‘As bad as bad can be’: Accounting for species extinction in the North Pacific

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Abstract

Purpose – This paper explores the reporting of the Russian American Company (RAC), from 1840 to 1863. Trading in fur, company fears of animal extinctions viewed from a monetary perspective led to early extinction reporting practice. These were not altruistic reports, they were generated by a wish to use natural resources. Despite the motivations, these reports present an example of successful extinction management by a for-profit company and a workable example of emancipatory extinction accounting.

Design/methodology/approach – Using thematic analysis, this study demonstrates how moving from transparency to accountability driven accounting can assist in biodiversity reporting, by exploring this historical business case of extinction management through the lens of Atkins and Maroun’s (2018) extinction framework.

Findings – The application of the framework to the RAC’s set of reports indicates that this offers a viable proposal for development of extinction management, providing a reporting tool for a for-profit company.

Originality – Exploring RAC's reports focusing on their extinction management processes and reporting, the paper contributes to the contemporary debate on the development of extinction reporting frameworks. These historical examples of extinction accounting, show extinction management and reporting is not a unique contemporary development in accounting. The research uses historical data as the empirical foundation for exploring applicability and further development of this extinction framework.

Keywords: extinction management, extinction reporting, Russian American Company accounts, fur trade, integrated reporting.

1. Introduction

Ecology, in studying the relationships between living things, including humans, and their environment, seeks to comprehend the important connections between plants, animals and the world around them. It has been sixty years since researchers started warning of an environmental ecological crisis. Carson's (1962) book, Silent Spring, presaged mankind's effects on nature and popularised modern ecology. Similarly, Our Synthetic Environment (Bookchin, 1962) was one of the first books in which an ecological and environmentalist worldview was advocated. More recently Greta Thunberg has espoused global youth action and environmental commitment. During this period, managers, accountants and accounting researchers have acknowledged and attempted to determine a role for accounting to play in measuring, reporting and raising awareness of ecological issues. However, thus far, this role for accounting, guided by a capital market-based ideology, has focused on transparency, and an increase in disclosure and reporting. With this emphasis on transparency, there has been less of an emphasis on focusing on how the corporate mindset could be changed. Quattrone (2022) critiques the notion of transparency, proposing a shift in perspective and in disclosure, whereby measurement and transparency happen in communication with stakeholders, negotiating constantly what matters, in the interests of all, and including Nature. Thus, moving from transparency to accountability driven accounting, or emancipatory accounting and more participatory forms of governance (Brown and Dillard, 2015). We propose that accounting can move forward in this arena, by looking back, we can learn from history and historical studies in order to advance (McBride and Verma, 2021). Company reporting is socially and historically contextualized, with accounting techniques and practices being shaped by their social, political and legislative contexts (Carnegie *et al*, 2020). Using a historical perspective to consider accounting reports enhances understandings of accounting practices (McBride and Masiero, 2021). We use emancipatory accounting theory (Gallhofer and Haslam, 2002, 2006, 2019) as the lens through which we analyse the company accounts, with analysis following a framework suggested by Atkins and Maroun (2018). In this way, this microhistory (Carnegie and McBride, 2022) uses theory to provide a conceptual framework (Carnegie and Napier, 2017) for historical narrative (McBride, 2023), exploring how sets of accounts and company reporting can illustrate an approach to integrated business, reporting and management of ecology.

This research investigates sets of accounts from a company that integrated reporting with management of species extinction. The paper studies the role of accounting in measuring, reporting and fighting against the loss of species, as this is 'as bad as bad can be'[1]. We aim to demonstrate how these accounts show extinction accounting and accountability that is emancipatory.

The paper explores the accounting of the Russian American Company from 1840 to 1863 (from the first joint-stock company's reports to the cease of its charter) in order to identify and analyse early attempts at extinction reporting and successful conservation management. The Russian American Company (hereafter RAC) was founded in 1799 and became Russia's

[1] 'As bad as bad can be' from Rudyard Kipling's Seal Lullaby in The White Seal, his story written in 1893

first joint-stock company in 1840, as a means of bringing state control over the land north of the 51 degree latitude line and to ensure control over the natural resource management of the area, indeed furs were one of the largest sources of trade revenue for the state (Bassin, 1999). Russia was and still is a natural resource dependent country, that dependence led to the development of an understanding that careful resource management is necessary because there is a critical point beyond which any given natural resource (including animals) becomes extinct. In 1805 the RAC instigated conservation procedures to safeguard fur seals and, approximately a decade later, for sea otters too. The protections were initially arbitrary and unsystematic, but from the 1840s were developed into some of the most forward-thinking attempts at preservation of species (Jones 2014). State explorations, company business, and fears of animal extinctions viewed from a monetary perspective led to what is recognised as early forms of sustainability reporting with embedded and defined extinction management and reporting aspects.

This paper answers calls for research into the history of social and environmental reporting (SER) (Parker, 2015; Carnegie and Napier, 2017; Atkins *et al*, 2019) and contributes to the growing body of literature that focuses on extinction management and reporting as a form of emancipatory accounting for extinction avoidance and species conservation (Maroun and Atkins, 2018). The research investigates early attempts at reporting the decline of animals hunted for fur and successful conservation management in the North, practices beyond the contemporary western practices (Grey and Milne, 2018; Zhao and Atkins, 2021). The paper offers an illustration to modern organisations, who may struggle with the extinction accounting concept, and how extinction accounting might be applied. The unique evidence of successful extinction management and accounting from the past, offers a valuable empirical foundation for further discussion and development of Atkins and Maroun's (2018) extinction framework with application in this case of a for-profit business.

The paper has several contributions. By translating and examining the RAC's reports the study illuminates valuable empirical evidence of successful extinction management. It provides historical evidence that a for-profit company can secure long-term preservation of species while making a profit by adopting an integrated thinking approach and utilising emancipatory extinction accounting. The RAC's reports, whilst generated by a wish to use natural resources, are implicated in assisting a strategy of conservation for future hunting. The unique contribution of the documents was to report the environmental impact of colonisation, preservation of animals and communications with indigenous people of the northern pacific regions. Furthermore, the analysis of the RAC's reports through Atkins and Maroun's (2018) extinction framework assists in showing the usefulness of this emancipatory accounting tool for extinction management in corporate reporting and provides suggestions for its development.

The paper is structured as follows. In the next section, we provide a literature review, where we outline previous relevant emancipatory accounting literature, then elucidate and develop our theoretical framework of extinction accounting derived from the accounting literature. Section 3 explains the methodological approach. Section 4 explores the historical background and context in which the RAC operated. It also outlines the historical case of RAC annual reports as an example of emancipatory accounting and accountability. Section 5 contains analyses and findings from applying Atkins and Maroun's (2018) extinction framework to the

RAC's historical reports. The sections discuss the motivations, drivers and outcomes of RAC's extinction reporting. The paper concludes and has recommendations in section 6.

2. Literature review

2.1. Emancipatory accounting

Gallhofer and Haslam (1996) noted that whilst accounting academics recognise accounting's potential to challenge the status quo and bring about social change for issues of environmental accounting, more consideration seems to be given to content as opposed to form (e.g. early publications by Gray *et al*, 1993, 2001, 2014 and Gray and Bebbington, 2001). Indicating an assumption that changing disclosures would cause change in management decision making and practice. Recently there have been calls for accounting to cease focusing only on the technical (Carnegie *et al*, 2021, Carnegie *et al*. 2023) and more on achieving greater social and environmental accountability by the alignment of realities, making efforts to bring corporate views of their social and environmental responsibilities closer to those of their stakeholders (Atkins and McBride, 2023).

Gallhofer and Haslam (1997) argued that academics should respond to opportunities to challenge the practices and institutions of accounting and support the aim of critical accounting to develop an enabling accounting. They note that "as a social practice, accounting is deeply implicated in social concerns and should be evaluated in terms of its contribution to social well-being" (Gallhofer and Haslam, 2002, p.1), advocating that regarding accounting in its wider social context has enabled a questioning of traditional practice and they stress its enabling and emancipatory potential. They note that the discourse on emancipation is complex, plural and dynamic, that there are emancipations (plural) (Gallhofer and Haslam, 2011) that need to be aligned, with a context of globalisation suggesting potentialities for progressive and emancipatory change (Gallhofer and Haslam, 2006). Reflecting on the construct of emancipatory accounting they develop this to observe that diverse objectives suggest there should also be accountings (plural) (Gallhofer and Haslam, 2019), which through consideration of accounting in context lead to a more emancipatory approach to accounting as a whole. Quattrone (2022) mooted a change to the value-added statement, the inclusion of a line, a 'provision for nature', with a related 'fund for nature in the balance sheet', the idea of which is to demonstrate Nature as a stakeholder. He suggests that this disclosure would aid in moving from a capital market form of transparency, from understandings of communication as push not pull and to a space where stakeholders can engage in dialogue (Gray, 2001), a participatory space (Brown and Dillard, 2015), where emancipation can find a place (Gallhofer and Haslam, 2019).

This study is particularly interested in the power of extinction accounting in enabling change. Extinction accounting provides a lens offering a more encompassing conceptual foundation to apply for exploration of species protection.

2.2 Species and extinction reporting

There has been a considerable number of recent articles focusing on environmental, ecological and extinction accounting. These generally outline the role of accounting in measuring, reporting and fighting against loss of species.

Researchers highlight measures used to show attempts to meet goals and performance targets of biodiversity within companies and public sector organisations (Freeman and Groom, 2013; Atkins *et al*, 2014; Weir, 2018), suggesting continuous monitoring of animals and their habitats as performance indicators for biodiversity or sustainability (Samkin and Schneider, 2010; Siddiqui, 2013; Thomson, 2014). In this area, some papers examine practice (Rimmel and Jonall, 2013; Atkins *et al*., 2014) and explore the ways in which accounting can be used to prevent the extinction of species (Atkins and Atkins, 2019). Other contributions consider practices as part of environmental accounting, such as taking stock of nature, using a natural inventory (Jones, 2003, Siddiqui, 2013), or accounting for the full cost of an organisation's actions (Bebbington *et al*,2001).

Calls for historical research into social and environmental accounting (Parker, 2015; Carnegie and Napier, 2017) have been partially answered (Siddiqui, 2013; Atkins and Maroun, 2020), however the areas of environmental, ecological and extinction reporting remain under-researched, historical evidence can enrich this area of research and practice. Biodiversity reporting research is seen as an extension of prior SER studies (e.g. Buhr *et al*, 2014; Solomon and Maroun, 2012; Jones and Solomon, 2013) in that it aims, on the one hand, to broaden reporting scope and on the other, to develop tools for organisational accountability for the impact on the natural environment. The initial focus of SER was on pollution, water quality, deforestation, climate change, etc. but more recent studies are starting to pay closer attention to biodiversity and ecosystem conservation (Jones, 2014; Jones and Solomon, 2013; see also the 2013 AAAJ special issue on the topic Vol. 26, 5). However, there is still a shortage of studies in this area (Boiral, 2014; Adler *et al*., 2018; Hassan *et al*., 2020).

A number of studies have explored biodiversity and extinction accounting reporting, but biodiversity accountability is still in its infancy (Adler *et al*., 2017, Addison *et al*., 2019). Previous studies have found that businesses lack knowledge in this area, their disclosures are generic in nature, lacking any specific detail on activities, policies, performance against targets, the emphasis on rhetoric instead of actual performance (Rimmel and Jonäll, 2013; Boiral, 2014; Adler *et al*., 2017; Atkins *et al*., 2018; Addison, *et al*., 2019; Hassan *et al*., 2020). Companies report more on future plans/policies rather than on specific biodiversity risks (Adler *et al*., 2017). Studies also suggest that reporting on biodiversity and extinction is shaped by neutralisation techniques, and that companies control their disclosures and release only positive information (Boiral, 2014; Adler *et al*., 2018). In the modern capital market dominated context, positive information is what is usually expected as public companies face pressure to meet the expectations of their investors (Park, 2022). If these expectations are not met then the capital market and media will react negatively to what they perceive as bad news, or a threat to a company's financial survival. Resultantly information on the biodiversity or extinction risks that companies impose on the environment where they operate is missing. As Rimmel and Jonäll (2013) emphasise, there appears to be a lack of knowledge on how to report information on biodiversity and extinction. To enable companies to change, there is a need for more reporting practice examples (Zhao and Atkins, 2021).

Biodiversity reporting and extinction accounting are different concepts, particularly in the impact of the "change" in practice that each is taking. Extinction accounting does not just describe species variation, but goes further to be used to prevent extinction (Atkins and Maroun 2018, p.760). Zhao and Atkins (2021) define extinction accounting as the provision of information "on how a company is protecting/restoring habitat, enhancing biodiversity, and taking a dynamic approach to conservation" which "could potentially lead to ecological and environmental improvements" (p.1). In that sense, extinction accounting has emancipatory power to change the behaviour of businesses, to change the approach to how a business behaves in considering threatened species and undertaking activities to conserve those species, thus extinction accounting focuses on specific species, and prevention of their extinction. It suggests provision of both qualitative and quantitative information. While biodiversity reporting may be motivated by impression management or reputational issues, extinction accounting is more complex, it can be motivated by culture, emotional elements and deep ecology concerns (Zhao and Atkins, 2021).

There are few studies focusing on corporate disclosures related to threatened species (Adler *et al*., 2018), in this paper we focus on extinction accounting and reporting because it is particularly important, and the survival of humanity is co-dependent on other species (Gray and Milne, 2018). Research in accounting and reporting for extinction and species preservation is still emerging (Cuckston, 2018) and drawing from historical practices offers a valuable contribution in developing accounting and reporting for species preservation.

Reflecting on research advances in accounting as a force for conservation, Cuckston (2018) observes emergence of two strands in the literature. One strand is the shift in the theoretical approach (e.g. Gray and Milne, 2018, Russell *et al*., 2017, Cuckston, 2013, 2018 and Power and Tilt, 2017), the other is driven by efforts to bring extinction 'into existing social and environmental accountability mechanisms' (p.218) i.e. into corporate reporting (Atkins and Maroun, 2018). Analysis of the empirical data used in the studies indicates that the nature of the organisation is relevant, for example, while Atkins and Maroun (2018) investigate corporations, Power and Tilt (2017) focus on a not-for-profit organisation that does not have economic gain as one of the founding elements in its makeup. A move towards strengthening the foundation of already existing attempts to develop a normative framework for business reporting (Cuckston, 2018) can facilitate active organisational engagement thus opening further opportunities to address extinction issues in an impactful way. We argue that the accounts of the RAC offer insights of practice, of value to current accountability in this area and we can draw from RAC's successful historical example of conservation management and reporting to aid such efforts.

3. Methodology

This study uses an exploratory qualitative approach to enable the researchers to examine the content of the RAC's accounts and see how they were used in the management of species preservation. The analysis method chosen was the qualitative approach of thematic analysis, this is a rigorous approach for analysing written documents. Braun and Clarke (2006) note that the thematic analysis method is used to identify, analyse and report patterns in data and a "rigorous thematic approach can produce an insightful analysis that answers particular research questions" (Braun and Clarke, 2006, p.97). Within the accounting literature, Jones and Shoemaker (1994) suggest using thematic analysis to investigate accounting narratives in order to identify the concerns and motivations of accounting communications.

In this paper we use a top-down thematic analysis (Braun and Clarke, 2012). The research uses some pre-defined categories from the literature (as McBride and Philippou, 2022) with a framework provided by Atkins and Maroun (2018) determining some themes, for our analysis of the RAC reports, whilst being open to other emerging patterns. Atkins and Maroun (2018) sought to develop already existing initiatives in order to provide guidance to business on reporting extinction prevention, considering the connections of practice, actions and reporting, in order to provide more detail. Encouraging companies to use the framework to recognise extinction risks, to encourage mitigation of these and to fully report to stakeholders. The paper presents the guidance and framework in clearly defined categories (or themes), which gives our research a basis to test and develop. A theme is something which captures the key ideas about the data in relation to the framework applied and represents a pattern or meaning within the data set (Braun and Clarke, 2006), similar content analysis of the narratives of environmental reporting has been used in previous research (e.g. Atkins and McBride, 2021, Beck *et al*., 2010, Vourvachis and Woodward, 2015). The primary objective of this inductive approach is to allow relevant research findings to emerge from the reports, exploring frequent or significant themes within the data, matching to the framework, using the methods of Braun and Clarke (2006, 2012).

Using this approach to analysis, the five separate strands considered were the main areas of the framework, proactive and progressive emancipatory accounting, integrated thinking: avoiding extinction as a business imperative, motivations, drivers and legitimacy/ outcomes of extinction accounting. Full sets of the accounts from the RAC were obtained from The Library of Congress (n.d.) and translated from Russian by the authors. The relevant parts of the translations were analysed according to Braun and Clarke (2006, 2012). By following their six-part process, familiarisation (acquiring an overview of the data); coding (using short summaries of the relevant parts of the text); analysing these according to the themes (looking at the codes, identifying patterns, finding matches to the themes); reviewing the themes (to ensure these are accurate representations of the data); defining/naming additional themes (summarising the findings matching the framework and identifying other observations) and writing up the findings. The qualitative organic analysis was thereby used to identify parts of the accounts matching to the framework, but also used to develop other themes found in the data (Braun and Clarke, 2016), so that disclosures with similar meanings were grouped together into the themes. The five separate strands of data coded into themes along with the additional themes found were cross checked, in line with Saldaña (2021). Bazeley (2009, p.6) stress that themes gain full significance when shown in a coordinated summary, a 'describe, compare and relate' plan is mooted, in a three-step plan for reporting results. For this paper the themes extracted from the framework are summarised in table I. We initially describe and compare our findings through these themes, adding the additional themes found within the accounting disclosures.

3.1 Foundational elements of emancipatory extinction accounting framework

This historical evidence is investigated via Atkins and Maroun's (2018) framework which was developed as an extension to already existing GRI standards[2]. In development of their framework for extinction, Atkins and Maroun were guided by organisational demands, they argued that a framework that is understood by organisations is more likely to be acceptable.

Foundational to Atkins and Maroun (2018) extinction accounting framework are the following elements: a proactive and progressive emancipatory accounting; integrated thinking; a moral and/or business imperative for preventing extinction; motivations; drivers; and outcomes. These are captured by Atkins and Maroun (2018) in the 'Ark of emancipatory accounting and accountability' framework (p.768), the foundation elements which we use as themes (underlined in our analysis) are summarised in Table I:

Insert table I here.

These foundational elements, Atkins and Maroun argue, are intuitively compatible with for-profit businesses (business case motivation) wishing to think and engage with extinction accounting and to exist beyond solely their economic impact. The elements are interconnected and designed to permeate business actions (and subsequent reporting) for genuine engagement that will help an organisation move beyond the pitfalls of greenwashing. Included are drivers, the external forces behind the business actions that might stem from coercive sternal pressures, dialogical relations, fields of visibility (legislative initiatives) and technical (scientific) development. The drivers act as a force to push businesses toward a conscious engagement in a proactive and progressive emancipatory accounting through active stakeholder engagement, appropriate internal extinction monitoring management systems and a supporting accounting infrastructure. Facilitating these progressive elements demands an **integrated thinking** approach to business management, which becomes a natural way to conduct the business and, consequently, report on business practices. With conversion to integrated thinking a company combines economic and social/moral considerations. This leads to genuinely responsible organisational behaviour thought, with legitimate outcomes adopted by the organisation via an extinction accounting framework.

The emancipatory extinction accounting framework presents a tool for the purpose of corporate reporting for any organisation wishing to align their business activities with emerging social and environmental demands and to actively engage in the prevention of species extinction through mindful and reflection reporting activities. While the framework has endured some criticism over the lack of theoretical underpinning (Cuckston, 2018), it offers businesses a scope to be transformative and to move beyond environmental, social and governance (ESG) compliance akin to impression management exercises (from Atkins and Maroun, 2018, Maroun and Atkins, 2008, Tregidga *et al*., 2014; Mansoor and Maroun, 2016). Further work around the development of Atkins and Maroun's extinction framework therefore should be a positive step towards enabling contemporary organisations to address the issue of extinction and emancipatory accounting development.

[2] GRI (Global Reporting Initiative) guidelines represent global best practice for reporting on a range of economic, environmental and social impacts. The system of interconnected GRI standards for reporting provide information about an organization's positive or negative contributions to sustainable development.

In total there are 23 annual reports of the RAC for a 30-year period with some reports containing two/three years' information. For periods 1840 to 1842 - 2 reports; for 1844 to 1863 - 19 reports; for 1867 to 1869 - 1 report; from 1870 to 01.04.1871 - 1 report. All 23 reports were examined and were subject to the initial analysis. However, for the purpose of this work, we excluded the latter periods 1867-1871, when the RAC produced only financial statements due to the sale of Alaska (where RAC's operations were located) by the Russian government to the USA. The emerging themes were placed in relation to the framework elements (as above). Some references demonstrating themes that emerged from the analysis are presented in Table I. The paper initially describes our findings identified from the RAC reports, via the framework and reports our results.

4. The Russian American Company (RAC)

4.1 Historical background

After the first and second Kamchatka Expeditions (1724-30 and 1732-43) Russian fur hunters (promyshlenniki) made hunting voyages for the furs of sea otters. The furs were exchanged in China for teas and other Chinese goods, such as silk, fine cotton and porcelain (Wheeler, 1971). The obtaining and exporting of furs was important to the economy and expansion of Russia (Sladkovskii, 2008) and it was this trade that brought Russians across Siberia to the Pacific Ocean by the end of the 17th century (Wheeler, 1966). During the 1780s with the fear of land claims from Britain and France, Catherine II commissioned the Billings' expedition to secure Russia's northern territories. The expedition set sail in 1785, for the northeast passage with Joseph Billings[3] as Captain, on a voyage that lasted until 1794. Maps were made of the area to record Russia's claim to the land, the expedition landed on Kodiak Island and investigated the land and islands of Prince William Sound (Jones, 2006). However, these expeditions to strengthen Russian claims to land and empire, also managed to 'focus attention on the overhunting … thus raising international awareness of the danger of species extinction' (Jones, 2014, p.168).

4.2 RAC's formation and existence

The RAC company was founded in 1799 in St Petersburg, with a twenty-year charter from Tsar Paul I (Catherine's son) and an effective trading monopoly in this North Pacific region. The company was based on other monopolies of the time (e.g. The Hudson's Bay Company, the East India Company), being structured as a mercantile company financed by private capital from shareholders (McWatters, 2018). The company had investment and oversight from the Tsar and the government and the Tsar's family owned shares (Lightfoot, 2003).

On formation of the new joint stock company the government appointed Nikolai Rezanov to officiate and supervise company affairs (Mazour, 1944). The company was under the authority of the Minister of Commerce, Count Rumyantsev, who influenced the early affairs of the company. Rezanov had previously been funded by Count Rumyantsev to jointly command the first Russian circumnavigation of the world, a later similarly funded

[3] Joseph Billings (1758-1806) served in the Royal Navy on the last of Captain Cook's expeditions and after that applied to join the Russian Navy.

circumnavigation provided information of Alaska and California's flora and fauna (Langsdorff, 1927). Rezanov's role was soon developed into a board of three directors, two elected by the shareholders and one by the government. The directors were required to report on the company's activities direct to the Tsar. Company business was directed by A. Baranov who as first Chief Manager of the company directly controlled the trading stations and other outposts, from Kodiak Island and then from Novo-Arkhangelsk (now Sitka) Alaska when it became the capital of the area (Khlebnikov, 1973). The RAC, governed the region until it was purchased by the United States in 1867.

From 1818 those leading the company and the colonies were the Russian Imperial Navy officers. From the 1820s, the company's profitability started to decline due mainly to the reducing populations of the animals providing the fur and increased competition in the fur trade. An exodus of animals and birds from constant pursuit was noticed. As a result, the company's board of directors supported adopting a long-term animal conservation business approach aligned with other social-economic support measures. This proved to be successful, and in 1862, at the fourth World's Fair held in London, the reports of the British, Austrian and French commissions had positive opinions on the RAC furs. It was noted that the measures taken by the Russians to preserve the number of fur-bearing animals made it possible to revive the trade in this product (Swift, 2007, p.254).

Furs were traded in Russia, China and Europe, then subsequently in the United States (Grinev and Bland, 2010). Agreements with Spain and Britain and the United States from around 1824 ensured the company's rights in the territory, although political and commercial disputes with the British continued. Competition was mainly from American and British merchant sailors who obtained furs from North West Coast Indians and traded them in China. In the 1830's the British Hudson Bay Company operated near Alaska with American (mainly) whalers operating in the North Pacific. In 1862 Russia sold their holdings in the company to the United States and when the companies' charter expired in 1862 it was not reinstated (Tikhmenev, 1978).

Annual reports from the RAC, are available for 1840 to1863 periods, for 1867 to 1871 there are only financial statements. The annual reports include both quantitative financial information as well as qualitative narrative, with reports on social and environmental aspects of company governance. The structure and content of these records present a historical example of contemporary integrated reports. Within these reports there is a distinct emphasis on extinction reporting, thus the RAC reports represent significant empirical evidence to contribute to the literature in this topical area (de Villiers *et al.*, 2017).

4.3 The historical RAC annual reports as an example of an extinction accounting and accountability approach

Integrated reporting focuses on comprehending and communicating companies' plans for creating value in linking sustainable information with the financials (Villiers and Maroun, 2017). There are practical challenges (La Torre *et al*, 2019) to preparing the reports (McNally *et al*, 2017). The RAC's story is similar to a contemporary business situation where previous business action had led to a devastating threat to nature to the point of potential species extinction. From a historical perspective, the RAC provides an example of a company whose existence was dependent on rectifying overexploitation and putting in extinction management mechanisms. The RAC's leadership team was aware of the threat of specific animal extinction and understood that this was due to unregulated free fur hunting markets. There was an understanding that the newly created company's operations would also contribute to extinction if processes were not set up to prevent overconsumption.

The RAC's underlying business aims were driven by financial interests and motivations, particularly given the cultural and social-historical context of the company. We argue that RAC's (primary) economic interests were intertwined with its interest in preserving species in the natural environment, as species preservation enabled future hunting. Despite the motivations, the effect was to prevent species extinction. The RAC's annual reports present a fully developed and fully functional integrated reporting that evidence a multiple value approach business operations. The data in the reports show a processes and resource management approach to building a business by focusing on the protection and growth of near to extinction species. The RAC reported performance provides an example of a successful commercial extinction management approach.

However, the reports were constructed before the current discussions around climate change and species preservation. Thus, the RAC presents accounting before the 'conventional form', which Jones (2010, p.129) criticises for not being 'designed to aid' and 'consequently does not capture human beings' impact upon the natural environment. Instead, through the application of the emancipatory accounting theoretical lens (Gallhofer and Haslam, 2019) we can observe that RAC reports offer an opportunity to analyse what could be considered an example of economically successful business integrated reporting, including reporting on species preservation and extinction, before these reports were more commonplace. It is important to note that some of the RAC practices, for example around the treatment of the pre-existing native population and animals can be viewed as unethical or at least questionable from a modern perspective on imperialism, colonialism and ecology.

The RAC’s extensive collection of annual reports illustrate actions taken to stop species extinction and maintain the level of animals that guaranteed the business's existence and growth. The reports present evidence of a historical application of transparent accounting. They offer a relevant example of active animal extinction management and reporting, giving a unique opportunity to explore how extinction accounting can become emancipatory by evaluating the documents through Atkins and Maroun's (2018) extinction reporting framework. This application helps develop the theoretical concept into a practical tool that provides a mechanism for controlling potential overexploitation of natural resources that may adversely impact a business's chances of existence.

5. Analysis/Findings

This study explores a historic case study illustrating emancipatory extinction accounting. This section analyses the annual reports (AR) produced by RAC for periods from 1840 to 1863, the RAC's reports differ little from current company's reports. However, the RAC's reports included information on extinction accounting management and illustrate the RAC's success in preventing extinction, we analyse this part of these reports through the lens of the emancipatory extinction accounting framework proposed by Atkins and Maroun (2018).

5.1 Applying the framework to RAC's reports

Presentation of the analysis is structured in line with the themes in the extinction accounting framework and follows the flow of the core elements (as presented in part 4.1): a proactive and progressive emancipatory accounting; integrated thinking, a moral and business imperative for preventing extinction; motivations; drivers; and legitimacy/outcomes.

5.2.1. Proactive and progressive emancipatory accounting

As Atkins and Maroun (2018) argue, for the framework to be emancipatory, rather than being used for impression management, the framework needs to be transformative, which requires managers to be proactive in managing risks. To be proactive, an organisation should actively *engage with stakeholders*, have appropriate *management systems to drive the change*, and *have supporting accounting systems*.

RAC discusses its engagement with stakeholders. We should note that those discussions appear mostly in earlier reports, when a new reporting system was initially being implemented. In the stage of its formation and initial growth the RAC was trying to find the solutions to avoid specific species extinction and in that process, involved indigenous peoples. According to the AR (1840-1841, p.55), the Chief Manager of the company discussed with colonial managers, and experienced and reliable Aleut Toens (the chiefs) hunting strategy in the region, and in particular the rotation of areas where sea otters needed to be conserved. Koloshi (one of the nationalities) also reported to the management the population conditions, for example they reported an increase in sea otters' population near Sitka Islands (AR 1847, p.46). Another example of engagement with stakeholders was mentioned in AR 1846 (p.44), where the RAC report discusses how the locals were concerned with the reduction of sea otters, which they believed were negatively impacted by whale hunters. The Colonial Head Manager on the other hand believed that reduction was a result of continued hunting in the region and decided to conserve the most affected areas, i.e. Blizhniy and Simushir Islands. Although both parties considered different reasons for reduction of species' population, nevertheless, there was a discussion between them regarding the condition of specific species in specific territories.

Hunting was the main source of income for the indigenous peoples. The reduction of species would negatively affect them, so they too were concerned with the risk of species' extinction. Engagement with the local population was particularly important, as they were able to identify areas where specific species population was decreasing, as well as where the population was increasing. Each year the RAC reported specific species population levels in different regions. This, according to Order 18290 (1844), was carried out by the Colonial Head Manager who visited colonial territories to understand how they were managed and to speak with Aleuts, Kreols and other locals about their concerns. Such an active engagement, where the stakeholders were the active participants in the extinction management process, allowed RAC to collect data on the amounts of species in different regions and that was used for decision making.

We observe that stakeholders were active contributors to the species accounting system. Considering the RAC results discussed above, we agree with Gray and Milne (2018) that learning from indigenous people who are close to nature is essential. This could be achieved both by involving knowledge from the indigenous population and by looking back at history (in the case of lost knowledge). Likewise, the findings indicate that successful extinction management requires active collaborative work with indigenous people, whose existence would be adversely affected by extinction and who have a far better understanding of and access to nature. Such collaboration means sharing responsibility and 'managerial workload' in collecting non-financial accounting data that would contribute to subsequent reporting and decision-making. Indeed, stakeholder engagement (Gray, 2001) is important for emancipation to take place (Gallhofer and Haslam, 2019).

A company needs to have an appropriate management system to drive the change, Gray and Milne (2018, p.828) emphasise, that social accountants have to recognise that the extinction of species is a function of human failure. Recognition of this allows providing of more complete accounts that in their turn would support an extinction averse management system thus enabling a continuation of monitoring and practice improvement.

In the RAC example, the accounts provide a comprehensive picture of the problem. Analysis of the RAC's reports demonstrates that the RAC implemented a management system to monitor and conserve the population of key species. From the AR (1846, p.44), it is evident the RAC management had a clear understanding and recognition of the adverse effects of the company's activities on species population. Acknowledgement of the negative impact of the looming extinction problems and understanding that this would inevitably destroy the company, this pushed the RAC to find workable solutions that would increase and maintain species populations at sustainable levels. The recognition of the problem and subsequent management approach to dealing with the issue was present through every level of the management system. The Board of Directors determined where to recommend hunting for species with the *prudent rotation* of hunting regions (AR, 1840-1841, p.59). This was done to control the population of specific species, to save species from extinction and to increase breeding (AR 1852, p.11). Reduction of negative impact on the RAC's financial position was very important for the RAC too (AR, 1840-1841, p.59). To be able to make decisions as to which areas needed conservation and those that could be open for hunting, the RAC *assessed (audited) specific species' populations in each region*. Regional management was responsible for assessment of species' populations. Thus, according to AR (1846, p.47), the key responsibility for regional leadership was local management, which included extraction of benefits from the industry, while thoroughly preserving and improving species' breeding grounds. The monitoring of specific species populations was also noted in the RAC's third Charter, which stated that colonial management had to strictly comply with hunting strategy so species' population was not decreased because of extensive hunting (Order 18290, 1844). Indeed, the reports show that colonial management audited the regions regularly. For example, we see that the Colonial Head Manager travelled to the Kodiak region (AR 1847, p.35&42), to Pribilof, Unalaska, and Kodiak (AR, 1849, p.36) for assessments, while his deputy assessed the Atka region (AR 1847, p.42). Based on the assessment outcomes, the Colonial Head Management took relevant actions. They could decide to conserve the region because of decline in specific species' population, for example, in 1847, management found that the population of sea otters on Andreanof Island was reduced, due to persistent hunting for a continuous time, so conservation of the area was ordered (AR 1847, p.45). When the specific species were at sustainable levels, the management could fully open a specific region for hunting of those species, for example, AR (1854-1855, p.57) states that there was an order to start hunting on Medny Island, where sea otters appeared in sufficient numbers. Alternatively, the management could increase hunting permits in the region gradually until the species population was more sustainable, for example, AR (1840-1841, p.58) notes that after conserving St. Paul Island, hunting was permitted for 4,000 species of fur seals in 1840, after further assessment it was increased to 8,000 species in 1841, and to 15,000 in 1844 (AR 1844, p.42).

The RAC also *introduced some specific species to new regions*, instead of conserving them in their usual habitat, the RAC found new lands to increase their breeding. This happened with black and blue foxes, the Board of Directors ordered the colonial management to find wild islands for breeding those species (AR 1840-1841, p.60; AR 1844, p.42; AR 1852, p.10). The RAC also tried to *control the characteristics of specific species* that were breeding, aiming to improve the quality of the furs produced, for example, the RAC was keen to save more blue polar foxes as their fur was of higher quality and it was more expensive. In order to prevent blue polar foxes from mixing with white polar foxes, it was decided to kill white polar foxes but conserve blue foxes' population (AR 1857, p.37; AR 1859, p. 82; AR 1860, p. 37). The fees for white polar foxes were increased, so the hunters were incentivised to kill white polar foxes leaving the blue ones undisturbed (AR 1857, p.37). In another case, the RAC introduced a policy of buying only good quality furs of river beavers, not buying species that were killed in summer (AR 1856, p.31). The Board of Directors also introduced a policy, according to which the RAC ceased buying sea otter pups' furs, and did not allow the killing of pregnant sea otters. As a deterrent, Aleut hunters were not paid for those species (AR, 1840-1841, p.59).

The RAC aimed to hunt only for a sufficient amount of furs for the company's operations and to *avoid overhunting*, for example, when there was an abundance of fur seals, the RAC reduced hunting for those species, so they were not over producing furs. The RAC was concerned that they had enough goods from previous years in stock (AR 1852, p.11), they worried they would not be able to sell the extra furs on the Russian market (AR 1853, p.33). The latter report also refers to a decision to use extra fur seals furs in the production of warm clothing in the colonies, to avoiding wasting these (AR 1859, pp.61-62). To avoid overkilling, the Board of Directors introduced policies: the RAC ceased buying sea otter pups' furs, prohibited killing pregnant sea otters (AR 1840-1841, p.59), ceased buying river beavers' furs killed in summer (AR 1856, p.31). Even when there was abundance of fur seals, the RAC killed only amount that could be sold (AR 1863, p.40). Furthermore, to make sure that hunting was pursued only in areas where it was permitted, hunters, who were usually the indigenous people, were provided with detailed information, which outlined conservation areas (AR 1859, p.81).

It can be noted that this was all stakeholder inclusive active involvement in extinction management and accounting. While the Board of Directors defined the policy, this policy was implemented by all participants. The locals collected the data on the ground and passed this to regional managers, who then reported this information to the Colonial Head Manager, who was then able to make a specific decision aimed to protect the species from extinction. We can see that actions on species preservations were not altruistic. The analysis demonstrates that the RAC aimed to maintain a specific level of acquired species each year, this appears to be the level that the RAC considered to be a sustainable level. At the same time, some of the actions, like controlling the colour of polar foxes are questionable from a deep ecology perspective, as these measures were clearly undertaken from a profit-making perspective.

The RAC's system adds to the framework by proposing a workable plan for self-monitoring engaging with extinction management proactively. Currently, in modern organisations, the responsibility is transferred to various other stakeholders, for example, plastic producers divert the responsibility to individual households and Greenhouse Gas (GHG) emitters focus on the global scale of the problem, with a need to solve the issue at a higher level, hence introducing GHG tradable permits. The RAC example demonstrates that a lot could be done at an organisation level with accounting supporting the internal management system in shifting the mindset. Furthermore, the RAC system is set up to include all stakeholders in the extinction management process. While the local population contributes to the annual reporting process with non-financial accounting information around extinction issues, the reports to the shareholders become a tool for clarifying the strategic thinking and management actions. The narrative around the extinction problem awakens shareholders' active understanding of the rationale behind the business management processes. It encourages them to adopt a long-term view of business prospects.

Another proactive element of the emancipatory framework is supporting accounting systems. To understand whether the implemented policies are working, a company needs to measure its performance and monitor its progress against *budgets/plans*. AR (1840-1841, p.58) emphasised that a prudence concept is required to discontinue the killing of species, as a result, the Board of Directors introduced a policy of prudent rotation of hunted areas as discussed above. The ARs demonstrate that the RAC aimed to acquire a specific amount of furs annually to be able to operate. These furs were acquired in different regions by using prudent rotation, rather than intensive hunting in a region which could lead to the complete extinction of a specific species. This required the colonial management to *regularly assess the populations of specific specie*s, when numbers were low, the company took a decision to conserve the area, if numbers were considered sustainable, the company started operations in those areas. Thus, accounting for species played a vital role in making those decisions. No less important was the assessment of species populations against the company's turnover. AR (1840-1841, p. 58) discusses conservation of fur seals on St. Paul Island that started back in 1830, and to make sure that the reduction of acquired fur seals did not negatively affect the turnover of the company, management increased trading with local hunters to buy river beavers' furs instead (AR 1840-1841, p. 58). In making decisions whether to conserve the area, the management assessed the short-term losses of acquired species, but nevertheless recognised the long-term effect of those measures. There is clear discussion in the AR (1840-1841, p.60), where the company explicitly explains that they preferred to ignore short term lower returns by conserving territories in order to avoid a risk of complete losses of species for hunting in the future.

There were only a few direct references in the ARs that mention the relationship between the extinction of species and the company's financial performance. Instead, the RAC predominantly measured its extinction prevention performance against the populations of specific species and its ability to sustain the acquired furs without the threat of particular species extinction in specific territories. Each annual report of the company provided a detailed overview of the condition of the fur industry and the annual acquisition of furs. This section in annual reports analysed the population of specific species in specific territories, identifying whether there were positive or negative trends in monitored species population change. The information was regularly compared to the preceding years. This section in the ARs provided information on whether a specific species or territories were to be conserved or re-opened for hunting. The annual report becomes more than just a one-off end-of-the-year financial performance related report. It forms a chapter in the company's ongoing narrative in the context of its management system and its internal and external stakeholders.

5.2.2 Integrated thinking: avoiding extinction as a business imperative

Atkins and Maroun identify two types of imperative that can be foundational elements for extinction prevention, the moral and the business imperatives. Depending on the organisation, they suggest it can be driven by one, the other or both but irrespective of the imperatives, integrated thinking is at the core of that framework. Thus, the authors argue that extinction accounting will help to achieve positive effects if extinction is understood at operational and strategic levels. The International Integrated Reporting Council (IIRC) identifies the business model as the core of any organisation. It draws on various capitals as inputs and, through business activities (e.g. planning, manufacturing, usage of skills), converts them into outputs (products). These capitals include: natural, intellectual, manufactured, financial, human, and social. The organisation's activities and its outputs lead to outcomes in terms of effects on the capitals. IFRS foundation notes that the capacity of the business model to adapt to changes (e.g., in the availability, quality and affordability of inputs) can affect the organisation's long-term viability (The International IR Framework, 2021, pp.21&51). The framework shows the link between extinction, capitals, and proactivity, which they suggest could be contextualised as business imperative or moral imperative. We explore that link in the RAC's reports initially from a <u>business imperative</u> perspective.

The IR Framework (part of the IFRS foundation since 2022) gives a structure for use by companies to tell the story of how they manage responses to their external environment and create shareholder value. Atkins and Maroun include a range of capitals that should be present in the annual report as a mechanism for enabling genuine engagement with extinction reporting and extinction prevention. The RAC was a profit-making company. For the RAC, species were integral to their business model, and this is clearly visible in their reports. Notably, whilst the company was owned by investors requiring a return on their investment, the company reported both positively and negatively, without expectation that these investors would react negatively to the reporting of bad news, that they could see the bigger picture. Analysis of the RAC's report, where extinction prevention was a business imperative, reveals that integrated thinking underpinned the RAC's business model and its reporting. Our findings support the argument for integrated reporting particularly if the business imperative of a company results in extinction reporting and prevention. We observed that the RAC's reports discuss the impact of business operations on all of the capitals suggested in the framework.

The RAC recognised the impact on the environment <u>(natural capital)</u> and discussed both *negative and positive aspects of implications*. Notably, the ongoing recognition of adverse effects pushed the RAC to make changes in practice. Here are just some chronological examples of adverse impacts which we observed in the reports: in 1830 a rapid reduction in fur seals imposed a threat of extinction of those species (AR 1840-1841, p.58); a decrease in sea otters on Shumshu Island (AR1851, p. 31); poor hunting for walruses in Alaska (AR 1851, p.32); a reduction in the population of foxes and Eurasian otters on Kodiak Island, and polar foxes on Bering and Medny Islands (AR 1853, p. 32); a reduction of sea otters on Atka Island (AR 1854-1855, p.57); a drop-in polar foxes' population in the Commander Islands (AR 1857, p.36-37); a reduction of sea otters in Atka region (AR 1859, p.83); and the need for conservation on Bering Island to increase the blue polar foxes' population (AR 1860, p.66).

That the positive impact of the RAC's conservation efforts ran in parallel to the negative ones reflects the active extinction management and conservation efforts, for example, in 1852 increases in fur acquisition were due to hunting straight after the conservation of those areas (AR 1853, p.10), this comprised, an increase in river beaver population in the Kodiak region; a sufficient amount of sea otters (AR 1853, p.32); an increase in fur seals on St. Paul Island. There was also increase of Eurasian lynx, bears and sables due to relevant measures undertaken (AR 1856, pp.31-32); increasing numbers of sea otters on Medny Island; the colonial head manager ordered the hunting not to disturb these species while there was a need to conserve Atka Island, and a need for hunting on Medny Island (AR 1858, pp.51-52; AR 1859, p.36); an increase of fur seals on the Pribilof and Commander islands so that the breeding grounds became too small (AR 1859, p.83); and a growth in the Steller sea lion population on St. Paul Island (AR 1860, p.36).

Thus, an ongoing review of the environmental impact of particular hunting strategies was essential in helping to manage the threat of species extinction. An iterative process can be observed in the RAC's annual reports. Notably the RAC's reports attempted to demonstrate a complete picture of a company's impact. They were transparent about positive aspects and, more importantly, about their negative impact. This recognition empowered them to make the changes needed. They saw such a big difference between the initial state of species after extensive hunting and the subsequent abundance of species after the measures they implemented. Positive change encouraged them to continue implementing conservations throughout their operations, which they outlined in their reports, for example, the success of fur seals' protection on St. Paul Island encouraged the Board of Directors to push for conservation in other territories (AR 1840-1841, p.43).

As discussed above, there are a number of measures/methods <u>(intellectual capital)</u> that the RAC implemented to protect species from extinction. The RAC managers learnt the *life cycle* of species, their behaviour, and used that to make decisions, for example, how species breed, that older bachelors kill young, that young pups need their mums to raise them until they become independent, etc (AR 1840-1841, pp.58-59). To *reduce waste* of furs, and subsequently reduce the need to over-hunt, they tested new technologies on fur packaging (AR 1840-1841, p.21). The RAC also considered the best time to hunt and the age of species that could be killed. They also learnt new methods of saving furs for longer, i.e. by keeping raw furs in salt until they were processed (AR 1860, p.36). The most important and successful measure that the RAC implemented was the *rotation* of hunting regions, which was determined based on the impact of hunting on a specific region.

Identification of their impact, either positive or negative, allowed the company to undertake tailored measures. It was vital for the RAC to undertake measures, as excessive hunting posed a threat not just to nature, but also to the production and supply of furs (manufactured capital). Each RAC AR provided the analysis of acquired furs in the period, compared it with previous periods, and provided some forecasts on the acquisition of specific furs from specific regions. The RAC continuously assessed the impact of species population decrease, and took measures to *sustain production at sufficient levels*, for example, management anticipated that conservation of sea otters in the North of the Kuril region would not reduce the amount of acquired sea otter furs, as some islands like Medny were promising sufficient amounts of species because of no persistent hunting for several preceding years (AR 1847, p.45). The sea otters increased near Sitka Island, so the RAC sent Aleuts to hunt as Kolosh had no resources (in agreement with Kolosh Toens) (AR 1847, p.46). Acquisition of sea otters in the Kodiak region and Blizhniy Island was particularly successful, where hunting was allowed after 3-years of conservation (AR 1848, p.38). AR for 1849 discusses successful hunting for sea otters in Unga, near Sanak and Semyonovsky Islands and on Attu Island. Other species of the fur industry were at the same volumes, except for walrus. Conservation of foxes from 1848 on Kodiak Island and polar foxes from 1847 on Commander Islands was so successful, that RAC anticipated re-starting hunting in 1850 (AR 1849, p.37). In Unalaska region, Andreanof, Blizhniy, Commander and other islands, hunting was as previously, hunting for polar foxes and fur seals on Pribilof Islands was particularly successful, where species were increasing yearly (AR 1850, pp.28-29). Export of furs in 1851 was substantial, export of sea otters, foxes, blue foxes was higher than in 1850 and many other periods (AR 1851, pp.10&31). There was a substantial increase in the export of high-quality furs of foxes, black foxes, dark grey foxes, and blue polar foxes (AR 1852, p.10). There was conservation of Atka due to reduced populations of sea otters, instead they started hunting on Medny Island, where sea otters appeared in sufficient numbers (AR 1854-1855, p.58). Overall the quantity of acquired furs did not change compared with the previous 5 year-period (AR 1859, p.82). Thus, we can observe that for RAC sustainability, the effective manufacturing of furs was important and conservation measures undertaken allowed the company to achieve its targets.

Production of furs had an *impact on the company's profitability* (financial capital), extinction of species would lead to financial losses, which the RAC recognised. As AR (1840-1841, p. 21) points out, hunting for sea otters was the main source of the company's income, and therefore attracted the attention of the Board of Directors. Sometimes, conservation of an area led to temporary financial losses, but the Board of Directors was driven by the rule that it was better to *sacrifice furs in the present, for a short period of time, than to lose these completely in the future* (AR 1840-1841, p.60). It is notable that even when there was an abundance of specific species, the RAC still killed based on anticipated sales, to avoid overkilling species. Thus, AR (1853, p.33) refers to an increase in fur seals' populations. However, the RAC did not use all its capacity to kill the animals and produce furs, as there was a limit to the demand for that fur in the market. The RAC decided to improve its knowledge and skills in producing that fur, using international knowledge, and the use of that fur in the clothing industry. As AR (1853, pp.33-34) notes, the Board of Directors was looking for new markets for fur seals. This substantial increase of the fur seals, which the RAC could kill, was noted in (AR 1847, p.46; AR, 1853, p.33; AR, 1859, p.84), but the Board of Directors was concerned with a decrease in fur prices in the market if excessive amounts of furs were supplied (AR, 1847, p. 46; AR 1859, p.84), and so they avoided overhunting.

What is noticeable in the RAC's reports is their engagement with their employees (human capital) and other stakeholders (social capital). As discussed above, employees played a key role in preventing extinction of species. They visited the islands to collect information, assessed the conditions of species population, hence provided information for the decisions on relevant measures to each specific area. Our analysis demonstrates that employees at every level participated in the process, the Board of Directors, Colonial Head Manager, colonial managers and hunters, all of whom were driven by a common goal, to preserve and increase species' population. This is something that modern organisations could learn from. We see that all the RAC's employees were key actors in implementing extinction prevention initiatives. In order to be successful, these initiatives need to be championed at every level, not just by top level enthusiasts. There has to be a culture within an organisation to make the change. This culture spilled over to the locals, who also actively participated in identification of threatened species. In particular, we found that the indigenous people were reporting to the RAC when populations were substantial and sufficient for hunting as in AR (1847, p.46), or decreasing as in AR (1846, p.44). There were various policies that aimed to support locals in hunting more sustainably, for example encouraging the hunt for more mature species rather than pups, to reduce excessive hunting and to move to more sustainable hunting practices (AR 1840-1841, p.59; AR 1856, p.31). Furthermore, Aleuts and other dependent locals who travelled for hunting were provided with documentation, outlining conservation areas and specifying protected species (AR 1859, p.81).

Adding to Atkins and Maroun, from the RAC AR observations, we note that integrated information must be done genuinely, with the business recognising the negative and positive impact of their actions. Furthermore, through the integrated approach, businesses create an ongoing narrative. An integrated reporting approach adopted by a business imperative driven company allows for collecting, reporting, reflecting and further improving business practices as the extinction is addressed, and conservation efforts are enabled.

5.2.3 Motivations

Atkins and Maroun (2018) argue that their framework offers a middle ground and closes the gap between deep ecology and anthropocentric positions. From the analysis of RAC's reports, we agree that such a position is possible. While the RAC's reports and extinction concerns were driven by their business imperative, their reports show visible moral elements. According to AR (1842, p.43), prior to the 1830s the RAC's colonies were able to provide themselves with the necessary provisions by trading with the Americans and paying with furs. However, continuous overhunting suddenly depleted the resources of the company in 1830. In fact, provision of colonies was expensive, one of the reasons the State extended the RAC's Charter in 1844 (Ermolaev, 2010). Without the necessary measures of colonial management, these resources would have been extinct forever. During the 1830s the colonies used money from Head Office, so it was not surprising that there was pressure from the Board of Directors to implement measures, so colonies could sustain themselves more independently.

The discussion in the previous sections demonstrates that financial considerations were important for the RAC, however we also see elements of moral duty, for example, limiting hunting to only the necessary amount and avoiding overhunting, which they recognised could lead to complete extinction of species. The RAC being a monopolistic company took responsibility for conserving species from extinction, imposed a hunting cap in some areas when it was necessary, they recognised that it was their activities that led to the risk of extinction, which they embraced and took actions to solve, thus behaving responsibly. The analysis of RAC's reports shows that they were transparent and attempted to provide a full picture regarding specific species conditions. Polevoy (1971) in his overview of Shelekhov's (1812) book on his voyages, mentions that Shelekhov believed that other merchants led predatory hunting, he wanted to create a monopolistic company in order to prevent predatory hunting and to provide a supply of profit from the Aleutian Islands for a longer period of time. Although, the RAC was not recognised as a State institution (Ermolaev, 2010), it had responsibility for managing territories, as was outlined in the Charter, so being a good citizen was important. These moral concerns appear throughout RAC's narrative reports. Indeed, Atkins and Maroun (2018) note that a moral imperative suggests that organisations should be responsible citizens, acting in a fair, transparent and responsible manner. Thus, we agree that the middle ground between deep ecology and anthropocentric positions could lead to emancipation. We argue that there is not necessarily a need for the whole accounting system to change, it is more about the objective of reporting needs. Profit-making organisations need to focus not just on short term, but on medium- and long-term value creation, which is proposed by the Integrated Framework. We stress the damaging perception that a company's earnings should consistently increase yearly, and indeed the RAC's reports demonstrate that this can be harmful to the external environment and the business's viability in the long term. The key for an organisation should be sustaining the value creation over short-, mid-and long-term time frames.

According to Atkins and Maroun (2018), there are a number of studies which argue that companies report environmental information as part of their impression management exercise, rather than sincerely changing their practice. Indeed, previous studies suggest that most of the reporting on biodiversity and extinction is shaped by impression management (or neutralisation techniques), companies strictly control their disclosures and release only positive information (Boiral, 2014; Adler *et al*., 2018). Often information on biodiversity or extinction risks that companies impose on the environment where they operate is missing. However, we agree with Atkins and Maroun (2018) and Zhao and Atkins (2021) that not all companies are the same, the RAC is one of the examples when a profit-making company is genuinely concerned with the extinction of species. We see a full picture of the company's impact on specific species in specific regions in the RAC's reports. The company provides both negative and positive information, the measures undertaken and the consequences of those measures. Furthermore, the discussions above show that the RAC provided information about the past, present and the future expectations. These are the characteristics of good quality information which enables organisations or external stakeholders to make informed decisions.

5.2.4 Drivers

Atkins and Maroun's (2018) framework identifies a number of drivers of extinction accounting, which are linked to a company's motivations. Although, it is quite difficult to identify what the drivers were for a company that operated nearly two centuries ago.

One of the drivers identified in the framework is coercive pressure, e.g. public interest, media, responsible investors, regulators. There are no explicit discussions of any coercive pressures on the company to implement extinction accounting, however, we observe an influence of the State upon the RAC in general. As observed above, it has been suggested that one of the arguments for requesting the *monopoly* over fur hunting from the State was an attempt to reduce risk of extinction of species by eliminating predatory, unethical hunters. The RAC operated under three Charters, which were approved by the State, these were recorded as State Orders (Order 28756, 1821; Order 18290, 1844). The third Charter (Order 18290, 1844) provided more detailed discussion what the RAC had to report to the Ministry of Finance, i.e. the information on the capital balance, detailed report on the state of colonies, population in colonies, the state of species, the quantity of exported furs species, trading in Kahta and Russia, and about everything related to prosperity of colonies.

A counselling or dialogic relationship between a company and NGOs, environmental activists, stakeholders or scientific community is also considered as a driver for extinction accounting in Atkins and Maroun's framework. The ARs outline that the RAC had links with the scientific community, for example, the Emperor Science Academy asked the RAC to build a cabin to measure high and low tide, and an observatory for magnetic and meteorological observations AR (1840-1841, p.51). The Emperor Science Academy asked the RAC to find the bones of the extinct Steller's sea cow. In 1847, the RAC found a number of bones of that species that were provided to the academy and later in the 1850s the RAC was able to provide a full skeleton of a Steller's sea cow, found on Bering Island (AR 1856, pp. 40-42). Another example of the link between the RAC and science appeared in AR (1959, p.50), which notes that the St Petersburg Science Academy was concerned that Russian science knew little about cetaceous species and that those species may become extinct, so the Academy asked the RAC to find skulls of those species, which the RAC did (AR 1959, p.50). However, we did not find evidence in the reports of close collaboration between the RAC and the scientific community in terms of knowledge exchange on specific species extinction prevention initiatives.

Another driver identified in Atkin's and Maroun framework is technical (scientific) development, which modern organisations may use to guide them on identifying threatened species. The RAC operated about 200 years ago, where there was no guidance on what needed to be reported nor were there reports like the Red List. However, there was a growing understanding of a species extinction threat, particularly after the Kamchatka Expeditions (Jones, 2014). That understanding, as we mentioned above, encouraged Shelehov to seek monopolistic privileges.

Moreover, there are various guidelines (fields of visibility) available to enable modern companies' engagement in species extinction accounting/reporting: codes on corporate governance, IIRC, GRI, or UN Sustainability Development Goals. The RAC co-developed and followed *the Charter*, which allowed them not only to produce integrated reports but also to engage in transparent accounting.

We argue that aside from the external drivers listed in the framework, the RAC example adds a further driver, the application of human common sense necessitated by humanity's reliance on nature and her systems to secure ongoing existence. In the reports and in their larger historical context, we have observed a presence of the understanding that hunted animal species were threatened by extinction if left to unregulated market forces created by the international trading community and driven by short-term financial interest and gains.

5.2.5 Outcomes

The main outcome of the framework is legitimacy, which the authors define as "the product of an organisation being genuinely responsive to the threats posed by extinction and using procedurally rigorous methods for informing a strategic plan which is acted on and reported to stakeholders in order to reverse extinction trends" (p.772). The authors distinguish legitimacy as a product of anthropocentric and deep ecological positions. It appears that the key legitimacy outcome which the RAC achieved, was risk reduction to its core business of hunting. Constrained, or worse, extinct resources would threaten the survival of the company. The RAC's initiatives were implemented to sustain the supply of furs required in the Russian market, as well as financial returns at a level where the company could sustainably operate and meet its obligations. The threat of extinction pushed the RAC to implement measures that increased the efficiency of the company (avoided overhunting, AR, 1859, p.37) and reduced waste, introducing more innovative technologies (salting furs so they were not destroyed, AR, 1860, p.36 and new packaging methods, AR, 1842, pp.28&32).

The most important outcome that the RAC was able to achieve was the prevention of the extinction of specific species. Although the company continued hunting, it was able not just to save species from extinction, but to increase populations. The most salient example was the increased population of fur seals. AR (1842, p.43) refers to nearly extinct populations of fur seals in the 1830s which almost instantly deprived the RAC of fur seal resources, but conservation on St. Paul Island allowed it to increase its population, so annually the RAC could kill about 12,000 fur seals on that island alone. Due to limited resources after the 1930s, the RAC supplied sea otters only to Russia (AR 1845, p.55). However, an increase in the quantity of available furs also allowed RAC to search for new sales markets outside of Russia (AR 1842, p.43), for example in 1845 the RAC explored the Sandwich Islands as a potential market for fur seals (AR1845, p.54). The RAC was quite proud of their achievement to save fur seals, they explain in the AR for 1845 (p.55) that fur seals were extinct almost everywhere, except in RAC's territories thanks to their conservation initiatives. Survival of fur seals was important for the company, with increased populations due to measures implemented by the company, which were promising to bring substantial profits (AR 1844, p. 43). Another example is an increase in sea otter population, AR for 1859 (p.35) discusses the acquisition of 900 furs, and notes that the company had not achieved so many furs since 1844.

The analysis of RAC's reports through the application of the Atkins and Maroun (2018) framework, allowed us to establish that extinction accounting is not a new concept and was successfully practised almost two hundred years ago. The framework is useful not just for external reporting purposes but for establishing an internal operational system that could lead to real positive change in practice and help to conserve and even increase the population of threatened species.

6. Conclusion and recommendations: addressing problems of extinction reporting accounting practice.

Probably the prime example of the RAC's success in saving threatened species can be illustrated by considering the condition of RAC's territories when RAC ceased to exist. American researcher Bank II (1960) observed that when Alaska was sold to America, the territory degraded, due to the return of unmonitored hunting practices. According to the "Compilation of main official documents on management of East Siberia", available in the Aleut local history museum, until 1867, hunting on the Commander Islands was carried out by the RAC in insignificant amounts, compared with hunting by "Hutchinson and Co" in the period 1871-1891. During the island's lease by Hutchinson and Co, the company acquired 740,812 sea otters and in the second half of the 1870s, poaching developed in that region.

There is an acknowledgement in the literature of a need to enrich research into SER with additional historical evidence (Parker, 2015; Carnegie and Napier, 2017; Atkins, Doni, McBride and Napier, 2019). Uncovering historical evidence promises to expand existing extinction reporting approaches (Gray and Milne 2018; Zhao and Atkins, 2021) and to further facilitate the development of up to date extinction accounting and extinction threat-related reporting by organisations (Boiral, 2014; Adler *et al*., 2018; Addison *et al*., 2019; Hassan *et al*., 2020). Previous studies have found that organisations do not have a clear idea of how to disclose information on specific species extinction. The annual reports of the RAC give us a working example of how companies can disclose this type of information. Although the RAC's reports were produced around 180 years ago, when market conditions may have been different in terms of profit expectations of investors, and those investors reactions to more fulsome disclosure, they still provide an example of how integrated thinking proposed by the IR framework and extended by Atkins and Maround (2018) for extinction accounting and species conservation could be applied in practice.

Applying the proposed framework for extinction accounting (or other environmental externalities) showed that the framework offers a workable reporting approach model. Using the framework does not mean that organisations will sacrifice profit for the environment and not benefit from it. There is an equilibrium which organisations can find, where they have the power to save species and at the same time continue being profitable. However, there is a need for a changed mindset related to short-term profit-making. Companies need not be completely altruistic, businesses exist to make profits. However, the ever-growing pressure for companies to consistently outperform their previous years' earnings is alarming. By applying the framework to the case of RAC, a company concerned with making a profit; we saw that an emancipatory accounting, transparent approach allows for incorporating conservation mechanisms that can support sustainable profits. The RAC was concerned with short-term profit, but mid-term and long-term profits were more important, based on that, the RAC's management made decisions that helped the company sustain vital resources when crisis hit them, and they even managed to increase the populations of threatened species. Of course, it took time to achieve those results, but over the years, they were the only company to have such an abundance of resources, such that they could even expand their markets.

Their focus on an extended planning time horizon was an important aspect in achieving their goals.

We also see that the RAC was pushed into action by crisis. Although the RAC was aware of the potential risk of specific species extinction, and this was the reason that merchants moved from the Russian mainland to new territories, they did not expect the almost immediate decline in species, which jeopardised the RAC's survival. Before the crisis, they carried out business as usual, and only when this crisis hit, did the company start to implement measures to save vital resources, i.e. specific species. The human species is currently in the same situation; we live through the 6th mass extinction, as Gray and Milne (2018) emphasise, humanity is under threat of extinction, and as we rely on so many species, the disappearance of even one significant species could lead to inevitable consequences (Atkins and Atkins, 2019). If the RAC managed to improve their situation so dramatically when they had less knowledge/technologies, why can't we?

We demonstrate that emancipatory accounting leads to positive change, it is not a dramatic change where companies refuse profits, it is about management and the genuine sustainability of species and organisations. Our study shows that the extended disclosures framework proposed by Atkins and Maroun (2018) is a mechanism to change the mindset of modern organisations. Furthermore, the application of the framework allows us to suggest points for its further development. Aside being a tool for external reporting, the framework can also guide internal management operation design in changing of practices to facilitate the conservation and increase the population of threatened species (or other natural resources).

Organisations should be more open and collaborate with stakeholders. This should be a genuine engagement rather than an attempt at impression management and legitimation of wrongdoings. Such engagement means collaborative work on data collection and decision-making with the local population (nature experts) instead of top-down data collection and decision-making by those unfamiliar with the local ecosystem specifics. Organisations need to raise awareness and involvement among employees at all levels to drive the change. Communication of extinction problem information with economic-interest driven stakeholders must occur to awaken their understanding and appreciation of managerial actions taken that are based on long-term view of business and its ecosystem context.

The reporting alone will not suffice as a tool for change. A change requires a management system that will drive that change. Thus, a business must develop a workable plan for self-monitoring, proactively engaging with extinction management at an organisation level and employing accounting mechanisms to support the internal management system. In such a system, integrated reporting with transparency becomes a tool for communication with the stakeholders, providing continuity in the ongoing narrative. Thus, the reports should form chapters in the book of the business instead of being one-off end-of-the-year financial performance-related information.

This study demonstrates that IR is not just about external reporting. It is an internal management system supported by an accounting and reporting system that gives opportunity to make informed decisions for the company's and nature's sustainability. It helps draw a fuller picture of organisations' impact on species extinction and the impact of the external environment upon the organisation. However, while CSR and environmental disclosures have grown, there is a general lack of engagement with IR. Only 22 per cent of the world's largest 250 companies labelled their reports as IR reports (KPMG, 2020). The lack of engagement may be due to limited availability of workable examples to drive ideas for IR application. We suggest that further historical evidence, including in languages other than English must exist and could be brought to light to add to historical examples of emancipatory extinction accounting cases.

Although the RAC had both anthropocentric and deep ecological considerations that encouraged the company to engage in species protection, the collaboration with the State still had an impact on RAC's reporting. Considering the modern state of engagement and reporting on species extinction, as was outlined before, we argue that voluntary reporting on species extinction (or CSR in general), is unlikely to make companies accountable for their impact. We call for mandatory species extinction reporting for companies of any size.
We draw from Gray and Milne (2018) and Zhao and Atkins (2021) ideas of the need to expand the evidence base beyond a modern western evidence base, by looking at the historical case of a hunting-trading company such as the RAC. It could be argued that the RAC's position as the political arm of the state that created a monopoly in exchange for colonial management and territory expansion may undermine the quality of this case for the study, however as a profit-driven enterprise, the RAC's reports offer a unique empirical evidence base for applying Atkins and Maroun's framework to a case of a for-profit business.

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