

The animal rights movement: The challenge for corporate resilience

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This thesis is submitted in partial fulfilment of the requirements for the award of the degree of Professional Doctorate of Criminal Justice Studies of the University of Portsmouth

Declaration

Whilst registered as a candidate for the above degree, I have not been registered for any other research award. The results and conclusions embodied in this thesis are the work of the named candidate and have not been submitted for any other academic award.

I confirm that, except where indicated through the proper use of citations and references, this is my own original work.

Signed:

A handwritten signature in black ink, appearing to read 'J. Green', with a period at the end.

Jeff Green.

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Acknowledgements

Over the last five years, I have been pursuing one of the most challenging journeys of my life; avoiding distractions and keeping focused on the task in hand to achieve my goal. During that time I have called upon support from my family and the continued patience of my supervisors Dr Alison Wakefield and Professor Mark Button. The camaraderie and encouragement of my colleagues has kept me motivated and with the financial support of Ove Arup & Pts my journey has come to a conclusion. Thank you.

This published copy of the thesis has been redacted to maintain the anonymity of the participants.

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Abstract

This thesis examines the evolution of the animal rights movement and its impact on the pharmaceutical research community. It explores the methods used by animal rights activists and the development of its tactics. It considers the approaches adopted by the research community and presents an analysis of their behaviours and processes applied.

The research and analysis of the results is based on semi-structured interviews achieving saturation with 20 participants from within the community. The greatest challenge to this research has been gaining access to a closed practitioner community through the necessary development of specific networks and gatekeepers. This research has been the first to gain access to this community. Those engaged are drawn from universities, contract research organisations (CROs), equipment manufacturers, and strategic security advisers.

The research identified organisations within this community as operating in three distinct ways in their responses to the animal rights movement. These have been defined as: passenger; pilot; and engineer. The findings highlight that the guidance available provided no specific instruction with regard to the threat presented by the animal rights movement. The data shows that the primary targets are CROs and Equipment Manufactures, who have generally acted in a reactive way, and are denominated as pilots.

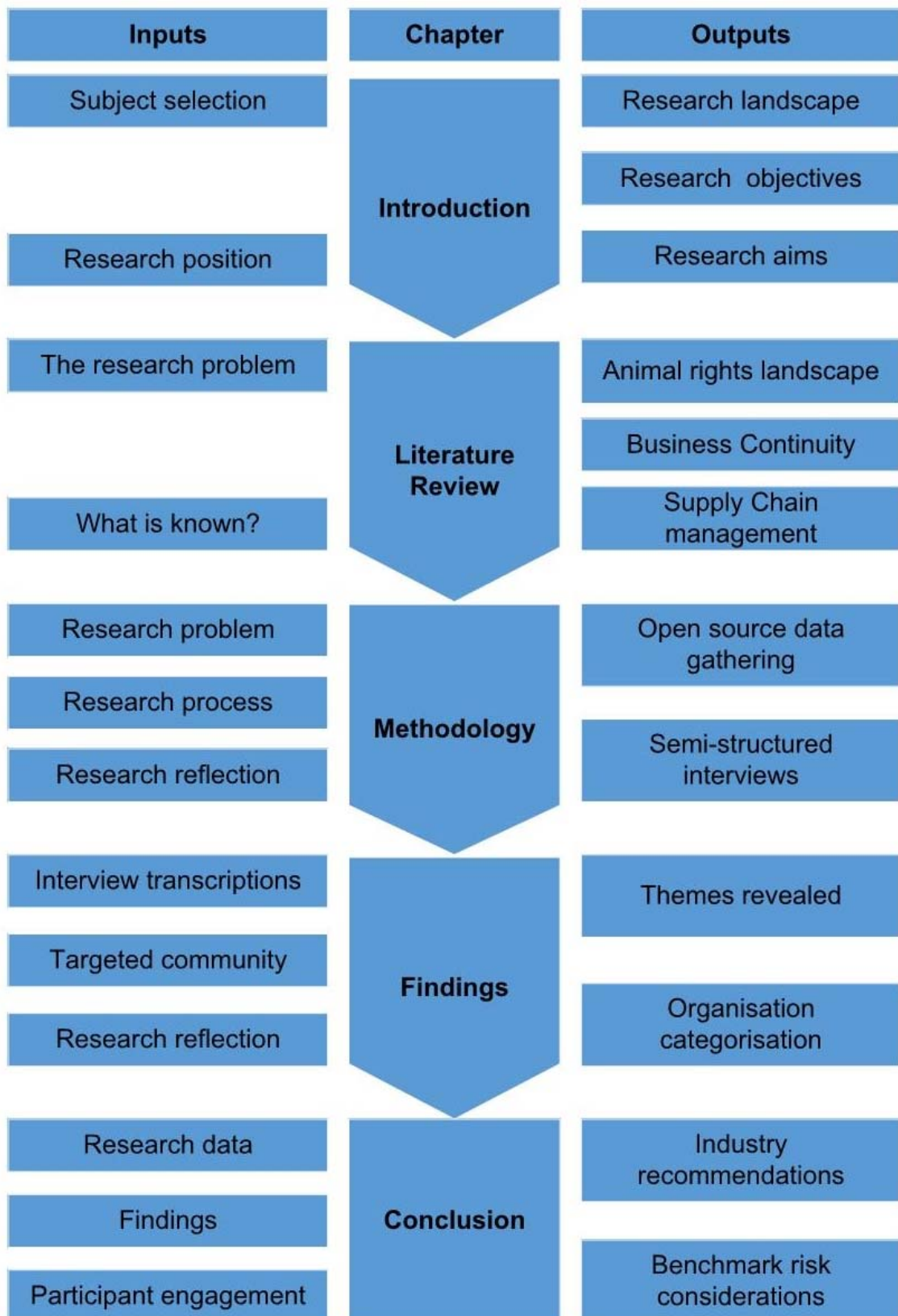
The university sector has generally received limited attention and security strategists have experienced no actual attacks. Both groups are considered ineffective in their approach and identified as passengers.

Chapter Outline

This thesis is divided into five main chapters. Chapter One introduces the research. Chapter Two provides a critical review of the literature relevant to this research topic, including that of academic and grey literature being considered. This approach has been adopted as the literature on the animal rights movement is less available in more traditional avenues. Chapter Three presents the methodology developed and adopted. The methods considered and applied are explained, in order to demonstrate that a robust choice has been made in providing a suitable data set.

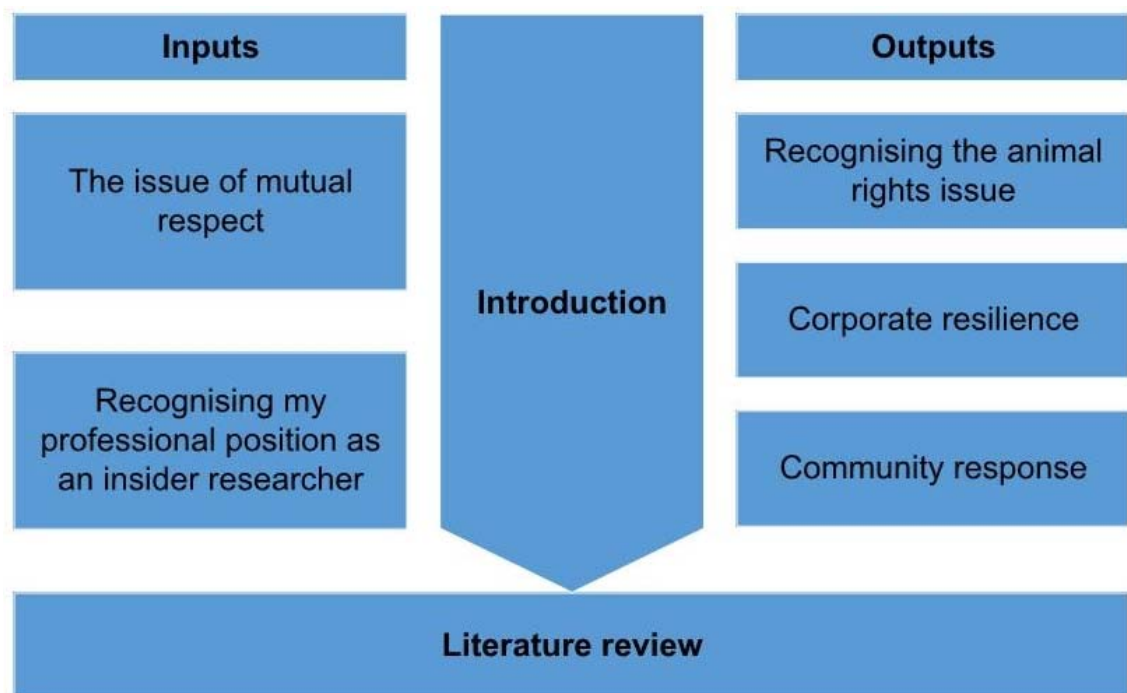
Chapter Four presents the findings: the investigative methods applied obtained data to the point of saturation from the explored community. Chapter Five draws together the literature review, methods and findings chapters and presents the conclusion of the research. The key findings are that the industry members approach the threat in three different, distinct ways; and that the literature-based guidance available to them is lacking.

Chapter structure



Chapter One: Introduction

Chapter structure



Research bias

Upon commencing this research, an assumed position of insider researcher was desired, and was expected to be achieved through industry acceptance and professional connections. Yet such a position could be considered as encouraging bias. How could I objectively investigate the situation? As Koch and Harrington (1998) suggest, I was to reflect on each piece of data gathered, either through participant engagement or open source data retrieval. I considered the merit of each piece of data away from its data set, and sought to ignore the opinion of either victim or perpetrator.

I believe that by assessing each piece of data in isolation, I have established a position both fair and supportive of each side of the

argument. While it is possible that my professional position could have encouraged bias, I recognised the possibility of this, and made conscious efforts to consider the situation objectively. My established position within this situation has enabled me to conclude that each party deserves the respect and consideration of the opposition.

Introduction

The underlying issue examined in this research is that of mutual respect for others. The animal rights movement declare that their fight is for the rights of non-human animals, who are naturally unable to champion such a campaign by themselves. The target of the movement's attention is that of the pharmaceutical research community, who are striving in the main to make human life better. Both groups have the wishes of others at the core of their work; but the methods employed by the animal rights movement display no respect for the rights of the pharmaceutical community.

The activities of the animal rights movement, as detailed in Chapter Two, have been communicated to the researcher as having a direct impact on all supply chain partners of the pharmaceutical research community. According to semi-structured interviews conducted with the research community cohort, and collection and analysis of the literature, these impacts have been found to affect both the financial and operational areas of such organisations.

Through attentive engagement with the targeted community, clear understanding has been developed on the question of participants'

responses to the threat and how members of this closed community are dealing with this.

Such specific insight into this area has not been obtained by prior research; it has enabled a categorisation of the industry based on the participants' behaviour when operating in a challenging environment. Thus the research has successfully broken into an area normally hidden from outside investigation by a barrier erected by this community, designed to prevent unauthorised access being gained by those of malicious intent.

The resilience and continual operation of a business and its associated support network constitutes a primary requirement of a successful profitable business model. Impacts upon either the operation or supply chain can result in the closure of such an organisation. Both are subject to outside influences, meaning that in the case of this research, potential effects on them from the animal rights movement are considered. However, if appropriate management measures are adopted, deficiencies in the supply chain can be eliminated (Blecker and Kersten, 2006).

The research found that businesses targeted by the animal rights movement are not as prepared as they could be. The risk posed by the movement does not appear to be recognised or considered as part of the normal risk assessment process which businesses usually conduct when constructing their supply chain partnerships. Both business and the consumer carry the cost of the disruption caused: *'The ALF has been causing more than six million pounds annually in damage to business'* (Lutz and Lutz, 2008, p. 155). Such a state of affairs is plainly wholly undesirable.

In 1973, the methods used by the animal rights movement appeared to undergo a step change:

'Two activists gained entry into the half-completed building at Milton Keynes. Once inside, the activists set fire to the building. This action was a double first watershed for the movement ... [the] first action against the vivisection industry; it was also the Band's first use of arson. In that first fire an amazing £26,000 worth of damage was caused.' (Molland, 2004, p. 69).

Up until this point, the movement had been engaged in peaceful demonstration, lobbying the UK government and engaging the public through educational methods. These methods had, in the activists' eyes, enjoyed little progress. *'...It became increasingly apparent that the mainstream approaches had failed to bring about the substantive changes necessary...'* (Best, 2004, p. 18). The activists recognised that their approach and messaging would need to be more hard-hitting if they were to put an end to what they considered the misuse and abuse of sentient beings.

The primary group in the animal rights movement is the Animal Liberation Front (ALF) and are considered a group of 'special interest extremists' with a narrow focus of interest (Silke, 2003, p. 259). Other tangential groups, such as the Justice Department (JD) and Animal Rights Militia (ARM), have members regarded as more extreme in their stance and tactics. The tactics they employ are more 'terroristic' in nature; thus, these groups should be considered

terrorists. Having mutated from within the ALF, they have shifted '*towards more extreme violence*', probably borne out of internal dynamics or external circumstances (Ackerman, 2003, p.163).

Gaining acceptance to these less legal groups is generally achieved through approaching the more law abiding members of the ALF (Silke, 2003, p.48). Unlike, for example, the Provisional IRA (PIRA) or *Hezbollah*, the ALF has no central body evaluating information and making decisions for the rank and file members to follow. Instead, it operates through opinion leaders, who disseminate their ideals through electronic sources for individual cells to adhere to and act upon (Jackson et al, 2005).

The cell structure ethos shows a distinct similarity to that of the PIRA. Individual PIRA-operated cells have little or no direct links to each other or the 'hierarchically-organised authoritarian structure' which provides leadership (Horgan and Taylor, 1997, p.3). This method of operation provides a degree of resilience: without direct leadership, individual cells can be formed to undertake an attack and disbanded once completed.

Another group operating this type of organisational structure, '*one based on a flexible, moderately coupled network of individuals brought together by a common need*' is that of *Al-Qaeda* (Marion and Uhl Bien, 2010). Formed in 1988 by Osama bin Laden, it contains a loose formal structure similar to that of the ALF's opinion leaders; however, it also has military style training camps similar to that of traditional militaristic organisations, and is known to have affiliations with other groups around the world.

The '*Band*', referred to by Molland (2004) above, was a group of activists who had resurrected the name from the Victorian society, the Band of Mercy, a children's nature conservation movement which promoted the humane treatment of animals through storytelling, in which the central character was usually a heroic animal. The activist leadership of the modern Band were, and still are, determined to bring about the cessation of animal mistreatment through any means, '*Not larger cages, the movement declares; empty cages*' (Regan, 2001, p. 41). One of the activists responsible for the 1973 arson attack, Ronnie Lee, was influential in the shift that was taking place, rebranding the group the Animal Liberation Front to reflect its newfound determination.

Research aims

Based on the potential capability of the animal rights movement to cause disruption and create a financial burden, this research is concerned with three aspects of this:

1. Exploring how the threat presented by the animal rights movement has evolved.
2. Demonstrating existing gaps in enterprise risk thinking.
3. Appreciating the manner in which pharmaceutical research community members respond to the threat

In investigating these three areas, both academic and grey literature has been engaged with, to establish an appreciation of the current opinions and positions developed by others, such as Coombs, Reuvid and Singer. A qualitative research methodology has been formulated through the application of semi-structured interviews with

industry representatives (see appendix A). Engagement with the industry and the collation of their experiences has enabled the construction of an overview table showing which situations have presented themselves and the measures applied to mitigate them (see appendix B). The findings have also allowed a corporate typology to be constructed based on the approach expressed by the participants.

The position from which this research is being conducted is that of a belief that the industry is undertaking research for the good of humanity, and doing so within strict guidelines set down by the authorities. Those parties acting in a legal fashion should not be targeted by the animal rights movement, who are, in a number of instances, acting illegally. Providing that the animals being used are treated as humanely as possible and not subjected to unnecessary testing or hardship, the organisations are justified in their actions.

It is, however, posited that little or no guidance from sector specific specialists, particularly those in the supply chain management sector, has been forthcoming. Literature specific to the animal rights movement is plentiful; but when considering the intricate nuances of how the supply chain may be affected by it, it is lacking.

Research questions

Animal rights evolution

The evolution of the animal rights movement has been documented thoroughly, from its early Victorian creation based on the philosophical writings of Aristotle and St. Thomas Aquinas, through the modern debate of Singer, Regan, Cohen and others as detailed

later. The tactics employed have, as with all other groups which utilise terrorism as their method of achieving their goals, progressed. Neumann (2009) claims that in such regard, techniques have evolved to incorporate '*greater lethality and brutality*' (p. 47). The primary precept of this research is to consider how these methods have changed in light of counter-measures used by the pharmaceutical industry; how these counter-measures have been applied; and to what degree this has resulted in greater business resilience.

The evolution of the tactics referred to above has had a radical effect on individuals involved, and the lengths to which they are prepared to go. Some chose to abandon their involvement; while others have even sacrificed their own lives in an effort to change the situation. One such example, Barry Horne, died after 65 days on hunger strike (Jorgensen-Earp, 2008).

The use and success of such methods and others is discussed by this thesis with those responsible for maintaining the business operations of the industry. By collating the experiences and methods of mitigation employed by industry businesses and organisations, a full appreciation of the situation will be formed. Common approaches can then be identified, and best practice measures considered.

Assessing the risk

When it comes to businesses operating in a market in which attacks are threatened and realised on a regular basis, preparation is key to its continuation. The recovery and back to '*normal*' (Coombs, 2008, p. 89) operation is enhanced when lessons are learnt and effective

measures developed. The context of Coombs (2008)' position, though, is that of general business security; not one shaped by the threat presented by the animal rights movement. This thesis posits that businesses are not being provided with the necessary tools to better inform themselves as to the intent, methods and possible outcomes should they prove the victims of an individual attack or a sustained campaign. Both the literature review and primary data suggest that there is a lack of documented guidance with specific regard to threat posed by the animal rights movement.

Community response

Within the security industry, the protection of assets has many facets, including location, function, and physical attributes - all of which have a part to play in mitigating expected attacks. These basic principles are still applicable when taking into account the nature of the adversary in this particular area: in which activists not only focus on the physical aspects of the primary business, but are extending the threat towards wider supply chain partners.

This means that applied mitigation measures should encompass a wider arena, which encompasses physical asset attack, business brand, reputation, and the willingness of others to do business with a company known to be at risk.

Key terms

The language used in this thesis is not intended to intimidate or alienate the reader; it is merely to allow the subject to be appreciated by all. However, terms have been used and

abbreviations adopted which are specific to the subject matter. For this reason, pertinent terms and acronyms are presented here.

Terrorism

Terrorism is the use of serious violence against persons or property, or the threat to use such violence. To intimidate or coerce a government, the public, or any section of the public for political, religious or ideological ends (Silke, 2004, p. 5).

Vivisection

Vivisection can be defined as surgical experiments conducted on living organisms to develop an understanding of the effects of a particular procedure or a pharmaceutical compound on the organism.

Domestic Extremism

This term is generally used to describe the activity of individuals or groups carrying out criminal acts of direct action to further their campaigns of protest. These people and activities usually seek to prevent something from happening, change legislation or domestic policy; but attempt to do so outside the normal democratic process (ACPO, 2011).

ALF

The Animal Liberation Front (ALF) carries out direct action against animal abuse in the form of rescuing animals and causing financial

loss to animal exploiters through the damage and destruction of property (ALF, 2010).

ARM

Animal Rights Militia (ARM) is a banner used by animal rights activists who engage in direct action against people or entities that they consider to profit from animal suffering. The ARM is known to adopt a more harsh approach.

JD

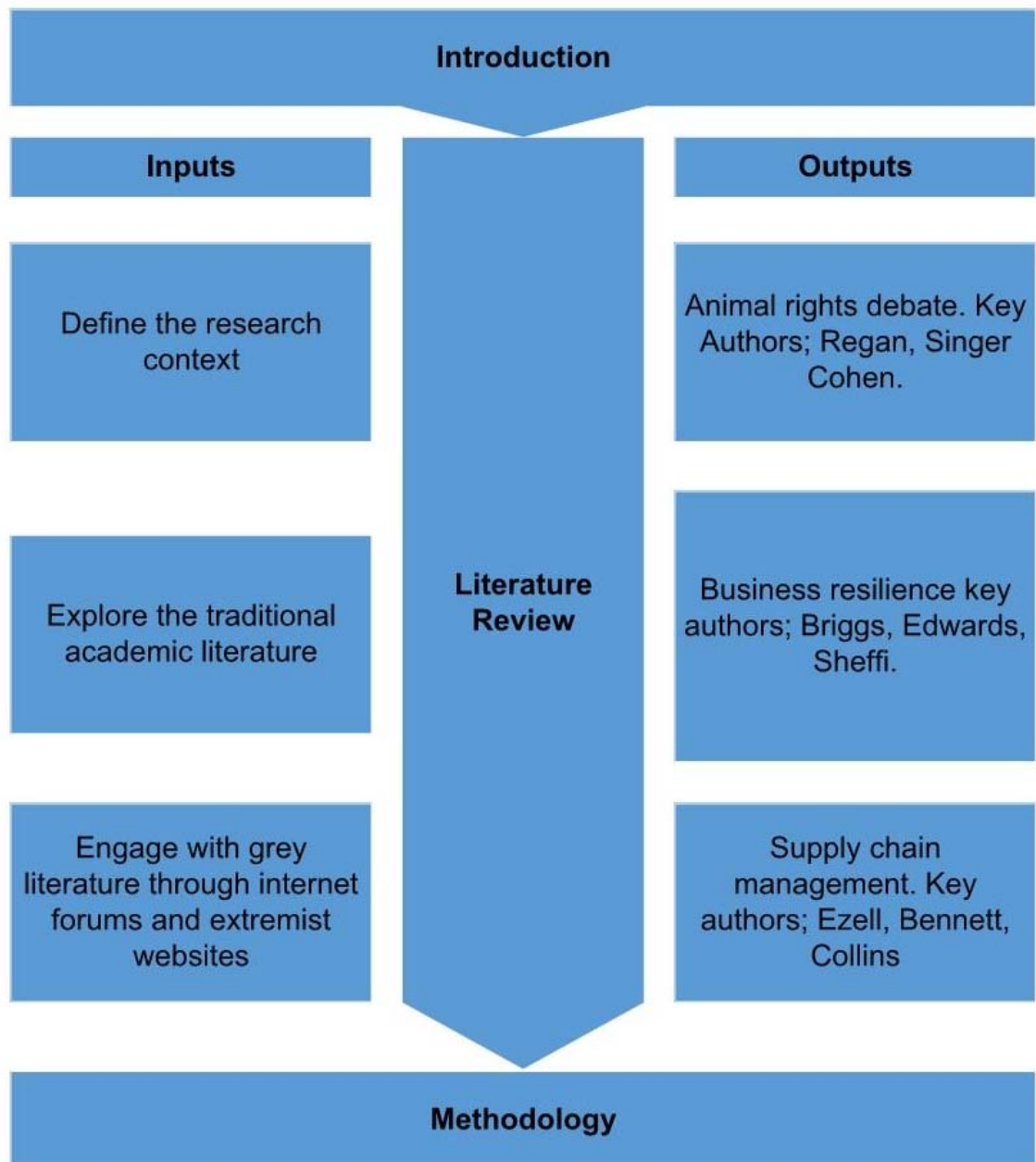
The Justice Department (JD) is similar in nature to the ARM, except it has declared its willingness to use violence against persons.

Acronyms

ALF	Animal Liberation Front
ARM	Animal Rights Militia
JD	Justice Department
NETCU	National Extremism Tactical Coordination Unit
CRO	Contract Research Organisation

Chapter Two: Literature Review

Chapter structure



Introduction

This chapter seeks to review the extant academic and complementary (grey) literature on the three topics of this research: business continuity, supply chain management, and animal rights. This is presented to illustrate the key theories, concepts and ideas embedded within the literature.

The chapter is set out as follows. First, aspects of business continuity are discussed in terms of business functions, risk and acceptance of risk; and to what extent this can be militated against to help ensure resilience. Second, the management of the supply chain is investigated, in order to understand how interruption has been minimised and to what extent the chain has been impacted upon. Third, animal rights literature is deconstructed in terms of how the issue has evolved, the make-up of those involved and the methods these have employed in the campaign. In this way, an understanding of the threat is developed through the course of the chapter.

Methodology

This research endeavoured to assess what is already known, and identify any gaps and limitations in the literature. During the process of identifying appropriate literature, a number of sources have been interrogated: including electronic databases, electronic journals, library-held printed material and the Internet.

When researching subjects such as rights, business operations and risk, there is an abundance of material available. For example, a simple Internet 'Google scholar' search for 'business risk' returns over 3 million results. However, when faced with such a vast amount of potential sources, it is important to apply a search regime which will substantially reduce it. By changing the search term to 'business terrorism risk', the number of results is reduced greatly to approximately 40,000.

Edmunds and Morris note the ‘...*paradoxical situation that, although there is an abundance of information available, it is often difficult to obtain useful, relevant information when it is needed*’ (2000, p. 17). Thus, as we have seen, search terms had to be considered carefully.

To enable both key scholarly and professional documentation to be sourced, various key word searches were used in the areas identified above. These included:

Animal Rights (Not human rights)	Sentient beings	Animal treatment	Domestic terrorism
Supply chain management	Security Mitigation Measures	Terrorism risk management (NOT financial risk)	Single-issue groups

Table 1 - Internet Search Terms

The following electronic databases/resources were searched:

Emerald	Wiley Interscience	Ebsco EJS Service
Informaworld	Palgrave	Google Scholar

Table 2 - Database resources

The following Journals covering areas of terrorism were directly searched:

Security Journal, Palgrave Macmillan Journals	Security Studies, Taylor and Francis Social Science and Humanities Library	Journal of risk and insurance, JSTOR
Journal of risk research, Taylor and Francis social science and humanities library	Supply chain management, Emerald Management	Supply chain management review, Business source premier

Table 3 - Journal resources

By applying key word searches within the electronic library arena, the above journals scored the most 'hits', and were therefore considered as most appropriate for this research. These could then be reviewed in order to establish whether they had been peer reviewed, suitably referenced in the subject area, and could therefore be considered as robust data sources.

Published academic literature from those who actually make up the animal rights movement has been greatly limited. For this reason, 'grey' literature was explored so as to develop an understanding of the movement's methods, tactics and achievements. To this end, the Internet provided access to forums and online magazines.

Corporate resilience

The resilience of any organisation is always of critical importance. Organisations continually explore different ways in which they can continue to improve output and benefits. The smooth operation of a business depends on how it manages the risk it may be presented with. Management of its structure should include both security and its wider goals (Briggs and Edwards, 2006), because this allows a philosophy of security to be promoted, not only across business functions, but down through the workforce. This inclusion of security in every aspect of the business and its assets, both physical and human, can facilitate a more resilient operational stance. With all parties aware of the risks and methods of dealing with them, the less likely the business will suffer. While Briggs and Edwards promote a broad acceptance and involvement of security within the organisation others suggest the widest extents of business must be considered, others such as Bolgar,

Bolgar (cited in Stewart, 1997, p. 65), however, argues that, '*Corporate resilience comes from planning, flexibility and the creative management of risk*'; and therefore, that this is an internal issue for modern organisations. Bolgar (cited in Stewart, 1997, p. 65), further asserts that customers are not concerned with difficulties which a business may be in, as long as the goods which they desire are delivered. If a competitor can deliver the same product better, quicker and cheaper, it has to be expected that the customer will shift their allegiance. The fickle nature of customers - whether as end users or partners in the supply chain - can be the downfall of any business if it fails to deliver the goods (Fawcett, Magnan and McCarter, 2008).

Research context

To contextualize this research, the markets considered are those that involve the use of animals for research. This selection was based on the literature findings, which revealed that this community had been subject to 2,902 attacks by the animal rights movement. Responsibility for the attacks was claimed via an online publication, '*Bite Back Magazine*', (see Figure 1 - Claimed attack website). All of the attack data was collated and categorized (as will be explained later). Extracts of the constructed attack data spreadsheet are included in appendix C.

These attacks ranged from graffiti to property destruction via arson to improvised explosive devices being delivered and detonated. The attacks were claimed to bolster wider group support, reward the activists, and encourage future attacks. According to Lutz and Lutz (2008, p. 155), the campaign waged by the animal rights movement has, in all of its guises, '*...been costing more than six million pounds annually in damage*'. Numerous low impact attacks resulted in a cumulative loss similar to '*...mundane events, such as fraud and staffing problems*' (Borodzicz, 2007, p. 62), while corporate security managers remain more concerned with high impact yet low frequency terrorist events. The cost has not only affected business but caused the consumer to bear an increased burden, so that businesses could pay for additional security, repairs and methods of operation.

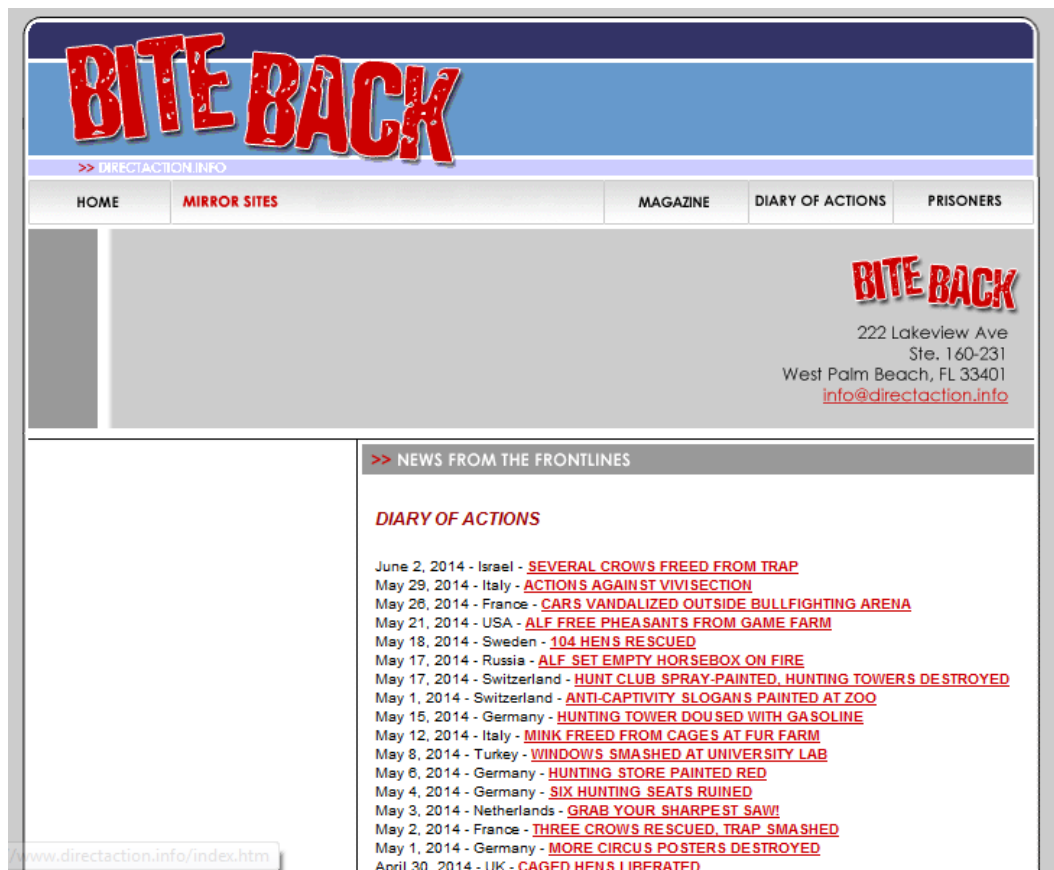


Figure 1 - Claimed attack website

Open source information has been gathered from various group websites - including that of 'direct action' - and is presented in Figure 2 - Market Sector Vulnerability, below. This demonstrates the spread of attacks mapped against the industry sector, and was compiled by analysing and tabulating events and claims made by activist groups. Groups promote their achievements in order to encourage others to follow suit. Claims normally take the form of a short statement, sometimes accompanied by photographic evidence. One such claim is set out here:

February 23rd 2012, Henderson Biomedical is a newly exposed supplier of lab equipment to Huntingdon Life Sciences. A few nights ago activists visited their premises in Lower Sydenham, London, to deliver a message to the

company. "If you keep supporting HLS you will continue to be a target of the animal rights movement. It won't hurt to stop dealing with them", but as the graffiti said, this is just the start if you don't. "If you continue to be responsible for animal cruelty, the attacks will continue." Drop HLS! MFAH - Militant Forces Against Huntingdon" (Bite Back, 2012)

For the purposes of coding, this claim would be categorised into:

- Industry Sector: Pharmaceutical
- Tactic: Vandalism
- Location: UK

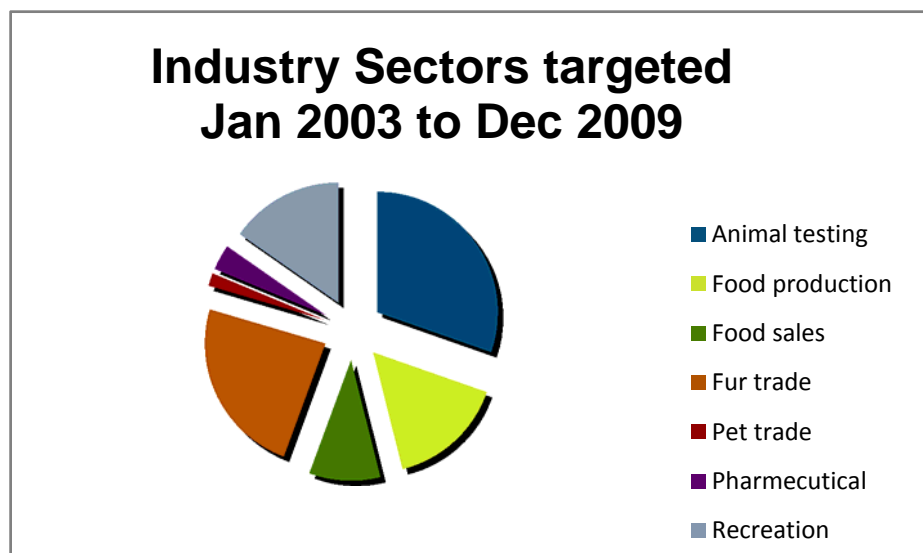


Figure 2 - Market Sector Vulnerability

Figure 2 demonstrates that the most prolific target area, or market sector, is that of the animal testing community. This was established by coding claimed attacks conducted from January 2003 through to December 2009. Similarly, from the data gathered, it can be identified that the most common attack method is that of vandalism (as shown in Figure 3).

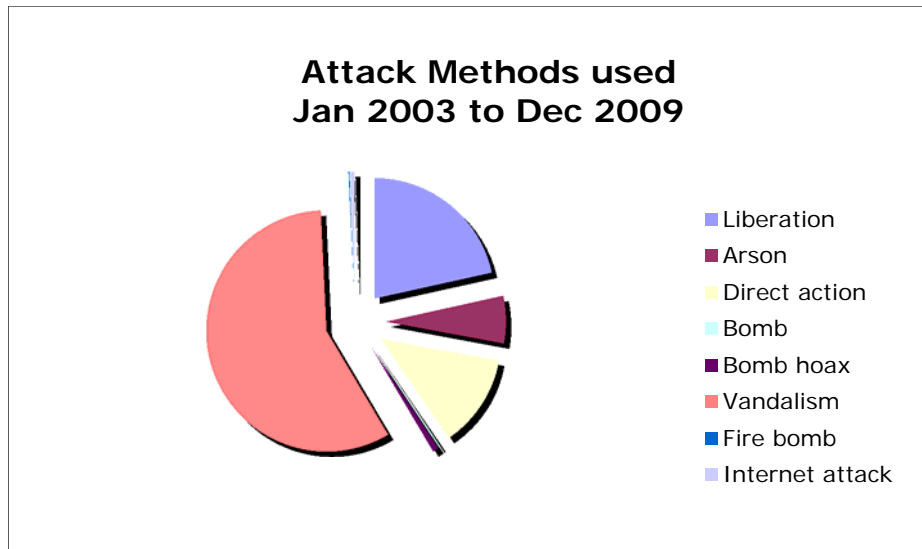


Figure 3 – Attack Methods

The focus of this thesis will be to investigate attack methods, establish currently employed threat assessments and mitigation measures, and help suggest possible improvements in the latter regard.

From the analysis, it is also possible to show the spread of attacks based on geographical location, as presented in Figure 4 below.

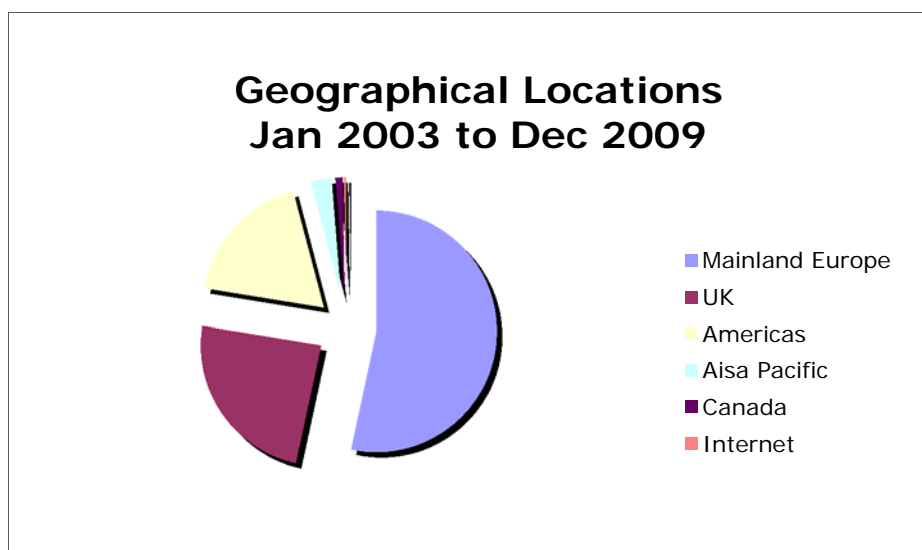


Figure 4 - Geographical location

In the early stages of this research, the intention was to model all market sectors which have been targeted in any shape or form by the animal rights movement, taking into account the amount of data available and the variances within.

Of the attacks, 35 were carried out against permanent hunting hides in Germany, provided for sportsmen to use in forests. Although prolific, these would be difficult to validate from England, where no 'gatekeeper' is known to me in this case. The fur trade, subjected to over 600 claimed attacks, is also not a market with which I have contact; nor is the food production sector in the UK.

The industry selected for consideration also has its own groups to assist it against the threat. These groups are convened by key players to share information and practices which they have found to be beneficial, such as the Pharmaceutical Industry Security Forum (PISF). The threat from the animal rights movement is also a major concern for government and police: with a dedicated police unit, the National Extremism Tactical Coordination Unit (NETCU), headed by Cambridge Police Service.

'After a decade of victories and high profile campaigns the crunch came in 2003/4 when large pharmaceutical companies started threatening to pull out of the UK in the face of sustained campaigns from the likes of Stop Huntingdon Animal Cruelty and others. Tony Blair met with representatives of the pharmaceutical companies and the security agencies at a secret meeting in Oxford. A new strategy was being created, one that gave birth to NETCU' (Corporate Watch, 2011)

In 2011, NETCU was rebranded as the National Domestic Extremism Unit (NDEU).

In light of the data presented above, it was decided that the research would focus on animal testing, or industries primarily involved in it, based in the UK. Businesses which operate in this market are assumed to be aware of the threat posed by the animal rights movement and, as such, are expected to have protocols in place to address situations which may lead to an impact on their resilience and operation. Organisations are expected to be familiar with the five suggested parameters of terrorist activity (Bonsen and Gaasbeek, 2009, p. 3): Intent, Scout, Transport, Attack and Effect.

In order to carry out their initial reconnaissance, or 'Scout', activists will need to be present at the business location, which in turn can enable the organisation in question to recognise the risk. At this initial stage, it is most prudent that counter measures are put in to practice. These could include applying developed procedures, culminating in a response that will intervene in and disrupt the activist's efforts. Of course, this assumes that the business and those responsible for it have the ability and skillset required to recognise such activities.

Yet on the contrary, it cannot be assumed that those responsible for securing the business have all the necessary skills in an area that is '*...expanding and forever changing*' (Borodzicz, 2006, p. 194). Rather, they can only be expected to respond to the best of their professional ability. Should activities be detected which could undermine business functions, Dezenhall suggests that those

responsible should be provided with a collection of measures which can be called upon.

'Security metrics' are defined by Kovacich and Halibozek (2006: xxvii) as:

The application of quantitative, statistical, and/or mathematical analyses to measuring security functional costs, benefits, successes, failures, trends and workload.

When adopting this approach, businesses are required to consider historical events and reflect on the responses employed in order to develop a best practice model for the future. Payne expands on the application of metrics - but again, as with Kovacich, claims that the origins are found in securing IT business elements. Payne argues that metrics should be Specific, Measurable, Attainable, Repeatable and Time-Dependent (SMART). She sets out seven key steps:

1. Define the metrics program goals(s) and objectives
2. Decide which metrics to generate
3. Develop strategies for generating the metrics
4. Establish benchmarks and targets
5. Determine how the metrics will be reported
6. Create an action plan and act on it, and
7. Establish a formal program review/refinement cycle

These seven steps are set out in a cyclical process: a theme evident across the literature (eg. Supply Chain Council, Risk Management Framework). If prepared with statistical output data, it is assumed that businesses will be better able to maintain their operations.

However, Bailey et al. (2010, p. 8), suggest '*...there is a positive correlation between strong leadership and a successful resolution. There is no such correlation between a thick manual and a positive outcome*'. The argument is not unique: Dezenhall (2009), a crisis management adviser, posits that in the midst of such a scenario, an organisation is best advised to '*...lose the crisis plan; find a leader*'.

Dezenhall (2009) substantiates this by arguing that the crisis management team must operate as, in effect, a benevolent dictatorship with financial autonomy - as opposed to a democracy hindered by red tape and protocols. While board authority will still be necessary, respondents need to be free to decide on actions. In his research, Samuels (2009, p. 65) proposes that without this, the crisis team will have limited viability, '*Any plans for terrorist risk management should have the full backing and support of upper management including the board support*'.

The literature further prompts businesses to develop partnerships with others in the community, and lead by example. A partnership of note here is Project Griffin, launched by the Metropolitan Police in 2004, which brought together local authorities, corporate security, emergency services and other interested parties to detect and deter terrorism and crime. This approach develops links between '*Private and public sectors*' (Coaffee, 2012, p. 178), allowing leverage in maximising the availability not only of information but a response force, rendering the targeted community less vulnerable. Such an approach has not been identified with specific regard to businesses at risk from the animal rights movement from within the established literature; but as the findings indicate, the community have transferred it to their own situation.

The majority of the literature concurs that security must exist across the business and have the backing of the board; however, in the event of a threat to the wider community, intelligence must be gathered to help establish a position of preparedness. This cannot happen in an organisation operating in a silo within its community. The 2011 KPMG report on e-crime discusses the need to involve all aspects of the business in securing the operation, but makes scant reference to the supply chain. The report focuses on technology security in the form of Information Technology (IT); but its only reference to suppliers is in '*...identify(ing) key third-party suppliers*' (2011, p.22) and their ability to secure information adequately. There is no mention of securing physical supply.

An additional method of attack which may not present its intent in the manner suggested by Payne et al is that of reputational attack, which can impact the corporate resilience of the company. Less aggressive attacks perpetrated by mainstream protestors use both hard and soft copy collateral to inform the wider public of business operations in a negative light. This is to try and bring about public opposition to the business and affect sales, and in turn profit, ultimately resulting in closure. Marketing material presented for public consumption suggests that corporate responsibility for the humane treatment of animal subjects is being flouted for profit and that the welfare of animals does not count. An example of this is presented in Figure 5 - Peaceful Demonstration.



Figure 5 - Peaceful Demonstration

Risk acceptance

Through their research in risk management, lecturers Emmanuel Fragniere and George Sullivan (2006, p. 30) state that the level or amount of risk a business is prepared to tolerate or, '*what it is prepared to lose*' is commonly known as its 'risk appetite'. This can enable the organisation in question to improve its resilience, and also ensure that the operational team understands the necessary level of mitigation required. Therefore, the risk profile of the business is to be cross-matched with its management policy and its risk appetite.

A company looking for greater returns may be prepared to accept a higher risk profile. This is normally expected of emerging companies, whereas their more established counterparts will generally take a lower safer return without exposing themselves to

higher risks (Fragniere and Sullivan, 2006). This does not mean that a more conservative risk appetite precludes a company from experiencing aggressive growth.

As Director of an international global consultancy specialising in enterprise risk management, Hiles (2010) suggests that there are four accepted methods of managing risk: Transfer, Tolerate, Treat and Terminate, the four 'T's. Hopkin (2010), also a risk management practitioner, suggests that these can be applied in a variety of situations: for example, one company's application of threat may be to engage with a new supplier as opposed to increasing a security measure.

However, Hiles (2010) does not include the fifth 'T', Take the opportunity (2004), suggested by HM Treasury (2004). The Treasury advises that the fifth 'T' can be adopted alongside the other 'T's except in the case of terminating the risk, a concept primarily aligned with financial gains when finances are being expended. Briggs and Edwards (2006) suggest the role of security is evolving into one of 'Risk-taking' being essential to a successful business. They argue that the traditional purist stance of security is no longer relevant, as it will detract from the goals of the company (Briggs and Edwards, 2006).

The management of risk is presented by HM Treasury (2004) in a cyclical model:

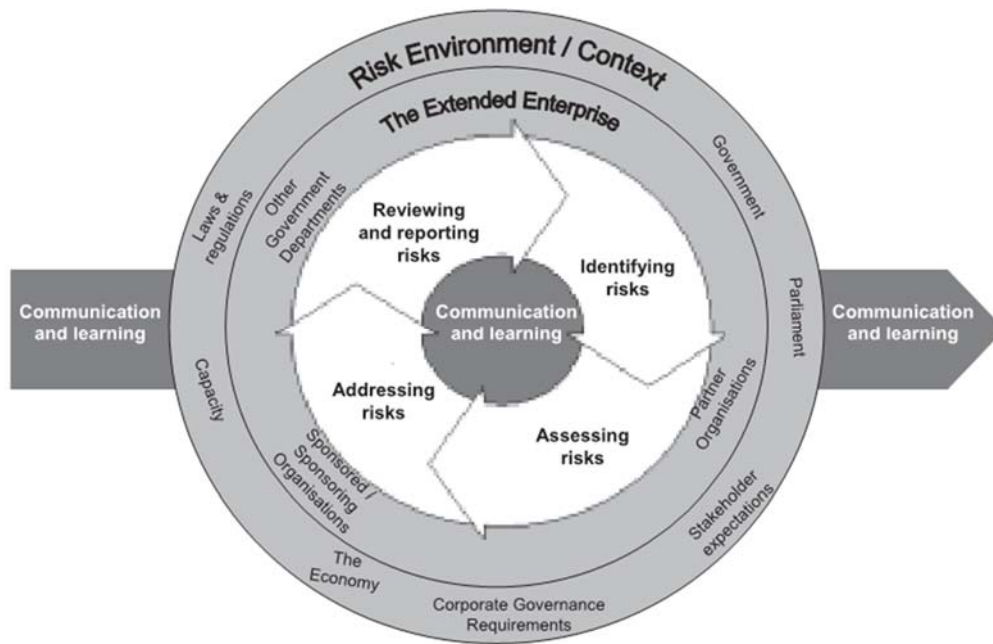


Figure 6 - HM Treasury Risk Management Model (2004)

This model again demonstrates that threats cannot be reacted to without a method of reflection and analysis.

The literature suggests that once a business has established its risk appetite at board level, risk ‘...ownership must be clearly set out’ (Hiles, 2010, p. 93). This ‘ownership’ does not necessarily mean that the owner is responsible for that risk; but they are responsible both for overseeing its management and applicable processes. Hiles (2010) further postulates that as part of managing the risk, the owner may have to call on the expertise of others who are more technically capable and knowledgeable to identify its possible impact. This promotes a level of separation from the risk, so that the owner can consider it subjectively and not become tied up in intricate technicalities.

Hiles (2010)’ position is aligned with Borodzicz’: namely, not knowing everything as it is always changing. By enabling the owner

to develop an understanding of the impact, they are thus better placed to apply processes which may assist in reducing it. RACI suggest that the business should define a responsible body accountable to it, which then consults with the necessary subject matter experts and keeps all parties informed (Hillson and Simon, 2012).

The level of risk which a business is prepared to tolerate, its risk appetite, will depend on where it sees itself operating and in which markets. Risks applicable to most organisations include natural hazards, financial risk, operational risk, strategic risk, compliance risk, and man-made hazards such as war and terrorism (Hiles, 2010, p. 45). In the case of those which employ animals as a resource or research subject, the man-made hazard of domestic extremism, or domestic terrorism, can also be a risk factor. The overall risk of terrorism in this context also includes that of animal rights interference, in all guises.

Management of these types of risk entails subjective consideration: the ferocity or impact cannot be calculated as precisely as that of financial risk. In the latter case, a monetary value can be associated with it, which can either be insured against, or an acceptable loss amount established. Aven and Renn (2009) propose a Quantitative Risk Assessment (QRA) approach in categorizing the risk of terrorism, whereby a broad perspective of the risk is taken: different from the more traditional approach of calculating the probabilities and expected values associated with the threat (Aven and Renn, 2009). This approach is aligned with the security metrics explained earlier.

In this case, the size and impact of an animal rights campaign may only be assumed, and again managed cyclically and reactively, until it is reduced to a tolerable level. If it re-presents itself, it is again managed to a tolerable level.

The way in which risks are managed and mitigated will vary based on risk visualisation, threat changes, and of course the risk appetite of the business concerned.

Ensuring resilience

Assessing risks is not a new practice in business and is not expected to present a problem to its functions. Risk assessments have been predominantly rooted in the insurance industry, but have more recently been used in assessing the risk of terrorism (Rice, 2003): something which has developed since the attacks on the World Trade Centre in 2001 (Rice, 2003). Ezell et al concur, arguing that probabilistic risk analysis has been used as a tool by risk managers for the last 30 years, but only recently – and rather controversially - applied to terrorism (Collier, 2009, p. 189). Borodzicz and Gibson (2006), however, indicate that prior to 1999, insurance companies sold services in risk consulting, suggesting that risks were not necessarily only to be transferred through evaluated procedures.

One area of concern in using these tried and tested assessment tools is that they have been developed based on natural disasters, such as floods or earthquakes. The probability of these types of risks occurring is extrapolated according to history and science; whereas terrorism (including domestic terrorism, which the animal

rights movement is more closely aligned with) involves human factors which cannot be so easily forecast. Acts of terrorism do not necessarily follow a predictable pattern; perpetrators are able to adapt to measures and obstacles put in their way. An attack may not take place if an opportunity to carry it out is compromised; or the group considering the attack does not have the capability, tools or desire to undertake it at that time or in that location.

Gutierrez (2006) reports that after the World Trade Centre attack in 2001, Risk Management Solutions Inc. developed the first commercially available risk model focused on terrorism. The model offered a list of attack types which had been experienced historically; and via interaction with other experts, acts which might be experienced in the future. It is then applied to institutions to establish what potential impacts, and therefore disruptions, may ensue were an attack to occur. The user then plots the physical cost in the form of asset damage and soft costs (such as effects on people). What the model cannot do is determine when and if an attack will occur: predicting the future of terrorism is not a science.

Where a business recognises its potential to be a target and that an attack could be mounted directly or indirectly against it, risks can be modelled with a greater degree of certainty. These inputs can then be reviewed, based on the model shown in Appendix B. It is not a case of 'if' an attack will occur; but more likely 'when'. Other models adapted to address terrorism are based on the Analytical Risk Management system (Samuels, 2009, p. 46), which addresses the risk appetite of businesses.

With a degree of certainty that an attack will occur, its type and ferocity can be assumed based on historical methods. With this knowledge, businesses are placed in an advantageous position, whereby they can put into place commensurate mitigation measures or processes with which to lessen the effects of an attack, and apply the QRA (Aven and Renn, 2009).

BS 65000

Throughout the period of this research, the industry has been expected to transfer other risk assessment models to its business, and apply these as they are deemed appropriate. An appreciation of such risks can help make businesses more resilient.

In 2014, the British Standards Institution (BSI) published its new BS 65000 (2014) 'standard guidance on organizational resilience'. This guidance discusses issues such as being responsive, reputational risk, competitiveness, resilience awareness across the whole business, and effective leadership. These points echo Hiles (2010), in that a responsible person must be appointed to manage the situation.

The key point within the guidance most applicable to this research is to 'Be informed (situational awareness)' (BS 65000: 2014, p. 6).

This discusses the need for individuals to understand their businesses and how these operate in their environment, both internally and through their supply networks. Threats identified include those of new competitors, geographical issues and geo-political situations, which can be extrapolated to include terrorism or even domestic extremism. The information in the guide mirrors the

literature and brings together the wisdom of others in a single document, creating a single point of reference.

Addressing the risk

An examination of different risks represents an important long term consideration for any organisation. Halibozek et al (2007) propose that having established the risk appetite, and assigned risk owners, the next phase is to define a set of procedures or the application of measures to address potential threats. Necessary intelligence must be gathered on both these and possible consequences, either through self-conducted research or '*...purchased from commercial providers*' (p. 76). The intelligence gathered can then be mapped against the particular business in question and applied using the metrics approach. Intelligence will have different implications, dependent on the business function and its location. As set out by Halibozek et al (2007), a pharmaceutical research facility may have a higher threat profile than that of an entertainment company and as such, intelligence will need to be applied appropriately.

Tang (2006) suggests that through discussion and engagement with company departments, the security manager or risk owner is enabled to develop measures which address established risks, using strategies that are '*robust*'. These should, however, be respectful of the business and not promote an impact on operations. Tang (2006) further explains that these are shown to benefit from not being applied in a silo mentality. There is little point in applying restrictive measures on the business to address a potential risk which result in the operation being hindered. While the risk may be managed, measures '*...can't protect everyone and everything*'

(Halibozek et al., 2007, p. 74). Thus those measures which are developed and employed have to be commensurate with both the risk and acceptable levels of impact on the operation.

The following section considers the risks to the supply chain, and how these are explored by the professional and academic worlds.

Summary

What has become apparent in the literature is that risk assessment models have existed based around insurance and financial risk for many years. However, risk assessment specifically concerned with terrorism was not considered until the attacks in the US in 2001. The shift in the assessment of risk has still not specifically taken into account animal rights campaigns, even though particular markets have been affected since the late 1970s.

In order to help maintain a resilient business function, the literature explains that the collection of data, analysis of it using metrics, and avoiding a siloed communication network can all assist in reducing the threat.

Supply chain risk

The animal rights movement has demonstrated through various campaigns that the entire operation of the pharmaceutical industry is a legitimate target. On their website, campaigns such as SHAC publicly identify the components of the supply chain linked to Huntingdon Life Sciences. For this reason, the resilience of the wider supply chain requires evaluation.

Risk assessment of the supply chain is a key consideration for organisations, which may lead to the development of different techniques and tools. To appreciate how a supply chain can be affected by risk, it is first necessary to define a supply chain. Poirier (1999, p. 2) posits that businesses of today have expended great efforts in forming networks to source raw materials, manufacture products, and deliver those goods to consumers in efficient and reliable processes. These networks are termed 'supply chains', the management of which is a relatively new term in the '*lexicon of management*' (Christopher and Peck, 2004), first used in the early 1980s. The importance of these networks is also central to the development of the appropriate tools and techniques which can lead to long term sustainability of the organisational environment. Organisations need to develop and foster networks which can be used in order to ensure long term development of their needs.

Academic literature that considers the impact of terrorism on the supply chain has been found to be limited prior to 2001. When conducting a Google Scholar search with the key phrase '*Supply chain Risk Terrorism*', over a date range of 1970 to 2001 (from the origins of the ALF to before the World Trade Center attack), approximately 5000 articles were found. Conversely, when searching for the same phrase between 2000 and 2013, approximately 20,000 articles were found, an increase of 400%. Sheffi believes this rise is directly related to the impact of the terrorist attacks in September 2001; a viewpoint which Brindley (2004, p. 91) is in agreement with, claiming terrorism as a '*new*' source of risk to the supply chain. Brindley (2004) further suggests that 9/11 led to a number of articles being published; whereas prior

to this, nobody regarded terrorism as a specific risk to supply chain management.

The position of both Sheffi and Brindley is supported by Blecker and Kersten, who consider terrorism to be a specialist area which has received extensive discussion since 2001 (2006, p.85). The idea that supply chain management had not considered terrorism until after 9/11 was confirmed by Rice (2003) and echoed by Tang (2006).

As noted earlier, the animal rights movement is considered by the academic and professional communities as terroristic in nature, so also falls under this umbrella: an association welcomed by Ronnie Lee, founder of the ALF, who aspires to emulate the PIRA, another domestic terrorist organisation with international reach. In this sense, the literature gap clearly includes the animal rights movement.

When a Google Scholar search for papers specifically concerning “animal rights” and “supply chain disruption” between 2001 and 2013 was conducted, only three results were found. Two articles considered the food chain: the first by Dr Helen Peck, a report for the Department for Environment Food and Rural Affairs (Defra). Peck noted that the animal rights movement was a ‘usual’ (2006, p.57) concern with regard to the food chain. The second, a paper by Bethancourt, Sinha, Miljkovic, Anaraki and Sharma, made limited reference to animal welfare and treatment in a sustainable food chain arena.

The final result, by Otto Lerbinger (2012), considers the range of risks affecting business, and includes that of the animal rights campaign in his chapter on 'Crises of the human climate'. In Lerbinger's view, the impact of the animal rights movement revolves around 'behaviour of human beings and entities in the external environment that create conflicts with the target organisation' (2012, p. 155). Lerbinger (2012) argues that the effects of humans on an organisation can be more volatile and unpredictable and therefore more difficult to mitigate. The accounts by Peck and Lerbinger were the first to consider the ALF and its potential to disrupt businesses and their supply chains to customers.

A supply chain can consist of many different businesses, each playing a key part in the delivery of the product. Should a single component of the chain falter, the whole thing could be compromised. Figure 7 – Supply Chain Reference image, shows the stylised model for a supply chain (Supply Chain Council, 2010).



Figure 7 – Supply Chain Reference image

The stylised logo does not show how complex a chain can be but suggests a management process.

Figure 8 – Creating the Resilient Supply Chain (Christopher and Peck, 2004), the considerations necessary in creating the resilient supply chain are displayed.

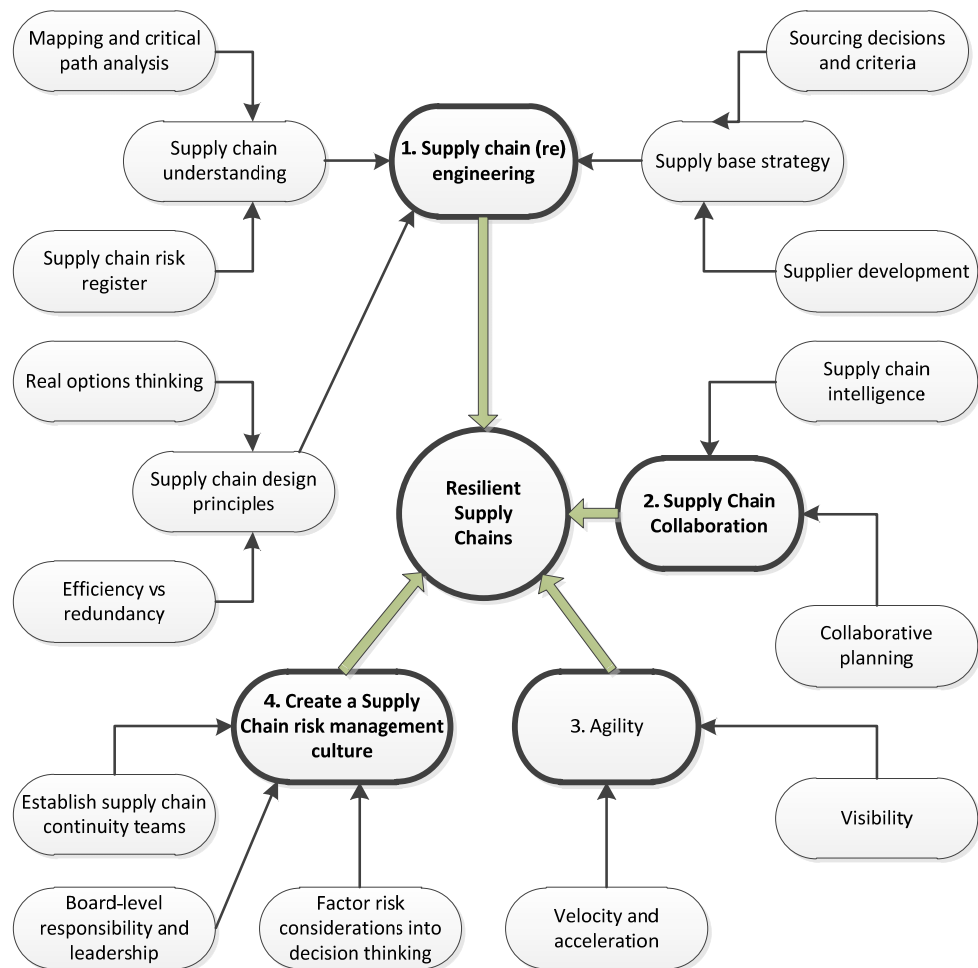


Figure 8 – Creating the Resilient Supply Chain (Christopher and Peck, 2004)

Opportunities for supply chains to cross borders have greatly increased in recent years as transportation and other countries' suppliers have become more accessible. This could be attributed to the advent of the Internet, with businesses able to market themselves globally to others who may require their services,

something which may have been hidden in the past. This globalization of access can be considered a good thing if one wants to source an alternative supplier or service provider; it also allows for a more competitive market.

An ‘...*indirect consequence of globalization...*’ (Stewart, 1997, p. 65) has been that businesses are now operating a just-in-time (JIT) delivery model, leaving little room for error, meaning that minor interference can have a significant impact on the supply chain. Also, given a greater level of exposure, others now have access to information that may be used against the business in question. Knowledge used to promote the business, i.e. advertising other clients to establish credibility, can be used against it by those who wish to cause disruption by intimidating these now visible clients or suppliers.

The weaknesses within the supply chain have been exploited by groups such as The Voice for the Rights of Animals (SPEAK) and Stop Huntingdon Animal Cruelty (SHAC). These groups have been known to reconnoitre vehicle movements around primary targets, and look beyond first tier delivery partners in an attempt to disrupt the supply chain and, therefore, bring about closure. These adjacency attacks are reported to have included financial support. In an interview with Greg Avery, the lead of SHAC, Boggan (2006) reports that the multi-faceted 3-D campaign studied the available financial information and targeted the HLS financiers and shareholders whose monies are traded on the London Stock Exchange. The successful targeting of these supply partners, finance being integral to supply, caused HLS share trading to be suspended. A method advanced by Rice (2003) to mitigate this,

supported by Zsidisin (2008), is that of multiple suppliers. The greater the number of suppliers, the greater the number of targets, which in turn will stretch the capabilities of groups or individuals intent on disrupting the chain.

Protecting the supply chain

Those responsible for the management of risk cannot only consider direct risks, but must also concern themselves with softer aspects of human intervention, not only regarding their businesses, but into the supply chain of which they form a part. Bolgar (2007) concludes that the manner in which a business manages the supply chain and responds to potential disruptions can ensure a more reliable delivery method.

Application of mitigation measures in a timely manner is argued to assist in minimising the effects of a disruption (Bolgar, 2007). An important part of managing the supply chain is to dynamically monitor its flow. The opportunity to do so has improved through the advent of logistics tracking and on demand information through the World Wide Web and the Internet. Being in possession of up-to date data can allow businesses to put in place remedial measures if a risk to the supply of goods is recognised; but conversely, lack of dynamic data can represent a weak point in the delivery strategy which may be exploited.

Stewart (1997, p. 65) sets out the four principal delivery components of the supply chain: '*Plan, source, make, deliver...*' These four components are targeted by the animal rights movement. The disruption of any of which has the potential to affect the targeted

chain and bring about the collapse of a linked business and, in turn, reduce the number of animals being exploited. Although the scale is notably adjusted, the research by George, Button and Whatford regarding the impact of the September 11th attacks recognises the interconnectedness of Western society, and how ‘...small groups using asymmetric tactics could cause massive disruption’ (p. 55). Their findings can be directly supportive of this research.

Moreover, as stated earlier in operating a JIT model, the level of competitiveness to which a business is driven can impact directly on its operation and that of the overall supply chain, which is further exacerbated by a global approach adopted by the animal rights movement.

While this thesis is concerned with domestic terrorist interruption to the supply chain and the detrimental consequences which this may have on enterprise risk, normal supply chain management cannot be ignored. It can be assumed from the literature that measures applicable to the normal securing of the chain may have beneficial aspects when considering the risk posed by domestic terrorism in particular. Interruption of any kind - logistical, infrastructure-based or arson - will impact upon the delivery of service. Admittedly, measures to overcome traffic delays will differ from those dealing with a fire - but all have the potential to break the supply chain.

Supply chain interruption

In recent times, the animal rights movement has employed disruption tactics. These measures have involved the supply of goods and those providing finance and insurance being targeted.

This type of disruption can affect the robust infrastructure required to maintain a resilient business. Andrew Hiles, a founding member of the Business Continuity Institute (BCI), quantifies this position when he recounts that,

‘Many organisations that survived 9/11 [World trade building terrorist attacks, New York 2001] did not survive because they did not lose people or facilities. They survived because of the resilience of their people and the diversity, robustness and resilience of their infrastructure’ (Hiles, 2008, p. 405).

Hiles’ position is further substantiated by Waters and Waters, who believe that:

‘... The smallest risks can affect performance, and they need careful management. This probably seems obvious, but supply chain risk management is a surprisingly new concept and is at a very early stage of development’ (Waters and Waters, cited in Hiles, 2007, p. 405).

The effects of disruption on the supply chain can have wider-reaching implications than those that present themselves immediately after disruption has occurred. Kouvelis et al (2011) suggest that *‘...firms continue to operate for at least two years at a lower performance level after experiencing disruptions’*. Not all disruptions are capable of causing such an impact. However, the desired outcome of the animal rights movement is to cause financial impact, making business unsustainable.

The concept of supply chain management being a new development conforms to the ideas of Chris Frost of PricewaterhouseCoopers LLP, who describes the resilience of a business differing from that of traditional risk management. Frost (2007) views risk management as akin to continuity planning, where the focus is on recovery after an attack; whereas operational resilience is more concerned with maintaining a continuous operation and delivery of one's service (Waters and Waters, 2007, p. vii). It is now reported that those responsible for supply chain management are considering terrorism and its potential effects on business operation. Associate Professor Dr George Zsidisin suggests that supply chains are not only at risk from external sources such as, '*...weather conditions, terrorism, counterfeiting...*' (cited in Frost and Porter, 2000, p. 249); but also internal problems such as strikes, human factors, and even quality issues. Wider issues which may present themselves should also be considered; to concentrate on a single issue could lead to a more probable risk being overlooked.

Slack et al (2010) suggest that the new agility expected of the supply chain places a greater level of understanding on how it functions. An appreciation of what is needed to cope with '*common*' disruptions such as quality and delivery, let alone the more '*chilling*' effects of terrorist or industrial action, requires to be at the core of the business (p.400). This provides confirmation that risk from terrorism lies outside common, or traditionally accepted disruptions; but again, it should be underscored that this has only been commented on in recent times.

Operationally, a proactive approach to risk can become ingrained and engender real commitment in this area. Zsidisin and Ritchie

(2008) explain that a proactive risk management strategy requires a *'culture and attitude that provides resources and motivates employees to develop risk contingency plans'* (p. 55). This is echoed by Frost (cited in, Zsidisin and Ritchie, 2008), who suggests that those responsible for strategic decisions should look to *'...forge links between risk management and strategy, value, capital management, finance, corporate culture, operations and customer service'* (p. 59). If these links are formed at the heart of the organisation's culture, it will be able to manage risk; and therefore develop a competitive advantage.

Affecting the supply chain

A prominent reported case where disruption to the supply chain has successfully affected the primary target was when SHAC used direct action to intimidate shareholders of Huntingdon Life Sciences (HLS) to withdraw their financial backing. The extent of the campaign's success can be seen in that government intervention was required to stabilize the business and prevent its closure of HLS. According to UK Business Enterprise Research and Development, in 2009, the industry directly employed some 67,000 people: each generating approximately £195,000 to the Gross Value Added (GVA). Perhaps this helps explain why government stepped in to assist. For SHAC, the campaign proved very successful, with the method adopted now representing a core tactic, and copied by other groups too.

It is suggested here that any kind of interruption to the supply chain be considered in its design - and not only that of direct intervention. A supply chain designed to *'fail smartly'*, or in a manner that does not cripple or prevent recovery is better placed to deal with

disruption (Rice and Caniato, 2003). A close-knit supply chain with minimal players in close proximity to each other can be easier to protect. However, locally positioned disruption could have an effect on multiple players, whereas a larger supply chain over a larger geographical area may not be so affected. The resilience of the chain needs to be managed and designed cognisant of the issues it may face. The literature identifies the issues and proposes methods and ways in which to address them; however, no clear, direct guidance considers the vulnerability of the organisations targeted by the animal rights movement.

Resilient supply chain design

In developing the supply chain to best suit the business function, the selection of other parties is recommended. Coyle et al. (2008) suggest that the selection process should include a wide array of business function partners, in order to gather the perspectives of those from areas such as finance, manufacturing, management, or human resources, who may have a part to play in the management of the supply chain and its operation. The first choice of supplier may not necessarily be the most obvious, and is to be reviewed in light of other supply members in order for a best fit chain to be constructed.

Coyle et al (2008) argue that it is prudent to consider the overall business, and that any '*trade-offs*' are understood particularly where impacts are potentially financial. A well-known and reliable supplier may be more expensive than the lowest priced alternative but the risk to the chain may be increased. A balance is recommended

between acceptable risks, cost to the business and its impact on the operation.

The Internet has opened up access to more suppliers. This has revealed global logistical opportunities: companies now have access to a larger pool of partners. '*...Internet functionalities have forever changed the way the supply chain works*' (Coyle et al, 2008, p. 213). Having access to a greater network should not, however, be considered a panacea; conventional due diligence is not to be ignored. Business partners are still to be evaluated with regards to reliability and cost; and again, the lowest cost may be from a supplier on another continent, which brings with it its own risks, transportation, working practices and cultural differences (such as national and religious holidays).

Yale Professor Emeritus Lode Li (2007) suggests that the Internet and access to global suppliers brings with it the possibility of dynamic fluctuation in the chain. As such, '*...chain design needs to be fine-tuned constantly*' (p. 31): not only because of changing participants; but also if it is influenced by outside sources such as the animal rights movement. The supply chain developed over time cannot be blindly relied upon either now or in the future. Instead, contingency should be built in, with alternative suppliers and back-up plans established, practiced and adjusted as necessary. The design of the supply chain must be dynamic.

The following section presents the literature specific to the animal rights movement. Primarily, this is philosophical in nature, albeit with some input from investigative journalists. The literature was found to be lacking from a true academic perspective.

Animal rights movement

The majority of academic literature on the animal rights movement has been authored by philosophers concerned with the rights of animals, but not specifically concerned with the ALF or similar groups, except in a limited number of cases. The consideration of animal rights discussed within the literature, in some instances, may be viewed as an extension of human rights debates; though others, such as People for the Ethical Treatment of Animals (PETA), liken it to the Holocaust.

The main source areas for primarily texts on the animal rights movement are online forums and journal published articles. There appears to be a distinct lack of published scholarly research on the animal rights movement; well researched, trusted literature has been difficult to source. Thus in the cases discussed here, the credibility of the literature has been considered.

Given the limited availability of traditional literature on the effects and extent of animal rights groups, other avenues were explored. In this context general Internet searches were conducted, with particular focus on newspapers, fanzines, group forums and intelligence networks. Regular monitoring of animal rights websites was also undertaken, in order to track attack history and obtain information on current tactics being used. Group websites included:

Group Name	Internet address
Speak The Voice for the Rights of Animals	www.speakcampaigns.org
Bite Back	www.directaction.info
Animal Liberation Front	www.animalliberationfront.com
PETA	www.PETA.org.uk
BUAV	www.buav.org
Stop Huntingdon Animal Cruelty	www.shac.net

Table 4 – Animal rights forums

These were not the only websites visited, but they provide a general indication of the sources monitored.

From this, it was identified that the underlying intent of all these groups is the cessation of animal use in any form, encouraged through a variety of methods. Some groups are prepared to go the ‘extra mile’ to force change. All rely on support networks and, in particular, revenue streams from public donations and the sale of campaign material.

The modus operandi of more militant groups lies at the heart of this research. That is to say, the strategies and tactics used and the lengths these groups will go to in achieving their goal. The determination expressed by them is of concern for those responsible for animal use in a business function and, in particular, the safety of those they employ, as they can also be targeted. This is highlighted by the ALF’s call to use ‘...*whatever means necessary*’ (2001) to bring about change.

The following sections are provided to illustrate how, throughout history, man has considered animals as a source of food, strength, companionship and benefit. This relationship has been debated and reflected upon by philosophers and scientists, with opinions polarized from the extremes of contempt to acceptance. Mankind has modernised his environment and increased the availability of time through scientific advancement; leaving him able to consider the sake of others, such as animals, adopting this as a worthwhile cause. This has led to the creation of groups in various forms, with wide ranging methodologies intended to assist those unable to assist themselves.

The human animal and non-human animal relationship

Literature and experience informs us that throughout history, man has made use of animals for food, clothing, research and as assistants in manual labour. According to Kalof (2007), the first evidence of this '*exploitation*' is found in cave art dating back to 450 BC, when man appeared to have hitched an ox to a plough. This appears to represent the first documented evidence of man using the natural physical attributes of an animal to assist in daily tasks.

Evidence, though, suggests that man was making use of the natural traits of animals long before this. Cave art from around 40,000 BC shows man using dogs for hunting. What this could represent is that man has, from an early stage in his existence, appreciated the natural abilities of other animals and employed them as assistants. Shipman (2010) suggests the mutually beneficial advantages of

human and non-human animals could have started 2.6 million years ago.

In the Bible, Genesis (1:26) proclaimed that man was given divine assent to make use of animals stating, 'And God said, let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth'. This should not, however, be considered as *carte blanche* for man to do as he wishes with no regard for the animal, a position upheld by the medieval philosopher St. Thomas Aquinas (1250).

When man and animal started to share the same shelter, this probably denoted the start of the domestication process. Jensen (2007), whose primary area of research lies in genomic change caused by domestication of animals, suggests that this process started with the dog, the evidence dating from 14,000 BP (years before present). Jensen further posits that canids are capable of forming interspecific relationships which bring mutual benefits: not only in the form of providers, but relationship and companionship. However, Tranter notes that cattle '*...were enslaved and brought into involuntary subjection*' (1973, p. 73). The relationship was less mutually beneficial. Tranter's wider academic position concerned societal issues; but in this case, with the human and non-human animal in society, and how the industrial revolution affected not only man's development but that of animals too.

The physical strength of horses powered the predominantly agricultural environment in Britain prior to the industrial revolution.

With its' advent, man's reliance on animal power began to reduce as steam-operated machinery was developed and used more extensively on the farm. The literature suggests that, at the same time, public concern for animal welfare increased and welfare societies were established to promote kindness and compassion (Pocard, 1999). This was in the hope that a newly considerate generation would reduce cruelty not only to animals, but to others: a viewpoint ventured much earlier by St. Thomas Aquinas, who declared, '*Cruel habits might carry over into our treatment of human beings*' (Aquinas, 1250; cited by Singer, 1995, pp. 195-196).

The early campaigns in England were not without ridicule. In fact, they were '*...widely regarded as absurd*' (White, 2005, p. 328). In 1792, Mary Wollstonecraft, a leading light in the fight for women's rights, published her '*Vindication of the Rights of Women*'. Not long afterwards, Thomas Taylor, a respected Cambridge philosopher, anonymously published '*A Vindication of the Rights of Brutes*' (1792), which parodied the publication of Wollstonecraft. He ridiculed the case for women's rights by suggesting that if women were afforded rights then why not animals too - an absurd notion at that time. Little was he to know that the idea he considered ridiculous would, over time, gain common acceptance, albeit with the degree of accepted rights afforded to animals remaining highly contentious.

Lucas (2002) notes that early campaigns championed by groups such as the British Union for the Abolition of Vivisection (BUAV) were only possible in post-industrial revolution Britain, as people were now experiencing better (hitherto unprecedented) standards of living, and had more free time in which to be concerned for others.

Philosophical debate

The nineteenth century campaign organisation known as the Humanitarian League is discussed in Hendrick (1977)'s biographical study of Henry Salt. Salt was an English writer and social reform campaigner who founded the organisation. The primary aims of the League were to: bring about the end of animal use for fashion; the adoption of a more humane diet; reducing the suffering of animals; and ending '*vivisection in the alleged interests of science*' (Hendrick, 1977, p.63). These were in addition to championing the banning of hunting. In this sense, the League could be considered the forerunner to the Hunt Saboteurs of the 1980s led by Ronnie Lee. Its humanitarian concern was non-species specific: for it was also concerned with preventing cruelty inflicted on prisoners and children. The League considered all social groups as equal.

The extent to which man employs animals cannot be better established than that in the sporting arena, in particular, that of hunting. Man has, throughout history, hunted animals for food and clothing through the use of pelts. As time has progressed, man has required a guaranteed supply of food, so farming became the primary method of fulfilling this demand. This reduced the need for hunting - yet man continues to hunt animals for sport in the form of fox hunting, grouse shooting or deer stalking. These forms of entertainment started to fall out of favour as animal rights became a bigger issue in the twentieth century.

Yet even given changing public attitudes in recent decades, the philosopher, Peter Singer, still considers that animal rights have made little progress since Salt's book *'Animal Rights: Considered in Relation to Social Progress'* was first published in 1892.

Contemporary animal rights thinkers

Moving forward to contemporary times, the main protagonists in the worldwide debate are generally regarded as being:

- Ingrid Newkirk, the founder of PETA.
- Roberta Kalechofsky: who decries the comparison of PETA between the sufferings endured by animals to that of the victims of the Holocaust.
- Mary Midgley: whose 1978 book, *Beast and Man*, examines human nature.
- Carl Cohen, an American Professor of Philosophy at the University of Michigan.
- Tom Regan, who maintains that animals are *'subject of a life'*; and regardless of rationality, embody inherent value just the same as humans.
- Peter Singer, who upholds a utilitarian perspective with regard to vivisection of animals in the name of research.

From this array of participants, two main schools of thought can be identified: abstention of all animal use; and a permitted utilitarian perspective. These two schools are led by Regan and Singer. Regan demands cessation of all animal exploitation and Singer champions the utilitarian perspective. Regan staunchly places himself in support of the principle *'Not larger cages, empty cages'*

(2001, p. 41). Singer believes in the justification of exploiting a few for the benefit of the larger society (Fox, 1986, p. 203). Fox (1986) also suggests that this stance could alternatively be termed 'biological fascism': which is of course being challenged by the animal rights movement.

Singer's original publication of *Animal Liberation* in 1975 is recognised as a seminal text by the animal rights movement, the timing of which coincided with the reformation of the modern Bands of Mercy, which evolved into the ALF. Singer was born in Melbourne, Australia in 1946; his main area of work was that of applied ethics and the equal consideration of interests of all species, underpinned by the observation that all have an interest in avoiding pain. He argues that '*...anyone who eats meat is an interested party. They benefit - or at least they think they benefit - from the present disregard of the interests of nonhuman animals*' (Singer, 1995, p. xiii).

In *Animal Liberation*, Singer discusses the subject of speciesism, a term widely associated with him even though it was initially coined by Richard Ryder in 1970. Ryder was a key player in the animal rights arena in its infancy. For its proponents, the term speciesism is as relevant in today's society as sexism, racism or ageism; all of which are viewed by them as equally unacceptable. Ryder suggests that our speciesist nature developed as our dependence on animals increased, observing that, '*...our economic dependence upon the other animals surely helped to fashion our speciesism*' (2000, p. 246).

Tom Regan, meanwhile, was born in Pittsburgh, Pennsylvania in 1938. Thus both our key philosophers were born outside the UK: where the activist fight for reform began. Regardless of the rationality argument advanced by Aristotle, Regan suggests that all have inherent value and as such, '*We humans have a universal obligation to act humanely, and this means that we must refrain from treating animals in ways that cause them unnecessary distress*' (Cohen and Regan, 2001, p. 5). While Cohen supports the use of animals in medical research, aligned with Singer, he also supports Regan with particular regard to moral rights.

In 2006, Singer's exalted position was, in the opinion of this author, brought into question when it was reported that he had condoned testing on primates. In line with his utilitarian stance, Singer conceded that it might be justified, provided that the social benefits outweighed the suffering which had to be endured. Yet as Yount (2008) notes, at no time in Singer's 1975 work was it ever demanded or expected that man was to abolish all uses of animals; but it was urged that man expand his moral range to be inclusive of animals and stop discriminating based on species (p. 5).

This 'consequentialist' interpretation of utilitarianism is summarised by Matheny in his essay on Singer's '*In defence of the Animals*' as '*...a logical extension of the principle of equal consideration of interests in that it says I should sum up the interests of all the parties affected by all my possible actions and choose the action that results in the greatest net satisfaction of interests*' (Matheny, 2006, p. 14). Carl Cohen supports Singer's position: arguing that, '*The sum of the benefits [of using nonhuman animals in biomedical research] is utterly beyond qualification*' (Regan, 2001, p. 70).

As openly declared by the ALF, the time for debate is over; what is required now is action. This declaration, championed by Regan, demands an end to biomedical research. The unambiguous position of the movement, underpinned by Regan's ideals in academic literature, is to serve as a warning to business. The intent of the animal rights movement is to continue until all animal use ceases.

The animal rights movement

The structure of the animal rights movement does not appear to follow the broadly militaristic hierarchical command structure followed by the likes of the PIRA. The US think tank, RAND Corporation (2005), observes that the movement operates as a loose network of autonomous entities which '*... lack a formal organisational structure and rely instead on a leaderless resistance approach*' (p. 76) more akin to Al-Qaeda. This perception is shared by noted terrorism scholar Paul Wilkinson, who states that, '*...there appears to be no hierarchical organisational structure but more of a decentralised network of almost self-appointed activists*' (p. 105).

While there appears to be no actual leadership, individual groups are guided by group forums to abide by a common ethos, with members expected to adhere to vegetarianism or veganism in order to maintain their credibility. RAND (2005) explains that, '*where a group lacks a central management function, activities are coordinated through communications among all individual units.*' (2005). The credo of the Animal Liberation Front (2011), outlined on the organisation's website, provides the following five guidelines:

1. To liberate animals from places of abuse
2. To inflict economic damage
3. To reveal the horror and atrocities committed against animals
4. To take all necessary precautions against harming any animal, human and non-human
5. To analyse the ramifications of any proposed action

The guidelines are replicated in simple terms above, which are freely available in full and promoted as a moral code to be followed (ALF, 2011).

Davidson (1998) notes the professionalism of the ALF as a hallmark of itself and other extremist groups. Pivotal figures have organised and led protest campaigns: Mel Broughton led the SPEAK campaign in Oxford; while Greg Avery was key in the SHAC campaign. Both have been imprisoned for their involvement in their chosen campaigns. They researched their targets, roused rank and file protesters and rallied the public.

The founding member of '*probably the best-known extremist group in Europe and North America*' (Davidson, 1998), or at least the concept of activism utilizing direct action in this context, is Ronnie Lee. Lee had a '*...background [which] lay in anarchy*' (Henshaw, 1989, p. 11). Although Lee is presented here as the founding member and leader of the ALF, his desire is not to be recognised as such: for if there were a leader, they could be captured as part of a bid to decapitate the movement. The group is, according to Steven Best, a philosopher, writer and fellow activist, constructed as '*a host of individuals and affinity groups that spread rhizomatically and clandestinely*' (2004, p. 25).

In his investigations of the movement's origins, Henshaw (1989) claimed that Lee was a great admirer of Sinn Fein and the Irish Republicans, and often told others involved in the ALF that they should learn from them. He envied the power expressed by the rebel songs of the PIRA. It is not uncommon for such groups to learn from each other. This is evident even when a group divides: the common bond and manner in which each learns from its peers continues. The skills developed are transferred and honed by the emerging group, while still maintaining allegiances with others (2005, p. 144). The ability to learn from the successes and failures of others has allowed the ALF to develop beyond the tactics of the Hunt Saboteurs: something Lee was keen to promote.

Other prominent figures connected to the animal rights movement include Greg Avery and Jerry Vlasak. Born in 1963, Avery has been a full time activist since the age of 15. During the course of this research, Avery was serving a nine-year jail sentence for conspiracy to blackmail as part of the SHAC campaign; but he was released in October 2011. The loss of liberty by committed activists is communicated in their mission statements as an occupational hazard. They further assert their willingness to sacrifice their *'...money, time, careers, liberty and freedom, while some of us must be prepared to sacrifice our lives'* (ALF, 2010).

Vlasak is a prominent proponent of the ALF in the US, and a practicing trauma surgeon. He formed the North American Liberation Press Office with Steven Best, which provides a voice for actions undertaken by those under the auspices of the ALF. According to Owen (2009), Vlasak's position is that the loss of a few human lives

in the fight for animal rights is no less acceptable than the loss of human lives in the fight for the abolition of slavery in the 1800s (p. 48).

Vlasak's change of heart from that of active vivisectionist to vehement opponent was brought about by the inspiration of his wife, a fellow medical professional and former child actor, who had spent much of her career acting with animal co-stars. He is vocal in his contention that the alleviation of human suffering should not owe to the 'mistreatment' of non-human animals and declares that, '*...the vast majority of [humans] get sick and die because of preventable lifestyle variables such as diet, smoking, drugs and environmental toxins*' (Vlasak, 2005).

The three individuals outlined above are among the core ALF contingent around the world. The level of commitment demonstrated by each is promoted as an inspiration to others. While all three are vocal in their support and determination to put an end to animal testing, one activist was especially renowned for his sacrifice for the cause. Barry Horne was handed down the longest sentence so far for activities associated with the animal rights movement: 18 years in prison for arson. The incendiary device which he placed in a *Boots* store in Newport reportedly caused £3 million worth of damage (Alderson, 2007).

During his incarceration, Horne embarked upon a hunger strike. The effects of self-starvation ultimately resulted in his death through liver failure. Horne believed that '*the fight is not for us, not for our personal wants or needs... The animals have no one but us. We will*

not fail them' (Best, 2004, p. 91). Horne is now hailed as a martyr by the ALF.

Campaign organisations

The following sections present the researcher's interpretation of how the overall threat is comprised of three distinct groups: support, protest and militants. To assist in the appreciation of the structure, the organogram displayed in figure 9 was constructed. Each group has its own part to play in striving for the overall goals of the collective. The support groups provide financial and wider public assistance; protest groups undertake legal action in opposition against the target market; while the militant groups are prepared to risk their own liberty while undertaking direct action. Each group has outside influences and support which, when combined, enables the campaign to evolve and function.

Figure 9 - Threat makeup, shows how the support groups rely on public assistance; the protest groups have allegiances with similar groups such as the Earth Liberation Front; and the militant groups learn from more traditional terrorist groups. This presentation of the inter-relationships of the group is similar to that set out by Button (2002) with regard to environmental protesters. Button (2002) argues that the latter reflect a spectrum of activities, extending from those prepared to use 'terrorist'-type tactics to those acting as legitimate pressure groups. In the midst of these is an environmentalist pressure group largely legal in its activities; but which will push the boundaries of legal and illegal actions.

The elements expressed here by the author in Figure 9, and Button (2002), are further supported by the US military in its 21st Century Guide to Terrorism (TRADOC, 2007). The main difference with the latter is that leadership is presented as the highest tier: which does not exist in the ALF.

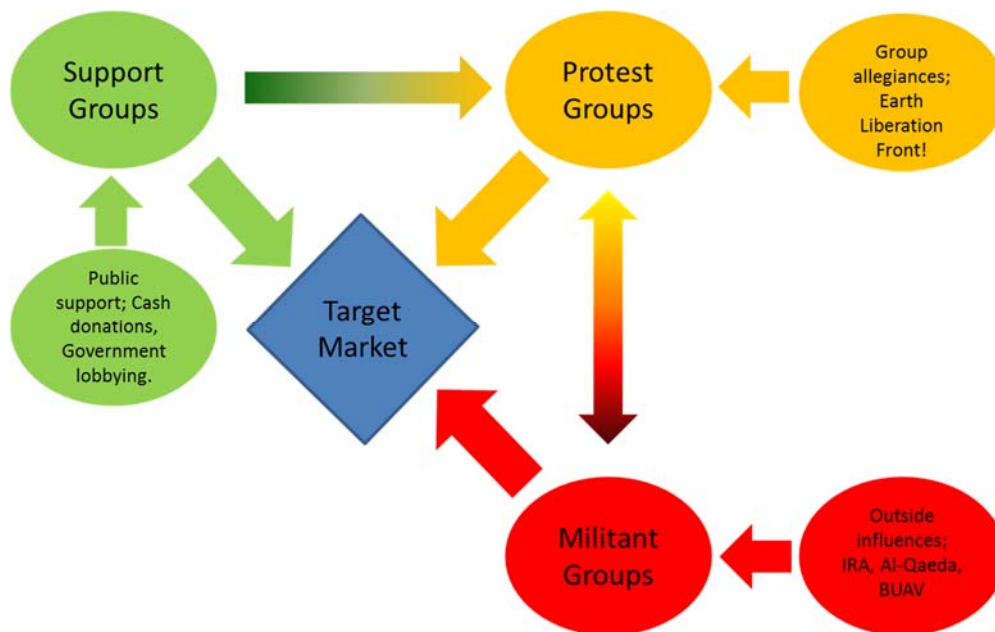


Figure 9 - Threat makeup

Support groups

The commitment and activities undertaken by the members of the militant groups are of course exceptional as they are willing to commit illegal acts. Button (2002) suggests that the unlawful and illegal tactics of *'monkey wrenching'* or *'ecotage'* are also primarily applied by the more militant groups in the environmental campaigns. Everyday rank and file supporters try to bring about change through peaceful demonstration and by educating the public in an attempt to encourage a greater number of citizens to lobby government: this is the modus operandi of the environmental campaigners.

TRADOC outlines the structure of terrorist groups in four elements; leadership, operational cadre, active supporters and passive supporters (Figure 10 – TRADOC - Terrorism Structure). In this sense, cadres are the militant group planning and conducting operations; active supporters are the protest groups which actively support the militant members with intelligence and assist in low level actions. Passive supporters are the peaceful protest arm who provide fund raising and lobbying government, but do not display activist traits.

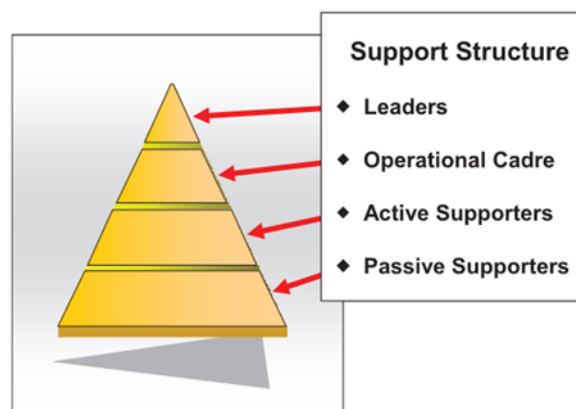


Figure 10 – TRADOC - Terrorism Structure

In specific regard to the animal rights movement, the active supporters assist in the continuum of activism: providing financial and practical support for direct action and imprisoned activists. One such group, the Animal Liberation Front Supporters Group (ALF SG), provides a support network which raises money through membership fees in order to assist prisoners. The ALF SG also provides information for those under arrest, on remand or who have been convicted. This advice primarily surrounds rights and access to vegan food, clothing and toiletries.

Guither (1998) maintains a moderate stance on the debate surrounding animal rights and comments on Philip Martin's work on

ALF efforts to engage with the public and seek to educate them through cleverly marketed media material. This has been done through demonstrations, rallies and other vehicles to attract larger audiences (Guither, 1998, p. 7). The strategy takes the form of public information tables set up in shopping malls in the UK and around the world, where leaflets are distributed and discussions encouraged. At these public displays, donations are called for; however, judging by the advice given to activists, street collections are not legal unless a permit is obtained from the local authority. Without such a permit, collections could be deemed illegal. The communication vehicles discussed by Martin are wide ranging and include some high quality media campaigns.

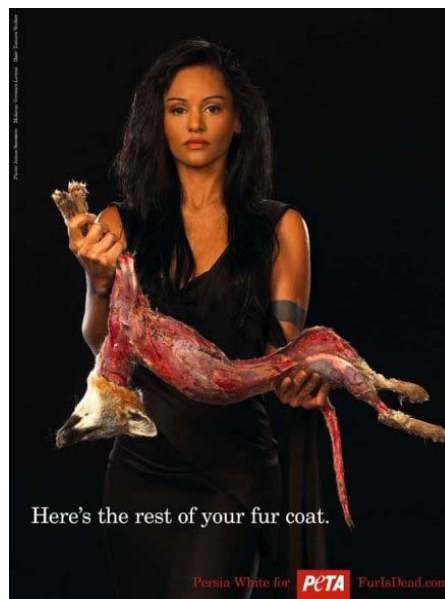


Figure 11 - PETA Anti-Fur Campaign

PETA is a UK-based organisation which works to educate the public, influence legislation, arrange events and cement its position by attracting celebrity involvement. PETA uses its media position and support to mount highly visible campaigns, including

mainstream billboard and magazine displays. Typically, these have been orchestrated to show how society mistreats animals for fashion and food. A key PETA campaign was to stop the use of fur for fashion. Tactics included engaging with celebrities and some shocking photographs (Figure 11 - PETA Anti-Fur Campaign). Some include images of fashion models covered in blood to remind the public that fur was once a living being. These images are published in a broad array of media and have had a significantly detrimental effect on the fur industry, some of the most notable fashion houses having now withdrawn fur from their designs. The likes of Vivienne Westwood, Tommy Hilfiger and Stella McCartney are strongly aligned with PETA and champion the campaign for the cessation of fur use in fashion (Picardie, 2010).

However, some do oppose PETA and its use of shock tactics; and also critique the organisation's '*commodifying*' of women in order to sell its campaign (Gruen, 2011, p. 201).

The manner in which support groups engage with the public is, on the whole, peaceful and does not attempt to disrupt. The face of the ALF presented to the UK public on a daily basis usually takes the form of educational tables in city centres. Guidance provided by the ALF directs its followers to '*Set up an information table in a busy area of your town. Stock your table with flyers and fact sheets and get ready to amaze and educate passers-by!*' (ALF, 2013) Leaflets typically depict unsatisfactory conditions in farming, laboratories and in some cases animals in distress. It is usually claimed that the images were captured during undercover investigation or in some cases during actual liberation: one such image being that of a stump tail macaque monkey named Britches (ALF, 2012).



Figure 12 - Britches

PETA have disrupted fashion shows, encroached on business premises and still try to intimidate researchers to cease their research. The intimidation experienced has been discussed amongst the research community and published in the Institute for Laboratory Animal Research Journal, which reported that over the past decade, violence and scare tactics have been more widely used against researchers and their families (Bailey et al., 2010, p. 138). These methods have caused some researchers to cancel their work.

The devotion required of the group's supporters does lead to demands on private individuals' time. Taking into account the cross-fertilisation of groups in the broader arena, it has been observed that the '*pearls-and-twinsets*' (Button, 2002) members of the middle classes play a part in the movements alongside students and dedicated activists. Students with less demanding schedules and long holidays often find the cause worthy of their participation.

Protest groups

PETA have disrupted the fashion industry through media engagement as a means of generating general public support. This has led to a decline in the number of fur outlets in the UK, but has had a lesser affect in mainland Europe. The intent of the protest groups is to render business operations difficult on two fronts: first, through general disruption; second, by encouraging customers and suppliers to withdraw their support. Both methods result in additional resources being necessitated in terms of security, infrastructure and relationship management, causing a drain on financial reserves, and making business less profitable. As with the case of eco-terrorists explained by Button et al, *'those who are targeted by protesters increase their security measures substantially'* (2002, p. 30).

The main point of focus for disruptive protest is at the business premises, where employees and clients are more likely to be directly engaged. By protesting there, the groups hope to intimidate employees and clients into removing their service or patronage, causing the business to fail: which in turn, will put an end to the animals in that business being, in their view, mistreated and abused.

Further, in protesting directly towards government, they lobby for political change. Such methods are received in an increasingly critical manner: governments are more concerned with *'...order and security'* (Humphrey and Stears, 2006, p. 401).

In the arena of disruptive protest, two of the key UK groups are SHAC and SPEAK. As with the ALF, SHAC and SPEAK are modelled on a leaderless resistance model. In 2005, SHAC had

achieved such notoriety that it was claimed to be '*one of the top domestic threats in the USA*' by the then Assistant Director of the Federal Bureau of Investigation (FBI) (Engelhardt, 2006).

SHAC are primarily concerned with bringing about the closure of Huntingdon Life Sciences (HLS) and all associated suppliers, customers and support companies; while SPEAK has focused on targeting Oxford University and its primate laboratory. HLS are the largest contract research establishment in Europe undertaking research for various companies around the world. Its supply chain extends across all business markets.

This method of attacking supply partners has enjoyed great successes. For example, SHAC embarked on an intense campaign which involved daily demonstrations at animal breeding facilities that supply HLS. SHAC targeted Consort Kennels, Hillgrove Cat Farm and the New Church guinea pig farm, employing protest and direct action. After applying these methods in a sustained campaign lasting 10 months at Consort Kennels, Avery, a leading figure at SHAC, was surprised when the kennels closed. According to the journalist covering the situation for the Guardian (Boggan, 2006, p. 14), Avery did not expect to succeed. Throughout these campaigns, self-declared members of SHAC have been arrested and convicted for their involvement; the lengths to which some are prepared to go have to be considered by Business.

The methods used by SHAC to affect HLS have taken protest to a new level. Not satisfied with protest and rallying public support, they have explored other avenues to affect companies' bottom lines. In 2000, SHAC members managed to obtain a list of shareholders

whom they then targeted. They sent intimidating letters demanding the sale of shares, or threatened physical harm. Their intent was clear: *'The message is simple don't touch HLS'* (Tomlinson, 2005).

Investors heeded the warning, which resulted in HLS being dropped from the New York Stock Exchange as its market capitalization had fallen below the permitted limits (Murray-West, 2005). Shortly after this, the London Stock Exchange also removed HLS from trading. Both events could have led to the collapse of HLS had it not been for a private investor buying the company.

SHAC have also embraced technology and taken protest online. Upton (2011) states that SHAC are *'...arguably one of the most significant protest movements to marry successful online activism forms within, and alongside, that of a social movement organisation'* (p. 97).

SPEAK, on the other hand, focused on stopping Oxford University building and operating a new primate research facility. This campaign did not succeed; however, it still attempts to cause disruption and closure of the facility. The campaign had looked to be effective when the building contractor pulled out, claiming that intimidation experienced at the hands of the animal rights group was intolerable (Walsh, 2008). However, a year later, another builder was appointed and the laboratory was completed. During the early campaign, a court injunction was granted; and a group specifically set up to champion the facility and to support animal testing countered the protests.

Pro-Test was formed by Laurie Pycroft, a 16 year old who believes the debate over animal research is irrational, and wants to raise public awareness of the benefits of animal research (Pycroft, 2011). Such a campaign in favour of animal testing was perhaps not anticipated by SPEAK. Broughton continued to protest against the facility when it opened, before his arrest and conviction for placing incendiary devices at Oxford University colleges. He too was prepared to sacrifice his liberty for animals.

These two brief insights into SHAC and SPEAK highlight the determination of campaigners. They continue to attack and intimidate their chosen targets, associated suppliers and customers. Even incarceration has not stopped the protests or protected the targets. Supporters true to the cause do not regard loss of liberty as a reason not to intimidate attack or harm those involved in what they view as animal abuse.

Militant groups

As outlined above, the tactics used by groups such as SHAC are intimidatory to the point of violent in certain circumstances. More extreme and militant groups, prepared to commit illegal acts of violence and damage, emerged during the early 1980s. The individuals prepared to take the next step can be considered as hard-core anarchists who have turned their backs on the protest route followed by the groups outlined earlier (Davidson, 1998).

The first group to declare militant intent was the Animal Rights Militia: who in 1982, claimed responsibility via the ALF press office for sending a number of letter bombs to various government

representatives and departments. Luckily, only one recipient suffered only superficial burns. The measures such groups are prepared to go to have been philosophically justified by Steven Best: who declares that acts of '*extensional self-defence*' (2011) employing violence are the only effective way to get across the message that abuse against animals should stop. The act of extensional self-defence directs humans to act as proxy agents for animals: similar to how some acted on behalf of those enslaved during the nineteenth century.

Another direct tactic used by the ALF and ARM is to liberate animals from battery farms, research facilities, and animal breeders. This not only impacts the business financially but disrupts its operations. Impacting on both financial and business operation is now considered the root to bringing about the cessation of animal use in all of its forms. One such campaign, aided by the inclusion of liberation as a technique, assisted in bringing about the closure of an animal breeder. This was waged against the Darley-Oaks farm in New Church, Staffordshire in 2005 (BBC, 2005).

Another group similar to the ARM is the Justice Department (JD). As claimed by a supportive online publishing venture, the JD emerged in spotlight when, in 1993, it used pipe bombs to stop the breeding activities of a primate breeding facility in West Sussex (Mann, 2009). This was the first of many similar attacks carried out against various targets: the JD does not necessarily focus on one target organisation.

The JD has been active on both sides of the Atlantic. Its preferred method is arson; the use of death threats is also part of its arsenal.

Activists affiliated to the JD have prepared and delivered devices to an array of recipients including politicians, farms, research facilities and individuals. In 1998, a threat was issued that should Barry Horne die as a result of his hunger strike, 10 vivisectors would be murdered (BBC, 1998). One of those threatened, Professor Colin Blakemoore, claims to have received his first death threat 12 years prior, stating that his family had been in receipt of viable letter bombs opened by his children (McKie, 2003). This type of attack confirms the opinion of Morgan: *'Those prepared to use such measures appear to show no remorse or consideration for the intended recipient or innocent party who may be injured.'* (2011)

Similarities have been drawn between the overarching campaign of the ALF with that of the Provisional Irish Republican Army (PIRA) and its splinter groups. Liddick notes that the above ground representation of the ALF, in the form of PETA, is the same as the political wing of the PIRA, Sinn Fein (2006, p. 70), in as much that the above ground element provides an air of legitimacy. Liddick further explains that the more radical animal rights activist groups have been similarly categorised as terrorist organisations alongside the *'IRA and the Palestine Liberation Organisation (PLO)'* (2006, p. 41) by the Metropolitan Police.

Further corroboration is provided by the RAND Corporation: its research into cross-fertilization of groups shows common themes in organisation, communication and methods of operation. We may consider the ALF's attacks as a whole to be less intense than the IRA - but the *Independent* newspaper describes it as being behind *'the most sustained and sophisticated bombing campaign in mainland Britain since the IRA was at its height'* (Penman, 1995).

The fundamental difference between the mainstream ALF, the ARM and JD is the use of violent measures, as openly stated in articles published by extremists. Robin Webb, press officer for Animal Liberation declares, *'If someone wishes to act as the ARM or the JD, simply put, the third policy of the ALF, to take all reasonable precautions not to endanger life, no longer applies'* (ALF, 2010). Even though each group 'markets' itself separately, actual foot soldiers, or cadre, appear common to all; and depending on the action undertaken, claim responsibility as either the ALF, ARM or JD.

The animal rights struggle is not the only arena in which splinter groups have developed to save or protect animals. The origins of the ALF were in part based on Hunt Saboteur groups, where Ronnie Lee honed his skills. In his account of hunting in Britain since 1066, Griffin (2007) notes that the Hunt Retribution Squad (HRS) came to the attention of the press in 1984 - not dissimilar to that of the ARM - after it desecrated the grave of the tenth Duke of Beaufort, the master of the Beaufort Hunt (p. 213). The stated intention was to decapitate the corpse and deliver the head to Princess Anne. Coincidences of timing and development of radical and violent actions would further suggest that cross-fertilisation and inter-group learning is occurring.

Generational shift

Today, activists operating under the banner of the ALF, ARM or Justice Department are far removed from the origins of groups such as the Hunt Saboteurs or British Union for the Abolition of

Vivisection (BUAV). This generational shift is not uncommon in any terroristic organisation.

As described by Tupman the '*downward spiral*' (2015) witnessed recently with attacks in France are not confined to religious extremism. The first generation here belonged to BUAV. They were, and still are, political in their approach. They encourage the public to lobby government to bring about change and reform in the use of animals in medical research.

Singer notes that the achievements of such groups are considered minimal; this encouraged others, the second generation, to take a more violent approach. This generation was championed by Ronnie Lee and the ALF. This movement uses violent methods to persuade industry to stop its use of animals and cause financial hardship. They use arson, graffiti and in some cases improvised explosive devices against business assets to terrorise the industry and make their business less lucrative. The second generation has been active for almost 40 years, but still the industry carries on using animals.

The third generation are now taking the fight to the wider community, in line with Tupman's words that '*if you are not part of the solution you are part of the problem*'. Thus the ARM target individuals involved in the industry, and carry out violent personal attacks. These attacks have led to individual researchers giving up their careers in fear for their and their family's safety.

As positioned earlier the literature regarding the animal rights movement, including that of the ARM and JD, has lacked true academic consideration.

Summary

The limited availability of specific literature provides the justification behind this research. As we have seen, the animal rights movement is determined to bring about change through any means necessary: changing the way in which society and especially business treats animals.

The literature reveals a clear gap on the question of guidance on how to prevent or mitigate attacks. If we accept that the FBI classification of the animal rights activists as terrorist (FBI, 2008) then the belief of Sheffi and Rice (2003) is applicable. Sheffi and Rice (2003) highlight that risk assessments of 'terrorism' were not carried out until after September 11, 2001. This viewpoint, while focused on the widely accepted definition of terrorism, is applicable here too: as the methods used by the animal rights movement have morphed into a quasi-terrorist arsenal.

Moreover, while terrorism, in the form of delivered improvised explosive devices has been, and still is, considered in risk assessments now, the more subtle effects on businesses and their supply chains are not. It appears that the specific tactics used by the movement have not been considered by business: further emphasising the need for this research.

Evidence identified in the analysis of grey literature suggests that the research community is most affected by the animal rights movement. For this reason, this study focuses on the sector which engages in research for medical purposes; it does not look at other sectors such as food production or fashion. For the research to be inclusive of this broader area, additional resources and time would have been necessary. In limiting its scope, the methods used in sourcing evidence could be more aggressively refined to reduce the problem of non-specific data being returned: data which would otherwise have distracted from the relevant information (Edmunds and Morris, 2000; Badke, 2004, p. 112).

The selection of mitigation measures is required to be business market and supply chain specific. Measures that work for one company will not necessarily work for another; but elements have been found to be transferable. Business is guided to be conscious of potential threats: not only coming from the animal rights movement, such as protests, leafleting or direct action; but also everyday effects. Even something as simple as the weather can affect the entire business operation.

Defining the applicable mitigation measures is only possible via a thorough understanding of business functions; these may either be defined internally or work-shopped with the objectivity of an external third party. Using an external consultant as the third party brings forth this level of objectivity. It is quite possible that those closest to the operation may believe they have covered all bases or perhaps not recognise other less obvious potential threats or issues. However, as noted by Bailey et al. (2010) and Dezenhall (2009) earlier, the processes put in place may be all-encompassing and

fully documented; strong leadership is also required. Should a scenario which has not already been fully explored present itself, decisive leadership needs to take control and lead as necessary.

In assessing the mitigation measures, a business-wide stance has been advised, and the need defined that establishes the level of acceptable risk, or '*Risk Appetite*' (Fragniere and Sullivan, 2006). Acceptable and appropriate measures may take the form of physical protection i.e. fences, gates, building fabric enhancements; or operational measures such as anonymous building assets, staff anonymity, controls over advertising and business media collateral.

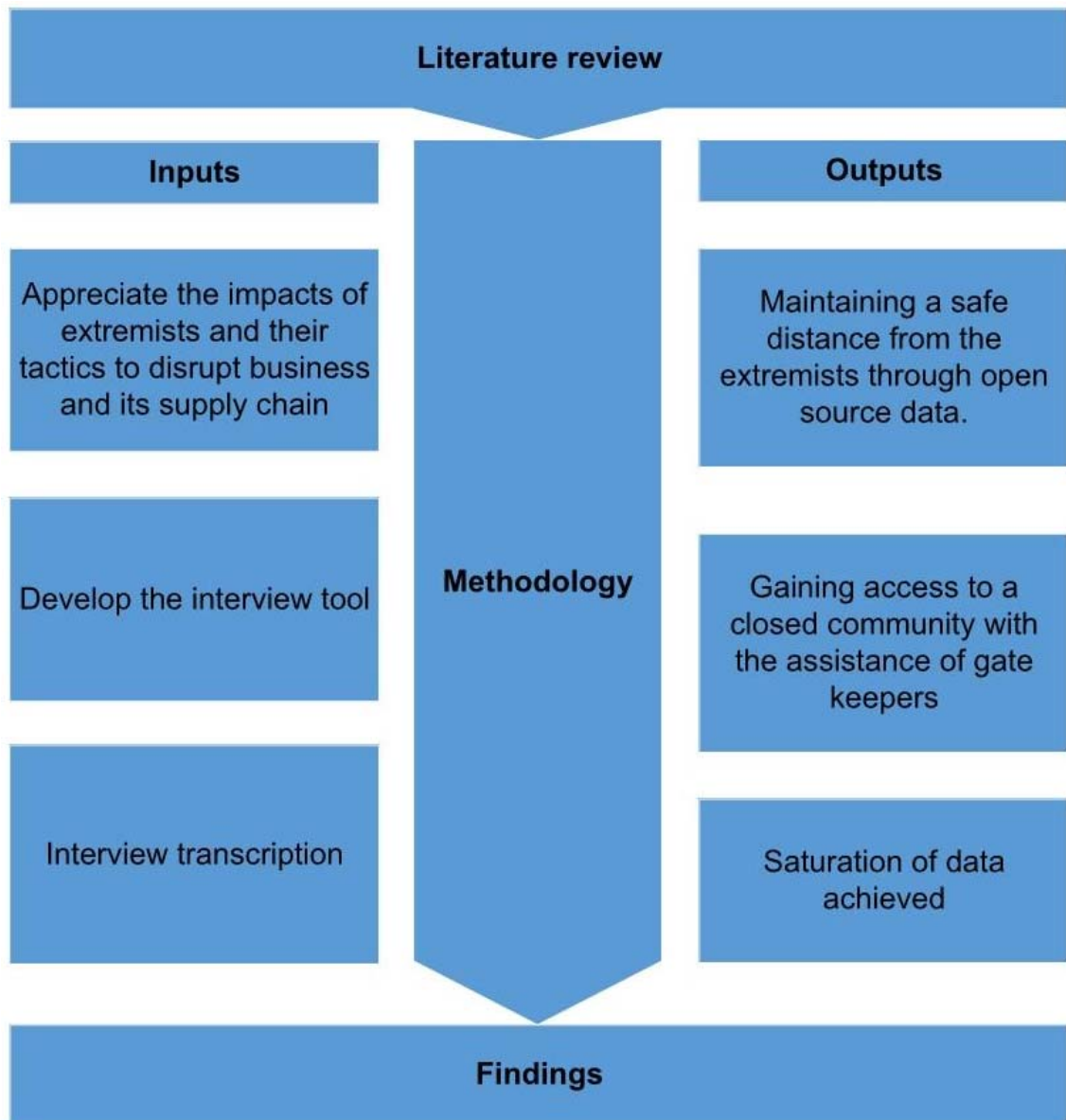
The supply chain literature deals with all aspects of the design, operation, modelling and optimization of the chain to suit many different market sectors. What is not specifically covered is the effect of operating in an arena with a self-claimed adversary prepared to take illegal actions against businesses in order to disrupt the supply network. Supply chain risk management literature has been found to be limited, only really considered terrorism since September 2001; and even then, has scarcely focused on the animal rights movement at all.

Specific research on the effects on organisations of the animal rights movement over the last 30 years is clearly lacking. The impact of terrorism on the supply chain has only been considered in any detail, according to Sheffi, since the 2001 attack on the World Trade Center. Academic literature on how the research community has managed its responses is also lacking. To remedy this gap, this research establishes the issue; appreciates the threat; engages with the community, experiencing their responses through semi-

structured interviews; analyses their responses to allow a categorisation of organisation types; and offers an analysis of tried and tested mitigation measures.

Chapter Three: Methodology

Chapter structure



Introduction

This chapter presents the methodology of the empirical study: developed in order to address notable gaps and limitations within the existing body of knowledge in the subject area. The chapter is set out in three sections. The first section discusses the research problem including the issues emerging from the literature review. The second section will present the process of the research,

primarily based on semi-structured interviews in order to provide a qualitative data set. The final section provides a reflective account of the research undertaken and how issues were addressed, particularly those relating to participant access.

Research problem

The aims of this research have been to:

- Explore the evolution of the animal rights movement and its engagement techniques with business
- Engage with available literature, both academic and grey, to appreciate the specific industry supply chain management
- Examine and analyse industry responses to the threat

These aims then allowed the following objectives to be met:

- Set out the effects of the animal rights movement with specific regard to the research community
- Assess the depth of previous research and identify gaps
- Assign the participants to categories and provide a table of effective response measures to help facilitate a more resilient industry.

At the beginning of this process, the research aims and objectives were both broad and ambitious. These considered the evolution of the animal rights movement from its earliest days, when a select few were fighting for the rights for all animals. The period since has overseen protest, acts of graffiti, business disruption, arson and terrorist-style attacks. Having established the evolution of the threat and its tactical development, the next stage was to engage with its primary targets, the corporate sector. During this exploratory

engagement, the methods used to mitigate the threat were to be analysed and modelled for use by others in a similar situation.

It quickly became apparent through both peer discussion and literature review that the area for research would need to be reduced; and a more streamlined, focused area explored. In considering the broad arena of the animal rights movement and its endeavours, I focused on an area I knew most about: or at least had some connection with.

Taking a realist standpoint (Crouch and McKenzie, 2006), with a focus on gaining as accurate a picture as possible of the threat as experienced by the business community, the data had to be gathered from those in this situation, and considered against that of available, documented data. To this end, the data had to be drawn from those encountering the effects of the tactics used by the animal rights movement. Exploring the situation attentively from this position would allow key questions concerning the 'how' and 'why' to be asked. Historical understanding could then inform what may happen or how to deal with the situation in the future '*...provided that the argument is robust and quantified by the research presented*' (Cryer, 2006, pp. 78-79).

It became apparent from an early stage that the area of medical research has experienced the most prolific attacks in contrast with, for example, food farming. In my professional position, I have some degree of connection with this area, and believed this would be the best sector to focus on. The aims stated earlier still form the basis of the research: that is, to explore the evolved threat posed by the animal rights movement; to demonstrate the literature gap with

regard to the business risk models; and present mitigation measures for consideration. It was concluded that an appreciation of these would be developed through a qualitative study from a realist perspective to establish the relationship between guidance available and the methods of mitigation applied to the threat.

The two generally accepted categorisations of research are qualitative or quantitative. Quantitative research lends itself to more statistical or computational methods, based on '*surveys or questionnaires*' (Vogt, 2007, p.76). This allows the method to be more objective and provides the capacity for others to validate the research in a reliable manner. Qualitative research is, by contrast, more aligned to the social sciences, where subjective opinions are developed based on the data collected by a researcher at that time. Denzin and Lincoln (2005) note that terms such as credibility, transferability and confirm-ability (p. 24) can be applied to this method; as opposed to those usually accepted in quantitative research: namely, reliability, validity and objectivity.

During the early stages of research, a qualitative methodology was decided upon. As highlighted by Allan and Skinner (1991), the topic and formulation of the study often drives its methodological approach. However, the non-verifiable nature of such a method has been accounted for by the intent to interview numerous people from across the market sector (Allan and Skinner, 1991). The research is not only reliant on one subject being considered; but on engaging with a number of independent experienced practitioners in the field, to allow a form of triangulation with the qualitative data gathered through the interviews. Engaging with numerous participants allows

various perspectives to be analysed and an organisational position to be understood.

It was decided that semi-structured interviews represented the most appropriate approach with the target research group. Direct engagement with those operating in the pharmaceutical research sector had to be conscious of the wealth of experience of its members, but must not ignore the time-poor nature of the individuals in question. As the researcher was unable to witness the situation first hand, listening to the experience of others was the next best option. Allan and Skinner (1991) also regard this method as appropriate in capturing both hard and softer data.

Furthermore, Wengraf (2001) observed that even though the questions for a semi-structured interview may be identical to those used in a structured interview, a yes/no response can be explored further by applying the former. Use of this method is historically accepted as providing in-depth insight into the subject.

Other approaches were considered but discounted. A quantitative approach was looked at; but due to the sensitivity of the subject and the ability to garner greater insight through interviews, it was not deemed appropriate. Also considered was a longitudinal study, in which businesses would have been monitored over a period of time, in order to observe their operation and response to threats. This was discounted for two reasons: time constraints; and that variation would be dependent on an attack occurring. This not being possible to guarantee, the danger of variation would impact on the quality of the research greatly (Rajulton, 2001, p. 173).

As Hammersley and Brannen (1992, p.109) observe, ‘...a good qualitative interview is nothing like a ‘normal conversation’, except perhaps that it has a superficial resemblance to the kind of conversation in which a person might tell their life story to a stranger on a train’. It was acknowledged that the preparation and analysis would be greater using this method; but it was felt, as Wengraf asserts, that ‘They [semi-structured interviews] may yield much more than fully structured ones can, under the right conditions. Under the wrong conditions, they may yield nothing at all. They are high-preparation, high-risk, high-gain, and high-analysis operations’ (2001, p. 5).

The data collected from the interviews would be based on the real life experiences of those responsible for security and operations in the research arena. Having selected the method, the next stage was to develop the interview schedule, carry out the study and gather the data. This involved engaging with the wider community to obtain access and conduct the interviews.

The research process

As Hammersley suggests, the researcher explores and allows the subject to guide the research method until it makes itself known. To gather the necessary data, semi-structured interviews were to be conducted. The accepted ethnographic approach of observation and investigation – namely, of a ‘*fairly small-scale*’ (Hammersley and Atkinson, 2007, p. 3) group of people - constituted a base methodology that could be applied to this subject. Engaging with the community and making himself aware of their behaviour was adopted by the researcher: not through first hand observation, but

their storytelling and accounts relayed to me through the semi-structured interviews. The research had to be conducted with those directly involved. Investigating how those in this market have come to respond to the situations they find themselves in would not be easy: the community has constructed representative groups to help inform and protect each other, and taken great lengths to keep out unwanted attention. To gather the necessary data, the researcher had to engage directly with the group.

Taking into account their reserved nature, the tool developed had to be sensitive to their position. The interview structure therefore placed more sensitive questions to a later point in the interview, when the participants would feel more comfortable (Clifford et al, 2010, p. 107). The method of data gathering would '*...facilitate a conversation, giving the participant a good deal more leeway to talk on their terms than in the case of standardised interviews*' (Hammersley and Atkinson, 2007, p. 110). Considering the sensitivity of the subject, it was believed this would be the most appropriate way of realising the necessary data.

Having developed the interview tool and gained access to interview participants, pilot interviews were conducted to test the tools and methods of recording data. The pilot interviews were conducted with individuals in three organisations: a research institute, a UK-based manufacturing company, and its parent company in the US. The two interviews with the manufacturing company were convened by telephone; while the interview with the research institute was conducted face-to-face. Each participant signed consent forms and agreed for the interview to be recorded. The interviews and their recording was a smooth experience with no technical issues.

Recording the interviews was done to allow the conversation to flow without the need to make notes or stifle responses by imposing restrictions on time. Overall, the pilot interviews went well and provided data both desired and expected.

Given that the community's adversary constituted a primary feature of this research, the way in which the data would be gathered had to be carefully evaluated. Direct engagement with such groups would not only be difficult to establish, but had the potential to put the researcher in harm's way. Thus data would be gathered from freely accessible public sources. In this way, self-proclaimed accounts depicting extreme measures were investigated. This led to data being gathered from Internet forums and web sites.

Collecting data from such sources could be problematic as there is no guarantee or confirmation that accounts are accurate. To add rigour, a random selection of these claims was investigated through other means. This required detailed Internet searches using various filters to source other accounts in independent forms: such as local or national newspapers or from trusted field experts. For example, the following statement:

'On the night of Weds 7th Sept [2005] we Brigade G of the Animal Liberation Front detonated a bomb on the doorstep of GlaxoSmithKline director Paul Blakburn, Beaconsfield, Bucks HP9 1PH'

Was posted on a popular animal rights movement forum (http://www.directaction.info/news_sept26_05.htm). It was substantiated in the *Telegraph* newspaper by Murray-West (2005):

'The Animal Liberation Front (ALF) claimed responsibility yesterday for a device left outside the home of Paul Blackburn, the corporate controller of Britain's biggest pharmaceutical company, GlaxoSmithKline (GSK).'

Accounts of attacks and actions were captured in an Excel spreadsheet, to allow basic analysis of who, where and how businesses were being targeted. This highlighted that the pharmaceutical research and production industry was most vulnerable to attack. This method of data collection enabled accounts to be documented, ordered and analysed; and also allowed the research to maintain a safe distance from the adversary.

Negotiating access

Intimidation and extreme levels of attention have created a community reluctant to engage with those unknown to them. It has created a private forum for its members to discuss the threat environment in which they find themselves: the Pharmaceutical Industry Security Forum (PISF). Considering this level of self-protectionism, engaging with those responsible for security proved challenging. When approaching companies purely as a researcher, little or no cooperation was received. Through professional circles and my peers, engagement became much easier, as my credibility and trustworthiness were vouched for by trusted affiliates. This was achieved by gaining a personal introduction to the PISF.

At this point, the position of insider researcher was realised: perhaps not full insider, but someone who could be trusted, and had

an appreciation and knowledge of the business and the issues it faces. Thus the researcher had become, as proposed by Robson, an accepted member of the community (2002).

A key facilitator to access to this group was the researcher's involvement in the delivery of a new bio-medical research facility in central London. This has been a joint venture with a strategic consultant, respected in the field for providing sound advice to the industry. As part of this relationship, it has been possible to make use of existing connections; and with the recommendation of the joint venture partner, participants have been more accepting of the researcher's requests. The relationship has provided '*gatekeepers*' (Hammersley and Atkinson, 2007, p. 110) who have been able to recommend the researcher to a broader group of potential participants. The gatekeepers sourced were not formal in their functions: members of the community did not seek authority or confirmation from the gatekeeper (Seidman, 2012). However, that a mutually recognised and trusted third party was aware of both the research and researcher provided a level of comfort for participants. It has to be acknowledged that this access has provided a position of privilege: but it was required for this research to be conducted.

Even having gained access to this closed circle, challenges still arose. A request for assistance was posted to the PISF steering group, in which over 17 member organisations being represented, from which I received six positive responses. However, a personal introduction to a member of the government's own advisory group to the pharmaceutical community was also explored. In this case, it appeared initially that participation would be forthcoming; but this did not prove the case. The individual sought authorisation from their

superiors to take part but this was denied. This came as a surprise as, during professional engagement with the individual, discussions were open and advice provided freely to address the concerns and requirements expected of clients. It was not anticipated that a request as a researcher would be declined.

Being involved in the security industry and offering consultancy services to the market sector under investigation, the researcher has compiled a wealth of tacit knowledge of how the pharmaceutical research community operates. This has allowed the researcher to talk in a common language with those approached for assistance and participation in the research exercise. Having an understanding of how these companies operate also allowed the identification of the person best placed to provide the necessary data. It could be assumed that the security manager or director would be the first port of call; however, those responsible for logistics and purchasing also have a wealth of relevant data and experience.

Sampling

Focusing on a single market sector meant that the pool of possible participants was reduced. Thus the '*sampling frame*' (Brewer and Crano, 2002, p. 237; Babbie, 2007) has been limited. Noting the challenge of participant access, a degree of convenience sampling was employed. It is possible that those willing to be interviewed may represent polarized experiences, such as those who have and those who have not experienced any untoward attention: but whether or not this was the case is difficult to conclude.

I adopted a purposive sampling approach focusing on a particular group (Adler and Clark, 2008). This has seen participants interviewed as elements who would facilitate the research. This method of sampling also has the direct benefit of maximizing the time available. The focus could be honed to conduct the interviews, transcribe the recordings and analyse that data into themes in order to establish the findings. The issue of available resources is a common factor in research: especially when collecting qualitative as opposed to quantitative data (Mays and Pope; cited in Adler and Clark, 2008).

Through concerted endeavours and sourced gatekeepers, a total of 20 interviews were conducted. This number of interviews achieved saturation of the data: each participant offered confirmation of the findings from their particular peer group. Represented in the 20 interviews were four different market components: research institutes, universities, pharmaceutical equipment and production and strategic security providers. Seven participants were recruited from research institutes that conducted research for profit. The university sector provided six participants with a focus on pure research. Four interviews were conducted with the production group; and finally three interviews were concluded with strategic security providers.

Considering the above, it may not be possible to assume that the findings represent a '*generalized*' (Babbie, 2007, p. 208) situation experienced by the whole population. It is proposed, however, that the interviews conducted and the data gathered are applicable; and its inclusion within this research and its conclusion are appropriate.

Within each interview group, the participant was either primarily responsible for ensuring the security of the entire operation, including that of safety and security of animal subjects for bio-life science departments; or integral to the business function with regard to purchasing and logistics of test subjects. All were answerable to a higher level of management or part of the senior management team; and thereby authorised to make changes or advise on necessary procedural and physical modification to the operation, including that of supply chain components.

Table 5 below displays the credentials of the participants based on organisation, position and role. The level of disclosed detail provided is dependent on the participants' permission and consent being received.

Business		Role
1	London Research Institute	Operations Director
2	Medical Research Institute	Safety and Security Manager
3	Pharmaceutical Research	Network Architect
4	Contract Research Organisation	Security Director
5	Contract Research Organisation	Head of Security
6	Research and Development Group	Security Manager
7	Research and Development Group	Vice President
8	Equipment Manufacture	Legal Director
9	Pharmaceutical Manufacture	Manufacturing Security Director
10	Pharmaceutical Production	Production Security Director
11	Equipment Manufacture	Security Director
12	University	Systems Manager
13	University	Facilities Manager
14	University	██████████
15	University	Director of Biological Services
16	University	Security Head
17	University	Head of Security
18	Security Consultancy	Director
19	Security Consultancy	Consultant
20	Security Advisory Group	Director

Table 5 - Participant list

To maximize potential participants, the researcher made use of his direct contacts as gatekeepers. The introduction through a trusted confidant was invaluable. Having two methods of contact, known and unknown, led to the application of the following methods of making contact and requesting participation.

Personally known

Where the researcher personally knew a possible participant, contact was made initially to explain the research and outline how it was felt that their position and experience would be of use. They were then provided with the participant information sheet and consent form (Appendix A), and a request for a convenient time to conduct the interview was made. Invariably, arranging a mutually convenient time was not always straightforward. However, this was overcome and the interviews took place successfully.

Personally unknown

Where the researcher did not directly know a potential participant, an introduction through a mutually known contact was sought, either through peer groups or professional networking sites such as *LinkedIn*. Having found a mutual contact, the 'gatekeeper' was contacted and a desire to be introduced to the potential participant expressed. In the majority of cases, it was requested that the gatekeeper approached the contact via email and that the researcher was copied in (cc'd): this way, direct contact could be made knowing that they were aware of the research. Through ensuing communications, the participant was forwarded the information sheet and consent form; before an interview time was arranged in the same manner as outlined above for personally known participants.

The research instrument

As previously stated, the research instrument selected was that of a semi-structured interview. To assist the rigour of data collection, an interview schedule was developed. In compliance with Kumar (2005), the list of questions were constructed to be open-ended and supported with prompts (Mays and Pope, 1995). Employing an interview schedule for guidance (Lindlof and Taylor, 2010), allows additional questions to be put forward depending on the '*conversational path*' (Kumar, 2005) experienced. The interviews were not restricted by a list of pre-determined closed questions, which has the potential to limit the data collected by constraining other potential avenues of discourse.

While constructing the interview schedule, three initial interviews were conducted to test the tool and establish possible weaknesses. During this time, the literature review was being compiled: guidance and the experience of others also factored in the revision of the tool. The main changes were to the order and presentation of information. The issued schedule for the pilot interviews contained an abstract of the research, participant information and a consent form. It was felt that this level of information was too much when combined with the schedule. For this reason, the schedule and participation information were separated.

To prevent the interview becoming disjointed or limited, a set of interview topics was constructed: business function, business responsibilities, and animal rights experience, assessing the risk and resilience measures.

The structure of the interview schedule was reviewed and the topics reordered to encourage participant engagement and allow the conversation to flow more naturally (Lindlof and Taylor, 2002, p. 195). The schedule (Appendix A) consisted of five topics. The first topic concerned the business function, which could be discussed objectively; there was no need for personal disclosure at this point. Once the ice had been broken, the second topic, more personal in nature, was broached. Participants were asked to reveal their particular part in the business, which might have been seen as intrusive had it been requested earlier.

It was then possible to explore the third topic of how, if at all, the animal rights movement had affected the business. This was where the business vulnerabilities were identified. At this point, a more intrusive line of discussion could be investigated (Brace, 2008). The final two topics were then raised to gain an understanding of how the business had assessed the threat and what measures had been deployed to mitigate expected threats. In closing the interview, it was explained that the data collected would be anonymised and no direct reference would be made to the business or individuals involved.

Data collection

Each interview was recorded using either a digital Dictaphone or an application on a tablet computer. The use of technology to record the interviews prevented any data being missed (Schensul et al., 1999, p. 156). Each interview recording was then transcribed into a Word document. The task of transcribing the interview was completed as soon as possible afterwards, while the conversation

was fresh in the researcher's memory. Having the interviews in an electronic document format allowed for searching of key words and topics so that common themes and responses could be tabulated for ease of analysis.

Considering the challenges of arranging interviews with willing participants, their ultimate length came as a surprise. When negotiating acceptance to take part in the study, it was verbally suggested to the participants that one hour be set aside. Only one interview lasted one hour. The remainder lasted more than one hour; with one lasting over one and a half hours. This increase in time was due to the detail in which all participants wanted to relay their experiences. The time taken in interviews is important to keep in mind, as the researcher needs to ensure that sufficient time and resources have been allowed for.

Responses received from all groups to the latter topics were informative and open. This is likely to have been due to the impersonal nature of the initial topics, which allowed participants a chance to enter into a discussion that did not require them to divulge personal information. This was specifically designed to allow the ice to be broken; and therefore enabled interviews to develop at a comfortable pace.

Data analysis

Having conducted the interviews and transcribed the audio recording, the data was ready to be coded. The transcriptions were scrutinized to extract theme applicable responses. These were then copied into separate documents to allow the themes to present themselves. As explained by Basit (2003), the raw data '*...do not help the reader to understand the social world under scrutiny,*' (p. 144) unless they are categorised and presented in a structured manner. The themes and common threads were recognised: enabling them to be ordered in a manner that could be appreciated more easily.

By applying a basic coding regime that stripped out the individual topics into a structured tabulated format, it was possible to analyse the data. This method precludes the option of reading the interview transcript as a whole; however, reading multiple transcripts to find similarities is difficult and '*inhibits ready comparison between related responses*' (Dey, 2003, p. 78). The data was then saved in individual files based on topics: with interview subjects identified down the vertical axis and responses across the horizontal axis, resulting in a tabulated display. Figure 13 - Data Coding shows an extract from one of the files, to allow easy referencing of the data based on topic and participant. By tabulating the data in this form, it was easier to identify the key themes to be presented in the findings chapter.

Topic Five – Mitigation Measures							
	Interviewee						
Sub Topic	One	Two	Three	Four	Five	Six	Seven
One – What mitigation measures have been assessed and/or applied	There is a fence around it, but we had a fence around it before we built the animal facility.	... maintenance of the card system cameras fence detection and if there are special events we look after	The one in ???? does have a steel type fence and a gating system with an interlock sort of situation for visitors coming on	No, what we do, from a physical security perspective, at this current stage, and not even in [Europe] we are a very small team	We apply necessary measures	No	We have applied different measures, one wasn't quite an open campus but it wasn't as tight as it should be and I went and went up to the

Figure 13 - Data Coding

The research experience

As the literature was explored and on-line information engaged with, I became more aware of the treatment of animals at the hands of man. I started this research believing that the animal rights movement was unjustified; this belief was not founded on any real knowledge of their reasoning, but on the results of their actions. In my professional position, I have been required by clients to minimize the effects and protect business operations. My clients are law abiding; their animal husbandry is in line with legislation and accommodates the necessary welfare considerations mapped out by the authorities.

Subsequent to the research, I have found that I question the use of animals more in the case of fashion and food. I still strongly believe in research using animals for medical purposes, provided that the

welfare considerations are met. I believe legislation is robust and that those complying with this have the right to continue their business without being threatened, intimidated or attacked in any manner. Similarly, I believe that those elements of the animal rights movement that act within the bounds of legality, through peaceful protest etc., should be allowed to do so.

Academia explains the idea of 'going native' and how this can affect the subjectivity of the research. When Gill et al discuss the researcher '*forgetting*' (Dunleavy, 2003, p. 56), their role and adopting the culture of those being studied, they assume that the researcher is observing a community. Any similarity with my own research is very slight; I would state, though, that I have a fuller understanding of both sides of the argument as a result of my engagement. My understanding of right and wrong has not been jaded. I still strongly believe in the rights of the medical research community, while also believing that the right to free speech and expression is something our society should hold dear.

On reflection, this research journey has had its twists and turns, trial and tribulations, but also fulfilment and achievement. I expected my professional position to open doors, but this was found not to be the case. This obstacle was, however, overcome and new avenues of connections and affiliations were constructed: so that the research has not only been fruitful; but the data collected, collated and presented can be interpreted by others.

I found I had to engage more with the wider community and become accepted as trustworthy before participants were willing to partake in the study. This was never anticipated by me during the early stages

of the research; had it been so, earlier group connections would have been investigated to smooth the later stages of data gathering through interview. The connections made and relationships built have been refreshing and, with continued encouragement, future interactions will be possible.

As noted earlier, I felt I already had something of an insider position prior to my engagement with the research community. Establishing a quasi-insider position of privilege was challenging but worthwhile when considering the data gathered. A potential disadvantage of researching an area in which one may be considered an insider is that of objectivity: Coghlan and Brannick (2005) suggest it can be difficult to stand back and observe the situation. Yet this thesis believes that this research was objective: no personal day-to-day involvement with the group occurred, and the position of insider was not held fully by the researcher.

Summary

The data and subject of the research task defined the research method (Kumar, 2008). The data required was qualitative, and therefore drove the need for community engagement and data being gathered through a semi-structured interview approach.

Some of the difficulties experienced during this research have been related to access to a protective community and reliability of information on attacks by domestic extremists. Both groups are very protective about their business: be that legitimate research or illegal activity. Each of these difficulties was overcome: access to the business community was achieved by networking and obtaining

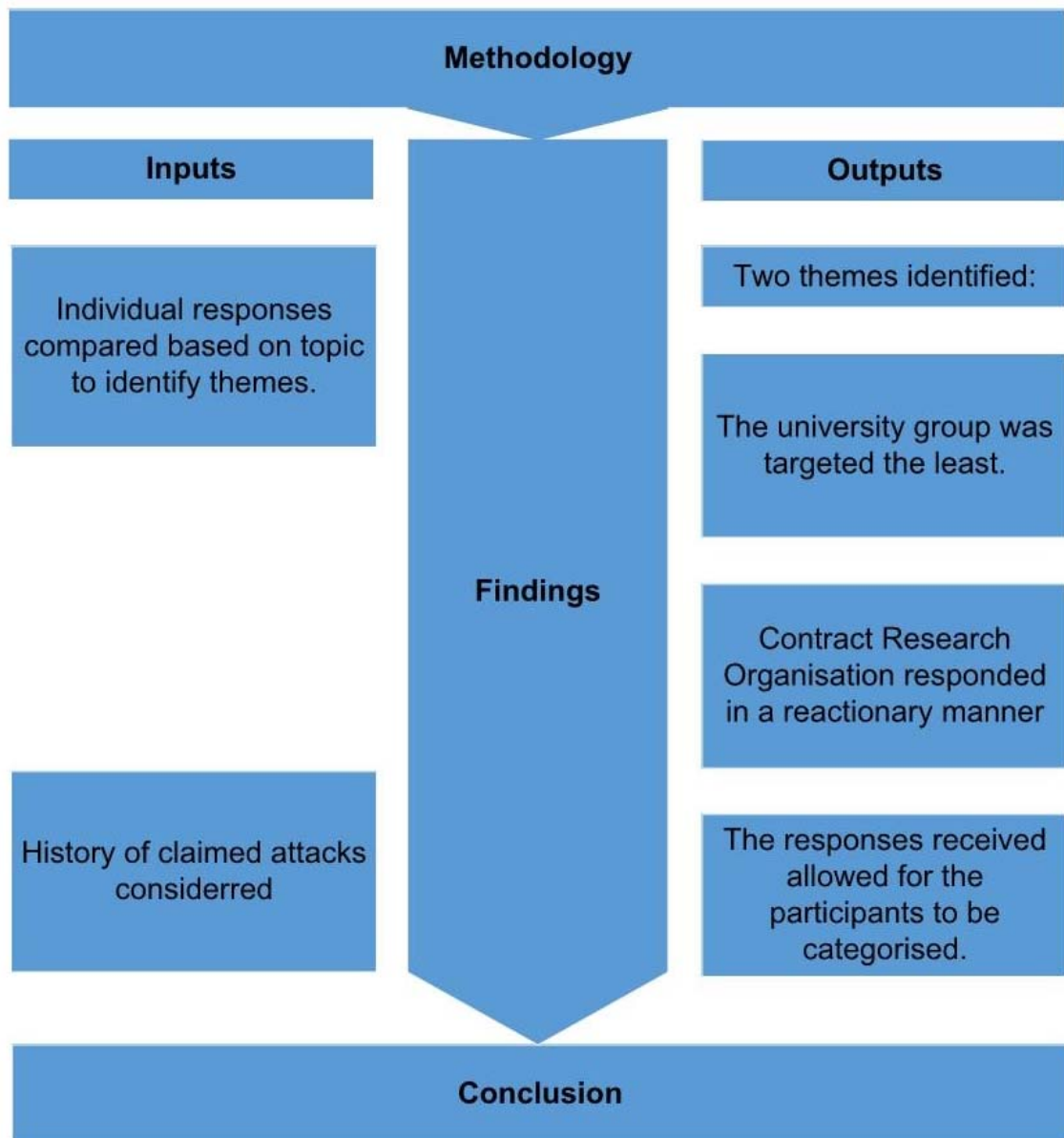
introductions through trusted gatekeepers. In the case of the adversary, all terrorist-type organisations need to advertise their actions in order to increase support. The Internet has proved an invaluable tool in sourcing such data, as it provides a publication method open to all, which can be accessed from a position of separation.

The method applied has proved to be fruitful in terms of data collection. The codification and analysis of the transcripts, while time consuming, facilitated robust analysis: allowing each topic, sub topic and theme to reveal itself. This enabled an appreciation of the situation as experienced by those in the market sector. This was communicated to the researcher and therefore allowed the mitigation measures to be considered in an appropriate manner.

In the following findings chapter, the output from the data gathering exercise is presented. This will illustrate the two themes discovered through the five topics and how the engaged community responded. Were the research conducted in a quantitative manner, the findings would have been presented in a numerical fashion. However, as a qualitative exercise, the results will be expressed in forms of naturalistic observation. This will employ terms such as anecdote, coincidence, and trend based on the occurrence of commonalities found during the interviews (Madrigal and McClain. 2012).

Chapter Four: Research Findings

Chapter structure



Introduction

This chapter presents the findings of the empirical study: which examined how the pharmaceutical research and production industries have engaged with both the expected and realised threat represented by the animal rights movement.

Two key themes were recognised. First, that the university sector in general had not been aggressively targeted; second, that the pharmaceutical industry, CROs and equipment manufacturers had been targeted but did not always operate in a pre-emptive manner.

The chapter concludes with a discussion of the data, and presents a typology of organisations based on their manner of dealing with the threat.

Interview topics

The following five topics were discussed during each interview: each with three further sub-topics, as shown in the interview schedule in appendix A.

Business operation

This was investigated through three sub-topics: business function, global coverage and resilient supply chain. This topic was raised first as an ice breaker due to its non-personal nature.

Business responsibilities

Once the ice had been broken, the second topic, more personal in nature, on responsibilities was broached. At this point, participants were asked to reveal their particular part in the business: which might have been seen as intrusive if requested earlier.

Animal rights experience

Having covered the previous two topics to develop a rapport, a primary issue could now be addressed. This was of particular

importance to the research, and would be addressed by a large number of stakeholders.

Assessing the risk

The next topic was that of risk assessments: covered in order to understand how participants were preparing themselves for the threats posed by the animal rights movement.

Resilience measures

Finally, mitigation measures were explored: covering what responses had been applied to physical assets of participants' individual businesses in attempts to reduce the effects of attacks.

Theme 1: Targeted participants

One of the key research aims was to understand how the research community has responded to the threat presented by the animal rights movement. In particular: how they have managed their supply chain in the knowledge that this represents a primary focus point for those opposed to their business. This area has received more academic attention in recent years (Wieteska, 2013), particularly since awareness of international risks were highlighted by the World Trade Center attacks in 2001. During the interviews, a particular point of interest were to see if and how supply chain partners had been affected through their own operations or dealing with other companies.

A number of participants, primarily from the CROs and equipment manufacturers, expressed their concern for their supply partners.

Each group had recognised that smaller companies may not necessarily have the ability or financial preparedness to deal with issues should they arise.

One attribute recognised as a benefit was that of location. A research and production business believed that their remoteness from public transport hubs had made ease of access particularly restrictive for activists. The security director believed:

The remoteness of the operation had perhaps perturbed those intent on direct action. (Participant No. 4)

The position of the business had effectively adhered to one of the four Ds - deter, detect, delay, deny (Garcia, 2005): attacks were deterred by location.

This remoteness, they explained, allowed them to conduct their business and construct their own in-house breeding facility, a practice that has received strong opposition from animal groups. More recent action on this front resulted in B&K Universal being denied planning permission to expand their Beagle farm near Hull (Dr Hadwen Trust. 2013). With the hindrance placed on easy access to the facility, they discounted direct action being a major concern. However, supply chain interference has remained a consideration. The issue of remoteness had not featured as a concern with the university participants: they were conducting research in easily accessible areas of the country but had still not been targeted to any significant degree. One university campus position contradicts the idea of deterring an attack though remoteness. This was expressed by the director of biological services of another university:

I'll just start by perhaps telling you a little bit about our operation first of all, we have ten animal facilities across [REDACTED] That makes for an interesting set up in a way because geographically we're not all in one place. So unlike some of the pharma companies or other universities that are campus located we're not in that sense. So we have facilities as far apart as [REDACTED] and all points in between. (Participant No. 15)

Even at this central London estate, they still had not received any degree of attention.

Another method of attack experienced by participants was intimidation of staff: including protest and physical attacks. The safety and security manager for the Medical Research Institute reported:

One of our directors' houses got attacked by some of these protestors. We had to sit in his house for 2 or 3 weekends to make sure they didn't come back. His house got attacked and this was coincidental with the drug companies going to see Jack Straw. After that things just completely flipped in the opposite direction. Whereas before the Police in Hertfordshire weren't interested in trying to get a prosecution, now they were crawling all over us trying to get the people who did it. (Participant No. 2)

In his opinion, it required the industry to approach Jack Straw MP in order to realise police recognition of the problem.

Generally, the type of attention focused on establishments was that of protest: a method whereby animal rights supporters convene at premises and make their presence known in many forms. Generally, the groups had displayed posters and made use of loud hailers to state their opinion of the company in question. This attempts to subvert public and employees opinion of the company.

Protests were generally found to be a one day event lasting no more than a few hours, but could take the form of a sustained tactic. This has often proved successful for the animal rights movement, as in the case with Consort Kennels. The kennels were subjected to a 10 month long vigil in 1997 which resulted in its closure: *'This was the intent of the protest but was not expected to succeed'* (Boggan, 2006). The positive accounts presented below all come from organisations that make financial gains within their market. The first, from a CRO head of security, who stated:

We have been attacked. We have suffered protests at a number of sites. These have ranged from quiet gatherings to more aggressive turn outs. Cyber-attacks are now being conducted on the University of [REDACTED] they are changing their ways. (Participant No. 5)

His response included the suggestion of universities being targeted. However, the method described is cyber orientated and not of a physical nature.

The vice-president of a research and development group has also experienced, in his opinion, substantial demonstrations:

Over the years we have had substantial demonstrations, when I say substantial I mean 20 odd people rocked up, that has happened twice. (Participant No. 7)

Another account from the legal director of an equipment manufacturer provided evidence of attention across a wide geographical area:

We have suffered protests at a number of sites. One site in particular in [REDACTED] which is adjacent I think to [REDACTED] which is probably the cause of the problem. It is visited fairly regularly, we believe that that is due to close proximity, but also there is a particularly active cell of animal rights people in the local area. (Participant No. 8)

All these accounts were from groups other than universities and security advisors. The only research establishment within the participant group to have been targeted was the University of Oxford: focused on by a dedicated campaign group, SPEAK, led by Broughton: who had, anecdotally, split from the SHAC campaign after a disagreement with Greg Avery (Security consultant, 2012). Broughton and SPEAK established a dedicated presence at the construction site of the university's new animal laboratory. The campaign lasted over five years, and at times caused the construction to be suspended.

While unsuccessful in stopping the new laboratory being finished, it did cause major disruption to the project, convinced the principal contractor to pull out, and required the UK government to underwrite

the construction up to a value of £100 million. Ultimately, the tactics used by Broughton led to his conviction and 10 year imprisonment in 2010.

The British Parliament states that these attacks are ‘under-reported by its victims and its horrors are not usually obvious enough to attract the public sympathy they deserve (House of Commons, 2009). The attacks also appear cyclical in nature: with some participants revealing they had not been targeted for a number of years.

Another account described an invasion at a university, as a result of a pharmaceutical company being co-located on its campus. The head of security said:

They did come in, and they actually got inside the building. We managed to force them out but we took out an injunction which obviously we still have to this day. (Participant No. 17)

Since the co-location and the joint research venture finished, the university has experienced no further direct attacks of any kind. They are still vigilant, however:

We’ve been very lucky. But also, we’ve always been very secure and very vigilant. (Participant No. 17)

Another participant spoke of a peaceful protest at the main gates. Security staff were forced to engage with the protesters, who had tailgated a member of staff through an open gate. The security staff were unfamiliar with this type of situation, and unable to bring it to a

swift resolution. In the melee that followed, two protesters were finally brought to compliance by the police.

All participants were fearful of site invasion and conscious of industry partners who had been subjected to such an assault. Invasion is often a precursor to graffiti and vandalism of operational buildings and vehicles: where aggressive protesters take advantage of their position within the seemingly secure confines of the facility and cause as much financial damage as possible. This was claimed to have upset staff and in some case caused researchers to disband their work, an achievement in the eyes of the animal rights movement.

As animal rights groups learn from each other in the manner of other terrorist-type organisations, the threat has evolved. The peaceful protests displayed in the early 70's have become more violent and aggressive. The safety and security manager of the medical research institute spoke of aggression and violence, targeted against individuals and private property.

The protests were fairly violent; they'd attack cars, screaming, spitting and shouting. (Participant No. 2)

Similar to the threats posed by the Provisional IRA, the animal rights movement have progressed in the ferocity of their attacks.

Yet despite the attacks reported above, universities reported that little attention had been paid. A security head said:

The kind of thing we had was not targeting us directly in the main. We would get 'round robin' emails from time to time but they would generally be sent to a lot of universities.
(Participant No. 16)

Given such minimal levels of intervention, we can identify why this group in particular were less concerned than others. The seeming lack of preventative measures being applied could not be considered in the context of Johnson (2013)'s research: he suggests that some companies ignore the potential for a high impact low frequency attack in order to gain a competitive edge over competitors. If finances aren't spent on the possible impact, those monies can be applied elsewhere (Johnson, 2013). This does not appear to be the approach taken by participants from the universities; or others in this research.

Theme 2: Participant responses

Business response was the second theme to be revealed during the interviews. It was expected that each business - university, CRO, manufacturer - operating in this arena would be accustomed to conducting risk assessments and being prepared for the threat presented by the animal rights movement. While they all appreciated the threat and in a number of cases were conducting risk assessments, the response was found to be reactive at best. In some cases, participants were ineffective: as also noted by George et al (2003, p. 52) with regard to the wider business community in their responses to the September 11th attacks in the US.

Having engaged with the participants to understand how they have responded to the threats, three areas of response were identified: risk assessments, physical asset protection and management of the supply chain. In this way, the participants were looking firstly at their own operation over which they had direct control; then to the supply chain. They had no direct control of the supply partners but could influence the function of it; either by the selection of the partners or by assisting partners to develop their own resilience.

Risk assessments

In today's business community, an accepted manner of assessing financial and insurance risk is through a documented workshop considering factors that may have an effect on the monetary stability of a business. A similar approach became popular after the World Trade Center attacks in 2001: the outputs of the assessment focusing on terrorism (Rice, 2003).

It was assumed at the outset that businesses operating in an environment with a history of a declared opponent would be sufficiently adept in conducting regular risk assessments. It was also assumed that risk assessments would feature in the running of the business on a regular basis. This assumption was found to be incorrect; the majority of the businesses engaged with adopted, at best, a reactive approach with a small number not undertaking assessments at all. In an effort to respond more effectively, some had employed external consultants to provide the necessary guidance: but only in a limited number of cases. Others were expected to step up to the challenge and overcome the steep learning curve:

'...We got them trained in restraint and break away techniques and that helped enormously' (Participant No. 2)

This staff-training endeavour was only undertaken after a demonstration had resulted in a violent confrontation. This particular instance was further challenged by the inexperience of the Police Community Support Officer assigned to officiate at the demonstrations at the facility.

The method and purpose of risk assessments were recognised by all participants; but no common approach was adopted. A number of those interviewed did carry out an annual assessment, with a few conducting these bi-annually and monthly. Where risk assessments were not carried out, this could be accredited to lack of recent activity or the belief that the science was just, regulated, authorised - and that therefore no risk was present. The safety and security manager of the Medical Research Institute stated:

We don't do an annual risk assessment, as there is nothing going on at the moment. It is something we react to if it turned up again, we have this wealth of experience that we can use to put measures in place if we need to. (Participant No. 2)

This reactive approach to assessing risk, or addressing it if it arose, was not uncommon. Such a relaxed approach to conducting risk assessments is contradictory to Gabriele and Suder (2004): who believes regularity is paramount if organisations are to learn faster than the opposition and ensure continuity of operation in the face of adversity and normal competition. They further suggest that both

qualitative and quantitative analysis should be applied; and that impacts of political and geological issues should not be forgotten.

However, risk assessments were being conducted where either business had been impacted or a history of activity was evident. The security director of an equipment manufacturer was proactive:

Yes, absolutely yes, if I go to the board and ask for any type of money of that size and especially on anything that tugs on a lot of different heart strings. (Participant No. 11)

His reasoning for conducting the assessment was to achieve financial support from the Board, as he built a business case for capital expenditure. This was seen in a number of cases from the manufacturing group but seldom from the universities, except one. In this case, the [REDACTED] of the university conducted monthly risk assessments: specifically focusing on animal rights activity and more general full assessments bi-annually:

We conduct a bi-annual full risk assessment which looks at everything and then it is a monthly assessment in terms of AR [animal rights]. We still do this even though the threat is diminishing. (Participant No. 14)

It must be contextualised that this particular university had been the subject of a sustained campaign; but the [REDACTED] also suggested that attention from animal rights groups was dwindling.

These two accounts came from either end of the sample: one, a university which had experienced a sustained and violent campaign;

the second, a manufacturing company which had also received a lot of attention. Conversely, the following two participants had received limited attention and therefore saw less need to conduct frequent risk assessments.

The vice president of a research and development group, for example, had seen such needs decline:

Not as formal as that, we don't tend to log a risk register. We used to, we used to be quite formal at managing business risk and security was only one part of it. (Participant No. 7)

This was an unusual account from a member of this group. However, a similar one was provided by the facilities manager of a university:

I used to do an annual risk assessment, which would look basically at security risks. I would get that reviewed every year and then we would do a bit of gap analysis and where we felt there was a need. In addition to that the University also ran its risk review and that was looking at key risks so was often looking at financial risk, reputational risk, the real sort of high-level stuff. That was also put into a risk matrix and graded in the same way that mine was. (Participant No. 13)

From the accounts received and presented here, it is clear that not all organisations undertake risk assessments in the same manner, periodically or reactively, or even based on propensity for threat.

Asset protection

Physical protection of the assets operated by the participants amounted to a tangible measure which they could control. They were able to introduce security measures physically and operationally. These could assist in deterring unwanted attention; and if necessary delay an intrusive attack.

The participants explained that either through a pre-emptive approach or mere due diligence, they had all considered the physical protection of their estates. The levels of protection afforded to the facilities had been influenced by a number of factors: advances in technology, location, campus layout, and general physical attributes such as estate perimeter.

The level of protection varied across all participants - but even those who had little experience of being directly targeted had also taken measures to protect their operation.

One account given by the security manager of a research and development group explained that his particular facility was too large to fence and that measures therefore had to be rationalised,

We secured some of the vulnerable parts around the park although it is fairly un-securable because it is so big. I think that it is a sufficient deterrent. There are easier targets.
(Participant No. 6)

Fences proved a deterrent to this particular facility; but not necessarily sufficient to deny access. The fence sits firmly in the first

of Garcia's categories of 'deter'. This outer physical measure is also recommended by Walsh (2002) when considering the layered approach to prevent intrusion. Walsh posits that any single physical barrier can be beaten with enough time, money or effort is applied, 'it is impossible to build a barrier that cannot be compromised' (p. 56). It is far better to put in place a number of measures: each offering deterrent, delay, and the opportunity to detect.

An equipment manufacturing company had assessed two of their sites and decided that the application of a standard approach was inappropriate. The security director recognised that facilities can have different functions with varying threat levels, which therefore necessitated different measures:

The one in [REDACTED] does have a steel type fence and a gating system with an interlock sort of situation for visitors coming on site. The [REDACTED] one is fairly open offices so getting to the front of the building would be immediate from the road but you wouldn't get access to the rest of the site. (Participant No. 11)

They had considered the need to deny entry and that the attacks would be focused on the particular site function. In this way, a fence was seen as superfluous to the office function but a requirement for the rest of the site to deny entry.

The application of measures was also understood to be dependent on participants' historical experience; not necessarily the potential for things to happen. The safety and security manager of the Medical Research Institute, who had experienced a site invasion

which had left security staff and employees shaken, did review and increase their perimeter security fencing, CCTV cameras and method of allowing people and vehicles access:

We increased the number of cameras, we put another couple of gates in, we changed the gates so we could create a dead space in the entrance so if they decided to come in to there we could, we created an airlock. We changed the gates and put some big barriers on the outside. (Participant No. 1)

By undertaking this work, they not only deterred unwanted entry; but put themselves in a position to deny entry.

Adjacencies are an option not as readily available as might be wished. This was recognised by an equipment manufacturer in particular. The legal director detailed a spate of low key

protests at a number of other sites, at one point we seemed to have protests at quite a number of sites but these were typically fairly low key. At the one at [REDACTED] seems to be more purposeful, people trying to get on to the site, we have the blaring horns, people taking pictures and video. (Participant No. 8)

This increased when an international pharmaceutical production company moved in next door:

One site in particular in [REDACTED], which is adjacent to [company name removed] which is probably the cause of the problem. It is visited fairly regularly, we believe that that is

due to close proximity to [company name removed] but also there is a particularly active cell of animal rights people in the local area. (Participant No. 8)

An interesting point raised here was that they had knowledge of local active animal rights groups, allowing them to assess their risk more realistically: knowing that an active group was in close proximity, with ease of access to the site and its perimeter. This level of knowledge was not identified by any other participant.

In all cases, participants and their respective businesses had applied, either knowingly or not, an approach tabled by Hiles: tolerating the situation. Businesses in this position generally accept the threat, fortify their asset and extend protection advice to employees. A further method of asset protection considered by participants was that of security overlay, a re-active approach.

Generally, the experiences described to me revealed that security guarding provisions, a typical method of security overlay, had been out-sourced. Security guards were not integral employees of the companies. An advantage of adopting this method was that should a situation arise, additional support could be called upon, providing the contracted supplier had the necessary availability. This was the case, according to the facilities manager of a university:

We have a contract security force. All of the security guards on site are contract. If, hopefully, we are going to know about it in advance and we do at times, if there have been marches on. They have a number of wandering guards across London so

no doubt they have a bit of slack so if we need them on the quick they can get them here. (Participant No. 13)

This account suggests that prior knowledge is required; and that a reactive approach could be delayed in its effectiveness.

Hiles suggests that by transferring the function, an element of responsibility is shifted. The contract entered into was such that a defined number of guards were appointed for day to day duties, and a sufficient number provided to cater for the tasks identified. However, if the situation changes or intelligence suggests that there may be an increase in activity, as suggested by the facilities manager, more guards can be provided to deal with the particular situation. This would be difficult for the university to manage if it employed its own guarding force and had a finite number of responding guards available.

A similar scenario was being dealt with in a slightly different manner by the London Research Institute. The operations director described how an additional resource was sourced to deal with difficult situations, and the role they played when a protest occurred:

On top of this [security force] we have an emergency team on the site, and they morphed over, we asked for volunteers and they became the majority of the people that did this sort of work, they made sure people got in the cars, drove off site and coordinated that. (Participant No. 2)

In this case, the institute had received unwanted attention when the specific security force had been shown unable to manage the

situation to an acceptable outcome. Volunteers were called for and trained as necessary. The next time assistance was required, they performed some support roles normally carried out by the security team, freeing up the trained, responsible security force to deal with the core of the problem.

One participant was confident in his facility's ability to deny entry. The university [REDACTED] suggested that invasion or unlawful entry was not possible:

The building, the way it has been designed, it doesn't need a lot to look after it. You're not going to get in there, if we don't want you to get in you're not getting in, [REDACTED] [REDACTED] thing. (Participant No. 14)

A bold statement, perhaps? [REDACTED]
[REDACTED]

thus all possible eventualities had been encountered, and a robust protective component had been integrated at every stage. Provided that Walsh's layered approach is implemented, perhaps unauthorised entry is possible to prevent – though we cannot conclude this with any degree of certainty.

Supply chain

Having undertaken processes and applied measures to protect their businesses participants were conscious of the final aspect of their business which required their attention: one outside their direct control. The delivery of their product to market is reliant on a supply chain, be they a university or production partner. The level to which

disruption could affect a particular business was of course asymmetric across the participants.

A number of participants, primarily from the CROs and equipment manufacturers, expressed their concern for their supply partners, recognising that smaller companies may not necessarily have the facilities or financial preparedness to deal with issues should they arise. The risk potential of the suppliers needed addressing, as the companies had to ensure that they could deliver their part. Wu and Blackhurst (2009) suggest that reducing risk to the supply chain has to be through a '...coordinated and relationship approach amongst supply chain members' (p. 131).

One company, a research and production business, had experienced these difficulties with the reliability of their supply partners; and therefore started to breed their own test subjects. The initial concern arose from their supply partners being intimidated into submission, which in turn had started to affect their research, impacting directly on production. The only option available to them was to take this function in-house.

While this may remedy the situation in hand, the long term effects were not clear. In particular, this one contract represents a staple income for the supplier; but without it, the business may fail or alternative avenues would need to be investigated.

In either scenario, the demise of any part of the supply chain is considered a win for the animal rights movement. This weakness has been recognised by the wider movement and is being targeted in an attempt to bring about the closure of a large multinational

CRO. This campaign in particular has had its successes, including the closure of Darley Oak Guinean pig farm in 2006.

Another approach adopted by a multinational production company when it entered into contracts was to undertake due diligence investigations: to understand what level of risk was being placed on the supply partner. The security director put it that:

If we allow a possible 40 per cent business risk to reside with a supplier we then take the 60 per cent risk in-house. Our business then has to manage that risk internally, some of our suppliers are prepared to take on a level of risk but others are not. The head of security of a CRO who also looked at the risk of the supply chain partner proposed that this is either because they are not prepared to accept risk or in some cases, they want the business but they are not prepared to accept the terms. (Participant No. 11)

This level of engagement with supply partners was not mentioned by the other participants. This particular participant was very proactive in managing its delivery at every point.

The adoption of this risk sharing may have come about due to the international nature of the business, with its origins in the USA and the accreditation of Customs-Trade Partnership Against Terrorism (CTPAT), created after the 2001 attacks on New York. A government-led initiative, organisations offer their supply chain for inspection of its processes, security measures and members. If successful benefits are realised (Blanchard, 2010): including the easier flow of products through border controls, similar to the

Transports Internationaux Routiers (TIR) convention for transportation of road goods across borders, with specific regard to tax.

Other CROs were keen to operate in such a pre-emptive manner; but none of the universities undertook such a due diligent approach.

It was identified that the relationship with supply partners needed to be developed and reviewed in a cyclical manner. What may be acceptable in early discussions and working relationships may change over time: the supply partner may be presented with new threats in doing business, not only with the primary customer but as other opportunities are realised. For this reason, ongoing open communications are required. This was recognised and welcomed by some members of the supply chain who took part in this research. The head of security for a CRO was proactive in this area:

We assist the suppliers in developing their own security processes. We try to get them to prepare themselves so that when we make requests they can respond, less impact on us.
(Participant No. 5)

This level of engagement was seen as a way to protect the whole supply chain, as each component is made aware of potential hazards or possible disruption.

Participants who were regularly targeted accepted that issues may arise which they would have to deal with, but also appreciated that they were part of a supply chain which could be susceptible. It was also accepted, however, that their business was part of a targeted

industry, and that threat of supply chain disruption was par for the course. This acceptance of the risk to business was captured in this account from the legal director of an equipment manufacturing company:

The targeting of the different clients is also an important part of the supply chain management. We are clearly targeted as a supplier into the pharmaceutical industry, so we are right in the middle of the radar anyway. We are already there so, the only thing you could is to say we're not going to supply the following list of people but if we did that our company would be dead overnight. (Participant No. 8)

One university had considered the opportunity for the supply chain to be disrupted even though they had never experienced an issue. The [REDACTED] of a university took responsibility for ensuring the continuation of supply:

If we do our job right we aren't going to have any supplier issues and we have never had a supplier issue, in areas that we have identified we have a range of people that we can use and would be prepared to use them. (Participant No. 14)

Another university had experienced supply chain disruption but maintained that the responsibility sat squarely with the suppliers. They had a robust relationship with them, and trusted them to deliver as contracted to do so. The director of biological services at one university accepted if supply could not be met on a continuous basis, in-house breeding would have to be considered:

I do know in the past there have been issues with continuity of supply just because it has been a busy time or something has happened to one of their colonies, and the supply just isn't there, now in the past they would have made arrangements to get those animals in from France or Spain and then continued that supply, now if that dries up for one reason or another and we cannot get those then the fear is that some institutions like ours will be tempted back to breeding their own animals.
(Participant No. 15)

The note on historical effects in the above response must not be ignored. Norwitz (2013) highlights that, '...domestic terrorists have not faded into the twilight. [They] have been as motivated and are as capable of conducting attacks and engaging in other criminal activity as international terrorists' (p. 238).

The susceptibility of the supply chain represents a growing concern for the participants. The security director of a research and manufacturing company believed that the animal rights movement had:

Realised that targeting large international operations directly would not reap the desired rewards. They know we are able to withstand their attacks and not buckle at the first sign of being targeted. (Participant No. 11)

This widely held opinion may be correct. The movement has begun to focus its attentions on easier targets: smaller companies which, should they falter, would have a direct impact on the research and production of larger organisations. This method has, in this

participant's experience, proven effective. The [REDACTED] of an R&D company declared that:

[REDACTED]
[REDACTED] [REDACTED]
[REDACTED] *under UK legislation to do the correct testing.* (Participant No. 7)

This was not an isolated appreciation of the situation; other participants had experienced similar occasions where supply partners were unable to deliver on their contracts.

Another participant detailed how they had begun to work with supply partners to better protect their business, and in turn that of their suppliers. Graham and Kaye (2006, p. 208) advocate this approach and posit that, *'The risk of failure can be managed to some extent by care in the choice of quality, more resilient suppliers and by checking, as best possible, on their own contingency arrangements.'* This is becoming the norm for some participants when entering into new contracts: initial setups are more involved and perhaps have financial implications, but it is recognised that this is the best way to protect their business.

It was suggested that alternative supply routes would be a sensible approach to consider. However, the general consensus was that current supply chains were as resilient as necessary. This seemed somewhat contradictory: especially when one of the early interviews with the security director of a contract research organisation revealed they had taken the task of breeding animals in-house to ensure the supply of test subjects:

We have a unique model I think in the UK for the company that I represent in that we breed our own animals in house.
(Participant No. 4)

They were also providing specialised test subjects to other parts of their organisation in mainland Europe; and as well as undertaking their own breeding, a function which is normally outsourced, outsourcing particular research tasks to other CROs.

If Sweden needs a few particular species, very specialized species then we'll ship them across to them or to wherever. However there has always been a move for outsourcing to go to CROs. (Participant No. 4)

Comparing this method of operation with Hiles' direction to transfer elements of the business in order to reduce risk, this particular participant did not comply.

In the case of a university, an issue had been recognised prior to the appointment of the Director of Biological Services, but relayed to him by his predecessor:

I do know in the past there have been issues with continuity of supply just because it has been a busy time or something has happened to one of their colonies, and the supply just isn't there, now in the past they would have made arrangements to get those animals in From France or Spain and then continued that supply, now if that dries up for one reason or another and we cannot get those then the fear is that some institutions like

ours will be tempted back to breeding their own animals.
(Participant No. 15)

The fear of supply being unavailable is substantiated by the decision of the CRO to bring the breeding of test subjects in-house.

An enlightening account was provided by the security adviser group, with regard to the cost of supplying this market. In their experience, some companies have increased the prices of supplies (test subjects, equipment, services etc.), and justified this due to the increased risk in the market. This was not, however, the opinion of the Director:

What we have done when we have helped the supply chain is, we have helped give them some resilience, and anonymity and that kind of stuff, to stop them putting the price up. People say the price is going up because of the risk but we have to say the risk hasn't gone up as we are sharing the risk.
(Participant No. 10)

Initially, participants' accounts appeared to suggest that the supply chain was robust. However, when the surrounding sub-topics were debated further, in particular with regard to test subject supply, resilience of delivery became an increasing concern.

The limited availability of test subjects and the opportunity for alternative supplies is recognised by suppliers in this market. As noted above, this has become an opportunity to increase prices of test subjects. The purchasing market, with little opportunity to go elsewhere, has become captive. The market is being hit with a

'...premium charge by the supplier' (Security Advisory Group, Consultant) – and whereas this would normally see the buyer seeking out more competitive prices from other suppliers, this is not a viable option without importing animals from overseas. This is becoming the primary concern for research and production communities as transportation avenues are hit hard by the animal rights movement.

From the data gathered, the supply chain appears to be vulnerable. Some participants agree with this, while others appear to be guilty of burying their heads in the sand until they have to deal with a disruption.

Police response

In August 2000, it was announced that the powers available to the police services would be reconsidered with regard to animal rights activists. The Home Secretary, Jack Straw, was challenged by industry to provide better protection. In a BBC interview, Straw stated that, *"We are looking at whether there are changes in legislation that we can take which are being sought by the police to see whether we can strengthen action against these animal rights extremists"*. (BBC. 2000)

In the years preceding 2000, activists' actions had been treated in isolation. The police response, as witnessed by the participants, was that "they [the police] didn't want to draw any sort of attention to it [the animal rights issue]. Therefore they just wouldn't show up. If we called them it would be 2 hours before they would turn up"
(Participant No. 2)

According to Donovan and Coupe (2013), Special Branch units attached to each force were failing to communicate and therefore compile a body of evidence from which convictions could be sought or even casual links recognised. Once the issue had been acknowledged by government as a result of industry pressure, it became clear that the problem was not only national but international. This recognition forced intervention at government level: the police appointed a Senior Investigating Officer (SIO). The SIO's responsibility was to coordinate the recording of acts against the pharmaceutical industry. In this way, activists and individual campaigners could be tracked and links identified. Evidence could then be gathered and used to bring those responsible to justice.

Until this point, businesses were reliant on their local police service to provide the necessary support: but the police had no real authority through which to act. As noted by participant No. 2, the response was either physically lacking or inappropriate. Lack of official police engagement left industry to protect itself. Participants were clearly aware of this, and of the need to develop methods of response. They became self-reliant and maintain this position now even though the authorities have greater powers.

The future

After exploring the main topics, a general discussion was held. Having spent the previous 40 to 50 minutes discussing participants' historical experiences, we now looked to the future. As the animal rights movement has changed over the last 40 years, it was interesting to capture where those involved thought the future would

lead. What methods did they think would be employed by the movement? Did they envisage it gaining ground or reducing its activities?

The data here fell broadly into two camps: the universities anticipating little change with regard to direct action; the production companies preparing for more strategic activities, which would make their business difficult.

In nearly all cases, the university group had encountered very limited attention - apart from one, which had sustained an aggressive and sometimes violent campaign against the construction of a new facility. Protest was minimal and tied directly to the presence of a pharmaceutical company on campus. The universities were not expecting the situation to change in the near future. One report from one head of security was that:

In the whole ten years I was there we never had any direct action in the form of protest or in deed some kind of sustained campaign by a particular group. (Participant No. 17)

Taking this historical experience into account, we can appreciate why the university sector were not expecting things to dramatically change in the near future. One university had adopted transparency over their work in order to dispel any myths of mistreatment or research being conducted for little validity. Its Director of Biological Services reported:

We are being more open and encouraging people to come and see our work; we have received some great feedback from governmental figures and patient groups. (Participant No. 15)

In their opinion, if they are transparent with their research, public opinion is less likely to be skewed by misreporting and misinformation emanating from the animal rights movement. In this way, they will maintain the support of the general public in continuing their research.

The outlook of a pharmaceutical production group, however, is very different. Things have been somewhat quiet recently, but this has been attributed to a number of key figures being in prison. The security director of an equipment manufacturer was quite clear on this:

It is a serious threat to us even though here over the past year or so it hasn't been as big of an issue just because of the main characters, Natasha Avery, Greg Avery being incarcerated in a custodial sentencing. Now that they have been released, albeit under strict licensing conditions, activities are expected to be on the increase. (Participant No. 11)

The industry as a whole is aware of the movement's leadership, and recognises that things will probably change now that they have been released from prison. Richards (2007) notes that, '*...animal experiments are set to continue then it is fair to assume that animal rights extremism is here to stay*' (p. 107).

Others expect matters to change in the near future. A director from the security advisory group explained:

We have now put our head above the parapet on a particular project and are now expecting to be hit in the next 6 months. They haven't had a go at us yet and so we are going to try and keep very quiet. (Participant No. 20)

They were monitoring the situation and were aware of future risks which may present themselves.

Even while Greg and Natasha Avery have been away from the frontline, the campaign has continued in the background. Others have taken the fight in other directions. They have achieved successes over the transport of animals, targeted business with freedom of information requests and protested against construction projects. Greg Avery and the SHAC campaign have international reach, with campaigns carried out in mainland Europe, Russia, the Americas, Africa and Canada. The new guard, Luke Steele and the National Anti-Vivisection Alliance (NAVA) are, according to the security director of a CRO, mainly UK-focused and primarily focused to 'Target P&O ferries or Sea France or Stena Lines'.

This is the area where the CROs and production companies anticipate greater disruption.

Summary

During this closing debate with each participant, the future availability of test subjects and their transportation denoted a clear

concern. This is seen as the next target on the agenda of the animal rights movement. While the recent past has seen a slowing down in activity, in the future, this is expected to change. The new leading lights appear more focused; and having achieved significant successes with ferry companies via what can only be described as minimal effort, this area will be a high priority for protection.

Implications of findings

From the data gathered, the following conclusions can be drawn on: progression of the threat, community response, preparedness and future concerns.

Threat progression

The diversity of the campaigns has expanded to include broader elements of the community. As a result, the opportunity to apprehend and prosecute certain individuals has been reduced, in the opinion of a security consultant:

I think it is spread out because what they want is a wider target rich environment as there is less chance of getting caught.

(Participant No. 19)

By spreading the activities to a broader target environment, smaller successes are achieved – whereas to bring about the closure of a large multinational is difficult and perhaps nigh on impossible: something which the Security Consultancy Director believed that the animal rights movement accepts. By maintaining a cyclical approach, businesses find themselves more hampered in their operations, as explained by a CRO head of security:

The groups know how corporates react, an attack happens and money is thrown at it. Things calm down and savings are realised and the vigilance is relaxed. The groups recognise this cycle and pick up the campaign again. (Participant No. 5)

Thus the groups have become smarter in how and who they target, and understand how to hurt business in a more effective way. Through infrequent attacks which take on different formats, they can ensure that greater revenue expenditure is encouraged; and by doing, so reduce the financial rewards available.

Community response

In responding to this threat, the community is divided. The universities are engaging with the community to show how they are conducting themselves and demonstrate how well they are treating the animals in their care. The production community are fortifying themselves and becoming shrouded in anonymity. A measure adopted by a CRO in protecting its staff is to provide guidance on how to conduct their personal lives, so reducing the opportunity for attack:

We recommend people don't leave their name on voice mail. I would say 50% probably do. Actually I see that as a good thing as they don't see they are under threat. (Participant No. 5)

This small piece of advice suggested by the vice president may seem insignificant - but by removing the opportunity for others to

identify them, employees can put a protective barrier in place. A similar stance has been taken by an equipment manufacturer:

We've even used our legal arm to come and partition some of the lists, especially in the UK where the director's names go on to a massive list. We have asked for exclusion on that list for some of our directors because of the attacks at their personal residents and at the offices against them personally.
(Participant No. 11)

The security director maintains that by doing this, the activists will find it more difficult to identify a target and move on to one less protected. Unfortunately, it is not that easy when it comes to universities and academics. A university head of security explained why:

No, and you cannot possibly do it either, academics are only as good as their last research paper. They will publicize what they do, they have to actually. So, there is no point in trying to anonymise people. (Participant No. 17)

Others in the community have started to consider their approach to resilience; in particular, reflecting upon the stability of the supply chain. A forward thinking head of security with a CRO has these plans in mind:

I'm hoping, it's not being done at the moment, but what we are hoping to do is develop a robust due diligence tool that will take in all of these questions. We raised this issue with the spectre of the supply because there was a campaign a while

ago, then it died down, nothing happened and then we started seeing signs of something happening so we went back to the business. (Participant No. 5)

It was also recognised that their business was not joined up in its operation. Those responsible for contract administration and animal procurement did not appear to be talking to each other: leading to gaps in sourcing and transportation, an area strongly targeted by the animal rights movement.

Organisation typology

From the findings, it has been possible to categorise the responding participant organisations - universities, CROs, production etc. - into three distinct categories. These have been defined as: indifferent, reactive and pre-emptive. Casadesus-Masanell and Ricart (2010) define business types based on the model and ways in which they operate. Each business makes choices as to how it will function and respond to market impacts.

To explain how individual components or choices define the business model, they provide an example of a car: cars effectively perform the same function, but how they achieve this can be very different. Some operate based on petrol or diesel engines, whereas others are hybrids. This can be applied to the organisations engaged with in this research. They all operate in different ways and make very different choices. However, it is possible to categorise them based on their decisions and operational nuances.

As a result of this research, it is also possible to offer the following differentiation of business types: passenger, pilot and engineer. As Mars and Gerald (1982) offered four types of workplace cheats - hawks, donkeys, wolves and vultures - allowing the reader an opportunity to attach context to the type of cheat being discussed, I propose the following based on the common social experience of air travel.

In broad terms, a flight takes place thanks to three human inputs: in the aircraft ('engineers'); the flight crew ('pilot'); and the paying public, ('passengers'). The engineer maintains and repairs the aircraft to operate to the best of its mechanical ability; the pilot reacts to the requirements of the environment and responds to dynamic events to continue the flight to a safe conclusion; the passenger has no ability to affect the operation and only reacts to the experience as it unfolds.

Category characteristics

Passenger

The category of passenger has been selected as the organisation takes part in the experience or market sector but makes little or no effort to influence its environment and experience. The organisations that comprise this group are aware of the situation and events that can affect their business, but do not prepare for it through risk assessments. A research institute, for example, does not conduct risk assessments but will should the situation change:

'We don't do an annual risk assessment, as there is nothing going on at the moment. (Participant No. 2).

This response confirms the categorisation of passenger for this organisation.

Pilot

Pilots are aware of the situation. They manage the experience and influences on the journey or operation, but act in a reactive manner, applying mitigation or responses to the circumstances. They are equipped with the ability to respond but do not prepare or put in place additional measures: which may be unnecessary, depending on the risk.

This way of operating is confirmed by one university, which relied on the ability to call on a roaming guard force should the need arise. Participant No. 13 described his guard force service provider as having:

'... A number of wandering guards across London so no doubt they have a bit of slack so if we need them on the quick they can get them here.' (Participant No. 13)

The university had the ability to respond but did not apply the extra guard force unnecessarily.

Engineer

Of the three human components, engineers are most prepared for the mechanical impact which may affect the experience. In this scenario, the engineer will inspect, repair and maintain the aircraft, to enable the journey to run as safely as possible. Of course, the

engineer cannot predict outside influences such as weather; but can ensure the aircraft has sufficient fuel, water, oil, etc. They assess the capability of the machinery and prepare for the journey or operation ahead. This is typified by the university [REDACTED] detailed earlier, who stated:

We conduct a bi-annual full risk assessment which looks at everything and then it is a monthly assessment in terms of AR [animal rights]. (Participant No. 14)

They analyse the situation, consider the eventualities and act upon the impact based on their risk appetite.

Category criteria

The criteria defined for each of the categories has been considered based on four interview topics (as it was merely an ice breaker, the first topic was discounted). A positive or negative response to each topic and sub-topic was assigned either one point or zero. This was then tabulated into a semi-quantitative Figure 14 – Scoring Matrix - as follows:

Participant	Topic 2			Topic 3			Topic 4			Topic 5			Score
	Sub topics			Sub topics			Sub topics			Sub topics			
	1	2	3	1	2	3	1	2	3	1	2	3	
1	1	1	1	1	1	0	0	0	0	1	0	0	6
2	1	0	0	1	1	1	0	0	0	1	1	1	7
3	0	0	0	1	0	0	1	0	0	1	0	0	3
4	1	1	1	1	1	1	1	1	1	1	1	1	12
5	1	1	0	1	1	1	1	0	0	1	1	0	8
6	1	1	1	1	1	1	1	1	0	1	0	1	10
7	1	1	0	1	1	1	1	1	0	1	0	1	9
8	1	1	1	1	1	0	1	1	0	1	1	0	9
9	1	1	1	1	1	1	1	0	0	1	0	0	8
10	1	1	0	1	1	0	1	1	1	1	1	0	9
11	1	1	1	1	1	0	1	0	0	1	1	1	9
12	1	1	0	0	0	0	0	0	1	1	0	0	4
13	1	1	0	1	1	0	1	0	0	1	1	1	8
14	1	1	1	1	1	1	1	1	1	1	1	0	11
15	1	1	0	1	1	1	0	1	0	1	0	0	7
16	1	1	1	0	1	0	1	0	0	1	0	0	6
17	1	0	1	1	1	1	1	1	1	1	1	0	10
18	1	1	1	1	0	0	1	0	0	1	0	0	6
19	1	1	1	1	0	0	1	0	0	1	0	0	6
20	1	1	1	0	0	0	1	0	0	1	0	0	5

Figure 14 - Scoring Matrix

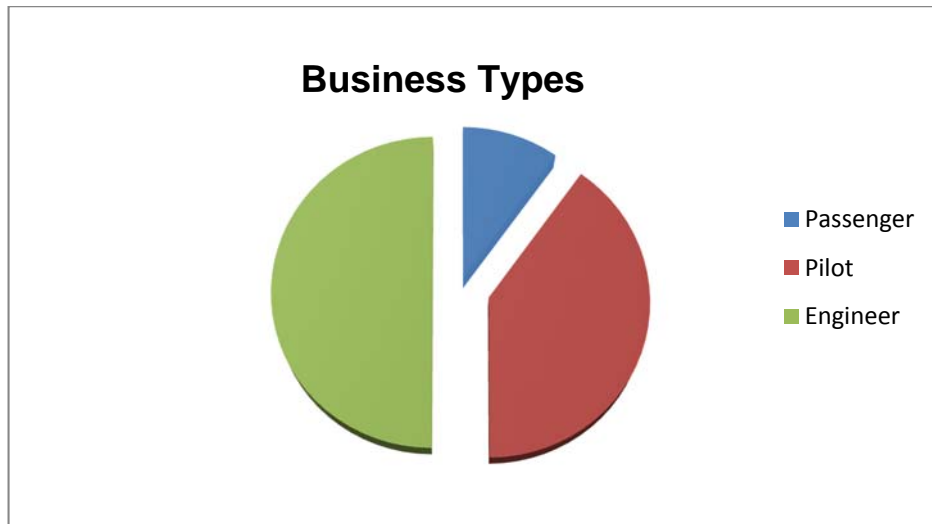


Figure 15 - Business Types

The scores have been assigned to the three categories: so a score of 0 – 4 is assigned to passenger; 5 – 8 to pilot; and 9 – 12 to engineer.

Universities generally responded negatively to having witnessed attacks or attention from the animal rights movement; whereas pharmaceutical production groups tended to respond more positively to being targeted: conducting risk assessments and applying mitigation measures. This confirms the qualitative responses presented earlier: if organisations stand to make financial gains, they were more likely to be targeted. The pure research organisations seemed to escape the attentions of the activists or extremists.

From the scores achieved, we can identify that under a quarter were passengers; half were engineers; and the remainder were pilots. The cohort forming the engineer category was predominantly from the pharmaceutical group or those involved in production. There were two exceptions: one participant was from a university which

had suffered a sustained and intense campaign (scoring 11 points); while someone from a Contract Research Organisation, which has featured on many animal rights forums and suffered multiple attacks, scored 12.

Future considerations

Both the research and production groups are, however, now starting to work together: sharing information and intelligence which can enable everyone to continue their operations. The community has established a forum which meets face to face regularly and opened up communication links which represent an opportunity to stay one step ahead of the adversary. The benefits of this communication are, as a director of the security advisory group explained, clear:

‘We were very much operating in silos, what was happening in the south of the country was not being reported in the north and vice versa. Once we began to share information we could see the benefits straight away.’ (Participant No. 19)

The recent release from prison of key members of SHAC is of concern: the community is watching with great interest. The conditions of their release are stringent and will hopefully restrict their opportunity to encourage an increase in activity; but none were convinced this would stop the movement overall.

The campaign is recognised as ongoing and not to be underestimated. New groups are finding their feet and expected to adapt their methods in response to the resilient measures adopted.

Summary

In conducting this research, the following challenges were embraced and overcome: limiting the research sample, access to key participants; and access to quantifiable attack references.

The selection of a targeted community with the potential of having been affected by the animal rights movement was a conscious decision. It was made after analysing various attack claims through open source information, which was triangulated with other publically presented news sources. The groups most prolifically targeted in the UK were those involved in medical research and production. This group was also considered accessible for this research thanks to private and professional networks.

Gaining access to the participants was initially thought of as a relatively easy undertaking. This, however, was not the case. A great deal of work had to be done to gain access. New networks had to be engaged with and connected gatekeepers sourced. Once gatekeepers had been established and networks joined, access became easier: still not as easy as had previously been thought, but access to the right people in the right organisations was nonetheless obtained. Having made contact and successfully conducted the interviews, each participant offered to provide additional information or further clarification if necessary.

The open source data acquired with regard to attack history had to be quantified: these could have been published for propaganda reasons and may have been disproven by the facts. Thus a number of the claimed attacks were researched through alternative means:

mainly reputable media sources, in order to assess their legitimacy. Another avenue used here was that of strategic security consultants, who constantly monitor the various groups and are in discussion with the target group. Through this, the claims could be verified.

The advances made by the animal rights movement over the last three decades have been considerable when compared to the previous 100 years. The community has responded to its adversary and managed to maintain an effective operation: which, however, has incurred substantially increased costs. Mitigation measures have been applied in a reactive manner and in haste, not the most efficient way in which to operate. Measures have been included with little thought and lacked the adoption of a holistic approach, with little consideration made of future requirements. With the community operating in such a way, the problems of today may be addressed; but may not necessarily provide any protection from those of tomorrow.

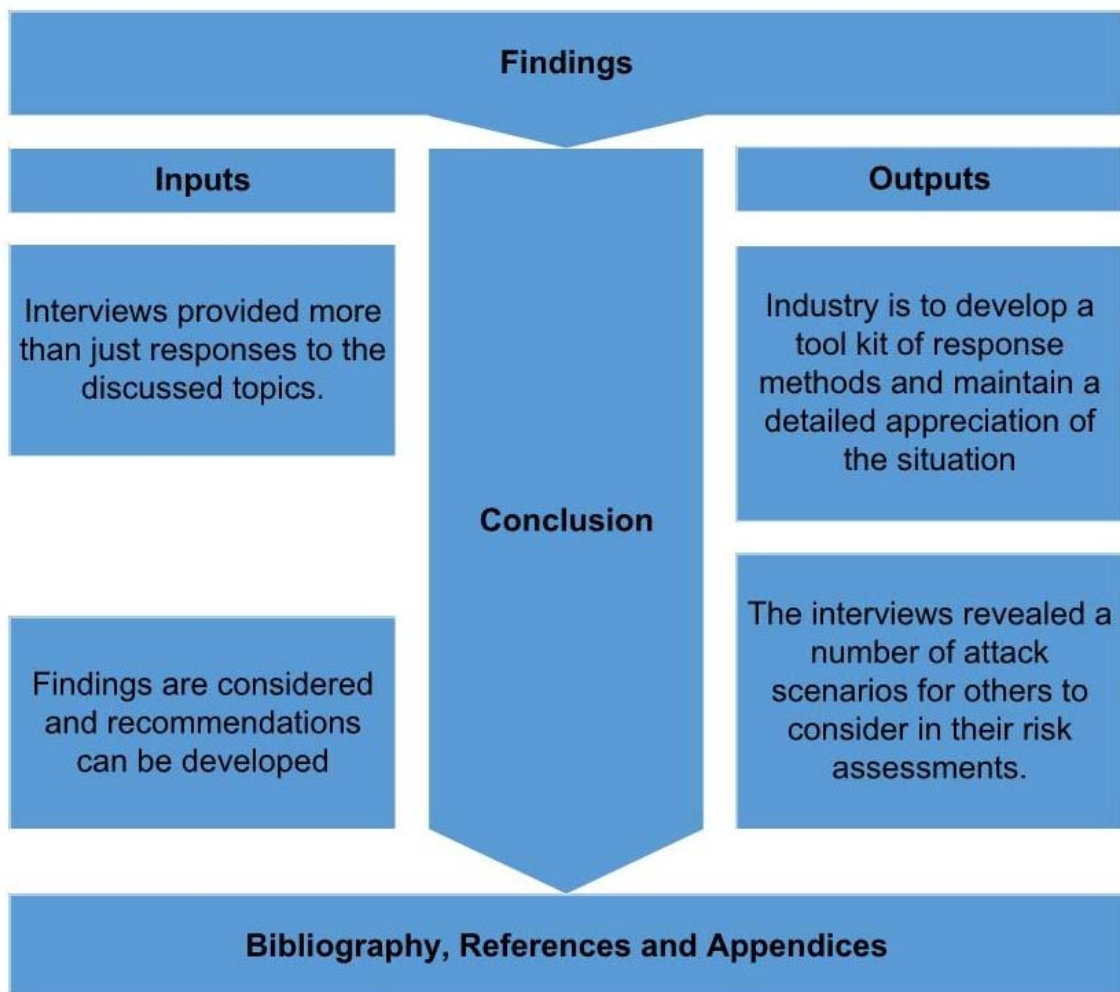
Having conducted the research and assembled the accounts in a manner where they could be analysed, the findings were found to be commensurate with initial assumptions. These were established through the review of the literature and working with the target community.

It was found that community members were not conducting organised risk assessments which specifically focused on the animal rights threat. Each participant was familiar with the concept and did consider risk when making decisions – but not in a formalised way, taking full account of their business. The lack of risk assessment

and supply chain consideration among the participants confirms the hypothesis on which this research was founded.

Chapter Five: Conclusion

Chapter structure



This research has been conducted over the last five years. Prior to this, two years were spent engaging with the subject matter literature and exploring the wider area through organisation engagement, Internet searches and general media analysis. During this seven-year period, the basis of the research has developed and methods honed to the final interview schedule included in Appendix A.

Over this period the landscape of the threat has evolved, and the risks presented to business and its supply partners advanced. The

key players in the animal rights movement have changed and been subjected to increased police attention: some being arrested, convicted and incarcerated. The vacuum created has allowed others to come to the forefront and direct the cause in new directions, which have called for new tactics. Successes are being realised: a clear concern. New methods of mitigation are being sought and alternative business operations evaluated to overcome this new threat. The dynamic nature of the threat provides a worthy adversary to be countered.

The accounts discussed in the findings chapter have been evaluated; and two themes identified. The first theme considers the common approaches to mitigation that would address the tabulated activist actions. This is presented in a standardised risk table in Appendix B. This table denotes the experiences of industry partners in terms of action undertaken, where those attacks were witnessed, the intent and possible impact. As a result, the industry can better evaluate its vulnerability and start to develop appropriate mitigation measures.

The second theme shows how participant organisations operate in three distinct ways when considering the risk.

Key findings

Four key findings have been identified. These are presented below and fall into two distinct categories: one with regard to research itself; and the other, the subject under investigation.

The first finding was identified during the latter stages of the research: gaining access to participants. As noted by Hammersley and Atkinson (2007), access was only achieved once 'gatekeepers' had been established. Contacting those who would provide the necessary data was extremely difficult; this had not been appreciated in the early stages of the research. The pharmaceutical community has, by necessity, closed its doors to outside investigation.

Once an introduction was granted through a mutually respected intermediary, a greater level of accessibility was obtained. To gain access to higher profile community members, a more indirect route had to be navigated. With the use of the Internet and community forums, the researcher was able to find details of contacts able to make the initial introduction. Such access has only been possible via market sector and focused social networking Internet sites.

The second finding relates to the research tool adopted. The use of a semi-structured interview schedule was selected, as it was deemed this would be most fruitful when taking into account the subject and its sensitivity. By structuring the interview via topical guides, it was possible to put the participant at ease and extract a wealth of data which would have been impossible to pre-empt. Lindlof and Taylor (2010, p.210) emphasise that this method is 'common' and allows a level of trust to be established during the initial stages of the interview. The level of data which resulted was immeasurable. The semi-structured interview technique has proved itself the tool of choice in qualitative research.

The hypothesis was that literature focusing on the specific impact which the animal rights movement has had on the supply chain of the pharmaceutical industry is lacking. This has been found to be the case with regard to both literature searches and in discussion with pharmaceutical industry members. The participants were all accustomed to business continuity measures; but found they had to develop their own approaches to protecting the supply chain.

The available literature regarding supply chain management was primarily concerned with 'just-in-time' delivery models. Adopting a just-in-time supply chain model is generally done to reduce investment in stock (Thomas, 2010); but this does not take into account an impact on that chain due to domestic extremism. The broader impact of terrorism has been considered (Rice, 2003): but again, this did not apply until after the World Trade Center attacks in 2001. The potential impact of the animal rights movement was apparent before this time but had not been properly recognised.

The fourth finding was that the situation is ever changing. At the start, the research found that animal rights tactics have remained relatively stable since the step change in the mid-1970s, when Ronnie Lee formed the Animal Liberation Front (ALF). Admittedly, the tactics used have advanced as mitigation measures have been developed and appended to the pharmaceutical industry to prevent disruption. The movement has recognised that its approach has not had the desired results: leading to the growth of groups such as SHAC, with a primary focus on bringing about the closure of Huntingdon Life Sciences.

The research, however, was bound by a defined time period; it could not keep chasing the latest attack method or group. New groups have emerged and been successful in impacting the transportation of animals: to the point whereby the pharmaceutical community regards this as the area where the movement is most likely to achieve a level of success. It would appear that Luke Steele and NAVA have recognised a supply chain vulnerability, which they are prepared to exploit.

Implications of findings

Of the findings outlined above, the latter two have greater implications for this research area. This is because the first two findings, of access and applicability of the research tool adopted, relate to the wider research community, not necessarily to this singular topic. The two findings specific to this research are of the changing landscape and lack of supporting guidance for those involved in pharmaceutical research and production.

As shown throughout this research, the subject of animal rights and the challenge for the research community has been evolving since the birth of the BUAV in 1898. As Regan exclaimed, “*empty cages not larger cages*”: those championing this cause see no acceptable outcome other than the complete cessation of animal use. With such a strong and determined ideal, the cause will continue its endeavours by whatever means possible. The days of only silent protest have passed, especially in light of Vlasak’s shocking statement that a marked reduction in the number of animals used would be achieved should the lives of 5, 10 or 15 vivisectioners be taken.

It can certainly be argued that those fighting for the rights of animals are more impatient and more open to the use of violence. This now aggravated attack vector has to be considered; and those protecting the businesses concerned need to be prepared, with preventative measures fully considered. This research finds that the measures undertaken to mitigate attacks would not be applicable to such threats. Threats and violent attacks have been experienced by a number of those interviewed and are of growing concern.

In a few cases, those subjected to this have now left the field of research, '*Two of the scientific team left, they were scared*' (Contract Research Organisation, Security Director, personal communication, 2012). Such findings require full consideration when conducting a threat and risk assessment; yet this may be a stumbling block. In the case of all but one of the interviewees, a program of risk assessments had not been scheduled. Instead, these were only conducted as a reactive measure.

The findings confirm that there is indeed an extant literature gap when considering the effects of the animal rights movement on the supply chain. The consequences of this are that the pharmaceutical research community has no clearly defined guidance available. The literature has no triangulated position from which to provide the guidance so desperately needed. The lack of suitable guidance could be the instigator for the operating typology identified in the findings chapter. With little or no guidance, community members are left to their own devices: which may help explain the operating types of passenger, pilot and engineer. Especially in the latter case:

'engineers' were limited, and had only become so through experience.

With regard to the two findings specific to the practice of research and the methods used, the implications are more for the consideration of the broader academic research community. The literature surrounding these two aspects was considered; the positions held found to be applicable.

With regard to the need for gatekeepers, greater emphasis cannot be placed on this requirement. Gaining access to those involved in this sensitive area would not have been possible without them; the research data would have been out of reach. The use of gatekeepers for introductions by mutually trusted individuals was the only way in. Once the initial barrier was overcome, further participants were forthcoming: not necessarily snowballing the research data available, but a select community had nonetheless been opened up.

The semi-structured interview approach has been proven to provide a greater source of data than could have been hoped from either a questionnaire or structured interview (Wengraf, 2001). The need for preparation and high level of analysis post-interview was also confirmed (Wengraf, 2001). However, this extra input reaps the benefits of a wealth of data. This researcher cannot better recommend such an approach when researching a sensitive subject with time-poor individuals.

Recommendations

The research was undertaken in order to understand the landscape of the threat and how it has been posed to the pharmaceutical research community and its supply chain. Through the application of the research methods already outlined, data was collected and the literature explored. Having engaged in the subject matter and the community, the following recommendations are provided for the consideration of those affected by the animal rights movement. This is not only applicable to the pharmaceutical community, but can be extrapolated to other business sectors that make use of animals as part of their route to market.

Three core recommendations can be established from the research. (1) Engage with the wider community, which can enable a position of power to be established through knowledge gathering. (2) Explore alternative methods of operation. (3) Encourage and maintain a resilient supply chain.

Engagement with peers and the authorities will better prepare individual companies for the potential threats which they may come to face. The experience of others and pools of intelligence available amongst a wider audience will undoubtedly allow a position of authority to be developed. From an informed position, a company can develop both its standard operating procedures and those specific to times of increased threat. Having operating procedures in place that take into account the expected threat based on intelligence and peer advice, a company can expect to be more able to manage the situation. By learning from others through community engagement, not only can procedures be developed, but mutual support can be exploited: perhaps even to the point of sharing resources with specific skillsets.

As explained by a research Safety and Security manager, the pool of trained security specific employees was limited with regard to dealing with restraint and protester lock-on. They were able to source a pool of first responders internally, not necessarily from within the security team, but the wider employee pool. The convened team was trained; and welcomed the opportunity to assist in the resilience operation of the business if and when a similar situation arose.

Those businesses which took part in this research rely heavily on others to provide test subjects, equipment and materials. This is no different to other market sectors. However, the fundamental difference is that these companies use animals: from which, their problems arise. One participant overcame the potential risk to the supply of animals by breeding their own test subjects in-house, a capability not necessarily needed by all or even possible for others.

Exploring alternatives to animal use is encouraged by the government with its Reduce, Refine, and Replace stance to testing. If alternative methods can be proven, the research community will of course consider this; however, until these are proven to be satisfactory and compliant with all legislative requirements, animal use will have to continue. The animal rights movement argue that animal testing is not scientifically required or beneficial, and that satisfactory alternatives are available. Whether this is correct or possible is still to be established, but may be a future option for the research community.

Encouraging and maintaining a robust supply chain will need to be managed. Taking into account the just-in-time delivery method adopted by many businesses, the robust nature of the supply chain is intrinsic to delivering a service, whether pharmaceutical in nature or not. The application of due diligence as undertaken by some participants is recommended to all involved in this market. By evaluating the resilience of supply chain members, an overall assessment can be made of service delivery. Should a supply chain member business be susceptible to interference, alternative providers can be sourced: meaning a backup supply can be called upon if the primary supplier were to be significantly affected.

This applies to primary, secondary and tertiary suppliers: a breakdown in the chain can have disproportionate effects on the primary client, as was seen after the attacks on the World Trade Center in 2001. A number of participants, who engaged with their suppliers, not only relied on the existing measures of that partner, but encouraged and assisted in developing their resilience. It was felt that this would better protect their own businesses, while still leaving some risk with suppliers. The risk of the supplier failing to deliver was reduced as a stronger business was created, which took into account the nature of the threat. The primary client was also less reliant on a less resilient supply partner. All in all, both parties were made stronger.

Through exploring alternative methods of operation that may present less of an attraction to the animal rights movement, businesses may see a reduction in their potential of being targeted. By engaging with the wider community, the experiences of others can be assessed and measures used applied without having to learn through

experience. In developing the entire supply chain to be more resilient, the chances of an attack having detrimental effects will be reduced.

In summary, it is recommended that industry members achieve a category position of pilot: but only once they have prepared themselves as engineers. Reacting to the threat without having the ability or tools as part of their operational collateral could be considered as ineffective as being a passenger. A pilot has to be prepared to respond to the best of their ability: which can only occur once a competent engineering stance has been developed. The tools and responses developed as engineers should be informed by the activist actions set out in appendix B.

Future research

The research revealed that while the structure, intent, tactics and breadth of extremists has evolved, so have those being targeted. Those responsible for securing the business are no longer solely focused on securing the facilities, but recognizing the requirement to be integrated with the wider organisation. They are called upon to comment and partake in business decisions, particularly with regard to the sourcing of delivery partners. This is not to say that business decisions are dependent on the input of those concerned with security; but security is another primary consideration when tendering or sourcing a supply partner. What level of importance this consideration has on business decisions is unknown. Could the input from a security advisor or department be grounds to enter into a business relationship?

The majority of participants had the backing of their board (Samuels, 2009). To establish how this position of board involvement is affecting business decisions, further research should be conducted, focusing on the approval of contracts with others involved in this market. Whether a quantitative or qualitative methodology is to be applied to this future task is unclear; instead, the research will guide the applicable methodology (Hammersley, 2007).

This aspect of how supply chain partners can impact the business should be considered in the early stages of sourcing elements of the supply chain. A partner with a high profile may have a disproportionate risk appetite: which unless managed or considered early enough, could prove unsuitable to the overall delivery of the business, including that of other partners.

A separate area of concern noted by some participants was the evolving nature of the threat. As when Ronnie Lee transformed the tactics of the ALF from peaceful protest to violence and criminal damage, the movement is again shifting: not necessarily in a more violent way, but in employing a more far reaching - and thus far, more effective - *modus operandi*. This new method of disruption focuses on both supply chain partners and how test subjects are transported around the world. A number of air freight carriers and sea freight businesses have already declared they will no longer transport animals destined for scientific research. The level of intimidation appears to have been quite minimal, yet has achieved enormous results.

How this new group has been so effective has not been considered as part of this research, but should certainly be examined in future

work. Terrorist groups and campaigns learn from each other in achieving their desired goals; if others follow this new strategy, it will become increasingly difficult for the research community to source the animals legally required to assess the safety of new substances for human use.

In addition, supply chain management in the pharmaceutical research community, and the way in which the animal rights movement communicate, are both areas of personal interest. During this research, a number of other methodologies were observed: such semiotics and discourse analysis. The movement relies heavily on public support for both convicted protesters and in rallying support through the use of imagery. Semiotic-based research on the images used and how they communicate the need for assistance would be ideal here.

To examine how the images are selected and the manner in which they are presented to encourage public support would also negate the need for participant buy-in. The imagery is available from publicly accessible sources. As for the idea of discourse analysis: Gary Yourofsky, highly respected by the movement, tours the US lecturing on veganism to middle schools. His lecture appears on the surface to be grounded in research, informative on the treatment of animals, medically representative and compelling. How he uses language and structures his lecture would again be an area of personal interest: I already received an insight into this method during lectures attended as part of this research.

Concluding statement

This research has confirmed the initial premise. The researcher believed that there was a gap in the literature and that this gap requires further specific research. The research has developed a body of experience, or learned researched data, which can be utilised by those involved in the use of animals in better preparing themselves. Through access to a body of knowledge based on experience and best business practice, companies may be more able to deal with being targeted and potential attacks which may be realised at any time.

The research confirms the position of others in terms of sensitive subject areas and gaining access to participants: issues which were not appreciated beforehand. Instead, it was naively believed that as a practitioner, the researcher would receive *carte blanche* access to the desired audience. Extra work had to be put in to overcome these difficulties; the benefits of which were realised in the quality of the data gathered.

The position of insider researcher could have presented a problem of bias. I was conscious of this throughout, and believe that having concluded the research I have become more appreciative of the animal rights position. I recognise their concerns and understand their position but do not condone their methods. I appreciate both sides of the argument and call for mutual respect from both the targeted community and the animal rights community.

The extra input and reduced availability of participants has not negatively impacted on the results. The participants provided a

market-wide perspective of the situation. Thanks to their involvement, the conclusion of this study has been arrived at.

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Appendices

Appendix A: Interview Schedule

Institute of Criminal Justice Studies
Ravelin House
Museum House
Portsmouth
Hampshire
PO1 2QQ
Tel: +44 (0) 23 9284 3933 Fax: +44 (0) 23 9284 3939



Research Study;
The animal rights movement: The challenge for Corporate Resilience.

Dear (Name)

Date:

I would like to take this opportunity to invite you to take part in a PhD research study. My name is Jeff Green and I am undertaking this research at the Institute of Criminal Justice Studies with the University of Portsmouth. The aim of my studies is to establish the level of guidance available to the pharmaceutical research community in undertaking risk assessments and the effects of the animal rights movement on the supply chain.

The research will first consider the methods of attack that have been used to disrupt business and their associated supply chains that use animals either for research or production. By understanding the methods of disruption used and an appreciation of mitigation measures applied a common best practice model will be developed to assist the business community.

Included with this letter are an information sheet and a consent form. If you do not wish to take part or would wish to withdraw your support once commenced that decision would be respected.

I hope it will be acceptable to give you a call in a week or so to answer any queries about the research and see if you would be willing to take part.

Yours sincerely,

Jeff Green
(Researcher)

Dr Alison Wakefield
(Research Supervisor)

Dr Phil Clements
(Course Director)

Jeff Green

Page 1



Participant Information Sheet

My research is considering the approach taken by businesses that may be targeted by those opposed to animal use. To this end I would like to discuss the methods of risk assessment and models used to determine appropriate measures taken by your business to ensure a resilient operation is maintained.

The following are the areas I would like to discuss;

Business operation

1. Could you talk me through the functions of your business?
 - a. Research
 - b. Pharmaceutical production
2. Do you operate locally or globally?
 - a. Is your customer base international
 - b. Are raw materials easily accessible?
3. How resilient do you know your supply chain to be?
 - a. Do you have a dedicated list of suppliers/customers
 - b. Do you make the most of competitive markets?

Business responsibilities

1. What is your position or role in the business?
 - a. Security/resilience
 - b. Operations/logistics
2. Does this role have the support of the board?
3. Does the business allow financial autonomy?
 - a. Is there a budget available for alternative logistics
 - b. Are alternative suppliers accepted

Animal Rights experience

1. Have you received any attention from animal rights activists?
 - a. Asset protest
 - b. Direct targeting
2. If you have received any attention from animal rights activists what form has that taken?
 - a. Militant protests
 - b. Local media



3. Has your supply chain experienced interference?
 - a. Have supplies routes been compromised?
 - b. Has delivery of product been affected?

Assessing the risk

1. How are risk assessments conducted for the business?
 - a. Annually or as needs dictate
2. Has an acceptable level of risk been established?
 - a. Late delivery/receipt of product
 - b. Financial value of loss
3. How do you assess supply chain partners?
 - a. Are partners expected to safe guard their operation
 - b. Do you have backup partners

Resilience measures

1. What type of mitigation measures have been assessed and/or applied?
 - a. Physical robustness
 - b. Location/neighbours
2. Do you have additional measures that can be overlaid?
 - a. Additional guard force
 - b. Alternative supply routes
3. Have you apply standards to your business and supply chain partners?
 - a. Non-liveried vehicles
 - b. Enforce staff anonymity?



Consent Form

Title of research: The animal rights movement; The challenge for corporate resilience.

Please initial/tick box

I agree to take part in the above study

Agree Disagree

I confirm that I have read and understand the information provided.

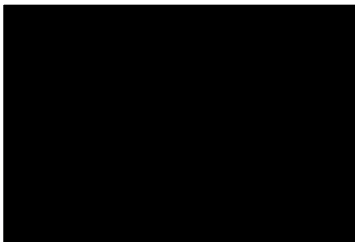
Agree Disagree

_____	_____	_____
Name	Date	Signature
_____	_____	_____
Researcher	Date	Signature

When completed, 1 for interviewee; 1 for researcher site file.

My Contact details;

Mr Jeff Green



Jeff Green
Professional Doctorate Student
Institute of Criminal Justice Studies
University of Portsmouth

REC reference number: 09/10:09
Please quote this number on all correspondence.

20th March 2014

Dear Jeff,

Full Title of Study:

The animal rights movement: The challenge for corporate resilience.

Documents reviewed:

Consent Form
Information Sheet
Interview Schedule
Letter
Participant Information Sheet
Proposal

Further to our recent correspondence, this proposal was reviewed by The Research Ethics Committee of The Faculty of Humanities and Social Sciences. Following some minor amendments, your email response was acknowledged and met most of the EC's concerns but it seems that the completed docs, conforming to the templates were not sent to the EC. The EC is happy, however, to issue a favourable opinion having been assured that the research was undertaken using the documents based on standard templates.

Kind regards,

FHSS FREC Chair
David Carpenter

Members participating in the review:

- David Carpenter
- Richard Hitchcock
- Geoff Wade
- Jane Winstone

FORM UPR16

Research Ethics Review Checklist



Please complete and return the form to Research Section, Quality Management Division, Academic Registry, University House, with your thesis, prior to examination

Postgraduate Research Student (PGRS) Information		Student ID:	██████████
Candidate Name:	Jeff Green		
Department:	ICJS	First Supervisor:	Dr Alison Wakefield
Start Date: (or progression date for Prof Doc students)	October 2008		

Study Mode and Route:	Part-time	<input checked="" type="checkbox"/>	MPhil	<input type="checkbox"/>	Integrated Doctorate (NewRoute)	<input type="checkbox"/>
	Full-time	<input type="checkbox"/>	MD	<input type="checkbox"/>	Prof Doc (PD)	<input checked="" type="checkbox"/>
			PhD	<input type="checkbox"/>		



Title of Thesis:	The animal rights movement: The challenge for corporate resilience
Thesis Word Count: (excluding ancillary data)	40,250

If you are unsure about any of the following, please contact the local representative on your Faculty Ethics Committee for advice. Please note that it is your responsibility to follow the University's Ethics Policy and any relevant University, academic or professional guidelines in the conduct of your study

Although the Ethics Committee may have given your study a favourable opinion, the final responsibility for the ethical conduct of this work lies with the researcher(s).

UKRIO Finished Research Checklist: (If you would like to know more about the checklist, please see your Faculty or Departmental Ethics Committee rep or see the online version of the full checklist at: http://www.ukrio.org/what-we-do/code-of-practice-for-research/)	
a) Have all of your research and findings been reported accurately, honestly and within a reasonable time frame?	YES/ NO *
b) Have all contributions to knowledge been acknowledged?	YES/ NO *
c) Have you complied with all agreements relating to intellectual property, publication and authorship?	YES/ NO *
d) Has your research data been retained in a secure and accessible form and will it remain so for the required duration?	YES/ NO *
e) Does your research comply with all legal, ethical, and contractual requirements?	YES/ NO *

*Delete as appropriate

Candidate Statement:	
I have considered the ethical dimensions of the above named research project, and have successfully obtained the necessary ethical approval(s)	
Ethical review number(s) from Faculty Ethics Committee (or from NRES/SCREC):	REC reference number 09/10:09
Signed: <i>(Student)</i> 	Date: 13 July 2014
If you have <i>not</i> submitted your work for ethical review, and/or you have answered 'No' to one or more of questions a) to e), please explain why this is so:	
Not applicable	
Signed: <i>(Student)</i> 	Date: 13 July 2014

Appendix B: Activist actions

Activist Group	Action	Target/Victim	Attack Location	Action Intent	Example Scenario	Vulnerability exploited	Historical occurrence
Support Group	Leaflet drop	Public	Research site, Head Quarters Building, High Street	Discredit research, damage reputation	Education displays/tables positioned to rally public support	No prevention measures available. Positive public engagement can minimise the impact	High
	Public display stand	Public	High Street	Discredit research, damage reputation	Education displays/tables positioned to rally public support	No prevention measures available. Positive public engagement can minimise the impact	Medium - High
	Propaganda literature	Public/supply chain/investor	Research site, adjacencies, Internet	Discredit research, damage reputation	Use of mass and niche media to propagate messaging, deluge of local community and businesses	Internet and activist journalism	High
	Information gathering	Public/supply chain/investor	Research site, adjacencies, Internet	Understand the target	Group members monitor operations and investigate business links via open source data	Ease of access to facilities	Medium - High
	Collecting donations	Public	High Street, Internet	Provide funding for media and convicted activists	Collection tins on public display stand, charges for printed material	No prevention measures available	High
	Supporter recruiting	Public	High Street, University	Engage more supporters to encourage greater public awareness	Peer groups encourage involvement at fresher week events	No prevention measures available	High
Protest Group	Protester recruitment	Support Group	Rallies and meetings	Coerce supporters to become more active	Supporters are encouraged through peer pressure to take on a more activist persona	No prevention measures available	Medium - High
	Site occupation/Vigil	Primary target and supply chain	Research site, Head Quarters Building, Supply Partners	Hinder activities, interrupt operation, possible distraction	Aggravated trespass of facility and/or legal occupation of adjacencies and approach routes	Lawful right to protest and lengthy process of achieving eviction from property	Medium - High

Activist Group	Action	Target/Victim	Attack Location	Action Intent	Example Scenario	Vulnerability exploited	Historical occurrence
	Organised information gathering	Primary target and supply chain	Research site, Head Quarters Building, Supply Partners	To solicit information not normally publicly available	Freedom of Information (FOI) requests submitted	Seek professional advice on minimising the information to be released, develop a process that deals with the request without imposing unnecessary administration input	Medium - High
	Subversion	Primary target and supply chain	Research company, Supply partners	Infiltrate the business to expose operation methods	Compel susceptible individuals to join rank and file group	Inadequate vetting procedures and management of supply partners employees	Low
	Infiltration	Primary target and supply chain	Research site, supply partners	Place a sympathetic activist inside a facility	Protestor gains lawful employment within a facility to gather information/disrupt operation	Inadequate vetting procedures and management of supply partners employees	Low - Medium
	Vandalism	Primary target and supply chain	Research site, Head Quarters Building, Supply Partners	Hinder activities, interrupt operation, financial impact, damage reputation	Aggravated trespass of facility. Breaking and entering	Rural facilities may have large boundaries with poor security measures and inadequate operational overlays. Urban facilities may have limited stand-off and restrictions by physical barriers (H&S). Limited specialist police teams	High
	Site demonstration	Primary target and supply chain	Research site, Head Quarters Building, Supply Partners	Hinder activities, interrupt operation, financial impact, damage reputation	Door step protest at facility to intimidate supply partners and compel public support	Rural facilities may have large boundaries with poor security measures and inadequate operational overlays. Urban facilities may have limited stand-off and restrictions n physical barriers (H&S). Limited specialist police teams	High
	Lock on	Primary target and supply chain	Research site, Head Quarters Building,	Hinder activities, interrupt operation,	Protestors physically lock on to perimeter protection	Rural facilities may have large boundaries with poor security	Medium - High

Activist Group	Action	Target/Victim	Attack Location	Action Intent	Example Scenario	Vulnerability exploited	Historical occurrence
			Supply Partners	financial impact		measures and inadequate operational overlays. Urban facilities may have limited stand-off and restrictions n physical barriers (H&S). Limited specialist police teams	
	Logistics interference	Primary target and supply chain	Research site, supply partners	Hinder activities, interrupt operation, financial impact	Blocking access to and from facilities including damaging assets	Liveried vehicles identify involved supply partners	Medium - high
	Employee/supplier intimidation	Primary target and supply chain	Research site, supply partners	Reduce operation effectiveness, commercial impact	Telephone and mail drop individuals at home and at work including neighbours and family members	Susceptibility, site and domestic accessibility, predictability of routes/delivery times	Low - medium
Militant Group	Improvised explosive/pyrotechnic device	Primary target and supply chain	Research site, Headquarters building, supply partners, Key personnel at home	Cause harm/damage attack against key personnel or company asset	Under vehicle device operated by booby trap or timer	Accessibility and lack of adequate protective measures	Low
	Physical violence	Primary target and supply chain	Research site, Headquarters building, supply partners, Key personnel at home	Cause actual harm to personnel	Door step violence including weapons and harmful materials/arson	Accessibility and lack of adequate protective measures	Low
	Vandalism	Primary target and supply chain	Research site, Headquarters building, supply partners, Key personnel at home	Deface asset to undermine reputation, impact operation, financial impact	Committing graffiti to fixed and mobile assets	Rural facilities may have large boundaries with poor security measures and inadequate operational overlays. Urban facilities may have limited standoff and restrictions n physical barriers (H&S).	High
	Arson	Primary target	Research site,	Destroy asset to	Committing arson to fixed and	Rural facilities may have large	Low - Medium

Activist Group	Action	Target/Victim	Attack Location	Action Intent	Example Scenario	Vulnerability exploited	Historical occurrence
		and supply chain	Headquarters building, supply partners, Key personnel at home	impact operation, financial impact	mobile assets	boundaries with poor security measures and inadequate operational overlays. Urban facilities may have limited standoff and restrictions n physical barriers (H&S).	
	Liberation	Primary target and supply chain	Research site, supply partners	Release test subjects to impact operation and research	Protestors gain access to facility to remove test subjects	Rural facilities may have large boundaries with poor security measures and inadequate operational overlays. Urban facilities may have limited standoff and restrictions n physical barriers (H&S).	Low - Medium
	Product interference	Primary target and supply chain	Storage, retail shelves	Undermine product/supplier reputation, financial impact	Product is/allegedly injected with harmful substance making it unfit for use	Ensure packaging is tamper resistant or tampering is easily identified	Low
	Agent provocateur	Primary target and supply chain	Research site, Headquarters building, supply partners	Subvert protest	Militant protestor escalates lawful protest to include violence and damage	Lawful rights to demonstrate	Medium - High

Appendix C: Attack Data Matrix

Year	Month	Day	Country	Industry	Attack Methods	Group
2003	1	1	UK	Food production	Liberation	Not specified
2003	1	1	USA	Food production	Liberation	Not specified
2003	1	2	UK	Food production	Liberation	Not specified
2003	1	3	Netherlands	Food production	Arson	Not specified
2003	1	3	UK	Recreation	Arson	Not specified
2003	1	13	Germany	Fur trade	Vandalism	Not specified
2003	1	15	UK	Animal testing	Direct action	ALF
2003	1	25	Netherlands	Food sales	Vandalism	Not specified
2003	1	27	Switzerland	Animal testing	Arson	SHAC
2003	1	28	Sweden	Animal testing	Arson	Not specified
2003	1	29	Sweden	Fur trade	Vandalism	ALF
2003	1	29	Sweden	Fur trade	Vandalism	ALF
2003	2	1	Italy	Fur trade	Liberation	ALF
2003	2	3	Netherlands	Animal testing	Direct action	Not specified
2003	2	4	USA	Food production	Vandalism	ALF
2003	2	6	Italy	Animal testing	Arson	ALF
2003	2	6	Italy	Animal testing	Bomb	Not specified
2003	2	6	Italy	Recreation	Arson	Not specified
2003	2	7	Sweden	Fur trade	Direct action	Not specified
2003	2	11	Netherlands	Animal testing	Vandalism	Not specified
2003	2	12	UK	Animal testing	Direct action	ALF
2003	2	14	Germany	Animal testing	Vandalism	Not specified
2003	2	15	Netherlands	Animal testing	Liberation	Not specified
2003	2	18	Sweden	Food sales	Arson	Not specified
2003	2	18	Sweden	Fur trade	Vandalism	ALF
2003	2	20	Sweden	Fur trade	Vandalism	Not specified
2003	2	20	UK	Animal testing	Direct action	ALF
2003	2	22	Ireland	Fur trade	Liberation	Not specified
2003	2	22	USA	Animal testing	Vandalism	SHAC
2003	2	23	Sweden	Animal testing	Vandalism	SHAC
2003	2	24	Netherlands	Animal testing	Vandalism	Not specified
2003	2	24	UK	Pharmaceutical	Direct action	Not specified
2003	2	25	UK	Animal testing	Vandalism	Not specified
2003	2	26	UK	Animal testing	Vandalism	Not specified
2003	2	27	Italy	Animal testing	Vandalism	Not specified

Attack Method	
Liberation	625
Arson	185
Direct action	363
Bomb	6
Bomb hoax	24
Vandalism	1677
Fire bomb	4
Internet attack	18
Total	2902
Industry Sector	
Animal testing	881
Food production	456
Food sales	277
Fur trade	695
Pet trade	50
Pharmaceutical	99
Recreation	444
Total	2902
Country	
Mainland Europe	1549
UK	702
Americas	532
Aisa Pacific	82
Canada	29
Internet	8
Total	2902

2003 - Extract of attack data

2004	11	15	UK	Animal testing	Vandalism	Not specified
2004	11	15	UK	Food production	Liberation	Not specified
2004	11	15	USA	Food sales	Vandalism	Not specified
2004	11	16	Holland	Animal testing	Liberation	Not specified
2004	11	16	Holland	Recreation	Vandalism	Not specified
2004	11	16	Russia	Animal testing	Liberation	Not specified
2004	11	16	Russia	Fur trade	Vandalism	Not specified
2004	11	16	Turkey	Fur trade	Vandalism	Not specified
2004	11	18	USA	Animal testing	Liberation	Not specified
2004	11	21	New Zealand	Food production	Liberation	Not specified
2004	11	21	UK	Animal testing	Direct action	SHAC
2004	11	21	UK	Animal testing	Vandalism	SHAC
2004	11	22	USA	Animal testing	Direct action	Not specified
2004	11	23	USA	Animal testing	Bomb hoax	Not specified
2004	11	24	USA	Animal testing	Vandalism	Not specified
2004	11	24	USA	Animal testing	Vandalism	SHAC
2004	11	24	USA	Food sales	Vandalism	Not specified
2004	11	25	Austria	Food production	Liberation	Not specified
2004	11	25	Austria	Fur trade	Vandalism	Not specified
2004	11	25	USA	Fur trade	Vandalism	Not specified
2004	11	26	Italy	Fur trade	Arson	Not specified
2004	11	26	Italy	Fur trade	Direct action	Not specified
2004	11	27	Italy	Fur trade	Liberation	Not specified
2004	11	28	Italy	Animal testing	Vandalism	SHAC
2004	11	29	USA	Animal testing	Vandalism	Not specified
2004	11	30	Switzerland	Recreation	Vandalism	Not specified
2004	12	1	USA	Animal testing	Vandalism	SHAC
2004	12	2	Austria	Recreation	Liberation	Not specified
2004	12	6	Austria	Recreation	Vandalism	Not specified
2004	12	6	Norway	Fur trade	Vandalism	Not specified
2004	12	7	Ireland	Recreation	Liberation	Not specified
2004	12	7	UK	Food production	Liberation	Not specified
2004	12	8	Ireland	Recreation	Liberation	Not specified
2004	12	9	USA	Animal testing	Internet attack	SHAC
2004	12	10	UK	Animal testing	Fire bomb	SHAC
2004	12	11	Germany	Fur trade	Vandalism	Not specified
2004	12	11	Germany	Pharmaceutical	Vandalism	Not specified
2004	12	11	UK	Animal testing	Vandalism	SHAC

2004 - Extract of attack data

2005	8	7	Russia	Animal testing	Liberation	Not specified
2005	8	7	Sweden	Food production	Liberation	Not specified
2005	8	7	Sweden	Fur trade	Vandalism	Not specified
2005	8	7	UK	Recreation	Liberation	Not specified
2005	8	7	UK	Recreation	Liberation	Not specified
2005	8	8	Russia	Fur trade	Liberation	Not specified
2005	8	8	Sweden	Recreation	Liberation	Not specified
2005	8	8	Sweden	Fur trade	Vandalism	Not specified
2005	8	8	Sweden	Fur trade	Vandalism	Not specified
2005	8	8	Sweden	Fur trade	Vandalism	Not specified
2005	8	8	Sweden	Fur trade	Vandalism	Not specified
2005	8	9	Germany	Food production	Liberation	Not specified
2005	8	9	Russia	Fur trade	Liberation	Not specified
2005	8	9	Sweden	Fur trade	Vandalism	Not specified
2005	8	9	Sweden	Fur trade	Vandalism	Not specified
2005	8	9	Sweden	Fur trade	Vandalism	Not specified
2005	8	9	Sweden	Recreation	Vandalism	Not specified
2005	8	10	Canary Islands	Food production	Liberation	Not specified
2005	8	10	Germany	Fur trade	Vandalism	Not specified
2005	8	11	Ireland	Food production	Liberation	Not specified
2005	8	11	Ireland	Recreation	Vandalism	Not specified
2005	8	12	Germany	Fur trade	Vandalism	Not specified
2005	8	13	UK	Animal testing	Vandalism	SHAC
2005	8	13	UK	Animal testing	Vandalism	SHAC
2005	8	14	Ireland	Recreation	Vandalism	Not specified
2005	8	15	Italy	Fur trade	Vandalism	Not specified
2005	8	16	UK	Recreation	Liberation	Not specified
2005	8	17	Sweden	Fur trade	Vandalism	Not specified
2005	8	17	Sweden	Fur trade	Vandalism	Not specified
2005	8	18	USA	Food sales	Vandalism	Not specified
2005	8	20	UK	Animal testing	Vandalism	Not specified
2005	8	22	UK	Animal testing	Vandalism	Not specified
2005	8	23	Austria	Recreation	Vandalism	Not specified
2005	8	23	UK	Animal testing	Vandalism	SHAC
2005	8	23	UK	Recreation	Vandalism	Not specified
2005	8	24	Norway	Fur trade	Vandalism	Not specified
2005	8	24	Switzerland	Animal testing	Vandalism	SHAC
2005	8	25	New Zealand	Animal testing	Liberation	Not specified

2005 - Extract of attack data

2006	11	9	France	Fur trade	Vandalism	Not specified
2006	11	11	France	Fur trade	Vandalism	Not specified
2006	11	11	Sweden	Fur trade	Vandalism	Not specified
2006	11	12	France	Recreation	Arson	Not specified
2006	11	13	Austria	Recreation	Vandalism	Not specified
2006	11	13	Estonia	Fur trade	Vandalism	Not specified
2006	11	14	USA	Recreation	Vandalism	Not specified
2006	11	15	France	Food sales	Vandalism	Not specified
2006	11	16	Switzerland	Recreation	Liberation	Not specified
2006	11	17	France	Pharmaceutical	Vandalism	Not specified
2006	11	17	France	Animal testing	Direct action	Not specified
2006	11	18	Croatia	Recreation	Vandalism	Not specified
2006	11	18	UK	Fur trade	Vandalism	Not specified
2006	11	18	Switzerland	Food sales	Vandalism	Not specified
2006	11	20	Czech Republic	Food production	Liberation	Not specified
2006	11	21	New Zealand	Food production	Liberation	Not specified
2006	11	22	Italy	Animal testing	Liberation	Not specified
2006	11	23	UK	Pet trade	Vandalism	Not specified
2006	11	23	UK	Animal testing	Arson	ALF
2006	11	24	UK	Recreation	Vandalism	Not specified
2006	11	25	UK	Food production	Liberation	Not specified
2006	11	26	UK	Animal testing	Direct action	ARM
2006	11	29	Holland	Pharmaceutical	Vandalism	Not specified
2006	11	29	USA	Animal testing	Vandalism	SHAC
2006	11	30	Austria	Fur trade	Vandalism	Not specified
2006	12	3	Austria	Food sales	Vandalism	Not specified
2006	12	4	Austria	Food sales	Vandalism	ALF
2006	12	5	UK	Food sales	Vandalism	Not specified
2006	12	6	Sweden	Food production	Liberation	Not specified
2006	12	7	UK	Food production	Direct action	Not specified
2006	12	8	Austria	Recreation	Vandalism	Not specified
2006	12	9	Slovakia	Recreation	Vandalism	Not specified
2006	12	10	Mexico	Fur trade	Direct action	Not specified
2006	12	10	UK	Fur trade	Vandalism	Not specified
2006	12	10	France	Food production	Vandalism	Not specified
2006	12	10	Switzerland	Animal testing	Direct action	ALF
2006	12	11	France	Fur trade	Vandalism	Not specified
2006	12	12	UK	Recreation	Direct action	ALF

2006 – Extract of attack data

2007	1	10	Italy	Animal testing	Vandalism	SHAC
2007	1	11	Sweden	Fur trade	Vandalism	Not specified
2007	1	12	Spain	Food production	Arson	Not specified
2007	1	13	UK	Pharmaceutical	Vandalism	Not specified
2007	1	13	Spain	Food production	Vandalism	Not specified
2007	1	14	Switzerland	Fur trade	Vandalism	Not specified
2007	1	14	New Zealand	Food production	Liberation	Not specified
2007	1	15	Spain	Fur trade	Liberation	Not specified
2007	1	15	UK	Food production	Liberation	Not specified
2007	1	16	France	Fur trade	Vandalism	Not specified
2007	1	17	UK	Food sales	Vandalism	Not specified
2007	1	17	UK	Animal testing	Direct action	Not specified
2007	1	18	UK	Pharmaceutical	Direct action	Not specified
2007	1	20	Italy	Recreation	Arson	Not specified
2007	1	21	France	Fur trade	Vandalism	Not specified
2007	1	22	Spain	Recreation	Vandalism	Not specified
2007	1	25	Spain	Fur trade	Vandalism	Not specified
2007	1	27	Italy	Recreation	Vandalism	Not specified
2007	1	27	France	Recreation	Liberation	Not specified
2007	1	27	Germany	Pharmaceutical	Vandalism	Not specified
2007	1	27	France	Food sales	Vandalism	Not specified
2007	1	28	Italy	Recreation	Direct action	ALF
2007	1	28	Switzerland	Fur trade	Vandalism	Not specified
2007	1	28	Italy	Fur trade	Liberation	Not specified
2007	1	29	Ireland	Fur trade	Vandalism	Not specified
2007	1	29	Spain	Food sales	Vandalism	Not specified
2007	1	30	Germany	Fur trade	Vandalism	Not specified
2007	1	31	UK	Food production	Vandalism	ALF
2007	2	1	Spain	Pharmaceutical	Vandalism	Not specified
2007	2	1	France	Animal testing	Vandalism	Not specified
2007	2	2	France	Food production	Direct action	ALF
2007	2	3	France	Fur trade	Vandalism	Not specified
2007	2	3	France	Animal testing	Vandalism	ALF
2007	2	4	Switzerland	Fur trade	Vandalism	Not specified
2007	2	4	Italy	Fur trade	Liberation	Not specified
2007	2	7	USA	Pharmaceutical	Vandalism	Not specified
2007	2	8	Austria	Fur trade	Vandalism	ALF
2007	2	10	UK	Animal testing	Direct action	Not specified

2007 – Extract of attack data

2008	9	9	USA	Food sales	Vandalism	Not specified
2008	9	9	Argentina	Fur trade	Liberation	Not specified
2008	9	9	Italy	Fur trade	Liberation	Not specified
2008	9	10	UK	Animal testing	Direct action	ALF
2008	9	10	Mexico	Food sales	Vandalism	Not specified
2008	9	11	Mexico	Food production	Vandalism	Not specified
2008	9	11	Italy	Pet trade	Vandalism	Not specified
2008	9	12	USA	Animal testing	Liberation	Not specified
2008	9	12	UK	Food production	Liberation	Not specified
2008	9	13	Italy	Food production	Liberation	Not specified
2008	9	13	Italy	Food production	Liberation	Not specified
2008	9	14	Mexico	Food sales	Vandalism	Not specified
2008	9	14	Slovakia	Recreation	Vandalism	Not specified
2008	9	15	Mexico	Food production	Liberation	Not specified
2008	9	15	Sweden	Fur trade	Liberation	Not specified
2008	9	17	Sweden	Fur trade	Liberation	Not specified
2008	9	18	Canada	Food production	Liberation	Not specified
2008	9	19	USA	Animal testing	Vandalism	SHAC
2008	9	20	USA	Animal testing	Arson	Not specified
2008	9	20	Sweden	Fur trade	Liberation	Not specified
2008	9	20	UK	Pet trade	Liberation	Not specified
2008	9	21	Mexico	Food sales	Vandalism	Not specified
2008	9	22	USA	Fur trade	Liberation	Not specified
2008	9	23	UK	Animal testing	Vandalism	Not specified
2008	9	23	UK	Animal testing	Vandalism	Not specified
2008	9	23	UK	Food production	Liberation	Not specified
2008	9	23	UK	Food production	Vandalism	Not specified
2008	9	24	UK	Animal testing	Vandalism	Not specified
2008	9	24	UK	Animal testing	Vandalism	Not specified
2008	9	24	USA	Food sales	Vandalism	Not specified
2008	9	24	UK	Pharmaceutical	Direct action	Not specified
2008	9	25	UK	Animal testing	Vandalism	Not specified
2008	9	25	Spain	Recreation	Vandalism	Not specified
2008	9	25	UK	Recreation	Vandalism	Not specified
2008	9	26	UK	Animal testing	Direct action	ALF
2008	9	26	UK	Food production	Liberation	Not specified
2008	9	26	Italy	Fur trade	Liberation	Not specified
2008	9	27	Mexico	Food sales	Vandalism	Not specified

2008 – Extract of attack data

2009	5	15	Chile	Food sales	Vandalism	Not specified
2009	5	16	Finland	Fur trade	Vandalism	Not specified
2009	5	16	Mexico	Recreation	Vandalism	Not specified
2009	5	16	USA	Fur trade	Vandalism	Not specified
2009	5	18	France	Pharmaceutical	Arson	Not specified
2009	5	18	Mexico	Food sales	Arson	Not specified
2009	5	18	Belgium	Animal testing	Direct action	SHAC
2009	5	19	Switzerland	Food sales	Vandalism	Not specified
2009	5	21	UK	Pharmaceutical	Direct action	Not specified
2009	5	23	Germany	Fur trade	Vandalism	Not specified
2009	5	24	UK	Recreation	Vandalism	Not specified
2009	5	25	Mexico	Recreation	Vandalism	ALF
2009	5	26	Czech Republic	Food Production	Liberation	Not specified
2009	5	26	Spain	Recreation	Liberation	Not specified
2009	5	26	USA	Food sales	Vandalism	Not specified
2009	5	27	Germany	Animal testing	Vandalism	SHAC
2009	5	28	Mexico	Fur trade	Arson	Not specified
2009	5	29	USA	Animal testing	Arson	Not specified
2009	5	30	Mexico	Fur trade	Vandalism	ALF
2009	6	1	France	Food Production	Liberation	Not specified
2009	6	3	Colombia	Food Production	Vandalism	Not specified
2009	6	4	Uruguay	Animal testing	Arson	Not specified
2009	6	4	Finland	Fur trade	Vandalism	Not specified
2009	6	5	Germany	Food Production	Vandalism	Not specified
2009	6	6	Switzerland	Pharmaceutical	Vandalism	Not specified
2009	6	15	Netherlands	Animal testing	Bomb Hoax	Not specified
2009	6	17	Mexico	Food sales	Vandalism	Not specified
2009	6	18	Mexico	Pharmaceutical	Vandalism	SHAC
2009	6	19	Italy	Fur trade	Vandalism	Not specified
2009	6	19	USA	Fur trade	Vandalism	Not specified
2009	6	20	Mexico	Pet trade	Liberation	Not specified
2009	6	21	Italy	Food Production	Vandalism	Not specified
2009	6	24	Mexico	Pet trade	Liberation	Not specified
2009	6	25	Sweden	Fur trade	Vandalism	Not specified
2009	6	26	Mexico	Food Production	Vandalism	Not specified
2009	6	26	Sweden	Food sales	Vandalism	Not specified
2009	6	27	Sweden	Fur trade	Liberation	Not specified
2009	6	28	USA	Food sales	Vandalism	Not specified

2009 – Extract of attack data