Modifying an accident process and its justice system – From single narratives and retribution to multiple stories and restoration

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ABSTRACT

When an accident occurs, the treatment of workers afterwards can have a significant impact on learning within the organisation. This in turn is a key influence on the organisation’s capacity to deal with future risk. The style of the accident analysis process chosen can have a considerable influence on the outcomes of the analysis and the treatment of those involved. In this paper, we report on a study into the design, introduction, and eventual sunsetting of a restorative justice process. The study found that restorative justice mechanisms can improve honesty, engagement and learning. However, the study also found that factors external to the formal accident response process have a considerable influence over the perception and execution of restorative justice. Successful management of these factors is important for realising the benefits of restorative justice for workplace accidents.

1. Introduction

1.1. Overview

There have been a number of arguments put forward on the benefits of using restorative justice mechanisms when responding to workplace accidents (Dekker, 2012; Dekker and Breakey, 2016; McCall and Pruchnicki, 2017). Some have even shown the positive economic effects created where a restorative-style just culture has been introduced (Kaur et al., 2019). However, there is very little research which captures the perceptions of those who have lived the process. There is also an absence of data to illustrate the perceptions of the change in accountability from those at different levels of the organisation.

1.2. A background of restorative justice mechanisms

The most widely used accident analysis tools are based on sequential, reductionist models of systems and causality (Carhart and Yearworth, 2010; Leveson, 2011). These tools are often labelled “root cause analysis techniques” and seek to classify the factors that ‘caused’ the accident to occur. The label “root cause analysis”, implies that a single cause (or small number of causes) led to the accident occurring and can promote a reductionist view (Peerally et al., 2017). Reducing an accident to individual components fails to truly understand the complexity of the real world (Dekker, 2011) and can wrongly assume an effect cannot occur without a specific cause (Leveson, 2011). Humans are often the target of such causal attribution, particularly due to outcome bias (Fischhoff, 1975). This can result in accident analyses halting at the point where they assume that the human involved had complete freedom of action (Rasmussen, 1997). The upshot is that there are always humans, somewhere in the ‘chain’, who can be blamed for the accident (Dekker, 2002).

Blame can significantly reduce organisational learning (Shilling and Kluge, 2009; Reason, 1997; Leape, 1994) and work efforts (Heraghty et al., 2020), while producing an innovation-killing fear of risk (Farson and Keys, 2002; Hernandez-Mogollon et al., 2010). The individual also suffers. Those who suffer accidents often feel personally responsible (Wu, 2000). With symptoms similar to Post-Traumatic-Stress-Disorder (PTSD), they often leave their profession without effective treatment (Dekker, 2012). Workplace blame can of course have other reasons, such as settling grudges (Oswald et al., 2018), and can lead to underreporting and employee silence (Borborovic et al., 2019; Lawrenson et al., 2018).

The concept of a just culture was introduced as a means of reducing blame and increasing learning in industry. Its introduction was intended to strike a balance between no-blame and accountability (Frankel et al., 2006; Marx, 2001; Reason, 1997; Stemn et al., 2019; Walton, 2004). Anxiety had emerged due to the introduction of no-blame-systems (Dekker and Breakey, 2016) as organisations feared reckless actions would become immune from accountability (Reason, 1998; Eddie, 2015). In situations with no accountability, professional responsibility is

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sacrificed (Walton, 2004). The idea of a just culture has been widely accepted (Cromie and Bott, 2016) and has been introduced to a range of sectors such as aviation, health care, nuclear and rail ((Boyesen, 2013; Pattison and Kline, 2015; Schwarz and Kallas, 2015; Von Thaden et al., 2006). There are, however, a number of concerns regarding the just culture frameworks created by the likes of Reason and Marx and their impact on a learning culture.

Firstly, the models created by Reason (1997) and Marx (1997), though pioneering, rely on a reductionist-style accident analysis, which have trouble acknowledging complexity (Rasmussen, 1997; Snook, 2000; Dekker et al., 2011). For a person’s actions to be passed through the culpability model, the accident must first be broken down into a chain of events. This oversimplifies the accident and excludes the system factors and the non-linear aspects of the event (Leveson, 2011), such as the decisions made deeper in the system which influenced the actions on trial (Rasmussen, 1997). Secondly, retrospective accountability, which the Reason culpability model unintentionally allows for, is susceptible to hindsight bias (Dekker, 2012). The term “reckless violation” is only ever placed on an action after something bad has resulted. This can be seen as unfair as the judgment is based on the outcome rather than the action itself. Perceptions of unfairness or blame can see reporting reduce dramatically (McCall and Pruchnicki, 2017) as it becomes viewed as a risk to one’s livelihood. Though well intended, the just culture models proposed by Reason and Marx could inadvertently help create the antithesis of what they set out to achieve; an organisation that can learn.

There have been appeals for restorative justice mechanisms to be used within accident analysis (Dekker, 2012). Restorative justice is a process “where all stakeholders affected by an injustice have an opportunity to discuss how they have been affected by the injustice and to decide what should be done to repair the harm” (Braithwaite, 1989). A common misconception is that restorative justice is the opposite of retributive justice (Daly, 2002). On the contrary, many of the outcomes which emerge from a restorative approach to justice could be legitimately perceived as punitive by those involved (Barton, 2000). The reparation of harm and the actions required may be experienced as a form of punishment or shame by the actors’ subject to them (Daly, 2002). However, a key difference between retributive and restorative justice lies in the mechanisms by which accountability is attained.

Retributive mechanisms are intended to answer pain with pain, whereas restorative mechanisms are used to work towards constructive outcomes (Wright, 1991) which can prove beneficial for the community. These two types of accountability can be referred to as retrospective and prospective (McCall and Pruchnicki, 2017). The retrospective accountability focusses on ensuring individuals pay their due for their wrong (Hare, 1986) and not to address any of the issues found within the system (Liang, 2001). Conversely, prospective accountability establishes the actor’s accountability for future action (Rivard and Carroll, 2003). Retrospective accountability fails to take into consideration how complex organisational systems are and that safety and accidents are but emergent properties of this complexity (Yang et al., 2017). Processes which allow for retrospective accountability, such as Reason’s culpability model, can encourage more human-focused accident analyses which can lead to engineering and system solutions becoming de-prioritised (Henriksen and Kaplan, 2003). Prospective accountability holds people to account, not through blame, but by ensuring the actors involved provide their account (Dekker, 2012). Accountability needs to become less about who helped cause the issue and more about how the issue needs to be resolved (Sharpe, 2003). Those involved in the acci-
dent move from being viewed as the problem to being best placed to help solve the issues which caused the event.

1.3. Research question

This paper presents a case study of an accident process modification on a construction project in the United Kingdom. In Section 2, we describe the methods used to create the environment needed to carry out a case study, the data collection process and the method used to analyse the data. Section 2 was broken down into three sub-sections. Sub-section 1 describes the case study itself, the changes made to the accident process and how these were communicated to various levels of the organisation. Sub-section 2 discusses the data collected and the methods used to source this information. Sub-section 3 illustrates how the data was then analysed and the logic behind the approach taken. Section 3 presents the results of the survey and the themes which emerged from the interviews of the 21 participants in the study. Section 4 analyses the data found in Section 3 and determines the implications these findings have for industry.

The question we set out to answer with our study is;

- What by-products does the modification of the accident process and the associated justice system create within an organisation and how do these influence learning?

This research will allow us to build on existing knowledge in the areas of accident analysis, just culture, organisational justice systems and organisational learning. The findings will provide organisations with a better understanding of the importance of both the approach to accident learning and the justice mechanisms used as part of this approach.

2. Methods

This is an action research study in which the 1st author was directly involved in the design, introduction, and eventual removal of a restorative justice process. The study was carried out over 8 months.

For the benefit of the reader, “the organisation” is a joint venture of 2 construction companies whom are carrying out construction works on a major project. “The client” is both the principal contractor overseeing this project and the customer whom is paying for the works to be carried out. The senior leadership team members discussed are those of the joint venture itself and not of those whom oversee each of the parent companies at a corporate level. Neither parent company corporate leadership team had any direct involvement in this study. Those listed as having received training in Table 2 in Appendix A represent the entire joint venture organisation.

2.1. Accident process modification case study

An accident analysis process infused with restorative justice mechanisms was introduced to the organisation to replace the old process which contained retributive justice mechanisms. The process and its required delivery were captured within 3 documents and was communicated using 3 methods. Both the documents (Table 1) and communication methods (Table 2) can be found in Appendix A – Document Tables.

There are several essential elements associated with accident process modification which are listed below.

<table>
<thead>
<tr>
<th>Document</th>
<th>Document Intent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accident and Work Exploration Standard</td>
<td>The standard communicates the key components which exist within the accident exploration process.</td>
</tr>
<tr>
<td>Achieving a Just Accident Exploration Procedure</td>
<td>The procedure was designed to provide a step-by-step process for the management team to follow to ensure fairness was achieved for all involved.</td>
</tr>
<tr>
<td>Accident and Work Exploration Guidance</td>
<td>The guide contained useful information for the accident exploration facilitator when conducting an accident or work exploration.</td>
</tr>
</tbody>
</table>
2.1. Removal of suspension and punishment from the process

The use of suspension and other forms of punishment were removed from the process as they were shown to cause psychological damage and negatively impact future safety (Heraghty et al., 2020). The following was included in the modified process:

“The participants involved in an accident are dealt with in a positive manner without the use of punishment or any other form of negative treatment at any stage of the process.”

2.1.2. An adjustment of the language used to describe the process

The language used as part of the accident process has been shown to influence both participation (Heraghty et al., 2020) and decision making (Heraghty et al., 2018). Much of the language shown to have negative connotations was removed. Table 3 (found in Appendix A) contains some of the key changes made to the process involving language and framing.

2.1.3. Acceptance of multiple stories and moving away from reductionism

Traditionally, accident reports tend to be linear and reductionist in nature. The original accident process required one story to be told and the root cause to be determined. The modified process included the following to minimise any bias which can occur when selecting the important information from the stories of others:

“The Discovery Sessions - Insert the stories of each of those involved in the event. Ensure each story is inserted word-for-word.”

The issues sought were no longer the broken components which were deemed to have caused the accident but were instead the issues which made work difficult.

“The participant must highlight the activity elements they believe made the job difficult to complete.”

The focus was no longer solely on failure potential. There was also recognition that even though there was an accident, not everything was wrong.

“The participant must highlight the activity elements they believe to be successful.”

2.1.4. Inclusion of the workforce in the creation of actions

Prior to the accident process modification, the accident analysis team was made up of safety professionals and management.

“The Project Leader or a nominated senior member of the team must be involved in the investigation, report production and briefing of the team on any lessons learned. They should involve the HS&E Adviser where possible.”

None of the accident reports carried out on the project prior to the process modification had workforce involvement in the creation of the actions.

As a means of improving the quality and useability of the actions determined following an accident as well as attaining prospective accountability, the new process included the following (summarised):

“All Work Explorations will be reviewed by a Report Review Panel. This panel will:

• Confirm actions for the issues found and appoint responsible persons to implement each action within a set time frame.

The panel will include the following personnel;

All involved in the event.”

As the process only covered accidents, the following was included:

“An accident is where a worker was conducting normal work when an unintended consequence occurred or had the potential to occur. Events that involve intentional negative consequences e.g. sabotage of equipment, will not fall under this standard.”

2.1.5. Management of the process

The accident process was managed by the health and safety team with oversight provided by the Health and Safety Systems and Improvements Manager (the 1st author). A total of 12 safety professionals, 6 senior leaders, 7 project leaders and 58 managers were educated in the process. A total of 5 accidents occurred during the 8-month study period which were subject to the accident exploration process (the modified process).

2.1.6. Termination of the study

Approximately 8 months after the accident process was modified, senior members of the organisation determined a need to move the accident process away from restorative mechanisms, which led to the termination of the study.

This was an unexpected and drastic change, the reasons of which are discussed further in Section 3.3.

2.2. Data collection

2.2.1. Interview overview

The data for this research was accumulated using the semi-structured interview approach. This approach was used as the aim of this research was to understand the lived experience of those involved in accident processes and qualitative interviews have been found to be a “powerful tool to capture the voices and the ways people make meaning of their experiences” (Rabionet, 2011). Both Kvale’s Doing Interviews (2007) and Creswell’s Research Design (2013) heavily influenced the approach to designing the interviews.

The questions were open-ended and included language and framing which was as objective and neutral as possible to minimise any confirmation bias.

The questions below were those that were asked of each participant during each Discovery Session, though not always in this sequence as sometimes the participant started by answering question 3 before moving on to question 2. As discussed by Adams (2015), conversations within semi-structured interviews often do not follow the sequence of questions as it is important to maintain the flow of the conversation.

Q1. How does our current safety justice system impact trust and learning in the workplace?
- Compare with previous experiences in different workplaces
- Thoughts on the language used to describe the process

This question was posed first as according to Adams (2015), it can be helpful to start with the question that appears least threatening to the participant. This question allowed the participant to start with their overall view rather than a personal experience. Discussing trust was important as it is shown to impact individuals’ willingness to engage (Leape, 1994; Wu, 2000; Ruitenberg, 2002; Heraghty et al., 2020). The language aspect was asked to determine whether the language and framing of the system influenced perceptions in a similar manner to that shown by Thibodeau and Boroditsky (2013). The sub-question on previous experiences emerged as a result of the initial participants choosing to raise this topic within their sessions.

Q2. Give us your opinion on the safety reporting culture on the project?
- Willingness to report
- Action taken
- Treatment of those who report
- Treatment of those involved in the issue

A reporting culture is deemed an essential element for organisational learning (Reason, 1997) and how a person is treated once they’ve reported can influence future reporting within an organisation (Dekker, 2012). The sub-question discussing the action taken emerged within the initial Discovery Sessions when discussing the reporting culture.

Q3. Provide me with your views on your own experience of the accident process and how justice and learning is achieved following an accident?
- The outcome
- The methods used to achieve them
- The treatment of the people involved

All of those who participated in Discovery Sessions had been involved in the accident process. This question set out to understand the experiences of those at different levels of the organisation. As reported in previous research (Heraghty et al., 2020), it isn’t just the outcome that can influence organisational learning, but also the process itself and how people are treated during it.

Q4. Tell me of a time you believed a safety injustice occurred in the workplace, either to you or somebody else?
How did that make you feel?
How did it affect the workplace?

This question was designed to understand the impact perceived safety injustices have upon an individual and the workplace, as the works of Wu (2000) and Dekker (2012) both highlight the damage blame can have upon an individual and, in turn, the organisation. This question often merged with Question 1 due to the participant using a specific experience to describe how past systems differed from the current one.

Q5. Is there anything else you would like to ask me?

To ensure the participant was given every opportunity to provide their unfiltered views and to have full confidence in the process, this question was always asked last.

2.2.2. Participants

The actors from the 5 different accidents were chosen for participation in qualitative interviews. 5 was the total number of accidents which occurred during the study period which meant 100% of those who were exposed to the modified process were captured in this study (with the exception of the Client who decline to participate).

For each accident report, a semi-structured interview was carried out with the following personnel;
- The worker who was carrying out an activity when they suffered an accident,
- The worker’s supervisor,
- A support function involved (safety professional, discipline specialist),
- The senior manager who approved the report and its related actions.

Discovery Sessions (semi-structured interviews) were conducted within the organisation. A breakdown of these can be found in Table 4 below.

2.2.3. Qualitative interviews with leaders who determined the need to alter the modified accident process and end the trial

Semi structured interviews were carried out with the following personnel due to their involvement in the termination of the trial;
- Organisation Senior HSE
- Organisation Senior Construction

Members of the client team were invited to participate but declined the invitation. All information attributed to the client is based on conversations that occurred between the first author and the client.

2.3. Data analysis

There is no objective way to examine an organisational justice process. Every version of events, including the official reports and the researcher’s account, is a post-hoc interpretation of what happened. With this in mind, the research team believed that the most suitable way to gain a better understanding of the organisational justice process was to analyse the experiences and perceptions of those who oversaw the process and those who lived it.

The data was analysed using the thematic analysis approach defined by Braun and Clarke (2006). Emerging themes were related to each other according to axial coding (Corbin and Strauss, 2008). There were 4 phases in the process;

Phase 1
The 1st author familiarised themselves with each of the 21 semi-structured interview transcripts by thoroughly and repeatedly reading through them.

Phase 2

<table>
<thead>
<tr>
<th>Table 4 Post-Accident Discovery Session Participants.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>The worker who was carrying out an activity when they suffered an accident</td>
</tr>
<tr>
<td>The worker’s supervisor Discipline specialist</td>
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<tr>
<td>The senior manager who approved the report and its related actions e.g. Construction Leaders/ Project Leaders</td>
</tr>
<tr>
<td>The senior leaders whose decision it was to end the trial (Director Level)</td>
</tr>
</tbody>
</table>
The transcripts were scrutinised for emergent trends and where there were shared opinions across several transcripts, each individual’s discourse was taken and grouped with the others whom shared the same view. This helped generate the initial themes.

Example:
The importance of a transparent process emerged as an initial code through phrases such as;

“The process was really good. Our Project Leader kept us in the loop all the time about what was happening.”

“With this accident, we were clearly told that they weren’t looking to blame but just wanted to learn. Hearing this helps you share as you have no fear.”

In some cases, the same quote from a participant existed in multiple themes as it was accepted that it related to more than one theme.

For example, the following quote was placed within the transparency of the process theme and the past experiences theme as it related to both;

“It was funny because both of the other guys blamed the supervisor. Once we explained nobody was going to get sacked, they changed.”

Phase 3
Following the initial grouping of commonalities into themes, these themes (of which there were 15) were further grouped based on commonalities between the themes. This resulted in the 7 final themes which exist in the article.

At this stage, some of the participant quotes which existed within the initial themes migrated into other themes outside of the associated final theme as they were more aligned with one of the other final themes.

An example of the grouping of initial themes is as follows (Fig. 1);

Phase 4
Once the final themes had emerged, they were placed into categories. The categories were identified with the help of a previous article we wrote on the perceptions of a retributive accident process (Heraghty et al., 2020) in which similar themes to those identified in Category 1 also emerged.

All opinions provided by those involved were treated equally, regardless of their role, and all opinions were assumed to be true experiences of the participants.

When coding, both similarities and inconsistencies were highlighted to help draw conclusions about the process. The descriptions and organisation of these concepts were openly discussed amongst the authors before finalisation to ensure each quote was an accurate reflection of the theme it was associated with.

3. Results

When analysing the results, there were 2 clear categories;

- Significant influences on the outcome where the changes made to the process were not a factor.
- Emergent properties of this study and the changes implemented.

These categories each contain themes, all of which are captured in the tree diagram below (Fig. 2).

3.1. Significant influences on the outcome where the changes made to the process were not a factor

3.1.1. The initial treatment of individuals following an accident has a strong bearing on perceptions of the process and future reporting

The willingness of the workforce to participate in the accident analysis process in any capacity was viewed to be intertwined with the likely reaction of the supervisor or manager receiving the report. Where a supervisor was viewed as “old school” or likely to “lose their cool” on hearing bad news, the chances of their subordinates reporting an accident reduced significantly.

“There is still a lot of work to be done with supervision as they are still very old school and sometimes throw their hands in the air and say, ‘What have you done now?’” (Worker)

Conversely, supervisors deemed more approachable and unlikely to throw their team under the bus were much more likely to receive accident reports as their workers were unafraid to provide them.

Several of the workers spoken to felt that their supervisors and the managers above them reacted defensively because they themselves feared being blamed for the accident. Accidents could be viewed as “black spots” on a manager’s reputation, something which drove some managers to view accident reports as a personal problem.

“People aren’t always treated well as some managers take it negatively and personally. It’s almost as if it is a black spot on their record.” (Worker)

It wasn’t just managers who were thought to view accidents as a risk to their reputation but also the workers themselves. Managers believed workers were happy to discuss management issues following an accident but became defensive when discussing areas under their control.

Programme pressure was viewed by workers and support staff as a key contributor when a supervisor reacts negatively to an accident. Supervisors who are “flat out busy” are reluctant to hear problems as they haven’t the time to deal with them.

“Quite often it’s the pressures of the job that does it. When you are flat out busy, you don’t want to hear more problems.” (Worker)

Surprisingly, standard accident processes can also influence a person’s willingness to participate. Many of the workers spoken to believed “D&A” (drug and alcohol) tests after an accident made them feel “like a criminal”. The D&A testing even created the perception amongst those

Fig. 1. Example of merging of themes.
involved in one accident that they were being blamed and had been stood down from their role when this was not actually the case.

3.1.2. The transparency of the process throughout the accident analysis is crucial to both current and future participation

The level of transparency provided by the process facilitator had a significant impact on the participants’ perceptions of both the process and their willingness to participate. In instances where it was communicated at the start of the process that there wouldn’t be “finger pointing” and nobody was “getting sacked”, those involved insinuated that they were more likely to participate in an honest manner and less likely to be defensive.

“You aren’t afraid to lose your job as you are told in the beginning that this process isn’t focussed on blame; it’s about learning.” (Operator)

The provision of continuous communication throughout the life cycle of the process was shown to substantially affect the mindset of those involved. Those who were “kept in the loop” described their experience in a positive light and spoke without fear. On the other hand, where the communication to the worker was sub-standard, elements of the process could be misinterpreted. Where D&A testing was implemented post-event, a lack of clear communication led several workers to misconstrue this as being “stood down”, leaving them with a poor opinion of the process and their treatment.

“The whole situation made me feel very low. I was depressed. I sat in the office for 3 days not knowing what the outcome was going to be for me.” (Supervisor)

Where there wasn’t a clear understanding of all aspects of the accident process, some of the facilitators reverted to old practices and doing it “the way we do it where I am from”. This resulted in a worker being suspended from work following an accident and being physically

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![Diagram](image_url)

**Fig. 2. Categories and themes.**
isolated from the process while it was underway. By-products of this approach was a heightened sense of fear and anxiety within the worker while they awaited the outcome.

3.1.3. Past experiences continue to influence perceptions and actions even when there is a change in process

The past experience of both those who are participating in an accident process and those who are leading it can impact the level of participation and the style of the approach taken. Those who suffered negative treatment because of a previous accident process displayed suspicion towards the new process, even when they were informed that punishment would not be used.

“Even though we say we don’t punish people, some people still don’t believe it because of their past experiences.” (Supervisor)

The “scars from their past” meant that significant persuasion was required before some participants were willing to disclose in an honest manner. Negative pre-conceptions of the process caused some of the participants to be defensive initially and even lead them to blame one another until they were convinced they themselves wouldn’t be blamed.

“It was funny because both of the other guys blamed the supervisor. Once we explained nobody was going to get sacked, they changed.” (Senior Leader)

Those who are self-employed or subcontracted were deemed even more likely to avoid participation than direct hire workers. The reason given for this was because it is considered industry practice that when a subcontractor employee reports an issue, they’re “finished”.

The past experiences of those overseeing the accident process can lead to the approach taken to drift from the agreed method. Where leadership have used forms of blame in the past, it was felt that they can quickly revert back to “finger pointing” as “they’ve always done it that way” and it is a “quick solution”. The accident facilitators are also vulnerable to their past experiences swaying their approach. Some of the participants believed their accident facilitator was “interrogating” them and looking for someone to blame. One of the accident facilitators spoke of re-iterating the no blame approach to those involved for their own benefit to avoid falling back into their old “interrogation techniques”.

3.1.4. A change in the accident process doesn’t necessarily reduce the impact of external pressures and political decision making

External stakeholder influence can result in actions from the delivery team which are damaging to the accident process and the organisation’s ability to learn. The pressures to deliver programme dates was believed by some participants to create an environment where “when can we go back to work?” becomes the overriding priority and the team subconsciously accept more risk in an effort to hit the deadline. Time constraints placed by stakeholders on the delivery of outcomes from the accident process was also believed to have reduced the level of learning from events. This hunger for swift outcomes from stakeholders also prompted the organisation to stand an individual down after an event to appease the stakeholder.

“Also, as the process was new and the client wanted an immediate response, we decided to stand him down.” (Senior Leader)

Unfortunately, it was found that a change in the accident process does little to prevent its misuse. Whether an event is deemed report-worthy can be at the discretion of stakeholders in positions of authority. An event can be elevated from a basic improvement opportunity to a full accident analysis because of a “narky” interaction between the organisation and the stakeholder. Some participants believed that stakeholders were requesting accident reports not due to the severity of the event but to “justify their existence”. It was even implied that stakeholders were using the accident process to exert authority on the organisation.

“The client is using their position of power; exploiting it and making stupid requests. It is a status thing for them, and they use safety as a tool to demonstrate their authority.” (Support)

Some accident report facilitators and senior leaders were frustrated with the organisation’s most senior personnel routinely avoiding actions associated with their own areas or becoming defensive when they were raised. This lack of accountability was thought to have led to a “loss of faith” in the process by some and reduced participation.

3.2. Emergent properties of this study and the changes implemented

3.2.1. An adjustment of the language and framing used can help alter perceptions of the process

The language and framing used by the process and those facilitating it was believed to have a direct influence on participant perceptions and engagement. Many of the workers and management spoken to interpret the language used within traditional incident investigation processes as “police-style” which forces the participants into “survival mode” to protect themselves from recrimination. Where this traditional style language was used within previous processes, those exposed to it often construed the process as a personal attack on them and were highly selective when sharing their story.

“When you’re under investigation, you are in survival mode. You are saying things to reduce blame and divert attention away from you so that you can keep your job. There are no learnings which help us improve.” (Supervisor)

There was a marked improvement in the opinion of the language following the accident process modification. The change in language and framing was received positively, with a belief shared by many that the new language helped convince them that the process’s intent was to learn rather than to blame. As a consequence of this, critical information was more freely shared by those involved as they were less fearful of the process and its objectives.

“The exploration process makes people open up because they feel more comfortable and are more forward coming. With incident investigations; it scares people. The language makes people want to say nothing.” (Supervisor)

A concern raised was the fact that the language used in accident processes is often beyond the level used by participants in their day-to-day lives. The use of overly complicated language was regarded to be just as intimidating as language with negative connotations as it creates an unknown for those subject to it.

Not everyone believed language to be a factor in the success of an accident process. Some of those spoken to, contrary to the majority, viewed both language styles as equivalent and with little influence over participant involvement or outcomes. Interestingly, it was the role with the least exposure to any potential negative outcomes of the process, the accident report facilitator, which was the most likely to harbour this belief.

From our previous work (Heraghty et al., 2020), we emphasised that a change in language would affect perceptions. Based upon our findings in the area of language, this theory has been supported.

3.2.2. Including the workforce in the decision making improves the organisation’s ability to learn

It was agreed by multiple individuals at each level of the organisation that the inclusion of the workforce when determining accident actions is crucial when seeking to achieve sustainable improvements. Where those carrying out the work were involved, the actions agreed were believed to be more “useable” than those determine by management only, as the worker is the only person who truly understands the “inside of the job”.

From our previous work (Heraghty et al., 2020), we emphasised that a change in language would affect perceptions. Based upon our findings in the area of language, this theory has been supported.
“Having the guys involved in the actions was good because only they truly understand the accident so they can help come up with the real actions. Those outside of the job don’t really understand the inside of the job.” (Support)

Having the “doers” in the room had the added benefit of increasing the buy in from the workforce, according to those spoken to, as it showed the workforce that they were being listened to.

The level of learning experienced by both the worker and the organisation is judged to be greatly increased where the decision making is collaborative compared to processes which are not. Members of management believed that workers were much more engaged in both the process and the action implementation when they were actively involved as, rather than a blaming exercise, it became a “self-learning” and “self-improving” process for both the worker and the organisation. Consequently, in the eyes of both workers and supervisors, the actions executed “made life easier” and “the job much safer”.

A positive by-product of workforce inclusion identified by those in leadership positions was its ability to increase team morale as well as the willingness of others to report accidents. Where the experience was positive, the workers’ fear of the process diminished greatly. The sharing of their own positive experience with their co-workers was likely to make future reporting more probable, according to several supervisors spoken to.

“I think the process has a big impact on reporting as guys talk and when you tell guys it is a fair and positive process; they are more inclined to report it.” (Supervisor)

3.2.3. Moving away from blame and punishment increases honesty and engagement

Contrary to the suggestion in accident reporting literature that punishment is a beneficial component of a just culture, both those who carry out and those who oversee the works believe otherwise. Where punishment is an element, a range of negative behaviours can emerge as a result. When speaking of the previous process, workers spoke of sticking to the line, “I didn’t see anything”, so as to not “dob on others” as they didn’t want to see anyone lose their job and themselves labelled as a “pariah” for inadvertently loading the bullets. Punishment was believed to be too often the action without fixing the real problems. Supervisors spoke of the process itself morphing into a “blame system” with the facilitator accusing the participant of “being a liar”, leading to the participant “clamming up”. A consequence of all of this is future events are “brushed under the carpet” and the organisation experiences minimal learning because of the fear the accident process generates.

The removal of punishment from the accident reporting system vastly improved the perception of the process and its intent. Participants believed they could be more honest as they knew they weren’t going to get “sent to the gate” because of the information divulged and were “treated like a human”.

“The guys felt empowered and as a result contributed much more than they would if blame was in place.” (Worker)

It was observed by members of management and all accident facilitators that workers felt much more empowered to speak up once they realised it wasn’t a “witch hunt” and shared more than they would have if using the previous process. With punishment and blame removed, both workers and their management felt that the focus swiftly gravitated away from seeing the worker as a “troublemaker” and towards fixing the issues. With the workers now more inclined to openly share information, a senior leader spoke of hearing about issues directly related to the accident, but of others also, something they believed could never have happened using the previous process due its fixation on the person.

“I think old investigations rarely scratched the surface of process issues whereas exploration processes go much deeper.” (Senior Leader)

The change was even believed to have helped those more naturally inclined to seek blame to re-focus their energies on system learnings.

3.3. Premature termination of the process and learnings for the future

In the 8th month of a planned 12-month trial of the modified accident process, the organisation made the decision to terminate the study and to introduce a process more aligned with the previous one. This was triggered by a range of diverse factors.

It was recognised by the organisation that the client was “not in the same space” as themselves when it came to the new approach to accident reporting. As a result, the client exerted pressure on both the organisation and the organisation’s parent companies to adjust the process. The client’s health and safety team showed a reluctance to move away from the ideals of Reason’s culpability model, particularly the ability to issue punishment where they, in hindsight, deemed an action as “reckless”. An interesting finding following the reinstatement of a more traditional accident process was the misconception within the organisation’s own health and safety team that the process remained aligned with restorative justice ideals, even though it was using the Baines Simmons Behavioural Analysis Flowchart, a just culture model almost identical to that of James Reason’s.

Though client pressure was the primary driver in the premature termination of the study, it was not the only one. There remained scepticism within the organisation’s leadership team regarding the removal of punishment following an accident. The idea lingered that punishment was still needed to manage certain mistakes and rule deviations in order to “maintain control” as this is what occurs within society, with the example of speeding fines used.

Despite the fact the study was terminated early, members of both the organisation’s senior leadership team and those of the client’s expressed positive responses to the modified process and its by-products. It was acknowledged that when the workforce believe that learning is the primary goal for the accident process, participants “feel safe” and become “more open and honest”. A member of the client senior leadership team was shocked at how open and honest participants were as, they were used to processes where the workforce provided minimal information. What was also recognised was that the process changed how the organisation’s senior leadership team approached accident reports. A senior leader felt the previous process was very direct and simply asked, “what happened and who is at fault?”; while the modified approach looked at a “wider sphere of influence and context”, something they found positive.

4. Discussion

This study was conducted to better understand the impact a system using restorative justice mechanisms has upon the individual and future organisational learning following an accident. From the results, there are 3 clear topics for discussion;

- Using a restorative justice-influenced accident process has benefits for the worker and the organisation,
- Accident learning approaches have universal requirements for success;
  - Positive treatment of the participants,
  - Transparency and consistency of the process,
  - Acknowledgement of participants’ experiences with previous accident learning systems,
- A restorative accident process is just as vulnerable to external forces and beliefs as any other process.
4.1. Using a restorative justice-influenced accident process has benefits for the worker and the organisation

The results of our study indicate that by replacing a retributive justice-focussed process with one which is restorative-focussed, there are positive benefits for both the workers and the organisation. The removal of punishment and the empowerment of those who suffered the accident were viewed by both the workers and the management as crucial in improving the organisation’s learning culture.

Some of the process modifications had positive implications for both the participants’ wellbeing and their trust in the system. Where the accident process was followed and individuals were informed that no punishment would be used, participants were significantly more willing to share their story with honesty. This was in contrast with the perceptions of the previous process where individuals were inclined to avoid the process entirely, if possible. This aligns with the views of Leape (1994), Khatri (2009) and Dekker (2012) that punishment stifles learning, and its removal goes a long way in encouraging those involved in accidents to share their story. Also, by empowering those involved, second victim syndrome (Wu, 2000) is minimised and they return to the workforce with a positive view of the organisation, which can also improve productivity (Kaur et al., 2019).

With the workforce more willing to share information and participate in the accident process, the organisation can benefit in several different ways. As mentioned previously, the trust between those involved and the organisation increases when workers recognise they are being looked after by their management in their time of need. Trust between workforce and management is a key ingredient in the creation of a successful and more productive workplace (Laschinger et al., 2002; Judenh, 2012). This illustrates the influence the accident process can have upon an organisation’s culture and the relationship between management and the workforce. Increased trust is also believed to lead to better solutions to the problems highlighted by the accident report, something which the use of punishment can stifle (Hernandez-Mogollon et al., 2010). Actions created through collaboration between management and the workforce are perceived to be much more valuable than those decided by management only. The actions discussed by the participants in this study were viewed as not only beneficial for future safety, but also for increased efficiency within the production system.

It must be acknowledged that to ensure the accident process is a positive experience, the language used to describe the process is critical (Heraghty et al., 2018; Heraghty et al. 2020). Much of the negative perceptions of the previous accident process were initiated by the language used to describe it. Participants believed that the wording used created the impression that those involved had committed a crime and were on trial due to its similarity to the language used by law enforcement and the legal system. This aligns with the work of Thibodeau and Boroditsky (2013) which describes the impact language can have on perceptions. The language used in the modified process was deemed an important element in encouraging people to participate. This is important as there remains many within industry who advocate the use of restorative mechanisms to deal with accidents yet inadvertently continue to use both legal and police-style language.

4.2. Accident learning approaches have universal requirements for success

Regardless of the type of accident process used, there are commonalities which influence all accident processes. Within this study, there were findings which were identical to those highlighted within a study on the impact retributive justice mechanisms have upon an accident process (Heraghty et al., 2020).

The standard of communication and its reliability, particularly information issued immediately following an event, is deemed to have a considerable effect on the treatment of the participants and the actions determined subsequently. Where the swift and factual communication of an event was found to be lacking, those involved were more vulnerable to ill treatment and blame and more likely to leave the process with a negative perception of the system. Poor communication is also shown to be detrimental to the organisation’s ability to learn, something other authors have spoken of (Stemm et al., 2018; Naome et al., 2020). One of the organisation’s senior leaders highlighted that stakeholders’ hunger for immediate learnings from serious events can often result in inaccurate information being provided to satisfy them. Poor actions are the result, due to the misleading information provided. This emphasises that processes which include elements such as initial or interim reports can cause more harm than good as those reading are focussed on fixing the issues as quickly as possible and are likely to accept the information as final. A good communication system is not one which attempts to provide all the answers immediately but one which ensures all involved are kept up to date on the process and the outcomes determined, something which has been previously alluded to (Pflieger, et al., 2013).

The treatment of those involved can be unrelated to the type of accident process used by an organisation. The skillset of the supervisor and their ability to compassionately deal with those who have suffered an accident can be the difference between a worker embracing the accident process and one who actively avoids it. A supervisor or manager’s reaction to an incident report is known to be interdependent with their team’s willingness to share (Almutary and Lewis, 2012; Hashemi et al., 2012; Clarke, 1998). There exist not only safety implications here but also other organisational implications as workers who are fearful of providing their manager with bad news will likely hide all issues. Crucial areas such as quality, morale and innovation all suffer where a fear of reporting exists (Farson and Keyes, 2002). In addition, the pressures and priorities placed on the supervisor by the organisation can lead to the supervisor viewing an accident report as obstruction, as previous observed by Prang (2014), to that which they are being ultimately rewarded for; production. It is evident that organisations not only need to provide their management with the training to deal with problems positively, but also need to ensure they are being rewarded for doing so. Visible support from all stakeholder senior leaders is crucial in this area to achieve an aligned approach.

A common hindrance faced by an accident process is the previous experience of those involved and how this influences their participation. Workers who have faced or witnessed ill treatment in the past are more difficult to engage; regardless of the type of process (Tabatabaei et al., 2014; Walker et al., 1998). The experience of those overseeing the process can also be influential. Several of the accident cases reviewed involved leaders who reverted to their previous process, negatively impacting those involved and the outcome. It is not sufficient for an organisation to move to a restorative-style accident process. It is important that any process is designed with acknowledgement of the previous experiences of those involved and where safeguards are in place to prevent experience from unintentionally causing damage to the process and those subject to it.

All of this raises the question: If an accident process is fully transparent from start to finish, management are trained to treat people with compassion and the language used is more aligned to learning, is there a need to move away from the traditional just culture approach? The answer to this lies in the basics of human instinct, which is to survive. Where a threat exists of a person’s livelihood, regardless of how seldom that threat is acted upon by the organisation, a reason exists for those involved in accidents to withhold critical information. Though Reason’s culpable model advanced the pursuit of fairness significantly in the area of accident reporting, those who are subject to it remain at the mercy of the model’s user and how they interpret terms such as “reckless violation”. In hindsight, an action which was acceptable yesterday could be deemed reckless today because it resulted in an accident. It is this uncertainty which leads individuals to remain fearful of the accident process and to reduce their risk exposure through avoidance and deflection. To achieve the desired learning culture, there is a need to replace retributive justice mechanisms with restorative mechanisms so
that there is no longer a fear of job loss following a mistake. People are less willing to be honest where there is an invisible guillotine hanging above their heads and their livelihoods, as shown by many previous studies (Haw et al., 2014; Bahadori, 2013; Bayazidi et al., 2012). Though it should also be noted that restorative mechanisms cannot be used in isolation. Restorative mechanisms can only achieve success as part of a larger system that includes;

- Positive language and framing,
- Management trained to treat their team in a compassionate manner following an accident,
- Transparency for all involved through all stages of the process.

4.3. A restorative accident process is just as vulnerable to external forces and beliefs as any other process

Though the modification of the process created many benefits, the accident system remained vulnerable to the same external threats faced by all other processes, all of which carry the potential to jeopardise success.

The non-safety goals associated with the accident process are a significant risk to its success and the ability to learn from mistakes. In recent years, safety has evolved from being a set of targets to prevent injury into something much more. Safety, and its achievement, is today a key element of an organisation’s brand and is used as part of marketing campaigns to both highlight an organisation’s success and to assist in securing future business. One of the key reasons for all of this occurring is because businesses don’t want to be seen doing business with organisations who are hurting their people in the pursuit of success. It brings bad publicity onto the client and jeopardises their relationship with the contractor. Any risks perceived in the contractor’s structure are associated with those who have them for fear of negative publicity. This drives negative behaviour within all levels of the system. Firstly, on an individual level, employees recognise that participating in safety activity, such as hazard reporting and accident analysis, supports their organisations’ brand as it is something that can be sold upwards. Positive recognition in the area of safety can prove highly beneficial to one’s individual brand and their career. Those who take an aggressive approach to accident management can be labelled as leaders, as the organisation can use their employee’s approach to show their stakeholders that their people take safety seriously. This can occur even when the aggressive approach taken is damaging to both safety and learning. When an organisation rewards this type of behaviour, it can also lead to individuals using safety to exert power over others under the guise of taking safety seriously. While organisations reward those who positively support the brand, they also reprimand those who are perceived to have damaged it. Managers who have an association with a serious accident can be viewed by their superiors as a contributor to the reputational damage suffered by the business as a result of the event. This association can prove toxic for the manager’s career aspirations. A fear of this reprimand from their organisation can lead to the manager taking steps that ensures they cannot be blamed by instead blaming those below them (Heraghty et al, 2020) or, as was alleged within this research, ignoring any issue raised within a report which could be associated with their department. This highlights the dangers of viewing the behaviour within the accident system in isolation rather than as a reflection of organisational behaviour. It also emphasises the need for restorative justice mechanisms to become embedded into the organisation’s people management approach rather than strictly accident related. Secondly, the contractor uses their accident process to show their current and future clients that they are serious about safety and minimising any reputational damage for the client. As the client is intrusting their reputation with the contractor, any risks perceived in the contractor’s system will quickly become a significant concern to the client as these risks may result in damage to the client’s public reputation. It is in this area that the restorative-style accident process came undone. The client’s safety team were ideologically opposed to an accident process which moved away from punishment as they believed that punishment was needed to achieve safety. By raising this issue as a risk to safety, it also became a risk to the client’s brand which was why they were extremely reluctant for the process to continue. Once the client raised this as a risk to the contractor, the contractor’s leadership team acted quickly to terminate the trial process and create a process which complied with the client’s safety team’s demands. This new process reverted back to a linear-style report which used traditional incident investigation language and punishment. Though the restorative-style process had been received positively by both senior leadership and the workforce within the contractor’s organisation, any damage to the relationship with the client was deemed a greater risk as it jeopardised the financial position of the business. Aligning the accident process with the views of the client ensured that both safety brands were harmonious.

At all levels of the system, the actors behave in a manner that they believe will make their audience happy (Lerner and Tietjock, 1999). The employee’s focus is on their employer, the contractor’s focus is on the client and the client’s focus is on the public (who are also a major influence on a key stakeholder for all clients; the government). When the ultimate audience is a public who have come to expect punishment for mistakes as this is what they are subject to through society’s judicial system, it may have been extremely difficult for the client to support the abolishment of punishment for mistakes. In the event of a serious accident, this decision may come to haunt them as their audience may accuse them of a disregard for the safety of their people through a lack of accountability for those who deviate from the rules. The perception of fairness is also an influencing factor in this area as the senior leader may choose to move away from punishment when managing accidents yet they themselves remain exposed to public prosecution should an event take place. This raises the concerns of attempting to implement restorative justice mechanisms in a society that is not aligned.

The forceful requirement for the contractor to adjust their accident process to ensure alignment with the views of their client also raised some important questions. What should the role of the client be? Traditionally, clients employed contractors because they themselves lacked the subject matter expertise to self-deliver and they required the services of an organisation who had this capability. The client’s role would be to ensure the contractor was adhering to the contractor’s own system and any contractual requirements. However, in recent years, the role of the client has expanded to the point where they have become the ultimate authority and often dictate how work is to be carried out in a prescriptive manner. This is understandable given the reputational risk they are exposed to, but it does also raise a concern. Have the clients today determined themselves as the ultimate decision makers based on contractual power rather than knowledge and experience? Power-based decision making in place of decisions made by those with the most knowledge and experience can increase risk exposure and cause damage to relationships and trust. In future, clients working in partnership with their contractors as opposed to a master-servant relationship may support the pursuit of their goals in a more beneficial manner to safety as it maximises the use of the resources at their disposal through empowerment and engagement.

An organisation’s concept of success can cause ramifications for the accident process. The measurement of success through outcomes alone is shown to generate negative behaviour towards safety goals and stifle the management of safety issues, as also previously seen in the UK’s NHS (Weber et al., 2011). Some of the participants discussed how the organisation’s fixation on the work program and target dates led to the premature closure of the accident analysis and a negative reaction to accident reports. In a similar manner to the safety brand concept, people recognise that the behaviour required is that which generates a positive response from their employer and ultimately helps cement job security.
Where outcomes such as target dates are alone the measurement of success, it is highly likely that the behaviours needed to achieve these outcomes will fall short of acceptable. The focus needs to move towards measuring and rewarding the behaviours which positively influence a learning culture and viewing outcomes, such as milestone dates, as by-products of these behaviours rather than as the measurement. Key performance indicators need to be behaviour and employee perception-based rather than activity outcome based.

The knowledge and skillset of the safety professional facilitating the accident analysis can have far reaching consequences for the accident process and any potential learning. Concerns were highlighted by several participants regarding the abilities of some of the safety professionals and their understanding of the process. These issues impacted both the perception of the process and, consequently, the ability for the organisation to learn. Many of the safety professionals spoken to displayed a lack of knowledge regarding the latest safety science, with some remaining anchored to theories which the world of safety science has moved on from, such as human error as a cause and James Reason’s culpability tree (Reason, 1997). This finding aligns with that of Provan et al. (2017) in that there are substantial deficiencies in the training and development of the safety profession across industry, something which has a negative effect on the standard of science-based advice provided to organisations.

4.4. Strengths and limitations of the Paper’s approach

This study used an in-depth case study design, with the researcher at the heart of the case study. The strength of this type of analysis is that it captures and describes the experience of the accident process by a variety of individuals operating at different levels and with varied levels of exposure. Within embedded research projects, the level of trust between the researcher and the participants, particularly those in more senior positions, can often be higher than with other methods, as the researcher is viewed as part of the team. There is also a greater potential for the research to transition to practice within the organisation post-study as there is more ownership of the results given that they were created internally.

The limitation of any case study is that it is hard to determine which results are generalisable and which can be attributed to the specific circumstances of the case study. This is not an inherent weakness but requires further similar work to be conducted to establish commonalities and differences. The data analysed is also of a qualitative kind which may create scope for observer bias as the researcher’s own theories and opinions could influence the data chosen for analysis and its meaning.

4.5. Implications for practice

The results show that the use of restorative justice mechanisms within the accident process can create significant benefits for both the individuals involved and the organisation. Those who suffer the accident find this type of process empowering, while the learning for the organisation is perceived to be greater, both of which will likely have a positive impact on the organisation’s commercial performance.

It is important to acknowledge that the restorative approach required to help achieve organisational learning is much more than simply replacing mechanisms which are retributive with those which are restorative. The language used, the training provided to managers in the treatment of their people, the acknowledgement of past experiences and the transparency of the process are all key ingredients in the success of the approach.

The study also raises the threats faced when implementing a restorative style approach, or any process for that matter. In addition to ensuring the key fundamentals are sufficient, there are also broader issues which require addressing. Firstly, it is important to recognise that workplace behaviour often reflects that which we are being rewarded for. Evolving from outcome-focussed rewards to primarily behaviour-focussed rewards within organisations can help remove many of the negative behaviours identified within this research. Secondly, it must be acknowledged that where safety also serves organisational brand purposes, additional risks may emerge which can be detrimental to the pursuit of a learning culture. Thirdly, it would be beneficial for clients to move towards a partnership-based model with their contractors as it would help maximise the use of the resources at their disposal through empowerment and may help improve the use of evidence-based decision making. Fourthly, the ideological clashes with societal views need to be taken into consideration when attempting to influence the achievement of fairness in an organisation. Where the approach within society and the organisation is inconsistent, a perception of unfairness can emerge due to a lack of consistency for those subject to both systems. Below is a table showing an example of how each of these key areas could be enacted (Table 5).

5. Conclusion

This paper set out to answer the following question; “What by-products does the modification of the accident process and the associated justice system create within an organisation and how do these influence learning?”

The findings of this paper show that the replacement of a linear retributive accident model with one which is non-linear, and restorative creates a range of implications for the organisation’s ability to learn, many of which are positive. Many of the areas highlighted within academia as being key to organisational learning, such as trust, empowerment and engagement, were shown to improve following the process modification. The learnings from this paper serve as evidence of the benefits of a restorative approach to accidents and the importance of maintaining the key fundamentals.

Table 5

<table>
<thead>
<tr>
<th>Recommendation implementation examples.</th>
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<tr>
<td>Organisations to transition from outcome-focused rewards to behaviour-focused rewards.</td>
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<td>Identify all additional risks to workplace safety created by the use of safety as a brand and ensure these risks are continually monitored and managed.</td>
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<tr>
<td>Clients to move towards a partnership-based model with their contractors to help maximise the use of the resources at their disposal.</td>
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<tr>
<td>Ensure any potential ideological clash between the organisation’s justice system and the societal justice system it operates within are understood and all associated risks are managed.</td>
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language in the process. This paper also provides industry with a deeper understanding of the nuances involved when implementing any accident process and the factors that need considering to ensure the process enhances rather than hinders the organisation’s learning culture.

Appendix A – Document Tables

(See Tables 1-4)

References

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