (2011), the study results were limited by the assumption, that emotional factors, such as fear of negative consequences, in experimental set-up diverge from actual incidents. Gao et al. (2015) considered a possible whistleblowing risk in the choice of their experiment participants. They assumed that lower-tier employees focus less on the reputation of the company than on the fear of retaliation. According to them, this is the reason why they see an external administered reporting channel positive.

4.3. Anonymous reporting channel

Whistleblower systems can be designed in such a way that the whistleblower discloses his identity or remains anonymous.

4.3.1. State of research regarding this organizational component

The studies identified within the systematic literature analyses demonstrate different interconnections between anonymity and reporting behaviour, as shown in the following table.

Johansson and Carey (2016) found that the presence of an anonymous reporting channel is effective in reporting fraud. They conducted a large-scale multivariate analysis of data from 231 Australian publicly listed companies. The results show that organizations with anonymous reporting channels detect a higher incidence of fraud as well as a greater number of frauds. This positive correlation is found in small firms, but not in large firms. Therefore, they suggest to the former implementing anonymous reporting channels as beneficial. Only a minor effect of anonymous reporting was found by Kaplan, Pany, Samuels, and Zhang (2012). Conducting an online experiment with 65 online MBA students, they found that anonymous whistleblowing conditions appear to increase internal reporting - but only if the outcome of a previous incident was judged negative by the whistleblower.

One aspect that Pope and Lee (2013) have investigated is whether the propensity of the individual to report questionable acts overall is affected by the availability of an anonymous reporting channel. An experiment with 97 evening part-time MBA students showed that the availability of an anonymous reporting channel does not increase participants' intention to report wrongdoing. Hence, they found no positive effect of anonymous reporting channels and recommend in very general terms to design internal policies to promote favourable employee behaviour accordingly.

A negative effect of maintaining anonymous reporting channels was found by Kaplan and Schultz (2007). Conducting an experiment with evening MBA students they found that the intentions to report to non-anonymous reporting channels (i.e., to management or to the internal audit department) were stronger in the absence of an anonymous reporting channel. It should be noted that this result

is based on the assumption that the use of non-anonymous reporting channels is intended. According to the authors, organizations would be willing to select the reporting channels that are most likely to result in an effective outcome.

Robertson, Stefaniak, and Curtis (2011) find that auditors prefer to blow the whistle through non-anonymous outlets. This is the result of an experiment they conducted with 190 participants with audit experience. However, the alternative reporting option provided in this study was not to report via a whistleblowing hotline and reveal your identity, but to talk to mentors or partners. Consequently, Robertson et al. (2011) assume that the reasons that there is given preference for

non-anonymous reports via personal contact could be due to the fact that auditors appear competent whereas hotlines are seen as not effectively anonymous.

The attitude and opinions of recipients of whistleblower reports were examined by Guthrie, Norman, and Rose (2012). By examining chief audit executives handling of whistleblowing allegations and the factors that affect the credibility of whistleblowing allegation within a between-participants experiment with 84 audit executives of U.S. companies, they found a negative effect of anonymity. The participants judged anonymous whistleblowing allegations to be significantly less credible than non-anonymous allegations.

Table 3. Effects of anonymous reporting channels or reports

<i>Study</i>	<i>Effect of ...</i>	<i>on ...</i>	<i>connection</i>
Johansson and Carey (2016)	Presence of anonymous reporting channels	Detection of fraud incidence	+
Kaplan et al. (2012)	Availability of an anonymous reporting channel	Improvement of reporting intentions	(+)
Pope and Lee (2013)	Availability of an anonymous reporting channel	The propensity to report questionable acts overall	no effect
Kaplan and Schultz (2007)	Availability of an anonymous reporting channel	Reporting intentions: influence on the intended use of non-anonymous reporting channels	-
Robertson et al. (2011)	Non-anonymous outlet compared to the anonymous outlet	Whistleblowing intentions	-
Guthrie et al. (2012)	Anonymously submitted report	The credibility of whistleblowing allegation	-

The studies do not show a uniform picture regarding the relationship between the possibility of reporting anonymously and reporting behaviour. While most studies compare the whistleblowing intention through an anonymous or a non-anonymous reporting channel, Pope and Lee (2013) focused on the intention to report overall, regardless of the channel used. They saw no effect of anonymous reporting channels.

Measuring anonymous reporting in relation to other reporting methods, the number of reports per se seems to be increaseable by maintaining an anonymous reporting system instead or additional to a non-anonymous system. However, the effect of the possibility of submitting reports anonymously or the actual anonymous submission of reports is predominantly even negative. In particular, a recommendation to enable anonymous reporting cannot be made on this basis.

4.3.2. Consideration of the risk for organizational insiders to blow the whistle

Most of the studies were based on the assumption that anonymity helps to promote reporting intentions due to the reduction of the perceived personal cost of blowing the whistle (Johansson & Carey, 2015; Kaplan et al., 2012; Kaplan & Schultz, 2007; Robertson et al., 2011; Guthrie et al., 2012).

Pope and Lee (2013) based their hypothesis development on the presumption that "the biggest concern for potential whistleblowers is the possibility of retaliation" (Pope & Lee, 2013, p. 602). Through the availability of an anonymous reporting channel, the perceived costs of the action can be reduced. This is supposed to increase the individual's intention to blow the whistle.

4.4. Organizational responsiveness and characteristics of the report recipient

Organizational responsiveness in this context describes the ability of an organization to handle whistleblowing cases in an appropriate manner.

One of the factors that are used in research to investigate organizational responsiveness is the characteristics and quality of the report recipient. Recipients of whistleblowing reports do not only receive but also evaluate the report and, if appropriate, initiate investigations and consequences. The function is allocated internally mainly to the audit committee or the chief audit executive. The handling of these incoming reports by these institutions or persons is therefore subject of research.

Another factor in how organizational responsiveness is measured is the handling of reports in previous whistleblowing cases.

4.4.1. State of research regarding this organizational component

In organizational matters, different persons qualify as report recipients in companies. In assessing who best fulfils the role of managing the evaluation of whistleblowing allegations, Guthrie et al. (2012) suggest that chief audit executives, who are employees of the company, may be a better choice than members of the audit committee, who are in most legislations outside directors. The reason is that chief audit executives are accountable to various institutions. This is based on an examination of chief audit executives' handling of whistleblowing allegations using a between-participants experiment with 84 audit executives of U.S. companies.

After the report recipient has been assigned to a particular function within the organization, companies must also assign the role to the appropriate personnel. Viewing this, Kaplan, Pope, and Samuels (2015) state a systematic organizational advantage to managerial likeability. They found "that reporting intentions were significantly higher when the manager was likeable compared to when the manager was unlikeable" (p. 90). Kaplan et al. (2015) deduce that firms with an unlikeable manager are less likely to learn about fraud at a favorable stage. Consequently, an unlikeable manager implicitly generates systematic costs to the firm. This inference is based on the result of an experimental study they conducted using 171 professional accountants and managers as participants.

Studies concerning the conditions of the report recipient investigate also the connection between the use of reporting channels and the quality of the recipient, in this case, the audit committee. A high-quality audit committee for this purpose is defined with the measures of independence, expertise, and diligence (Lee & Fargher, 2018). Kaplan and Schultz (2007) point out that it is possible that even a "low" quality internal audit department is considered an effective reporting channel. They explored "whether the intended use of the internal audit department as an internal reporting channel is greater when the internal audit department is of 'high' versus 'low' quality" (Kaplan & Schultz, 2007, p. 109). One of the results of the experimental approach with 90 evening MBA students in the U.S. is that there is no affection of reporting intentions to the internal audit department when it is of "high" versus "low" quality. An entirely opposite result is found by Lee and Fargher (2018). They provide evidence that a high-quality audit committee helps to ensure that whistleblowing disclosures are received and resolved through internal channels. They examined the effect of the audit committee on the whistleblowing process using the cases of 318 financial allegations in listed Australian firms that were covered in the newspapers. This had the result that a high-quality audit committee is associated with the implementation of a stronger internal whistleblowing system. This, in turn, decreases the likelihood of external relative to internal reporting.

Another factor of organizational responsiveness is the companies' response to previous whistleblowing cases in the organization. Zhang et al. (2013) found that a negative organizational response to a prior whistleblowing report led to higher external whistleblowing intentions. With a behavioural experiment with 130 evening MBA students, they have investigated the link between negative and positive previous whistleblowing outcomes and intentions to blow the whistle using the company's anonymous reporting hotline. They conclude that an external whistleblowing channel may help overcome an organization's history of poor responsiveness to whistleblowing.

The organizational responsiveness can finally be found in an organization's attitude towards whistleblowing. Buckley, Cotter, Hutchinson, and O'Leary (2010) investigated in a survey how the employees of a large financial institution in Ireland perceive the attitude towards whistleblowing in their organisation. Half of the employees regarded their organisations attitude as neutral. No one regarded the attitude to be hostile, but also only very few

participants stated to find a very supportive climate. Consequently, Buckley et al. (2010) suggest that organizations should be more active in convincing employees of the advantages of whistleblowing. However, it should be noted that the study's data situation was very poor and only employees of one company took part in the survey.

Overall, the literature shows an ambiguous situation with regard to organizational responsiveness. Studies on this issue used different designs, different reporting recipients, and different types of participants. Whether the quality of the audit committee or department has any influence at all on the whistleblowing behaviour cannot be determined. It can be noted that the ideal person to receive reports from, is a likeable chief audit executive. Furthermore, in order to stimulate the use of internal whistleblowing channels, negative organizational responsiveness should be avoided.

4.4.2. Consideration of the risk for organizational insiders to blow the whistle

The studies that provide findings on organizational responsiveness show how the risk for organizational insiders to blow the whistle is considered to varying degrees and under different aspects.

Guthrie et al. (2012) considered the risk for potential whistleblowers - like negative reputation effects and career penalties - in the selection of their research participants. They assumed that internal auditors as employees "face threats to their objectivity over retaliation for and personal costs of their decisions and actions" (Guthrie et al., 2012, p. 91). Zhang et al. (2013) examined the impact of information about the outcomes of a previous whistleblowing event because they expected it to alter the cost-benefit equation of another potential whistleblower.

Moreover, the existence of risks for a whistleblower was taken for given and, thus the study results were put into perspective. Thus, Kaplan et al. (2015), as well as Kaplan and Schultz (2007), relativized their result considering the diminishing role of emotional factors such as fear and anger in an experimental setting compared to an actual setting.

4.5. Explicit protection for the whistleblower

The protection of a whistleblower during and after the whistleblowing is critical to the question of whether the whistleblower discloses his information on internal channels. In the studies identified, this was examined based on two measured values. First, the influence of measures to protect the whistleblower on whistleblowing behaviour is investigated. The underlying question is whether and, if so, which procedural safeguards influence the intention of a potential whistleblower to report. Procedural safeguards are measures relating to the protection of a whistleblower, directing the control of information received by the report recipient and directing the management of the case (Kaplan et al., 2009). The safeguards are considered strong, e.g., when there is an external hotline administered by a third-party or when the information was maintained in a tightly controlled confidential environment, a hotlines' good availability, good training, and staffing of the hotline or the persons receiving

reports and the procedures after receipt of a report like controls over the received information that guides the receiving persons' responses to the report (Kaplan et al., 2009; Kaplan et al., 2015).

Whistleblowing policies should stimulate and ensure that potential whistleblowers pass on their information to internal rather than external channels (Hassink, de Vries, & Bollen, 2007). In order to reduce the fear of possible whistleblowers, whistleblowing policies often include the various measures that were put in place to protect whistleblowers. Measures can be to provide confidential and anonymous reporting, specific safeguards for specific forms of retaliation such as harassment, job loss, etc. (Wainberg & Perreault, 2016).

4.5.1. State of research regarding this organizational component

Kaplan et al. (2009) advocate questioning common recommendations, e.g., outsourcing hotlines to third-party providers. By conducting two experimental studies with 91 evening MBA students, they found that reporting intentions were greater under the weaker procedural safeguards conditions than under the strong ones.

Kaplan et al. (2015) reflect that the existence of managerial procedural safeguards alone is decisive for a potential whistleblower - regardless of their quality. This consideration is the result of a study in which they found that there is no significant influence of managerial procedural safeguards to reporting intentions to a manager. The study was carried out as an experiment they conducted using 171 professional accountants and managers as participants.

Overall, there is no clear indication of protective measures' influence on the reporting intentions of possible whistleblowers. In fact, the studies revealed no negative influence of procedural safeguards.

In two other studies, the influence of whistleblowing policies on whistleblowing behaviour was analysed. Wainberg and Perreault (2016) suggest that organizations carefully design their whistleblower hotline policies in order to minimize the prominence of retaliation risks. "Rather than describing explicit protections offered from retaliation, organizations could instead more explicitly describe the organization's commitment to good corporate governance and ethical behaviour" (Wainberg & Perreault, 2016, p. 91). Furthermore, they could communicate instances of whistleblowing in the organization with a positive outcome. In an experiment with 68 participants who had significant auditing experience, they found "that the inclusion of explicit protections from specific forms of retaliation can lead to an increase in the salience of such threats, thereby significantly lowering the likelihood that the misconduct will be reported through whistleblower hotlines" (Wainberg & Perreault, 2016, p. 90).

Hassink et al. (2007) analysed the information on whistleblowing provided by large listed European companies. After reviewing the policy documents and code of conduct from 56 companies, they recommended publishing the whistleblowing policy in order to make reporting by third parties possible and to contribute to effective corporate governance in society's view. Furthermore, they recommended

to publish the number of cases. To increase transparency, at least the number of times the procedure was used should be reported. They suggest that potentially involved employees can be encouraged to report by providing clarity about what will happen to them if they blow the whistle.

4.5.2. Consideration of the risk for organizational insiders to blow the whistle

Kaplan et al. (2009) obviously took the risks for whistleblowers to blow the whistle as given when they investigate procedural safeguards in relation to reporting intentions. From an organizations' point of view, Kaplan et al. (2015) assumed that investing in strong procedural safeguards should be helpful to increase the intention to report perceived misconduct.

Wainberg and Perreault (2016) based their study on the assumption that the fear of negative consequences of blowing the whistle is one of the main reasons why individuals do not report perceived misconduct. They postulated that explicit protection mechanisms for whistleblowing hotlines let the risks for whistleblowers prevail and thus intensify the fear of negative consequences instead of diminishing it.

In the study by Hassink et al. (2007), negative consequences for whistleblowers were seen as a deterrent to potential whistleblowers. As a solution, they proposed to create transparency regarding the consequences for whistleblowers through whistleblowing policies.

4.6. Culture

One component of the organizational context is the ethical culture of an organization (Kaptein, 2011). The ethical culture is defined as those elements of the perceived organizational context that impede unethical behaviour and promote ethical behaviour (Treviño & Weaver, 2006).

However, it is difficult to measure corporate culture as a criterion.

4.6.1. State of research regarding this organizational component

In one of the studies the influence of training on the use of management control systems was measured (Brennan & Kelly, 2007). Brennan and Kelly found through a survey of 240 final year students of the Institute of Chartered Accountants Ireland - from which 100 completed the questionnaires - a positive correlation between training and the respondents' confidence in internal reporting structures. As a result, they proposed to reassess the training given to employees, focusing on methods of reporting concerns internally.

Kaptein (2011) examined the influence of the ethical culture of organizations on employee responses to observed wrongdoing. Based on data collected through 5.065 completed questionnaires of the U.S. working population he examined how different dimensions of ethical culture relate to different intended responses of employees. They found a positive relation between the cultural dimensions of clarity, supportability, and sanctionability to the internal actions of

confrontation, reporting to management, and calling an ethics hotline. However, internal whistleblowing through calling an ethics hotline was negatively related to the congruency of local management and discussability. Kaptein argues that external whistleblowing is a sign of weakness in the ethical culture of an organization. Necessary is "developing a culture where standards for ethical behaviour are clear, employees are committed to the ethics of the organization, where ethical dilemmas and issues are open for discussion, and where transgressors are punished" (Kaptein, 2011, p. 527). The study is to be credited for workings with a wide sample of the U.S. working population - not just people from one sector.

Mayer et al. (2013) found that employees are more likely to report unethical conduct internally when they perceived their supervisor to have high levels of ethical leadership. This tendency was stronger when employees perceived co-worker ethical behaviour to be high. This was found out in field studies with 197 participants answering an online survey and a between-subjects experiment with 116 working adults. They concluded that ethical leadership and co-worker ethical behaviour interact to influence employees' fear of retaliation, which in turn affects reporting unethical behaviour internally. Management should focus on their ethical messages. Employees must receive clear messages from leaders and their peers. Ethical training programs can send a positive message. Mayer et al. (2013) suggest that ethics officers should look across levels for indications of consistency and inconsistency.

4.6.2. Consideration of the risk for organizational insiders to blow the whistle

To find out how the respondents' confidence in the internal reporting structures was rated, Brennan and Kelly (2007) asked specifically about expected negative developments of potential whistleblowers' careers.

Kaptein's study (2011) is based on the assumption that it is necessary to find out how organizations can create a culture that welcomes the report of misconduct. The reason they see is that reporting misconduct challenges the organizational hierarchy, which is why employees who blow the whistle run the risk of negative consequences. Similarly, Mayer et al. (2013) used the fear of potential employee whistleblowers of negative consequences when blowing the whistle as part of the derivation of their research hypothesis.

4.7. Organizational justice perspective on the implementation of internal whistleblowing procedures

Another research stream uses the theory of organizational justice. This theory proposes that when employees perceive fair treatment, they are more likely to reciprocate and act in ways that benefit the organization (Seifert, Sweeney, Joireman, & Thornton, 2010; Soni, Maroun, & Padia, 2015). "Organizational justice theory provides a framework for the design of structural mechanisms intended to increase the likelihood of internal employee whistleblowing" (Seifert et al., 2010, p. 709).

Seifert et al. (2010) examined the influence of organizational justice on the likelihood to internally report. Conducting a between-subjects experiment involving a sample of overall 447 internal auditors and management accountants, their analysis indicated that higher levels of procedural, interactional, and distributive justice positively affect the perceived likelihood of whistleblowing. Based on their results, Seifert et al. (2010) suggested that management can positively influence the internal disclosure of fraud if they apply principles of organizational justice to the design and operation of whistleblowing systems; fair policies and procedures can increase the likelihood of whistleblowing.

Seifert, Stammerjohan, and Martin (2014) examined the influence of organizational trust on internal whistleblowing intentions. By conducting an experiment with 437 participants (internal auditors and management accountants) they found that there are higher internal whistleblowing intentions when there is a greater level of trust in the organization and in supervisors. Therefore, the likelihood of the internal reporting of wrongdoing may be improved by promoting additional trust in both the organization and supervisors. According to the paper, organizations might improve trust through publish actions taken to resolve claims of wrongdoing, as well as by providing additional training for supervisors on ideal responses to whistleblowing.

The fact that a high-level organizational justice increases the probability of internal reports was also the result of a study conducted by Soni et al. (2015). For an effective whistleblowing policy in professional audit firms, they consider it necessary that trainees have confidence that the matter disclosed will be resolved by the company. Furthermore, they state the need for sufficient rigor and transparency of policies to make sure they are accepted. In the study, the influence of organizational justice on the likelihood of trainee auditors reporting an engagement leader for misconduct was examined. However, it should be noted that the sample examined consists of 157 trainees, all employed at a large audit firm in South Africa.

For the studies carried out from the perspective of organizational justice, the overall result is almost homogenous: according to all three studies, a higher degree of organizational justice increases the probability that information is disclosed internally.

4.8. Overview: Consideration or non-consideration of the risk for organizational insiders to blow the whistle

Some studies did not at all consider the risk for organizational insiders to blow the whistle (marked with "-"). In other studies, consideration could be found (marked with "+"). Often this was not explicitly, only in the underlying assumptions, or the risk was considered merely incidentally as an argument or side issue (marked with "(+)"). Several studies considered the risks for organizational insiders to blow the whistle in the context of the cost-benefit analysis that a potential whistleblower is assumed to make when deciding whether or not to disclose information (marked with "/").

Table 4. Consideration of the risk for organizational insiders to blow the whistle

<i>Study</i>	<i>Recommendation for the design of whistleblowing systems</i>	<i>Consideration of the risk for organizational insiders to blow the whistle</i>
<i>Incentives</i>		
Strikeleather (2016)	Communication of a potential benefit of reporting misconduct can motivate some workers to blow the whistle who might otherwise remain silent.	+
Pope and Lee (2013)	Compliance programs should incentivize whistleblowing.	/
Xu and Ziegenfuss (2008)	By maintaining a reward system the management at least signalizes to the employees that it encourages reporting rather than discourage.	(+)
Brink et al. (2013)	Organizations should not offer internal rewards but dedicate resources towards actions that will strengthen intrinsic motivations for internal whistleblowing.	-
Chen et al. (2017)	The effect of formal control depends on the informal controls that are already in place in an organization.	-
Boo et al. (2016)	Regardless of the presence of a close working relationship, a penalty-based incentive scheme increases the whistleblowing propensity	-
<i>Internally/externally administered reporting channel</i>		
Zhang et al. (2013)	An external reporting channel may overcome previous poor responsiveness to internal whistleblowing in the organization's history.	/
Gao et al. (2015)	Reporting channels administered externally may be more effective than those administered internally in promoting whistleblowing among lower-tier employees.	/
Kaplan et al. (2009)	There may not be an increase in fraud reporting by maintaining an externally administered anonymous reporting hotline.	(+)
Kaplan et al. (2011)	Internal auditors should reflect on ways to leverage the apparent advantage they have as an internal reporting channel.	(+)
<i>Anonymous reporting channel</i>		
Johansson and Carey (2016)	Implementing anonymous reporting channels is beneficial in small firms.	/
Kaplan et al. (2012)	Anonymous reporting channel increased the likelihood of internal reporting.	/
Pope and Lee (2013)	Design internal policies to promote favourable employee behaviour accordingly.	+
Kaplan and Schultz (2007)	Intentions to report to non-anonymous reporting channels were stronger in the absence of an anonymous reporting channel.	/
Robertson et al. (2011)	Auditors prefer to blow the whistle through non-anonymous outlets than anonymous outlets.	/
Guthrie et al. (2012)	The negative effect of anonymity: less credibility of anonymous whistleblowing allegations than non-anonymous allegations.	/
<i>Organizational responsiveness and characteristics of the report recipient</i>		
Guthrie et al. (2012)	Chief audit executives may be a better choice for managing the evaluation of whistleblowing allegations relative to members of the audit committee.	+
Kaplan et al. (2015)	Unlikeable managers implicitly generate systematic costs to the firm.	(+)
Kaplan and Schultz (2007)	Even a "low" quality internal audit department could be considered an effective reporting channel.	(+)
Lee and Fargher (2017)	A high-quality audit committee helps to ensure that whistleblowing disclosures are received and resolved through internal channels.	-
Zhang et al. (2013)	External whistleblowing channels may help overcome an organization's history of poor responsiveness to whistleblowing.	/
Buckley et al. (2010)	Organizations should be more active in convincing employees of the advantages of whistleblowing.	-
<i>Explicit protection for the whistleblower</i>		
Kaplan et al. (2009)	Reporting intentions among those discovering fraud were greater under the weaker procedural safeguards condition than under the strong conditions.	(+)
Kaplan et al. (2015)	Alone the existence of managerial procedural safeguards is decisive for a potential whistleblower - regardless of the quality of these.	(+)
Wainberg and Perreault (2016)	Carefully design whistleblower hotline policies in order to minimize the prominence of retaliation risks.	+
Hassink et al. (2007)	Provide clarity about what will happen to potential whistleblowers if they decide to blow the whistle.	(+)
<i>Culture</i>		
Brennan and Kelly (2006)	Reassess the training given to employees, focusing on methods of reporting concerns internally.	+
Kaptein (2011)	Developing a culture where standards for ethical behaviour are clear, employees are committed to the ethics of the organization, where ethical dilemmas and issues are open for discussion, and where transgressors are punished.	(+)
Mayer et al. (2013)	Ethics officers should look across levels for indications of consistency and inconsistency.	(+)
<i>Organizational justice perspective on the implementation of internal whistleblowing procedures</i>		
Seifert et al. (2010)	Fair policies and procedures may increase the likelihood of whistleblowing.	-
Seifert et al. (2014)	Organizations might improve trust by publicly posting actions taken to resolve claims of wrongdoing and by providing additional training for supervisors on ideal responses to the reporters of wrongdoing.	-
Soni et al. (2015)	A necessity that trainee auditors have confidence in the company to resolve the matter disclosed, for an effective whistleblowing policy in professional audit firms; need for sufficient rigor and transparency of policies and procedures to make sure they are accepted as fair and credible.	(+)

5. DISCUSSION

The systematization in the range of "soft" to "hard" organizational criteria allows a clear classification of all study results. Within these organizational components, the studies do not, though, provide a homogenous picture. There is no unanimous recommendation on the design of a whistleblowing system or its components.

As the literature analysis has shown, none of the studies focused specifically on the risks for potential whistleblowers to blow the whistle. The risk for whistleblowers is explicitly relevant in five of the 31 studies. In 20 further studies, the risk to blow the whistle was not explicitly relevant to the research but must have been familiar in the context of the study. Six of the studies did not recognize risks for whistleblowers at all.

5.1. The underlying research assumption: Cost-benefit analysis

In several studies (Gao et al., 2015; Kaplan et al., 2012; Xu and Ziegenfuss, 2008) the risks for potential whistleblowers were at least part of the assumption underlying the investigation.

Nine of the studies worked with the assumption that a potential whistleblower considers the costs and benefits of filing a report (Miceli & Near, 1985) and that the results of previous whistleblowing outcomes influence the cost-benefit assumption of a potential whistleblower (Zhang et al., 2013). Costs include the expected outcome of potential whistleblowing if the organization has not investigated or taken corrective action following previous incidents as well as possible retaliation for the whistleblower (Zhang et al., 2013). Part of the benefits are corrective action taken by the organization following previous incidents. In the study setting, this can be shown at the companies' previous whistleblowing outcomes (positive or negative).

This assumption was hardly questioned in the studies. Though other research assumes that a whistleblower does not make the decision to blow the whistle on the basis of a traditional cost-benefit analysis like it is often used for risky decisions (Lowry et al., 2013). The distinguishing factor of

the decision situation is that the act to blow the whistle has hardly any advantages for the whistleblower.

5.2. Limitations of the current database

A remark must be made with regard to the papers included in the literature review. The results do not consider the differing influence of societal cultures (Vandekerckhove et al., 2014) on whistleblowing. Given that existing studies identify the cultural and ethical aspects as a factor influencing the probability of whistleblowing actions (Köbel & Herold, 2010; Miceli, Near, & Dworkin, 2009; Hassink et al., 2007), this is a limitation of our study.

6. CONCLUSION

This literature review reveals that the negative consequences that an internal whistleblower may face if he or she discloses misconduct do not play a central role for organizations in the design of whistleblowing systems. Research about the possible consequences of reporting perceived wrongdoing internally is limited. The most common, but controversial consideration is that potential whistleblowers carry out a cost-benefit analysis as part of the decision to blow the whistle.

The contribution of this paper to the current state of research is, on the one hand, the systematization of the design specifications for whistleblowing systems given in the literature. On the other hand, this review reveals the lack of discussion of the risks for whistleblowers in the design of whistleblowing-systems.

Considering the fact that organizations themselves have a self-interest in generating and channelling as much information as possible through their internal whistleblowing system, this result should encourage research and practice to address this issue. Since companies themselves should have an interest in setting up whistleblowing systems that are functional, management practice should consider the mentioned findings.

Future research should focus on providing a foundation for the increasingly widespread design recommendations for whistleblowing systems as part of "best practice" compliance management systems.

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