UNIVERSIDADE DE LISBOA

ISEG – Lisbon School of Economics and Management

Corporate Social Responsibility Communication and Interaction Processes within Stakeholders Relationships. Case studies of active mines and mine brownfield rehabilitation in the Portuguese sector of the Iberian Pyrite Belt

Teresa Maria Cordeiro Burguete

Orientadoras: Doutora Idalina Maria Dias Sardinha
                Doutora Maria Cristina de Assis Sales Pinto Baptista

Tese especialmente elaborada para obtenção do grau de Doutora em Sociologia Económica e das Organizações

2022

UNIVERSIDADE DE LISBOA

ISEG – Lisbon School of Economics and Management

Corporate Social Responsibility Communication and Interaction Processes within Stakeholders Relationships. Case studies of active mines and mine brownfield rehabilitation in the Portuguese sector of the Iberian Pyrite Belt

Teresa Maria Cordeiro Burguete

Orientadoras: Doutora Idalina Maria Dias Sardinha
                Doutora Maria Cristina de Assis Sales Pinto Baptista

Tese especialmente elaborada para obtenção do grau de Doutora em Sociologia Económica e das Organizações

Júri:

Presidente:
Doutor Nuno João de Oliveira Valério, Professor Catedrático e Presidente do Conselho Científico do Instituto Superior de Economia e Gestão da Universidade de Lisboa

Vogais:
Doutor Nuno Miguel Ribeiro Videira Costa, Professor Associado da Faculdade de Ciências e Tecnologia/NOVA School of Science and Technology da Universidade Nova de Lisboa
Doutora Paula Cristina Gonçalves Dias Urze, Professora Auxiliar da Faculdade de Ciências e Tecnologia/ NOVA School of Science and Technology da Universidade Nova de Lisboa
Doutor Rafael Jorge Soares Duarte Marques, Professor Auxiliar do Instituto Superior de Economia e Gestão da Universidade de Lisboa
Doutora Marta Pedro Varanda, Professora Auxiliar do Instituto Superior de Economia e Gestão da Universidade de Lisboa
Doutora Idalina Maria Dias Sardinha, Professora Auxiliar Convidada do Instituto Superior de Economia e Gestão da Universidade de Lisboa
Doutora Daniela Mourão Craveiro, Investigadora Auxiliar do Instituto de Ciências Sociais da Universidade de Lisboa
Doutor Luís Manuel Chambel Filipe Rodrigues Cardoso, Especialista, Consultor de Engenharia de Minas

2022

Acknowledgements

To all those who love me, those who support me and also to all those that do not believe, you all gave me the strength and the motivation to pursue this project. Thank you!

Abstract

This thesis deals with the relationships between mining companies and their key stakeholders, under the realm of Corporate Social Responsibility. The overall purpose has been to understand the interaction processes involved in the relationships between corporations and their stakeholders within corporate social responsibility communication, to contribute to the development of stakeholder management that promotes sustainability grounded on lasting relationships.

A new interdisciplinary approach is put forward, by bringing together social organizational and marketing and economic theories. Based on literature review, it is demonstrated that Corporate Social Responsibility Communication and the Industrial Marketing Purchase Approach can jointly analyse stakeholder relationships.

A theoretical framework has been developed via conceptual analysis, using the existing literature and a preliminary knowledge of the context. Further, the constructs have been conceptualized in each of the dimensions of the framework at early stages.

Multiple case studies have been conducted. Selection of cases was determined by the context – active metal underground mines in the Iberian Pyrite Belt and relevant mine brownfield redevelopment, also in the Iberian Pyrite Belt. On each case the key stakeholders have been identified, based on company information, either from interviews or from company reports. Cases analysis has been done applying within and cross case analysis. Qualitative research made it possible to cope with a complex context, to contact with participants in their setting, to gather data on their perception and to seek for causal associations.

The development of a framework appropriate for the understanding of the development of long-term relationships in the mining sector and a new theoretical approach tested, are important theoretical contributions. The "real world" can take advantage of it by applying this approach to similar environments.

Resumo

Esta dissertação tem como foco as relações entre as empresas mineiras e o relacionamento com os seus *stakeholders* principais, no âmbito da Responsabilidade Social Empresarial. O objetivo geral foi compreender os processos de interação envolvidos nas relações entre as empresas e seus stakeholders, no âmbito da comunicação de responsabilidade social corporativa, que contribuem para o desenvolvimento de uma gestão de stakeholders que promova a sustentabilidade alicerçada em relacionamentos duradouros.

Uma nova abordagem interdisciplinar é apresentada, reunindo teorias das ciências sociais e do marketing e da economia. Com base na revisão da literatura, é demonstrado que a Comunicação no âmbito da Responsabilidade Social Empresarial e a abordagem Industrial Marketing Purchase podem analisar conjuntamente os relacionamentos com os *stakeholders*. Foi desenvolvido um modelo teórico baseado em análise conceptual, utilizando a literatura existente e um conhecimento preliminar do contexto do sector mineiro. Além disso, os constructos foram definidos em cada uma das dimensões da estrutura na fase inicial.

Vários estudos de caso foram realizados. A seleção dos casos foi determinada pelo contexto - minas subterrâneas ativas na Faixa Piritosa Ibérica e reabilitação de minas abandonadas, também na Faixa Piritosa Ibérica. Em cada caso, foram identificados os principais stakeholders, com base em informações da empresa, através de entrevistas e em relatórios da empresa. O estudo dos casos foi realizado através dos métodos de análise *within-case* e *cross-case*. A análise qualitativa permitiu lidar com um contexto complexo, ter interações com os participantes no seu ambiente, reunir dados sobre sua perceção e procurar associações causais.

O desenvolvimento de um modelo adequado para a compreensão do desenvolvimento de relacionamentos de longo prazo no sector mineiro e a testagem de uma nova abordagem

teórica, são contributos teóricos importantes. O "mundo real" pode tirar vantagem disso aplicando essa abordagem em contextos similares.

Palavras-chave: Gestão de relacionamentos com *stakeholders*, comunicação no âmbito da responsabilidade social empresarial, processos de interação, exploração mineira responsável, reabilitação sustentável de minas abandonadas.

Table of contents

Figures

Tables

List of Symbols and Abbreviations

AF – Annual Filings

ALMINA – ALMINA – Minas do Alentejo, S.A.

ALSUD – Escola Profissional

ATS – Associação Terra Sintrópica

CAA – Comissão de Acompanhamento Ambiental

CSR - Corporate Social Responsibility

CSRC - Corporate Social Responsibility Communication

DGEG – Direção Geral de Energia e Geologia

EDM – Empresa de Desenvolvimento Mineiro, S.A.

IPB – Iberian Pyrite Belt

IMP - Industrial Marketing Purchase

IP - Interaction Processes

LM – Lundin Mining

ONG – Non-Governmental Organisation

SOMINCOR – Sociedade Mineira de Neves-Corvo, S.A.

STIM – Sindicato dos Trabalhadores da Indústria Mineira

1 Introduction and Scope of the Thesis

This thesis research aims at improving the knowledge of relationships of organizations and their key stakeholders. The approach is a combination of Corporate Social Responsibility Communication (hereinafter referred to as CSRC) and Interaction Processes (hereinafter referred to as IP) in the stakeholder relationships management context.

The research addresses existing gap in the literature regarding relationships development between companies and their stakeholders.

This introductory chapter briefly presents the theory sustaining this thesis development, the specific relationships addressed, the research setting, the research problem and associated questions, methodology overview and, finally, the whole structure of the thesis.

1.1   Research motivation

The current call on corporate responsibility, demands organizations that have significant social, economic and environmental impacts, to shift from merely business purposes to responsible management. The change is being developed under the realm of Corporate Social Responsibility (hereinafter referred to as CSR) and shareholders are no longer the most important stakeholder. These companies are compelled to get a social licence to operate and to achieve sustainability goals. In the current context, organizations must be accountable to stakeholders and engage them in order to get their support and work together towards mutually agreed sustainability goals (Schultz & Wehmeier, 2010). Thus, stakeholder relationship involving participation is a determinant factor in achieving lasting social, economic, and environmental development (Healey, 2009; Schädler, Morio, Bartke, Rohr-Zänker and Finkel, 2011; Sardinha, Craveiro & Milheiras, 2013).

Theory reveals that there are gaps when trying to gain a clear picture of how CSRC occurs (Tuan, Dalli, Gandolfo and Gravina, 2019). Some scholars conclude that the existing literature misinterprets and misunderstands the complex processes of interaction and negotiation between business and its stakeholders (Brennan et al., 2013). Others go even further, stating there is a limitation of knowledge with regards to such matters as the impact of CSRC on management (Crane and Glozer, 2016). Esse et al. (2012) brought a new discussion by putting together stakeholder and business network but still focusing on customers, buyers and suppliers. These authors emphasized the need to focus on other stakeholder groups that are also salient stakeholders for the company.

1.2   Theoretical background

A new interdisciplinary approach is put forward, by bringing together social organizational and marketing and economic theories. Based on literature review, it is demonstrated that CSRC and the Industrial Marketing Purchase Approach (hereinafter referred to as IMP Approach) can jointly analyse stakeholder relationships. Stakeholder relationship management is present in most CSRC studies (Crane & Livesey, 2003; Morsing & Schultz, 2006; Crane & Glozer, 2016) and is strengthening its influence on the IMP approach (Romestant, 2016; Vildåsen and Havenvid, 2018). The processes within CSRC and IP complement each other, in the characterization of stakeholder relationships and its dynamics.

Corporate Social Responsibility Communication and Stakeholder Management

The initial definition of CSR refers to "the obligations of businessmen to follow the lines of action which are desirable in terms of values and objectives for our society" (Bowen, 1953, p.44) and this remained the core of the definitions that were to follow. In 1991, Carroll constructed the Pyramid of Corporate Social Responsibilities: whereby the socially responsible company must seek to make a profit, albeit complying with the law, according to the principles of ethics and behaving like a good corporate citizen (Carroll, 1999). Over the years, the CSR concept has been discussed a great deal, leading to

differing and more complete definitions. According to both Dahlsrud (2008) and the author's understanding, the definition of CSR is irrelevant, as what really matters is being able to contextualise CSR and integrate its principles, implementing support tools and continually improve the business management of CSR.

Many CSR approaches are closely related to stakeholder interaction (e.g., The European Commission, 2001; McBarnett, 2009; Gond, 2011), suggesting that management strategies should entail relationship development with all related actors (Savage, Nix, Whitehead and Blair, 1991; Du et al., 2010)).

Each of these actors, a stakeholder, has been defined in the seminal work of Freeman, 'Strategic Management: A Stakeholder Approach', as "any group or individual who can affect and be affected by the achievement of the organization's objectives" (Freeman, 1984, p.25). The stakeholder approach, later known as the stakeholder theory, can be seen as a means to implement the concepts of CSR and advocates that organizations should evolve from socially responsible to accountable to its stakeholders (Freeman et al., 2010). Thus, the relevance of the stakeholder influence is highlighted, making it crucial for organizations to involve stakeholders in order to achieve their sustainability goals (Schultz and Wehmeier, 2010; Sardinha et al., 2013).

CSRC is paramount for managing stakeholder relationships. CSRC is not only a vehicle for organizations to disseminate their values and beliefs (Schultz, Castelló & Morsing, 2013; Brennan, Merkl-Davies, and Beelitz, 2013) but also a way to influence stakeholders, manage relationships, and attain legitimacy (Hooghiemstra, 2000; Van Riel & Fombrun, 2007; Brennan et al., 2013). It has been initially guided by principles of transparency in order to get trust, and mainly consisted of communicating and reporting CSR policies and activities (Chaudri, 2016). Thus, accountability is a common link between CSRC and the stakeholder approach. CSCR can strategically involve stakeholders so that organizations can get stakeholders' support and obtain legitimacy.

Through the lens of stakeholder management CSRC is mainly perceived as a way of disseminating the values and beliefs that are inherent to a company's identity, enhancing the way a company addresses stakeholders' concerns and expectations (Schultz et al., 2013; Brennan et al., 2013). Company identity, within CSR, focuses on external stakeholders, resulting in the paradigm of how to best manage CSR communication and transmit corporate identity to external stakeholders in order to obtain legitimacy (Crane and Glozer, 2016).

The company transmits its identity and actions in such a way, that it expects stakeholders to make sense out of it the way the company would like them to. Sensegiving and sensemaking processes are essential within CSRC, as they are a common denominator in a multiplicity of studies (e.g., Cornelissen, 2012; Maitlis and Christianson, 2014; Morsing and Schultz, 2006).

Morsing and Schultz (2006) developed categories of stakeholder relationships anchored on the processes of sensegiving and sensemaking, as follows: 1) the 'stakeholder information strategy' - where the company informs the stakeholder (one-way communication/ sensegiving) about corporate CSR decisions and tasks; 2) the 'stakeholder response strategy' - where the company demonstrates to stakeholders (two-way asymmetric communication/sensemaking followed by sensegiving) how the company deals with their concerns, and; 3) the 'stakeholder involvement strategy' - where the company actually builds relationships and establishes frequent, systematic, and pro-active dialogue with stakeholders (two-way symmetric communication/sensemaking and sensemaking in both ways).

To achieve sound results, long-term relationships have to be developed (Sonpar, 2011) and these relationships are created according to the stakeholders' legitimacy (Mitchell, Agle & Wood, 1997). A responsible organization protects the interests of stakeholders, focussing on two issues: the identification of legitimate stakeholders and the management of stakeholders' demands (Greenwood, 2007). Stakeholders identification can be a hard task and stakeholder theory presents multiple options, such as primary and secondary; owners and non-owners of the firm; owners of capital or owners of less-tangible assets; actors or those acted upon; those who have a voluntary or an involuntary relationship with the firm; rights-holders, contractors or moral claimants; resource providers or dependents

of the firm; risk-takers or influencers, and, finally; legal principles which result in a fiduciary duty for managers (Mitchell et al., 1997).

IMP Approach and Interaction Processes

The IMP approach emerged during the 1980s as a conceptual domain of research aiming to develop the understanding of industrial business relationships, by focusing on Interaction Processes between companies (Håkansson, 1982; Perna, 2012). In 1977, Håkansson and colleagues already advocated that business relations between organisations could be studied as IP (Baptista, 2013). Hence, business interaction can be defined as a process between two actors where mutual influence occurs (Ford, Gadde, Håkansson, Snehota & Waluszewski, 2008; Håkansson & Ford, 2016). Scholars aim to enlarge the span of business relationships to all stakeholder groups (Esse, Szántó & Wimmer, 2012; Perna, Baraldi & Gregori, 2012). There is a growing awareness that the current call for socially accountable and transparent businesses gives potential to the value of stakeholder relationship (Andriof, Waddock, Husted & Rahman, 2017). Furthermore, stakeholder management can increase return and the company rankings Esse et al. (2012) and interaction on business management can benefit from the understanding of stakeholder relationships (Ivens & Pardo, 2010).

Interaction is typified by characteristics such as: exchange (Håkansson, 1982; Medlin, 2004; Ford et al., 2008; Baptista, 2013; Håkansson and Ford, 2016), adaptation (Håkansson and Snehota, 1995; Ford et al., 2008; Baptista, 2013; Johanson and Mattsson, 2015; Håkansson and Ford, 2016), and coordination (Ford and Håkansson, 2013). The exchange processes can be divided into the exchange of resources and the exchange of social resources (Möller and Wilson, 1995). An interaction of exchange would tend to evolve into adaptation when one or both actors are willing to strengthen the relationship and to adapt by changing resources, activities, and mutual dependence (Metcalf, Frear and Krishnan, 1992; Ford et al., 2008).

Relationships may also develop to the extent that both actors cooperate to achieve effectiveness (Baptista, 2013) - this coordination being regarded as the degree of institutionalisation of the relationships established (e.g., Håkansson, 1982; Baptista, 2013), thus enabling the ability to capture the more formal aspects of the relationship development between the company and its stakeholders (e.g., contractual arrangements, protocols, agreements).

Coordination can only be achieved if there is stakeholder involvement. There is correspondence with the CSRC strategy involves processes of sensemaking and sensegiving in both ways were both actors coordinate their decisions and tasks.

If adaptation and coordination are present, these then lead to cooperation and the two parties work together to accomplish their respective or mutual goals and one cannot succeed without the other (Ford and Håkansson, 2013).

CSRC and Interaction Processes

Communication, through sensegiving and sensemaking processes, enhances stakeholder relationships and leads to better results in terms of trust and engagement with the organization (Schultz and Wehemeir, 2010; Capriotti, 2011).

Sensemaking happens when stakeholders interpret and make sense of organization's actions and issues (Cornelissen, 2012; Maitlis and Christianson, 2014). Stakeholders try to make sense of organization´s actions to see if they are transparent and consistent with the organization's identity and line up with stakeholders' expectations. Sensegiving is the dissemination of an organization's vision to its stakeholders, with the intention of influencing how the stakeholders perceive or make sense of the organization's identity and behaviour (Morsing and Schultz, 2006; Gioia & Chittipeddi, 1991).

Sensegiving and sensemaking processes lead to better results within a context of consistency and transparency (Kim, 2017). Consistency under the lens of CSR is conceptualised as being the absence of discrepancy between an organisation's overall strategy and its CSR activities (Basu and Palazzo, 2008), whereby the company is continually communicating its CSR goals (Kim and Ferguson, 2016, p.5). Transparency is "openness of CSR information disclosure, including both good and bad" (Kim and Fergunson, 2016, p.7), thus ensures that companies act visibly and communicate their activities to the stakeholders, as it is these who should hold the company to account (Transparency International, 2018).

Stakeholder relationships which entail participation and involvement can promote trust (Pomeroy and Douvere, 2008; Röckmann et al., 2015). In such relationships, transparency and trust have a mutual influence, whereby transparency leads to trust (Morsing and Schultz, 2006) and more transparency is evident when there is trust (Scandelius and Cohen, 2016). Definitions of trust within CSR and CSRC are not common. Carroll and Shabana (2010, p.101) quote Pivato, Misani and Tencati (2008) in their definition of trust: "a mediating variable which shapes the relationship between CSR activities and firm performance". In their communication framework, Du et al. (2010) regard trust to be a communication outcome. In this study the authors adopt an IMP Approach definition that trust is to rely on the idea that the other actor is reliable and just (Palmatier, Dant & Grewal, 2007). It seems the most adequate to the context and processes that are analysed in this study.

CSRC is related to stakeholder relationships and so is the IMP approach, except the latter has its main focus on business relationships. It is accepted that relationships consist of an interaction where, at least two parties influence, and are affected by each other (e.g., Canning & Hanmer-Llyod, 2002; Ford, Gadde, Håkansson, Snehota & Waluszewski, 2008).

Albeit CSRC seem to imply that the company is the main actor of the relationship and IP consider actors as equal, the authors identified interconnectedness between CSRC stakeholder communication strategies and IP processes. In the CSRC stakeholder information strategy happens there is only an interaction of information exchange, similar to what happens in the IP exchange process. In the stakeholder response strategy the company seeks to demonstrate stakeholders their concerns matter. Based on stakeholder information, the company may adapt its decisions and activities in order to meet what the company thinks stakeholders' expectations are or even share or provide resources. The IP adaptation process is clearly identified. Both company and stakeholder may wish to adapt to each another. In the stakeholder involvement strategy, the company fosters stakeholder engagement to build a fruitful relationship and in the correspondent IP coordination process, both actors coordinate to achieve effectiveness.

1.3   Research setting

The mining sector is considered an important empirical context due to its huge impacts on society. This sector has become the most controversial industry involved in social and environmental issues and CSR is the means to demonstrate transparency and get legitimacy (Jenkins & Yakovleva, 2006). Albeit the mining industry provides the commodities people need in their lives and may leverage economic and social growth, it causes long lasting negative impacts (Laurence, 2006; Baptista, 2013). These impacts evolve according to the mine life cycle stages. After closure, mine sites often evolve to brownfields, sites where environmental contamination is an obstacle to the beneficial use and redevelopment of such properties" (Swickard, 2008, p.122). Both in the case of mine life cycle management, which includes managing mine closure, and in the case of mine brownfields redevelopment, organisations often face problems of decision making, due to the lack of effective communication with their stakeholders, namely the local community, the local authority, and regulators, among others. To ensure that stakeholders trust the company and are engaged in sustainable solutions, it is of primordial importance to study the development of their relationships, communication being critical for this process (Cornelissen, 2014).

Mining companies are recognizing that they are responsible before society and willing to embrace responsible mining to address social, economic and environmental impacts more effectively (Sonesson, Davidson and Sachs, 2016). Mine brownfields are a worrisome reality all over the world and far from being solved.

Thus, the research settings seem to be highly suitable for this research. Furthermore, the author has a sound knowledge of this industry and access to companies and their stakeholders.

1.4 Scope of the Thesis and Research problem

The body of knowledge on stakeholder relationship development still requires a comprehensive description, particularly regarding stakeholders other than customers, buyers and consumers. This research contributes to both the existent area of research on corporate social responsibility communication (CSRC) as well as interaction processes (IP). CSRC has contributed to the understanding of relationships through communication under CSR and the IP within the IMP approach have contributed to the understanding of the business relationship development (Håkansson et al., 1982; Håkansson & Snehota, 2006).

There is little research on CSR communication which includes the perspective of organisational audiences, i.e., not much is known about CSRC of stakeholders, such as NGOs, communities or employees. Moreover, the existing literature misinterprets and misunderstands the complex processes of interaction and negotiation between business and its stakeholders (Brennan et al, 2013). Thus, CSRC research becomes critical in order to disentangle stakeholder relationships (Crane & Glozer, 2016).

The IMP Approach puts business relationships in the forefront (Esse, Szántó & Wimmer, 2012). Esse et al (2012) follow the idea that actors in a business network approach are wrongly reduced to companies, customers and suppliers whereas stakeholder network is

much larger, involving other actors (e.g. employees, local community, ONGs and local governments). Accordingly, under the lens of stakeholder perspective, IP should integrate non business stakeholders.

This research contributes to the current CSRC and IMP research by adding a deeper understanding of stakeholder relationships development. As referred, the mining sector urgently needs to change its performance, in order to get stakeholders approval and justify its existence.

The research problem of this thesis has been defined as "to understand the development of stakeholder relationships in the mining sector". Hence, based on this standpoint, research questions are formulated:

➢ How does the mining company develop its CSRC?
➢ How can the interaction processes among mining companies and key stakeholders, within the scope of CSRC, be characterized?
➢ What are the outcomes of the mutual influence of CSRC and IP within stakeholder relationships?
➢ What are the social and environmental effects resulting from the evolvement of the relationships between mining organizations and its key stakeholders?

The research problem presented is based on the assumption that stakeholder relationships management can be enhanced by developing these relationships through the combination of processes from CSRC and IP.

1.5   Methodology overview

The focus of this research is on the understanding of stakeholder relationships development in the context of the mining industry. From a social constructivist perspective, a qualitative approach is assumed to understand how the stakeholder relationships evolve over time, based on multiple case studies, which enables the study of contemporary phenomena in their real-life settings (Eisenhardt, 1989; Yin 1994). This perspective also enables the study of the dynamics of events that provide

multidimensional views (Easton, 1995; Eisenhardt 1989; Halinen and Törnros, 2005 in Bernardi, Boffi and Snehota, 2012).

The research was carried out as follows (Figure 1). First, a theoretical framework has been developed via conceptual analysis, using the existing literature and a preliminary knowledge of the context. Further, the constructs have been conceptualized in each of the dimensions of the framework at early stages. This helps to guide the research and as the study evolves, constructs will reveal themselves relevant and support the adequacy of the framework (Eisenhardt, 1989).

Second, the understanding of the Portuguese metal mining industry and mine brownfields redevelopment contexts, based on secondary data. Third, multiple case studies were conducted. Selection of cases was determined by the context – active metal underground mines in the IPB and relevant mine brownfield redevelopment, also in the IPB. On each case the key stakeholders have been identified, based on company information, either from interviews or from company reports. Cases selection was followed by within and cross case analysis. Fourth, the analysis led to conclusions and main implications.
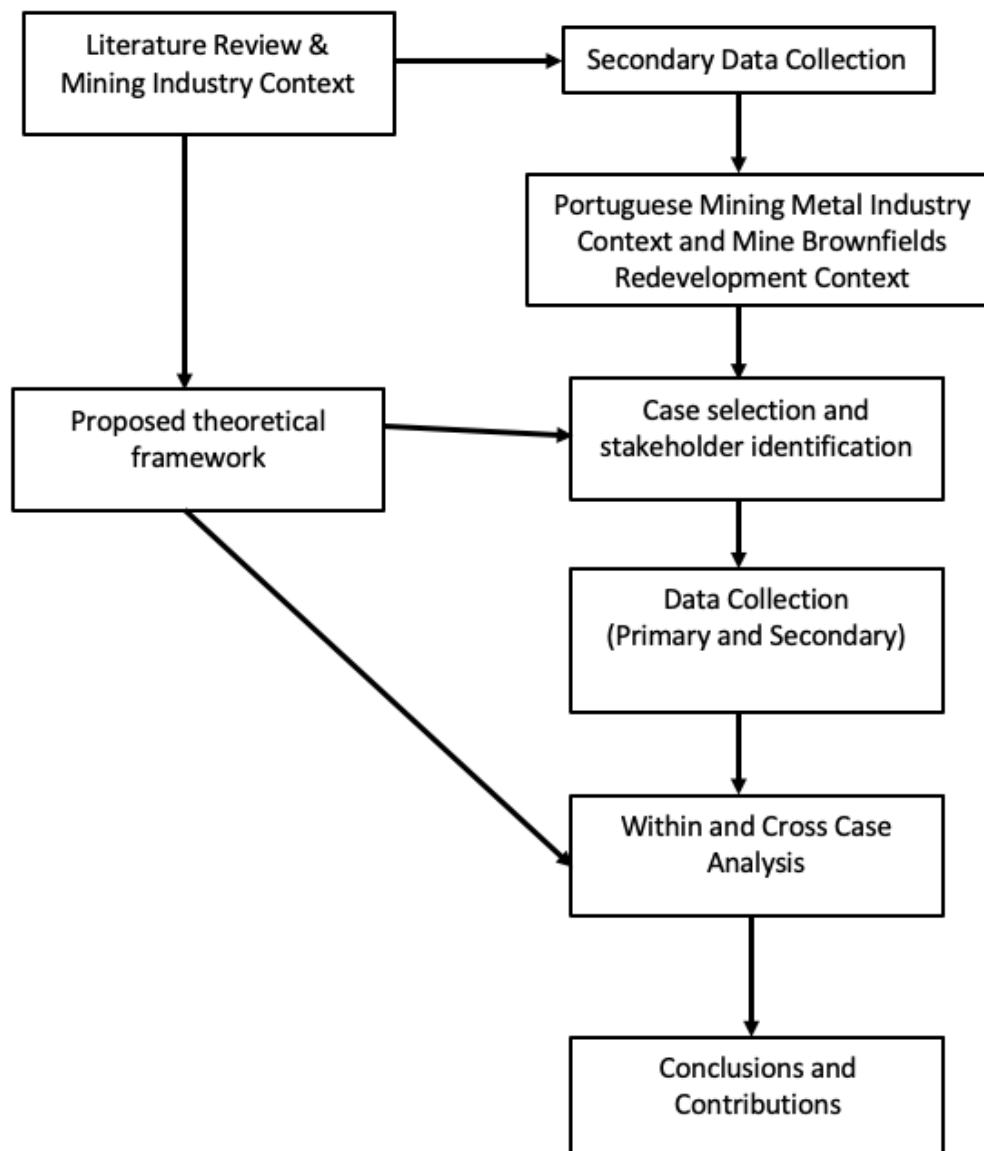
Figure 1 - Research overview

The present research seeks to describe a contemporaneous social phenomenon within its context. By employing a qualitative research it was possible to cope with a complex context, to contact with participants in their setting, to gather data on their perception and to seek for causal associations (cf. Guba & Lincoln, 1994; Gummesson, 2006; Miles, Huberman, & Saldaña, 2014).

1.6   Contributions

The contribution is the development of a framework appropriate for the understanding of the development of long-term relationships in the mining industry and a new theoretical approach tested.

Management in the mining sector may have a new approach that will improve their stakeholder management.

1.7   Structure of the Thesis

Chapter one describes the relevance of the research theme, the understanding of the development of relationships between companies and their key stakeholders. The problem and the questions that will be addressed throughout the thesis are presented. The current chapter also introduces the theoretical background, the empirical context and the research methodology.

Chapter two is dedicated to literature review, focussing mainly on CSRC and the IMP approach. Together with stakeholder theory, it provided both the theoretical bases that sustain the investigation theme, while supporting the formulation and the delimitation of the research. The literature review on the CSRC and IMP approach was major to consolidate research ideas, be aware of the state of the art and bring to the fore the limitations on the subject under study.

The primary focus is the stakeholder relationship development. At the end of chapter two the conceptual framework is presented, showing how the CSRC and IP processes work together to characterize the interactions between company and stakeholders and attain sustainable outcomes.

Chapter three holds ontological, epistemological and research strategy considerations. Further, it comprises descriptions of time horizons, sampling and data collection, as well as it depicts data analysis and research quality criteria.

Chapter four holds the empirical research. Hence, the empirical setting, i.e. the mining industry and the brownfields rehabilitation contexts (in particular the Portuguese context) is presented, followed by a description of the five main case studies, each one addressing the relationships between the company and their key stakeholders. Each case is portrayed considering the two main blocks of the conceptual model that address the stakeholder relationship.

Chapter five addresses the data analysis. It starts focusing on the level of embedded units of analysis i.e., the referred two building blocks of conceptual model that addresses the stakeholder relationship, followed by considerations on the stakeholder relationship development and the outcomes that lead to sustainable results.

In the last chapter, chapter six, both theoretical and managerial contributions are presented, together with the identification for future research.

2 Literature Review

This literature review addresses initially CSR and stakeholder theory as generic areas and focuses on CSRC. The core issues of purpose, strategies, processes and outcomes are reviewed. The IMP approach is presented, relationships are defined and the fundamental IP and its outcomes are outlined through reviewed studies. CSR in the mining sector becomes a block of literature review to outstand the relevance and urgency of studies in the chosen research setting.

2.1 Corporate Social Responsibility and Corporate Social Responsibility Communication

The concept of Corporate Social Responsibility began in the 1950s although business management performance on this matter traces back to the 1930s (Carroll, 1999). The initial definition of CSR referring to "the obligations of businessmen to follow the lines of action which are desirable in terms of values and objectives for our society" (Bowen, 1953, p.44) remained the core of the definitions that followed. Walton replaced "businessman" for "corporation" and argued "social responsibility recognizes the intimacy of the relationships between the corporation and society and realizes that such relationships must be kept in mind by top managers as the corporation and the related groups pursue their respective goals." (Walton, 1967, p.18).

In 1991 Carroll builds the Pyramid of Corporate Social Responsibilities: the socially responsible company must seek to make a profit, complying with the law, according to the principles of ethics and behaving like a good corporate citizen (Carroll, 1999). The three theories that contributed most to CSR in the 90s were the company's social performance, business ethics and stakeholder theory. In 2006, Alexander Dahlsrud dissected CSR concept by gathering CSR definitions from a literature review covering a time span from 1980 to 2003. Altogether, more than thirty definitions of CSR were found and analysed, and five dimensions were identified: environmental, social, economic, stakeholder and voluntariness.

Through the years, CSR concept has been strongly discussed, leading to different and more complete definitions but still difficult to implement and missing a widely accepted definition (Jamali, 2008). "The CSR definitions are describing a phenomenon but fail to present any guidance on how to manage the challenges within this phenomenon. Therefore, the challenge for business is not so much to define CSR, as it is to understand how CSR is socially constructed in a specific context and how to take this into account when business strategies are developed" (Dahlsrud, 2008, p. 6).

Stakeholder interaction seems to be a common link in many CSR approaches (e.g., European Commission, 2001; McBarnett, 2009; Gond, 2011) advocating management strategies should entail relationships development with all related actors (Savage, Nix, Whitehead & Blair, 1991). As stated by Du et al. (2010), CSR is increasing its influence in corporate management and became the main feature in the relationship between companies and stakeholders.

In 1984, based on the business ethics, a pillar of CSR that places stakeholder's wellbeing together profitability, Freeman wrote Strategic Management: A Stakeholder Approach and introduced the Stakeholder Theory (Morsing and Schultz, 2006). According to this author "a stakeholder in an organisation is any group or individual who can affect and be affected by the achievement of the organisation's objectives" (Freeman, 1984, p. 46).

Stakeholders are the societal entities to whom the organisation must be responsive to and therefore companies should consider in their CSR policy (Carroll, 1991). On revisiting and reviewing ST, Freeman et al (2010) stated that stakeholder relationships are strategic to deal with corporation challenges. Stakeholder engagement is crucial for companies pursuing sustainability goals (Schultz & Wehmeier, 2010) considering stakeholder participation is a determining factor in achieving social, economic and environmental development that lasts (Sardinha et al., 2013). The way stakeholders affect or are affected by the organisation characterizes the relation between these actors (Coombs & Holladay, 2012) and their relations are affected by the way stakeholders benefit from CSR initiatives (Du et al., 2010). Thus, stakeholder theory is crucial when studying the relationships between companies and their key stakeholders (Donaldson & Preston, 1995; Fassin, 2010).

To understand stakeholder relationships, a set of relationship characteristics have to be dealt with trust, commitment, communication, cooperation, and dependency (Palmatier, Dant & Grewal, 2007; Zaefarian et al, 2017). In order to achieve better results, short-term connections must be avoided. To have sound results, long-term relationships must be developed (Sonpar, 2011), these relationships being built according to stakeholders' legitimacy (Mitchell, Agle & Wood, 1997). A responsible organisation protects the interests of stakeholders, encompassing two issues: identification of legitimate stakeholders and management of stakeholders' demands (Greenwood, 2007).

Freeman (1984) designed a stakeholder model of the corporation where the organisation is at the centre, surrounded by the stakeholders' panel and, classified stakeholders into two categories: 'narrow' or 'broad'. The first includes those without whom the organisation will fail. The second encompass all that can affect or be affected by the organisation. Stakeholder theory has a lot of options to offer regarding stakeholders identification – "primary and secondary; owners and non-owners of the firm; owners of capital or owners of less tangible assets; actors or those acted upon; those existing in a voluntary or an involuntary relationship with the firm; right holders, contractors or moral claimants; resource providers to or dependents of the firm; risk-takers or influencers; and legal principles to whom agent-managers bear a fiduciary duty (Mitchell et al., 1997, p. 854).

Mitchell et al. (1997) argue that corporations have to prioritize among those stakeholders who are legitimate, those that hold more power and those that present more urgency. They concluded "power and urgency must be attended to if managers are to serve the legal and moral interests of legitimate stakeholders" (Mitchell et al., 1997, p.882). Moreover, they state that the dynamics underlying stakeholder relationships are complex and not easily untangled by current stakeholder frameworks.

By identifying stakeholders' profiles according to their position in favour or against the organisation, business management has the opportunity to manage these relations in order to go from less to more supportive stakeholders. Following this stream, Clarkson (1995) classified stakeholders according to their level of influence and distinguished primary from secondary stakeholders, the first being the group the company is more concerned about and the latter those that have a less direct influence on the business. In 2002 Kaler

argued that responsible management policy would be better designed if stakeholders are classified into two groups: claimant and influencer. The first "are high on attribute of legitimacy rather than power or urgency. In contrast, influencer stakeholders have the attribute of power and/or urgency rather than legitimacy" Greenwood (2007).

Theoretically, identifying legitimate stakeholders is crucial to any debate about the nature of relationships between organisations and stakeholders (e.g., Mitchell et al., 1997). In practice, identifying organisational stakeholders is an expeditious way to have an idea on the kind of relation between the company and its stakeholder (Miles & Friedman, 2003).

Managing stakeholders involves a cocktail of several components - communication, negotiation, contracting, managing relationships and motivating (Crane & Glozer, 2016). Hence, CSR communication, as a form of providing information and other forms of communication, (Crane & Livesey, 2003) can be considered a form of stakeholder management (Crane & Glozer, 2016).

Communication under the lens of stakeholder management has been crucial for CSRC development (Crane & Glozer, 2016), mainly as a route to disseminate values and beliefs inherent to company identity and enhancing the way the company addresses stakeholders' concerns and expectations (Schultz et al., 2013; Brennan et al., 2013). Stakeholders also have a perspective on CSRC, considering it a vehicle for responding to companies, stating their own values and beliefs and sharing their expectations and understanding (Brennan et al., 2013). In fact, CSRC is built on a dynamic interaction process (Thøger Christensen & Cheney, 2011), where companies and stakeholders are actors in a two-way communication entailing involvement and dialogue, in order to create, recreate and share meaning (Papa, Daniels & Spiker, 2008; Rourke, 2015; Brennan et al., 2013), enabling the co-creation of company's identity (Chaudhri, 2016) and leveraging stakeholder relationships management (Thøger Christensen and Cheney, 2011; Coombs & Holladay, 2012; Brennan et al., 2013). In this kind of relationship there is mutual influence between companies and their stakeholders, and as a means for managing conflicts, most literature describes CSRC as a vehicle for companies influencing their stakeholders, managing relationships and attain legitimacy (Hooghiemstra, 2000; Van Riel & Fombrun, 2007; Brennan et al, 2013).

Communication models applied so far didn't prove effective and may play against the company if they lead to mistrust (Schultz & Wehemeir, 2010), compromising legitimacy and social license to operate. Therefore, it is important to look at corporate communication "as the management of all internal and external communications in an organization, in an integrated, synergic, coherent and consistent way that help to improve its reputation and manage the relationships with its stakeholders (Christensen, Morsing and Cheney, 2008 in Capriotti, 2011, p.359).

Until the 1970s, public relations were the core communication tactics used by practitioners with stakeholders. Yet, when more internal and external stakeholders demand more information from the companies, a new corporate communication function emerges (Cornelissen, 2014). "An important characteristic of the new function is that it focuses on the organisation as a whole and on the important task of how an organisation presents itself to all his key stakeholders." (Cornelissen, 2014, p.4). Overall, "corporate communication is a management function that offers a framework for the effective coordination of all internal and external communication with the overall purpose of establishing and maintaining favourable reputations with stakeholder groups upon which the organisation is dependent." "The general idea is that the sustainability and success of a company depends on how it is viewed by key stakeholders, and communication is a critical part of building, maintaining and protecting such reputations" (Cornelissen, 2014, p.5).

Based on an extensive literature review, Crane and Glozer (2016) structured CSRC purpose into stakeholder management, image enhancement, legitimacy and accountability, attitude and behavioural change, sensemaking, and identity and meaning creation, assuming the following considerations. Stakeholder management entails CSRC and, relations between the organisation and stakeholders encompass different types of communication; communication is the vehicle for building corporate image and enhance the company's reputation; corporate disclosure promotes company legitimacy; attitude and behavioural change are more related to marketing and meant to influence the consumer perception and will to purchase; sensemaking has to do with the influence of CSRC regarding the way actors (companies and stakeholders) make sense of each other

choices; the organization develops an internal identity through CSRC and for external purposes co-creates meaning and builds identity with stakeholders.

Based on engagement, sensemaking, identity and image, Crane and Glozer (2016) proposed a new framework for CSR communication (*Figure 2*): the "4Is", where CSR communication is seen as either drawing upon functionalist conceptions (reflecting reality) or drawing upon constitutive models (constructing reality). Thus the "4Is" receiving the following designations: CSR Integration, CSR Interpretation, CSR Identity, and CSR Image.
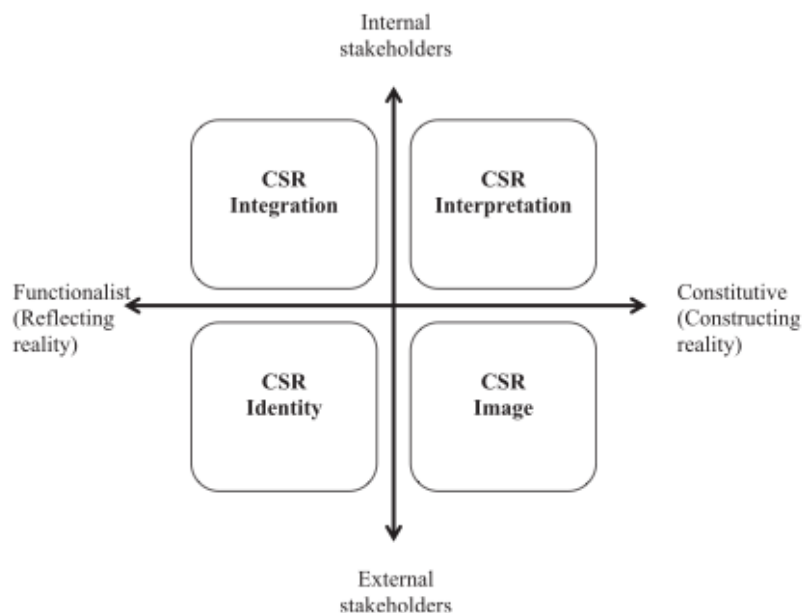
Figure 2 - The 4Is model of CSRC research (Crane & Glozer, 2016)

CSR Integration focuses on internal stakeholders and the purpose of CSRC is to engage employees by encouraging them to identify and commit themselves to the company's CSR policy. CSR Interpretation also focuses on internal stakeholders and its purpose is to construct CSR reality through sensemaking. In this sense, the authors encourage researchers to try innovative approaches by extending literature in new and interesting ways. CSR Identity presents a wide accepted concept of CSR communication literature,

by presenting the paradigm on how to best manage CSR communication and transmit corporate identity to external stakeholders in order to get legitimacy (Crane & Glozer, 2016).

External stakeholders are also the focus of CSR Image, this being regarded as not incontestable but opened to different realities built by the organisation and its stakeholders (Crane & Glozer, 2016). The company creates or co-creates its identity but it doesn't create one image corresponding to this identity, the corporate image being just one among many that are perceived by stakeholders (Crane & Glozer, 2016).

Moreover, it is of most relevance to understand if organisations just use CSRC to inform and respond to stakeholders or if they seek to engage them in order to co-create CSR identity (Crane & Glozer, 2016; Chaudri, 2016).

There is little research on CSR communication which includes the perspective of organisational audiences, i.e., not much is known about CSRC of stakeholders, such as NGOs, customers or employee. Moreover, the existing literature misinterprets and misunderstands the complex processes of interaction and negotiation between business and its stakeholders (Brennan et al, 2013). Therefore, CSRC research becomes critical in order to disentangle stakeholder relationships (Crane & Glozer, 2016).

Crane and Livesey (2003) enhance the importance of dialogue in stakeholders' communication. They conclude that: on one hand, one-way communication; information from the organisation to its stakeholders, is hard work and possibly misleading, given that the company communicates according to what it thinks might be the stakeholders' perspectives and expectations. On the other hand, although stakeholder theories drive organisations towards two-way communication, the pros of this model may also be obscured by its cons. They argue that dialogue with stakeholders must be very well managed, otherwise it may produce negative effects, namely distrust, bad company image, misinterpretation and even internal problems in the organisation.

However, the dialogical model has been defended by several authors (e.g., Grunig & Grunig, 2013; Cheney & Thøger Christensen, 2001; Crane and Livesey, 2003; Morsey and Schultz, 2006). Dialogue as a two-way symmetrical relation is a form of relationship

management (Gray, 1989), leading the way for organisations better fulfil stakeholders' expectations, still, it is a difficult task, requiring innovative approaches (Crane & Livesey, 2003). Embracing a social constructionist perspective, Cheney and Thøger Christensen (2001) and Winn (2001) state dialogue implicates stakeholders in the cocreation of meaning, this way untangling matters "in the context of collaborative problem solving" (Crane & Livesey, 2003, p.18).

"The way in which organisations communicate with their stakeholders through CSRC has become a subject of intense scrutiny" (Crane & Glozer, 2016, p.2). Disclosure on ethical and socially responsible business activities pleases stakeholders and improves company image but may not be enough. In order to assure that stakeholders understand the message right and don´t become suspicious, special attention must be paid to CSR communication strategies (Morsing & Schultz, 2006). The relationship between CSR disclosure and reputation works both ways, CSR disclosure influences stakeholders' perception on the company and this perception influence CSRC, either in the form of reporting or other (Perez & López, 2015).

"New communication technologies such as social media have further accentuated the dynamics of communication and the complexity for maintaining legitimacy. Interactive communication occurs at an unprecedented speed and geographical spread enabling publics to globally express their expectations toward corporations and ''crowding up'' large audiences within a few hours in a critical conversation about corporate legitimacy" (Schultz et al., 2013, p.681), playing for or against the company. According to Cornelissen (2014) blogging has the ability of engaging all stakeholders in online conversation, new personal connections arising, information spreads much faster, which is an advantage for the company if comments are favourable and able to improve the company image.

Based on characterization of models of public relations, Morsing and Schultz (2006) devised three types of stakeholder relations in terms of how companies strategically engage in CSRC and relate each one to the processes of sensegiving and sensemaking: the stakeholder information strategy where the company informs the stakeholder (one-way communication/sensegiving) about favourable corporate CSR decisions and tasks (e.g. sustainability reporting); the stakeholder response strategy where the company

demonstrates to stakeholders (two-way asymmetric communication/sensemaking followed by sensegiving) how the company integrates their concerns; and the stakeholder involvement strategy where the company actually builds relationships and establishes frequent, systematic and pro-active dialogue with stakeholders (two-way symmetric communication/sensemaking and sensemaking in both ways). The two first strategies, being one-way communication, may possibly lead managers to wrongly conclude that they control meanings and perceptions among stakeholders (Crane & Livesey, 2003). Stakeholders' roles are different in each process. When only information is considered, stakeholders may only support or oppose; on a response strategy, stakeholders react according to the organisation actions; involvement requires stakeholder engagement/participation and suggestions on corporate actions (Morsing & Schultz, 2006).

These strategies were built on Gioia and Chittipeddi's (1991, p.444) argument: "The essential processes used during a strategic change are involving processes of sensemaking and sensegiving, where the CEO and top management team first tried to figure out and ascribe meaning to strategy-relevant events, threats, opportunities, etc. and then to construct and disseminate a vision that stakeholders could be influenced to comprehend, accept, and act upon to initiate desire changes". The novelty was that Morsing and Schultz (2006) advocated external stakeholders, and not only corporate managers, should be engaged in sensemaking and sensegiving processes and contribute to CSR strategies.

Communication enhances stakeholder relationships and lead to better company results of trust and engagement (Schultz & Wehemeir, 2010; Capriotti, 2011) particularly when it evolves from traditional to interactive CSRC (Capriotti, 2011) within a context of consistency and transparency (Kim, 2017). Consistency under the lens of CSR is conceptualized as ''how steadily the company communicates its CSR goals'' (Kim & Ferguson 2016, p. 5). According to Basu and Palazzo (2008) there are two types of consistency: the consistency between an organization's overall strategy and its CSR activities and that within the varieties of CSR activities contemplated during any given period of time. Transparency is a process that enlightens why and how things happen, ensuring that companies and other entities act in an intelligibly way, and that stakeholders are entitled to ask them for information disclosure (Transparency International, 2018).

Kim and Fergunson (2016, p. 7) suggest a simpler definition, transparency is defined as ''openness of CSR information disclosure including both good and bad''. Still, these authors alert to the fact that if there are discrepancies between company's actions and communication, transparency becomes meaningless (Kim, 2017) and ambiguity is installed. Ambiguous communication may be strategic in complex sensegiving and sensemaking processes, where there are different levels of trust between the company and its stakeholders and CSRC strategy has to adequate to different stakeholders (Scandelius & Cohen, 2016).

The concept of sensemaking, introduced by Karl Weick in the 1970s, became widely defined as "a process that is (1) grounded in identity construction, (2) retrospective, (3) enactive of sensible environments, (4) social, (5) ongoing, (6) focused on and by extracted cues, and (7) driven by plausibility rather than accuracy" (Weick, 1995, p.17).

Basu and Palazzo (2008) defined three dimensions of the sensemaking process: (1) cognitive – the company thinks, chooses and decides what to do in order to have an influence on its relationships with stakeholders, based on company identity and aiming for legitimacy; (2) linguistic – the way the company justifies and communicates its choices with transparency and (3) conative – the company posture, its will to perform actions according to the aspects of commitment and consistency entailed in its choices.

Other approaches have been developed on CSRC. Drawing upon institutional, sensemaking and communication perspectives, Schultz and Wehmeier (2010) posit an iterative model where the meaning of CSR is negotiated by the different actors, based on their own value systems and constructions of reality. Cornelissen (2012, p.118) argued "Sensemaking refers to processes of meaning construction whereby people interpret events and issues within and outside of their organizations that are somehow surprising, complex, or confusing to them." Maitlis and Christianson, (2014, p. 57) advocated "Sensemaking is the process through which people work to understand issues or events that are novel, ambiguous, confusing, or in some other way violate expectations."

Organisations find it is important to publicly assume they are socially responsible (Capriotti, 2011). Once they do it, they open the door for stakeholders to ask for accountability (Schultz & Wehemeir, 2010).

The CSRC sensegiving and sensemaking processes that happen in stakeholder relationships that hold participation and involvement, can promote trust (Pomeroy & Douvere, 2008; Röckmann, 2015). Trust definitions within CSR and CSRC are not common. Carroll and Shabana (2010, p.101) quote Pivato, Misani & Tencati, (2008) on their definition of trust as a "mediating variable which shapes the relationship between CSR activities and firm performance". Du et al. (2010) regard trust as a communication outcome within their proposed communication framework.

Another outcome of the CSRC processes is legitimacy. Legitimacy has been introduced in social theory by Max Weber (1978) as "the belief in legality, the compliance with enactments which are formally correct and which have been made in the accustomed manner". However, the most widely quoted is that of Schuman (1995, p.574) "legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions".

Palazzo and Scherrer (2006) envisioned legitimacy as the main purpose of CSRC and the way to build legitimacy through CRSC is through the development of stakeholder relationships based on trust (Crane & Glozer, 2016). Legitimacy enables the company to operate in society (Carroll & Shabana, 2010), that is to say, once again together with trust, it provides the company a social licence to operate (Thomson & Joyce, 2008; Gillepsie, Bond, Downs & Staggs, 2016). This dependence is especially relevant for our study since social licence to operate is crucial to companies which operations create relevant socio-environmental impact, namely companies dealing with natural resource management and exploitation (Mercer-Mapstone, Rifkin, Louis & Moffat, 2018).

2.2 The IMP Approach and Interaction Processes

The interaction approach was born in the 1970s and soon gave birth to the IMP Group, a research project on "Industrial Marketing and Purchasing" involving European universities (IMP Group, 2017). Since the early days, its work has been recognized concerning interaction approach and relationship theory (e.g., Geersbro & Ritter, 2013).

The Interaction Approach "reflects a change from transactional perspective to a relationship-based perspective" (Baptista, 2013, p.969), as a theoretical framework to analyse business markets, where the relevance of understanding exchange transactions within enduring relationships is present.

Relationships are defined by Holmlund and Törnroos (1997, p. 304) as an "interdependent process of continuous interaction and exchange between at least two actors". Based on the former, Baptista (2013, p. 970) focuses on long-term relationships and defines them as "an independent process of interaction and exchange occurring between at least two parties that entails a medium- to long-term perspective and a mutuality of interest". Moreover, Ross Jr & Robertson (2007, p. 110) provide a more comprehensive and extensive definition as "a connection between two entities (entities can be organizations, people, societies, or even nation-states), such that the entities have explicit roles for which they are expected norms of behaviour".

Medlin (2004) also stresses that interaction is the essential analytical concept of the relationship and network perspective. In the latter, relationships can encompass interactions other than dyads, and their outcomes affect other actors that may or not be directly involved in those relationships, creating a network interaction, where indirect interaction effects prevail over direct interaction effects (Håkansson & Ford, 2016). In a holistic perspective, "business interaction is a process between two counterparts that occurs when each is interested in what their counterpart may offer for them" (Håkansson & Ford, 2016, p.154), evolving and broadcasting information when several actors are involved (Ford et al., 2008).

Furthermore, interaction is a developing process. As stated by Ford et al (2008, p.11) "The effects of interaction may be both immediate and long term and current interaction is affected by what has taken place previously and by the perceptions and expectations of future interaction held by the actors". Thus, the time dimension element is a relevant factor. Snehota and Abrahamsen also refer to this temporal dimension "Past and expected future interactions tend to bind selectively specific actors and create specific interdependencies" (Snehota, 2004, p.24) and "business interaction thereby involves the actions, reactions, and re-reactions of connected actors in an ever-changing dynamic process. This means that we also need to look at when the interaction occurs i.e., the

temporal dimensions (the past, the present, and the future) of interaction. The involved parties will have different goals and expectations regarding how their relationships should be developed as they have differing perceptions and understanding of their surrounding network" (Abrahamsen, 2016, p.2). Abrahamsen (2016) adds two other elements to IP, why and how. Why has to do with sensemaking, considering the involved parties make sense of why things happen in a specific way and why companies make specific choices. How is related to understanding how actors act within their relationships and how they manage them.

Within the IMP – Interaction Approach, business relationships are a locus of complex IP. It is accepted that relationships consist of interaction where, at least, two parties influence and are affected by each other (e.g., Canning & Hanmer-Llyod, 2002; Ford et al., 2008). This fact that relationships can be viewed as IP is early stressed by Håkansson, Johanson, and Wootz (1977). Hence, the IMP industrial network approach entail models that aim to develop the understanding of industrial business relationships, by focusing on the interaction between companies within their relationships (Perna, 2012). From this perspective, studying business relationships involves studying IP. Interaction presents characteristics such as exchange (Håkansson, 1982; Medlin, 2004; Ford et al, 2008; Baptista, 2013; Håkansson & Ford, 2016), adaptation (Håkansson & Snehota, 1995; Ford et al., 2008; Baptista, 2013; Johanson & Mattsson, 2015; Håkansson & Ford, 2016) and coordination (Ford & Håkansson, 2013).

The exchange processes are divided into exchange of resources and social resources exchange (Möller & Wilson, 1995). These processes entail "episodes", meaning actions performed by organizations or their representatives. In the basic interaction model (Håkansson, 1982), four exchange episodes are distinguished: product and/or service, information, financial, and social. Håkansson et al. (1982) characterized information exchange as involving distinct width and depth of technical, economic, or organizational issues, which can be performed by impersonal or personal communication in different formality degrees. Cunningham and Turbull (1982) stress that information exchange through key individual contacts reduces perceived risks between the parties. Duncan and Moriarty (1998) established a common link between marketing and communication theories, by pointing out that both theories consider exchange as a two-way

communication, even in situations where interaction between actors may not be notorious (Ford et al, 2008). According to Medlin (2004) a relationship entails exchanges that evolve according to what is happening at the moment, what took place in the past and what is foreseen will happen in the future. He also considers that this time element is relevant when studying the different types of interaction and the way they combine and affect relationships, therefore one having to be cautious when analysing information from sources that have different time sets of past, present and future (Medlin, 2004).

An interaction of exchange would evolve to adaptation when one or both actors are willing to strengthen the relationship and adapt by changing resources, activities and mutual dependence (Metcalf, Frear & Krishnan, 1992; Ford et al., 2008). In other words, adaptations refer to any relation specific changes or investments made by the parties involved. Adaptation is key in relationships (e.g., Hallén, Johanson & Seyde Mohamed, 1991) and this is established by several studies (e.g., Ford, 1980; Håkansson, 1982; Hallén et al, 1991; Metcalf et al., 1992; Brennan & Turnbull, 1999; Canning & Hanmer-Llyod, 2002; Brennan et al., 2003; Schurr, 2007; Silver & Vegholm, 2009). A wide-ranging study by Brennan et al. (2003) reviews categories of adaptations such as product specification, product design, manufacturing processes, planning, delivery procedure, stockholding, administrative procedures, and financial procedures. Further, two processes of adaptation are identified: information provision and organization structure. As in Hallen et al. (1991) adaptive behaviour occurs more when a high degree of reciprocity is present.

Relationships may also develop to the extent that both actors coordinate to achieve effectiveness (Baptista, 2013) and if adaptation and coordination are present, they lead to cooperation and counterparts work together to accomplish their respective or mutual goals and one cannot succeed without the other (Ford & Håkansson, 2013). Håkansson (1982) relates this to the degree of institutionalization of the business between the companies. Commonly, increased interaction leads to a formalization of rules and standard operating procedures. As stated by Ruekert and Walker Jr (1987, p.6) "The degree to which rules or standard operating procedures are used to govern the interaction between two individuals in different functional areas can be referred to as formalization".

Outcomes of IP

Commitment is an outcome, an indicator of relationship performance (Palmatier et al., 2007), and, together with trust and commitment, allow long-term relationships to evolve to partnerships (Håkansson & Ford, 2016). "Trust is confidence in an exchange partner's reliability and integrity" and "commitment is an enduring desire to maintain a valued relationship" (Palmatier et al, 2007, p.175). According to Ford et al (2008) the level of commitment between counterparts is directly proportional to the level of mutual dependence and strengthens the relationship.

Cooperation is the main issue in a duet, considering it entails two participants trying to achieve something and that one cannot succeed without the other (Håkansson, 2010; Håkansson and Ford, 2012). A long-term duet considers "the solutions sought by customer and supplier are likely to require substantial investments or adaptations to the resources of one or both of them; a long-term duet produces a direct effect on the way that the two parties design and develop their resources. This type of interaction will leave clear traces in the characteristics of the involved companies and form part of a long-term process of specialization and the development of specific interdependencies and unique relationships. Change may also be restricted to only one side of the dyad." (Håkansson & Ford, 2016).

Trust emerges in the development of a partnership where both actors are in such a close cooperation duet that they become mutual dependent (Webster, 1992; Håkansson & Ford, 2016).

2.3 Corporate social responsibility communication and Interaction Processes

Relationship is an interaction where actors mutually influence and affect each other (e.g., Canning & Hanmer-Llyod, 2002; Ford, Gadde, Håkansson, Snehota & Waluszewski, 2008). This definition also fits the concept of stakeholder

relationship, in a context where the stakeholder is one actor and the organization is the other actor.

CSRC is related to stakeholder relationships and so is the IMP approach, except for the latter has its main focus on business relationships. It is accepted that relationships consist of an interaction where, at least two parties influence, and are affected by each other (e.g., Canning & Hanmer-Llyod, 2002; Ford, Gadde, Håkansson, Snehota & Waluszewski, 2008). This definition also fits the concept of stakeholder relationship, in a context where the stakeholder is one actor and the organization is the other actor.

Albeit CSRC stakeholder strategies seem to imply that the company is the main actor of the relationship and IP consider actors as equal, the authors managed to find interconnectedness between CSRC strategies and IP processes. The CSRC stakeholder information strategy happens when the company merely informs the stakeholder. There is no dialogue, is a sensegiving process. Similarly, in the information exchange process the company informs the stakeholder and the stakeholder informs the company. Both processes are one-way communication. The stakeholder response strategy holds processes of sensemaking followed by sensegiving. The company seeks to demonstrate stakeholders their concerns matter. The company, based on stakeholder information, may adapt its decisions and activities in order to meet what the company thinks stakeholders' expectations are. The adaptation process also refers to adaptation in the sense that both actors wish to adapt one another. In the stakeholder involvement strategy, the company fosters stakeholder engagement to build a relationship and finally there is a two-way symmetric communication holding processes of sensegiving and sensemaking. In the corresponding process of IP, both actors coordinate to achieve effectiveness.

2.4 Corporate social responsibility in the Mining Sector

Mineral resources are key to sustainable development. According to EIT Raw Materials (2021) clean energies create an increasing dependency on mineral resources, forcing

Europe to rethink its responsibility and strategy towards sustainable supply of raw materials. Most of the supply of mineral resources comes from mining, a sector that leads the concerns list regarding sustainability and social responsibility (Jenkins & Yakovleva, 2006).

In the last twenty years, the mining sector has been involved in controversial social issues such as human rights, transparency, corruption, displacement and environmental damage among others, growing a bad reputation on environmental and social performance and being discredited by pressure groups (Jenkins & Yakovleva, 2006; Owen and Kemp, 2013, 2015; Abuya & Odongo, 2020). Bad reputation usually precedes an attempt to develop a new mining project, especially when opponent environmental and community pressure groups are involved, as are the cases of a uranium mine in Australia (Jenkins & Yakovleva, 2006) and oil exploration and lithium exploitation in Portugal[1].

More recently, governments and civil society have been paying more attention to mining impacts and sustainable development, putting pressure on mining companies to perform responsibly. Consequently, there has been a growing interest in creating guidelines (e.g. ICMM, 2003, 2008, 2019; European Commission, 2010) for mining companies that are willing to commit to a responsible mining policy (Corrigan, 2018) and therefore to contribute to a sustainable mine closure. Furthermore, the world has a huge problem to solve, the proliferation of brownfields related to old mining operations closure. Europe is a good example of a continent rich in several mineral commodities, where mining has been extensive to every country and where a large number of mine brownfields persist (Clark & Clark, 2005; Sardinha et al., 2013). Revitalization of these abandoned mine sites can be an opportunity to innovate and bring out solutions that benefit not only the local communities but the society at large (Turečková, Nevima, Duda & Tuleja 2021).

---

[1] An offshore oil exploration project, in the Algarve, has been stopped after a coalition of NGOs and citizens sent the case to court to challenge a claim that it would not impact the environment. (https://meta.eeb.org/2018/07/11/oil-exploration-in-portugal-halted-by-ngos/); The exploitation of lithium in Portugal has been systematically contested by the National Association for Nature Conservation, called Quercus (https://guerrillafoundation.org/grantee/anti-lithium-mining-in-portugal/) and demonstrators protested against lithium mines in downtown Lisbon on the 21st September 2019 (https://www.reuters.com/article/us-portugal-environment-lithium-insight-idUSKBN2080GV)

Mining is directly related to displacement, environmental and health impacts, violation of human rights, discrimination of vulnerable groups, lack of stakeholder inclusion, respect of indigenous populations and cultural desecration (Mancini & Sala, 2018; Abuya & Odongo, 2020). Yet, the local communities of underdeveloped regions with natural resource abundance, are usually attracted by the economic and social development that they expect to come along with a new mining project (Gardiner, 2017). Mancini and Sala (2018) consider not only the social and environmental negative side of mining, but also the positive contribution to local and global economy and society, essential to the success of many of the Sustainable Development Goals 2030.

Mining companies are recognizing that they are responsible to society and willing to embrace responsible mining to address social, economic and environmental impacts more effectively (Sonesson, Davidson and Sachs, 2016). However, mining companies, in particular multinational enterprises, consider CSR a means to get a social licence to operate (Yakovleva and Vazquez-Brust, 2018). These companies need to improve their image and CSR requires them to be transparent and disclosure information (Jenkins & Yakovleva, 2006), mitigate the negative impacts of their operations and increase the wellbeing of local communities (Campbell, 2012). On the other hand, CSR can also be misused by mining companies, in deceiving weak governments and fragile communities, where promises of better conditions are made but not kept (Abuya & Odongo, 2020).

In order to overcome corporate misbehaviours, committees and guidelines have been developed to commit companies (Abuya & Odongo, 2020) under the corporate social responsibility umbrella. The International Council on Mining and Metals (hereinafter referred to as ICMM), the Responsible Mining Foundation (hereinafter referred to as RFM) the Extractive Industries Transparency Initiative (hereinafter referred to as EITI) and United Nations agencies are the most referred (Abuya & Odongo, 2020). They all stand out the relevance of stakeholder engagement in every stage of the mine cycle in order to achieve responsible mining that contributes to sustainable development (Abuya & Odongo, 2020).

The Mining, Minerals and Sustainable Development (hereinafter referred to as MMSD) report has been published in 2002, showing a global mistrust in the mining industry and revealing a direct relation between the mining sector viability and social licence. However, this sector still does not have a sustainable development agenda to guide its activity and achieve legitimacy. The mining industry still has to overcome the issue of balancing business with society (Owen & Kemp, 2013).

Mining issues get bulkier when operating in developing countries. According to several scholars, some of these countries represent the definition of "resource curse", they are rich in resources and poor in economic growth (Sachs and Warner,1995; Atkinson & Hamilton, 2003, Mancini & Sala, 2018). Gardiner (2017) advocates that this "curse" could be defeated if governments with large mining profits would invest more in their mining communities and gave more power to local governments.

Also, in these countries, mining companies often have to relate with communities that rely on small-scale mining. Such a context may raise problems and conflicts between companies and artisanal mining rivals. Within CSR, mining companies are committed to a performance that goes further than acting according to the law (Abuya & Odongo, 2020). The partnership between compliance with the law and stakeholder strategy involving the informal miners, can be a better vehicle to achieve sustainable results (Yakovleva and Vazquez-Brust, 2018). This stakeholder engagement is in line towards what Gardiner (2017) stands for. This author states that CSRC would be a major contribute if mining companies developed capacity building programmes that where well perceived by the community. When communication is not effective, the sensegiving and sensemaking processes send messages of mistrust and deception and the community is not supportive. Using a stakeholder engagement strategy to involve the community in the CSR programmes, would facilitate their implementation (Abuya & Odongo, 2020) and would be key in achieving sustainable results (Schultz & Wehmeier, 2010; Sardinha et al., 2013). Moreover, in the post-closure stage, whether it is the implementation of a mine closure plan or a brownfield remediation, only through stakeholder involvement is possible to devise the future of the mine site (Meech et al., 2006).

Recently, there has been an urgent need to develop international CSR standards for mining companies, including the mechanisms to devise, implement and assess CSR activity according to local reality (Corrigan, 2018) and throughout all phases of the mine life cycle (Machanguana & Sardinha, 2021).

The mining activity holds several stages of mine development that together and sequentially define the mine life cycle. The mine life cycle has four initial stages: Exploration, Feasibility, Planning and Design, and Construction, followed by the boom phase: Operations, where there is full mine production and then the final stages: Decommissioning, Closure, Post-closure Monitoring and Maintenance (Government of Western Australia – Department of Mines and Petroleum, 2015). Presently, the mining companies' responsibility does not end when the mine closes.

Until recently, due to absence of laws and more permissive environmental regulations, the mine closed and the resource dependent community became very affected and socially and economically devastated (Gardiner, 2017). Active people left the towns near the mine site to look for another job, leaving behind old people and family that could not take with them (Gardiner, 2017). There was an induced displacement and gradually the mine site evolved to a brownfield, a contaminated and derelict land (Sardinha et al, 2013; Owen & Kemp, 2015).

Forty years ago, with the emergence of the sustainability debate, the revitalization of brownfields became an urgent issue to solve (Bleicher & Gross, 2010). Dealing with this problem requires decision support systems to assist in the brownfields redevelopment projects, to face the economic, social and environmental risks (Bleicher & Gross, 2010; Hammond et al, 2021).

2.5 Conceptual Framework

Morsing and Schultz (2006) considered stakeholder relations should be regarded in terms of how companies strategically engage in CSRC. Moreover, by developing long-term relationships with stakeholders, companies engage on more socially responsible and effective strategies. Thus, we find important to understand how these relationships develop, aiming to understand the interaction processes, in the relationship between organizations and their stakeholders, to develop CSRC. This will be done by addressing the research questions on how the company creates its identity, develops its CSRC, manages stakeholder relationship through the interaction processes and what are the outcomes of the mutual influence between CSRC and the IP within stakeholder relationships.

The instruments of IP regarding business relationships are brought into the universe of CSRC processes regarding stakeholder relationships. It is argued that, regarding stakeholder relationships management, CSRC theory and IP can have mutual benefits by using each other approaches. We propose a conceptual framework that enables analysing stakeholder relationships on the principal dimensions of sensegiving/sensemaking, consistency, transparency exchange, adaptation and coordination and the ascription or explanation of these dimensions by the actors involved.

The focus is on relationships between the company and its external stakeholders, under the umbrella of CSR Identity as a mean to best manage CSRC and transmit corporate identity (values and beliefs) to external stakeholders (Crane & Glozer, 2016; Chaudri, 2016). The purpose of CSRC is to "articulate company's values and beliefs to demonstrate that stakeholder expectations and demands have been met and concerns have been addressed and to report social and environmental performance. For stakeholders, CSR communications serve as a medium for articulating values and beliefs, as a means of voicing their expectations, demands and concerns, and as a feedback mechanism on organisational outcomes" (Brennan et al., 2013, p. 667).

In order to assure that stakeholders make the right sense out of the message, companies must engage in strategic approaches on stakeholder relationships (Morsing & Schultz, 2006). The stakeholder's strategies entailing sensemaking and sensegiving processes (Morsing & Schultz, 2006) seem the most adequate: the stakeholder information strategy, the stakeholder response strategy and the stakeholder involvement strategy. The relationships between the company and its stakeholders will be studied based on the processes of sensegiving/sensemaking, consistency and transparency through the processes of exchange, adaptation and coordination involved. Outcomes of cooperation, commitment, trust and legitimacy are expected, enabling a better stakeholder long-term relationships management, leading to sustainable benefits consolidation. "Businesses cannot hope to enjoy concrete benefits from CSR unless they intelligently communicate to relevant stakeholders" (Maignan & Ferrell, 2004).

2.5.1   Conceptualization

In this section the constructs are conceptualized in each of the proposed dimensions of the framework and indicators are identified to detect the constructs in the relationship. Relevant studies are selected suited to the aim and research questions of this study. Tables are presented for each of these dimensions, specifying the conceptualization and potential operationalization. The stakeholder relationship is assumed to consist of "interactive, mutually engaged and responsive relationships that establish the context of doing business and create the groundwork for transparency and accountability" (Andriof et al., 2017, p. 19). This brings the notion of participation, dialogue and involvement to the centre of stakeholder theory" (Morsing & Schultz, 2006).

The CSRC dimension (Table 1) is studied through the main concepts of identity, purpose, and strategies. The seminal work by Crane and Glozer (2016) is a steppingstone for this study and proposed definitions are put forward in Table 1. Regarding CSR Identity, the focus in on external stakeholders and the emphasis on its key stakeholders (e.g., Cornelissen, 2014). The CSR strategies proposed by Morsing and Schultz (2006) are

chosen since they incorporate the processes of sensegiving and sensemaking within stakeholder relationship.

Table 1 - CSRC conceptualization

Dimension	Concept	Definition	Relevant studies	Indicators
Corporate Social Responsibility Communication	CSR Identity	Manage CSR communication and transmit corporate identity to external stakeholders. Inform and respond to stakeholders and engage them in order to co-create CSR identity.	Crane & Glozer (2016); Chaudri (2016)	Values and beliefs
	Purpose of CSRC	CSRC purpose comprehends stakeholder management, image enhancement, legitimacy and accountability, attitude and behavioural change, sensemaking, and identity and meaning creation. It is meant to effective coordinate all internal and external communication with the overall purpose of establishing and maintaining favourable reputations with stakeholder groups upon which the organisation is dependent	Crane & Glozer (2016); Cornelissen (2014)	Communication of values and beliefs
	CSRC strategies	Stakeholder information strategy: the company informs the stakeholder (one-way communication) about favourable corporate CSR decisions and tasks	Morsing & Schultz (2006)	Favourable corporate CSR decisions and tasks
		Stakeholder response strategy: the company demonstrates to stakeholders (two-way asymmetric communication) how the company integrates their concerns		Demonstrate stakeholders how the company integrates their concerns
		Stakeholder involvement strategy: the company actually builds relationships and establishes frequent, systematic and pro-active dialogue with stakeholders (two-way symmetric communication)		Frequency of contacts and pro-active dialogue

Two dimensions are crucial to answer this study's aim: CSRC processes and the IP Our unit of analysis is the dyadic relationships between the companies and their external stakeholders. The IP are the instrument that allows to capture the CSRC processes regarding these relationships. The studies selected within CSRC processes are various (Table 2).

A context of consistency and transparency is key to achieve trust within interactive CSRC (e.g., Kim, 2017). We adopt Basu and Palazzo's (2008) consistency definition since it

covers the communication of CSR activities during a period and its fitness with the sensemaking processes. Transparency ensures that the company acts visibly and communicates their activities to the stakeholders, and these can hold the company to account (Transparency International, 2018). Thus, favourable and unfavourable actions are disclosed (Kim & Ferguson, 2016).

Sensegiving and sensemaking processes are essential within CSRC, since they are a common denominator in a multiplicity of studies (e.g., Gioia & Chittipeddi, 1991; Cornelissen, 2012; Maitlis & Christianson, 2014; Morsing & Schultz, 2006). The studies by Weick (1995) and Basu and Palazzo (2008) are used since the definition is grounded on the widely defined concept of sensemaking. Sensegiving is related to sensemaking, yet not as commonly conceptualized in the studies as sensemaking. Hence, we adopt a broad definition (not limited to the internal stakeholders of Gioia & Chittipeddi, 1991) that incorporates external stakeholders (Morsing & Schultz, 2006).

Table 2 - Consistency, Transparency and CSRC processes conceptualization

Dimension	Concept	Definition	Relevant studies	Indicators
Context	Consistency	Consistency between organization's overall strategy and its CSR activities; consistency within the varieties of CSR activities contemplated during any given period of time	Basu & Palazzo (2008)	Compliance with the organization identity; maintenance of coherent behaviour
	Transparency	Openness of CSR information disclosure including both good and bad	Kim and Ferguson (2016)	Clear or ambiguous information on positive and negative aspects
CSRC Processes	Sensemaking	Sensemaking is grounded in identity construction. The company thinks, chooses and decides what to do in order to have an influence on its relationships with stakeholders, based on company identity and aiming for legitimacy	Weick (1995); Basu and Palazzo (2008)	What the firm thinks, says, and tends to do in relation to others; how others make sense of the company identity and behaviour
	Sensegiving	Sensegiving is the dissemination of identity by the company to its stakeholders, with the intention of influencing the way stakeholders understand or make sense	Gioia & Chittipeddi (1991)	

The IP (Table 3) are commonly conceptualized through the processes of exchange, adaptation and coordination (e.g., Ford & Håkansson, 2013; Baptista, 2013; Håkansson & Ford, 2016). Exchange processes, within the scope of our study, focuses on information exchange i.e., directly related to CSRC communication issues. Håkansson's (1982) original study is selected as a basis since it maps the contact and dialogue between the company and its stakeholders. As stated by Duncan and Moriarty (1998), both marketing and communication theories, advocate exchange as a two-way communication. The adaptation processes are defined by Metcalf et al., 1992 and Ford et al., 2008 in a wide perspective. This perspective is adopted since it allows to capture the way companies' and stakeholders may mutually adapt. Coordination is regarded as the degree of institutionalization of the relationships established (e.g., Håkansson, 1982; Baptista, 2013) enabling to capture the more formal aspects of the relationship development

between the company and its stakeholders (e.g., contractual arrangements, protocols, agreements) within CSRC.

Table 3 - IP conceptualization

Dimension	Concept	Definition	Relevant studies	Indicators
Interaction Processes	Exchange/ Information exchange	Information exchange involves distinct width and depth of technical, economic, or organizational issues, which can be performed by impersonal or personal communication in different formality degrees	Håkansson et al. (1982)	Frequency of contacts between parties
	Adaptation	Both actors are willing to strengthen the relationship and adapt by changing resources, activities and mutual dependence	Metcalf et al. (1992); Ford et al. (2008)	Adapt by changing resources, activities and planning or scheduling systems
	Coordination	Both actors coordinate to achieve effectiveness	Baptista (2013)	Degree of institutionalization of the relationships

A main research question of this study relates to the outcomes (Table 4) of the mutual influence between CSRC and IP. Main concepts arise from both theoretical perspectives. As stated by Palmatier et al, (2007) to understand stakeholder relationships, a set of relationship characteristics have to be dealt with: trust, commitment, communication, cooperation, and dependency. Four concepts are selected within the scope of the study. Cooperation is conceptualized based on the IP perspective and related to the adaptation and coordination processes, in the sense of mutually achieved goals (Håkansson, 2010; Håkansson & Ford, 2016). Trust is present as an outcome throughout the studies reviewed. Morsing and Schultz (2006) argue that transparency in CSRC leads to trust, defined as a confidence in a partner´ reliability and integrity (Palmatier et al., 2007), fundamental to company / stakeholder relationships.

Commitment arises from the relationship perspective and focuses on its enduring purposes, i.e., aims at lasting relationships. Hence, the definition by Palmatier et al. (2007) is selected. Legitimacy, on the other hand, arises from CSRC literature. As mentioned earlier, most literature describes CSRC as a vehicle for companies influencing their stakeholders, managing relationships and attain legitimacy (Van Riel and Fombrun, 2007; Brennan et al., 2013). We adopt Suchman (1995)'s proposed broad-based definition supported on a comprehensive review on legitimacy studies.

Though CSR and CSRC use the term relationship frequently, enhancing the development of stakeholder relationships (Carroll & Shabana, 2010) and privileging dialogue (Crane & Glozer, 2016) they do not provide a clear definition of relationship. So, we chose one conceptualized within the IMP perspective and that suits our study from the perspective of a dyad involving company and stakeholder.

Table 4 - Outcomes conceptualization

Dimension	Concept	Definition	Relevant studies	Indicators
Outcomes	Legitimacy	A generalized perception that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions	Suchman (1995)	Social license to operate; ongoing acceptance the company performance
	Cooperation	Cooperation includes processes of coordination and adaptation, both participants try to achieve something and one cannot succeed without the other	Håkansson (2010); Ford & Håkansson (2012)	Goals achieved by both company and stakeholders when working together
	Commitment	"Commitment is an enduring desire to maintain a valued relationship"	Palmatier et al. (2007)	Relationship soundness
	Trust	"Trust is confidence in an exchange partner's reliability and integrity"	Palmatier et al. (2007)	Confident that the company does and will do the right thing; mutual trust

Stakeholder management conceptualization has been found within CSRC dynamic of sensemaking based on the renowned study by Brennan et al. (2013). Our ultimate aim is to achieve sustainable development through the involvement of stakeholders grounded on lasting relationships (Table 5).

Table 5 - Conceptualization of Stakeholder long-term relationships and social, economic and environmental benefits consolidation

Dimension	Concept	Definition	Relevant studies	Indicators
Stakeholder long-term relationships management	Long-term relationship	"An independent process of interaction and exchange occurring between at least two parties that entails a medium- to long-term perspective and a mutuality of interests"	Baptista (2013)	Long-term relationships
	Stakeholder management	Managing stakeholder relationships enables managers to create and share meaning with stakeholders, in the sense that communication entails involvement and dialogue	Papa et al. (2007); Brennan et al. (2013); Rourke (2015)	Stakeholder involvement
Social, economic and environmental benefits consolidation	Sustainable development	Stakeholder participation is a determining factor in achieving social, economic and environmental development that lasts	Sardinha et al. (2013)	Sustainable benefits

2.5.2 Operationalization

The operationalization the concepts will rely on the indicators to formulate potential questions that integrate an interview guide. Primary data is obtained from semi-structured and casual interviews and observation. The secondary data sources are corporate disclosure, sustainability reports, company website, company press releases, media and social media.

In order to understand how the company devises and develops its CSRC, we need to know the company identity, what is the purpose of having a CSRC, what CSRC strategies are adopted and how the company implements CSRC.

The company identity can be devised by the company values and beliefs. The purpose of CSRC is mainly to attain legitimacy through communication, thus the way the company communicates its identity is relevant. Lastly, the stakeholder communication strategy may take three forms: (1) the company only gives information on favourable SCR decisions and actions; (2) the company consults stakeholders and demonstrates how the company integrates stakeholders expectations and concerns and (3) the company involves

stakeholders and this engagement is pointed out by the frequency of contacts and pro-active dialogue between the company and its stakeholders (Table 6).

Table 6 - CSRC operationalization

Dimension/concept	Questions
CSR identity	What are the company mission and values?
Purpose of CSRC	Is the company communicating its identity to its stakeholders?
CSR Strategies	Which were the most favourable decisions the company had regarding CSR? How were they communicated?
	How does the company communicate to stakeholders that it is responding to their expectations?
	What type of corporate communication reflects the company attention to local concerns?
	How long has the company been dialoguing with stakeholders? How often does the company have meetings with stakeholders? What fundamental matters are discussed in those meetings?

As mentioned before, the processes of sensegiving and sensemaking implementation have better results within a context of consistency and transparency. In order to identify consistency we need to ask how frequently the company communicates its CSR activities, if the company has the same activity for a long period of time and/or if company actions are consistent with the company identity (Table 7).Transparency can be detected by the way the company justifies its choices without hiding information, if company reports cover positive and negative aspects of the company operation and if these reports clearly state the company values and corresponding targets. Thereupon, we look for information on sensemaking and sensegiving processes through more complex questions such as: Does the company decide its values in order to get legitimacy? What is the company CSRC strategy to achieve sustainable results? Does the company communicate its CSR actions relating them to its identity? Does the company communicate with transparency? If the fact that company choices/actions comply with the company identity is enough for its choices and actions to make sense.

Table 7 - Consistency, transparency and CSRC processes operationalization

Dimension/ concept	Questions
CSRC/ Consistency	How regularly/frequently does the company communicate its CSR activities? Does the company keep having the same type of CSR activities for a long period of time? Are company actions consistent with its values and beliefs?
CSRC/Transparency	Does the company communicate and justify its choices/actions with transparency? Does it tell the whole story? Do company reports: a) cover positive as well as negative aspects of the company's operations? b) show the company's acceptance of its responsibility by clearly stating values and corresponding targets?
CSRC processes/ sensemaking and sensegiving	Does the company decide its values in order to get approval and legitimacy from stakeholders? What is the company CSR communication strategy to achieve sustainability objectives? Does the company communicate its CSR actions relating them to its identity? Does the company justify and communicates its choices/actions with transparency? Does the company actions make sense by complying with its identity?

In the operationalization of IP we look for processes of information exchange, adaptation and coordination (Table 8). The information exchange process can be identified through how often does the company have meetings with stakeholders and what matters are discussed in those meetings. The process of adaptation focuses on resources made available to stakeholders and planning adaptations to fit stakeholders' expectations. Coordination processes can be detected by contracts, written agreements, and if the company cooperates with its stakeholders in research and development projects.

Table 8 - IP operationalization

Dimension/concept	Questions
IP/Information exchange	How often does the company have meetings with stakeholders? What fundamental matters are discussed in those meetings?
IP/Adaptations	What resources does the company provide to/make available for stakeholders?
	What activities and planning or scheduling systems does the company adapt to stakeholders' expectations?
IP/Coordination	What are the contractual arrangements/ protocols/ technical cooperation/ agreements between company and stakeholders?
	What is the degree of formalization in the relationship? Is it usually necessary to put things down in writing?
	Is the company cooperating in R&D projects?

Once characterized the CSRC processes and the IP, we aim to find its outcomes of legitimacy, cooperation, commitment and trust, the last being a shared outcome (Table 9). For legitimacy we have to figure out to what extent stakeholders accept the way the company performs and if the company receives positive feedback from media and social media. Cooperation is related to goals achieved together. Commitment has to do relationship age, willingness to continue the relationship, events that strengthened and events that weakened the relationship, ties difficult to break, issues hard to solve and how a breakup would affect the stakeholders. Trying to identify trust leads to very direct questions: Do stakeholders trust the company? In what issues do stakeholders have confidence in the company? Is the company fair during negotiations? Does the company honours agreements?

Table 9 - Outcomes operationalization

Dimension/concept	Questions
Outcome/ Legitimacy	Does the company receive positive feedback from media and social media? Do stakeholders accept the way the company performs?
Outcome/ Cooperation	What goals have been achieved due to cooperation between company and stakeholders?
Outcome/ Commitment	How long has the relationship been going on? Are stakeholders willing to continue the relationship? What critical events lead to the strengthening/weakening of the relationship? Do stakeholders consider there are ties difficult to break? Do stakeholders think there are problematic issues difficult to solve? If the relationship terminated, how would stakeholders be affected?
Outcome/ Trust	Do stakeholders trust the company? In which issues do stakeholders have confidence in the company? Is the company fair during negotiations? Does the company honours agreements?

Lastly, we need to find if the stakeholder relationships management has evolved to a stakeholder long-term relationships management that has led to sustainable outcomes (Table 10). Some questions are similar to those of commitment: the age of the relationship, how long would the stakeholder like the relationship to last, if the company considers the stakeholder interests. Others are similar to CSRC strategies: the company only exchanges information, the company consults stakeholders, the company involves stakeholders. Sustainable outcomes are identified through the social, economic and environmental benefits that arise from the interaction company-stakeholder and which of those are long-term benefits.

Table 10 - Stakeholder long-term relationships and social, economic and environmental benefits consolidation operationalisation

Dimension/concept	Questions
Stakeholder long-term relationships management	How old is the relationship? How long would the stakeholder like the relationship to last? Does the stakeholder believe the company considers his interests? How does the company/ stakeholder characterize the nature of the relationship? The company only exchanges information, the company consults, the company involves?
Social, economic and environmental benefits consolidation	What are the social, economic and environmental benefits that arise from the interaction company-stakeholder? Which of those benefits are long-term benefits?

Hence, based on these considerations, the following theoretical framework is presented (Figure 3) consisting in four dimensions: the "umbrella" of CSRC; the processes of CSRC; the IP; and the outcomes of its interconnectedness.
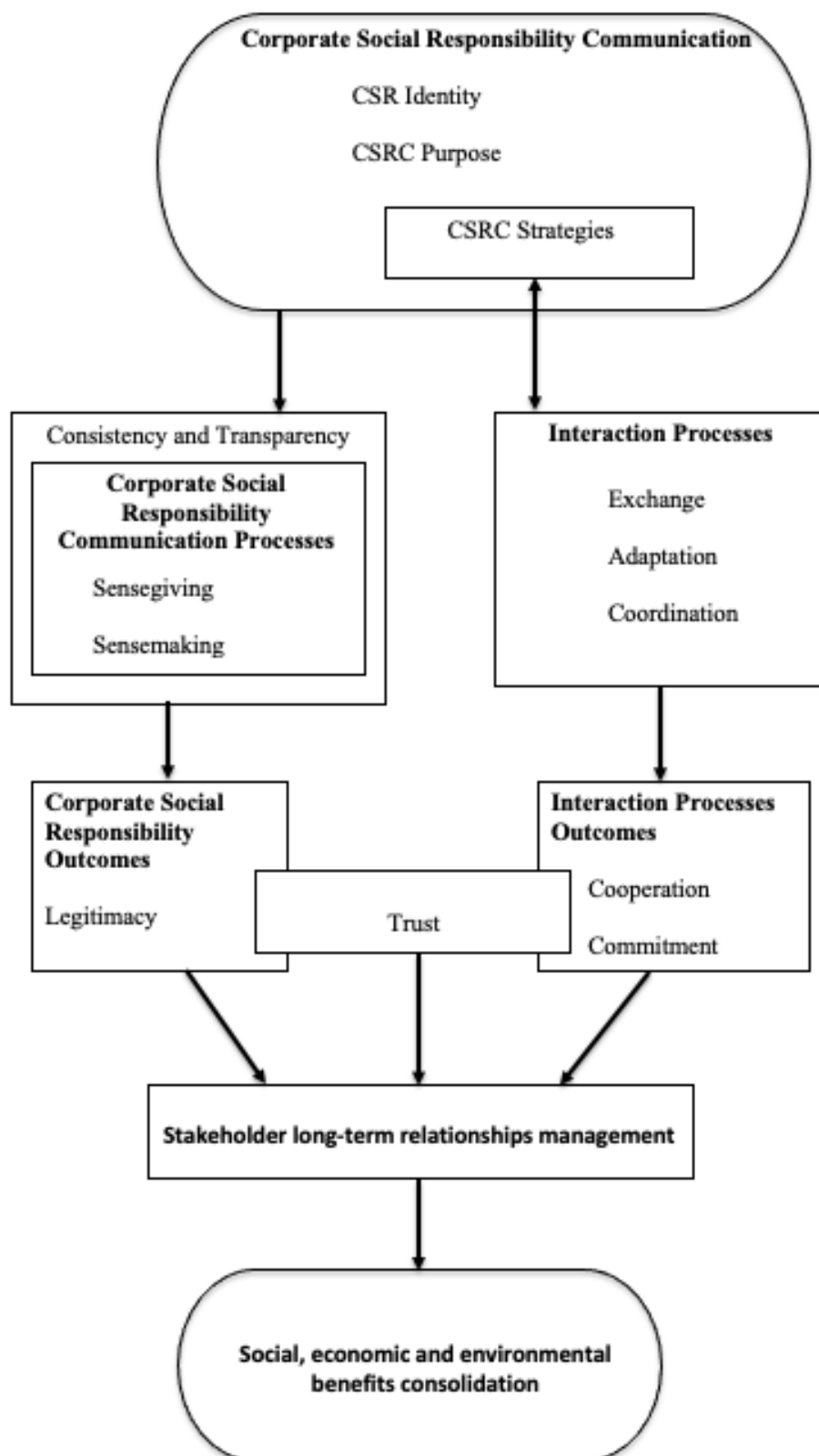
Figure 3 - Stakeholders Relationship Conceptual framework

3   Methodology

3.1   Research approach and strategy

A social constructivist perspective is assumed, to understand how the stakeholder relationships evolve over time we assume a qualitative approach based on multiple case studies, that allows the investigation of contemporary phenomena in their real-life settings (Eisenhardt, 1989; Yin 2009) and the study of events dynamics that provide multidimensional views (Easton, 1995; Eisenhardt 1989; Halinen and Törnros, 2005 in Bernardi, Boffi & Snehota, 2012, p.71).

Case study strategy is adopted considering case study defined as "an empirical enquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident" (Yin, 2009, p. 18).

Halinen & Törnroos (2005) also refer that case strategy is an intensive study of one case or of a small number of cases that captures the dynamics of the studied phenomenon through the use of multiple sources of evidence. They capture and trace the development of changes occurring in a phenomenon over time, provide a multidimensional view of a situation in a specific context and enable the researcher with the capability to capture the complex pattern of links between different actors in a network (Halinen & Törnroos, 2005; Järvensivu & Törnroos, 2010; Tidström, 2014).

Case study research provides rich, solid descriptions of a contemporary phenomenon understood through the perceptions' and/or meanings that social actors attribute to that same phenomenon under study, providing findings which are holistic and lifelike. Hence, as a research endeavour, the case study contributes uniquely to our knowledge of individual, organizational, social, and political phenomena and provide a deep understanding of the actors, interactions, sentiments, and behaviours occurring for a specific process through time.

The unit of analysis is the development of dyadic relationships between the organization and the key stakeholders. The conceptual framework identifies four main dimensions, i.e., our embedded units of analysis. Further, we view process as a "sequence of events that describes how things change over time" (Van de Ven, 1992, p. 169), and will combine real-time study and historical reconstruction of the relationships. Pre-understanding and prolonged involvement with the research setting facilitate the comprehension of "how and why things emerge, develop, grow, or terminate over time", i.e., the purpose of process studies (Langley, Smallman, Tsoukas & Van de Ven, 2013).

Frequently, multiple case study research is considered more robust and its evidence is more compelling than single case study design (Yin, 2009). For each case there is a replication logic in identifying the constructs that build the conceptual framework. Multiple case studies allow the confirmation or disconfirmation of the inferences drawn from previous cases (Bourgeois & Eisenhardt, 1988). According to several authors (e.g., Eisenhardt, 1989; Perry, 1998; Patton, 2002) the number of cases should assure a good coverage of the phenomenon under study, thus these sampling considerations are further presented.

In sum, all these considerations lead to the choice of a multiple case study research strategy with an embedded design (cf. Yin, 2009). Dynamic aspects of the development of the relationships between mining organizations and their key stakeholders are tackled through retrospective case history. Understanding the context and the events that give place to current events and activities is thus captured, with the entailed limitations that "time itself, sets a frame of reference which directly affects our perceptions of change" (Van de Ven, 1992, p.181).

3.2   Sampling and data collection

The sample is enclosed in mining activity and mine brownfield redevelopment located in Portuguese district of the Iberian Pyrite.

3.2.1 Empirical research features

The Iberian Pyrite Belt is one of the most outstanding European ore provinces and hosts one of the largest concentrations of massive sulphide deposits today, totalling 1,850 million metric tons in more than ninety deposits. It comprises a region between 30 and 60 km wide and 240 km long that stretches from the Sado River in Portugal to the Guadalquivir River in Spain and constitutes a decisive source of basic metals such copper, zinc, plumb, iron, tin, silver and gold among others (Oliveira et al., 2011; Silva, Matos, Oliveira, Veiga, Morais, Gonçalves & Albardeiro, 2020)

Relvas et al. (2012) draw a picture of the mines in the Iberian Pyrite Belt as always having had a huge positive social and economic impacts, increasing job opportunities for locals and leveraging local business and, on the other hand, causing negative safety and environmental impacts, due to poor working conditions and lousy waste management. The mines that have already closed, left nothing but brownfields. This abandonment arose severe social and environment risks that today imply high remediation costs for governments (Relvas et al, 2012).

The relevance in studying stakeholder relationships in mines located in the Iberian Pyrite Belt relays on the importance that present mining operations have in providing metals such as copper and iron, that are crucial for new low-carbon technologies required by climate change (Mining Journal, 2021).

Furthermore, the fact that the Iberian Pyrite Belts holds many mine brownfields, some already remediated or heading to it, but most of them still missing attention, makes it urgent to study how the revitalization processes are being developed within the perspective of stakeholder relationships.

Since organizational access can be an important constraint (Van de Ven, 1992), particularly in sensitive themes in industries that have a vast social and environmental impact such as mining, access is a core selection criterion for cases selection. As stated by Crane and Glozer (2016, p.19) "Firms are typically reluctant to open up to external researchers in this sensitive area, making extensive surveys, experiments or interviews difficult to realize". To tackle this problem, this research benefits from personal and

professional relationships in the mining industry, enabling the access to key organizations and pertinent interviews.

3.2.2 Sampling

The proposed sample is comprised of mining operations and brownfield redevelopment located in the Iberian Pyrite Belt. In this Mining Belt, there are several operating mines, as well as brownfields in different stages of redevelopment which constitute information-rich cases. In addition, this study's findings could be useful for future application in similar contexts.

The sampling encloses the study of operating mines and mine brownfield cases. Two cases regarding mines in operation – Aljustrel Mine and Neves Corvo Mine and three cases regarding brownfields – Lousal Mine, Aljustrel Mine (some areas have already been remediated) and São Domingos Mine.

In each sub-setting, several cases of relationships between the organisation and its key stakeholders are analysed. In addition, this study's findings could be useful for future application in similar contexts.

The number of relationships in each case was determined by key stakeholders identification and their availability. Identifying stakeholders has always been crucial to any debate about the nature of relationships between organisations and stakeholders (e.g., Mitchell et al., 1997). In practice, identifying organisational stakeholders is an expeditious way to have an idea on the kind of relation between the company and its stakeholder (Miles & Friedman, 2003).

In 1984, Freeman designed a stakeholder model of the corporation where the organisation is at the centre, surrounded by the stakeholders' panel and classified stakeholders into two categories: 'narrow' or 'broad'. The first include those without whom the organisation will fail. Preston (1990) calls them primary stakeholders and includes in this category shareholders and investors, employees, customers, suppliers, governments and communities. The second comprise all that can affect or be affected by the organisation and are considered as secondary stakeholders, a group that has the power to favour or destroy a company's reputation (e.g., media) (Preston, 1990).

Literature identifies key stakeholders in mining and brownfields redevelopment research such as: employees, local communities, local, regional and national governments, regulators, labour unions, educational organizations and other civic organizations, ONGs, shareholders and other advocacy groups (ICMM, 2012, 2019; Sardinha et al., 2013; Owen and Kemp, 2015; Gardiner, 2017; Corrigan, 2018; Tonin and Bonifaci, 2020).

The stakeholder identification of the present research not only implied literature review and documents analysis (e.g., sustainability reports) but also implied informal and semi-structured interviews that have taken place between 2018 and 2019. Informal interviews involved interviewees that had either a deep knowledge in the mining sector and its social performance or had some connection with the mine sites or the mining companies.

Most of key stakeholders have been directly identified by the companies, in a snowball sampling logic (e.g., Patton, 2002; Naderifar, 2017). Other stakeholders have been identified from company documentation, reports and websites. Thus, the key stakeholders groups participating are local governments, agency regulators, labour unions, educational organizations and ONGs. Though this study focuses on external key stakeholders, internal stakeholders have also contributed to data collection.

For each of the mine and mine brownfield sites, key stakeholders have been identified and the relationships within the five case studies totalize 19 relationships, 13 concerning mine sites and 6 regarding mine brownfields redevelopment. This number is expected to assure a good coverage of the phenomenon under study (e.g., Eisenhardt, 1989; Perry, 1998; Patton, 2002).

To sum up, the following Table 11 incorporates the sampling of the cases entailed in this research as well as the relationships studied:

Table 11 - Empirical realm - Portuguese sector of the Iberian Pyrite Belt

ACTIVE MINES	
Case (C) 1 – Neves Corvo Mine (SOMINCOR) & Key Stakeholders Relationships (R)	
C1R1	Relationship between SOMINCOR and Castro Verde City Council

C1R2	Relationship between SOMINCOR and Almodôvar City Council
C1R3	Relationship between SOMINCOR and Aljustrel City Council
C1R4	Relationship between SOMINCOR and Mértola City Council
C1R5	Relationship between SOMINCOR and Internal Stakeholder
C1R6	Relationship between SOMINCOR and STIM
C1R7	Relationship between SOMINCOR and DGEG
C1R8	Relationship between SOMINCOR and ALSUD
C1R9	Relationship between SOMINCOR and ATS
Case 2 – Aljustrel Mine (ALMINA) & Key Stakeholders	
C2R1	Relationship between ALMINA and Aljustrel City Council
C2R2	Relationship between ALMINA and Internal Stakeholder
C2R3	Relationship between ALMINA and STIM
C2R4	Relationship between ALMINA and DGEG
MINE BROWNFIELDS	
Case 3 - Lousal Mine Brownfield (EDM) & Key Stakeholders	
C3R1	Relationship between EDM and Grândola City Council
C3R2	Relationship between EDM and Lousal Live Science Centre
Case 4 - Aljustrel Mine Brownfield (EDM) & Key Stakeholders	
C4R1	Relationship between EDM and Aljustrel City Council
C4R2	Relationship between EDM and ALMINA
Case 5 – São Domingos Mine Brownfield (EDM) & Key Stakeholders	

C5R1	Relationship between EDM and Mértola City Council
C5R2	Relationship between EDM and Corte do Pinto Parish Council

3.2.3 Data collection

The data collection methods applied were documentation, interviews, and observation. Potter (2013) argues that these evidence-gathering methods are appropriate for a qualitative approach. Informal conversational interviews will be held with some stakeholders (Patton, 1990), however semi-structured interviews (Saunders, Lewis and Thornhill, 2016) are the main source for primary data. Interview guides were developed, based on the conceptual framework, which enables the respondents to express their views freely. Interviewing is "the technique of gathering data from humans by asking them questions and getting them to react verbally" (Potter, 1996, p.96). Qualitative approaches conducting case studies rely heavily on this technique (Yin, 2009; Marshall and Rossman, 1999).

Marshall and Rossman (1999, p.108) explain: "Typically, qualitative in-depth interviews are much more like conversations than formal events, with predetermined response categories. The researcher explores a few general topics to help uncover the participant's views but otherwise respects how the participant frames and structures the responses". This rationale was adopted and in-depth interviewing by means of the semi-structured interviews conducted. Personal interviews were also preferred to online interviews. By using personal interviews human interaction is present and probing is made possible, thus constituting the core of primary evidence in this research.

An extensive interview guide (see Appendix X) was developed based on the previously developed conceptual framework. Taylor-made adjustments were made according to the degree of knowledge of the key informants in the different subjects (dimensions of the conceptual framework).

Primary data has been collected from informal (more than 20) (Table 12) and semi-structured interviews (Table 13).

Table 12 – Informal interviews with experts and relevant informants

Expertise area	Position
Environmental and social management in brownfield redevelopment	Senior Consultant Environmental engineer
Social performance and communication	Consultant
Mining social performance	Consultants; mine managers; CEOs; lawyers
Regulators	Mining engineers; lawyers

Table 13 - Semi-structured interviews with stakeholders

No.	Date	Duration	Stakeholder
1	14-05-2018	03:00:23	EDM
2	12-03-2019	02:30:53	Aljustrel City Council
3	25-03-2019	30:51:00	Grândola City Council
4	02-04-2019	01:02:38	ALMINA
5	12-04-2019	26:90:00	Almodôvar City Council
6	16-04-2019	01:24:40	DGEG
7	17-04-2019	email	ALMINA employee
8	30-04-2019	52:13:00	Castro Verde City Council
9	14-05-2019	17:31:00	ALSUD
10	14-05-2019	28:41:00	ATS

11	14-05-2019	29:40:00	Mértola City Council
12	17-05-2019	16:46:00	Corte do Pinto Parish Council
13	17-05-2019	01:20:24	STIM
14	04-06-2019	email	SOMINCOR employee
15	19-06-2019	01:22:00	Centro de Ciência Viva do Lousal

Some of the interviewees have been asked information about more than one case study (Table 14).

Table 14 - Stakeholders and case studies

Stakeholder	Case study				
	Neves-Corvo Mine	Aljustrel Mine	Lousal Mine brownfield	Aljustrel Mine brownfield	São Domingos Mine brownfield
EDM			X	X	X
Aljustrel City Council	X	X		X	
Grândola City Council			X		
ALMINA		X		X	
Almodôvar City Council	X				
DGEG	X	X			

ALMINA employee		X			
Castro Verde City Council	X				
ALSUD	X				X
ATS	X				X
Mértola City Council	X				X
Corte do Pinto Parish Council					X
STIM	X	X			
SOMINCOR employee	X				
Centro de Ciência Viva do Lousal			X		

Non-participant observation has also been used in the visits to the mines as a complementary method of data collection. Direct observations can range from formal to casual data collection (cf., Yin, 1994). Content analysis will be implemented following Miles and Huberman (1994) using cross-case analysis logic.

3.2.4 Methodological constraints

Constraints found during the gathering of empirical evidence were few. Ease of access and preunderstanding, as mentioned previously, facilitated willingness and cooperation given by the study's key informants and respondents. Still, one constraint is identified in Case 1 (Neves Corvo mine) since personal interviewing with top management was not possible due to internal changes. Nevertheless, the disclosure policy of this mining company allowed collecting information on the relevant dimensions of this study.

3.3 Data Analysis

Given the nature of the study and the qualitative data accumulated, content analysis was implemented following Miles and Huberman (1994) within and cross-case analysis logic.

According to Eisenhardt (1989), within-case analysis is relevant for case studies, generally involving a clear portrait for each situation and allowing a more accurate analysis process. Miles et al. (2014) posit that the researcher, through within-case, analyses, describes, understands and explains what has happened in one single case study. Describing and interpreting data constitutes a large part of many case studies (Stake, 2005).

Regarding cross-case analysis, Miles et al. (2014) advocate that two distinct approaches may happen: case-oriented and variable-oriented. Case-oriented approach considers the case as a whole entity and leads to more general explanations. Variable-oriented approach is conceptual and theory centred, with the variables, rather than the whole case being compared. In this research, the latter is adopted.

To move from data collection to findings, the following reasoning was conducted:

(1) Interviews were transcribed verbatim;
(2) Data was organized according to the dimensions of the conceptual framework in each case;
(3) Empirical evidence from each of the five cases is analysed utilizing the model as a basis (within-case analysis, Miles & Huberman, 1994) at each embedded unit of analysis level. This follows what has been proposed by Yin (2009, p.120) when

affirming that "the appropriate analysis of the embedded unit of analysis should first be conducted *within each case*".

(4) Results from the five cases are compared against each other (Cross-case analysis) at three levels: (a) case comparison of active mines; (b) case comparison of mine brownfields redevelopment;

(5) Interpretative analysis of the analytical results of the previously conducted cross-case analysis between active mines and mine brownfields redevelopment.

3.4 Research Quality Criteria

Regarding qualitative studies, there is no sole agreed-upon set of standards for judging the quality of research. As mentioned by Potter (1996), there is a variety of thinking about standards or quality criteria applied to qualitative research. Since a case study research strategy grounded in Yin (2009) is adopted, the quality criteria proposed by this scholar is discussed (Table 15).

Table 15 - Quality Criteria in Qualitative Research (Yin, 1994)

Construct validity	Establishing correct operational measures for the concepts being studied
Internal validity	(For explanatory or causal studies); establishing causal relationships
External Validity	Establishing the domain to which a study's findings can be generalized
Reliability	Demonstrating that the operations of a study – such as the data collection procedures can be repeated, with the same results

Construct validity was assured by triangulation i.e., converging lines of evidence were attained (Yin, 2009). This means that data collection was obtained through multiple sources (relevant documentation, archival records, informal interviews, semi-structured interviews, non-participant observation). Further, a chain of evidence was maintained by using the conceptual framework to guide data collection, presentation of findings and data analysis. The ease of access and the preunderstanding of the conducted research highly contributed to its credibility (as stressed by e.g., Carlson, 1983 and Gummesson, 1988).

Regarding external validity, generalizability is not the aim of this research. Still, this study's findings can provide insights which could be further investigated in other settings. Firestone (1993) refers to analytical transferability, while Miles and Huberman (1994) call it theory-connected transferability.

Reliability was assured through case protocols, the development of an extensive interview guide, a transparent and repeatable methodology. Outlining all procedures for data collection and analysis (and subsequent interpretations) were carefully taken into consideration.

To finalize, since the researcher itself is an instrument in qualitative studies, biases can be present to a certain extent. Yet, by assuring validity and reliability as discussed this was minimized.

4 Empirical Research

Data analysis starts in this chapter with a description of both the empirical setting and the individual case studies. This chapter is structured in two main sections. The first section focuses on the metal mining industry and the brownfield redevelopment. The second section holds five case studies that focus on relationships between companies and their key stakeholders. Each of these cases includes the context, CRCS and interaction processes and outcomes of the focal stakeholder relationship.

4.1 Empirical Setting

4.1   Empirical Setting

The setting of this study is the Portuguese sector of the Iberian Pyrite Belt (hereinafter referred to as IPB).   This setting is selected due to its relevance in the regional development and also there is no empirical research on stakeholder relationships within CSRC.

This section comprises an overview of the Portuguese mining industry and brownfields rehabilitation in that geographical area.

4.1.1   Mining in the Portuguese sector of the Iberian Pyrite Belt

The Portuguese law no. 30/2021 considers mineral deposits as part of the State public and determines that mineral exploitation is of public interest and therefore must follow specific rules.

Portugal holds a wide variety of mineral resources and some may have potential to present large metal reserves, as is the case of the IPB ore deposits (LNEG, 2020)

The IPB is being explored for more than 5000 years (Oliveira et al., 2020) and yet it still remains one of the most important metal reserves in the world (Relvas et al., 2021). Curiously, it was only since 1977 that it became more noticed, when the Portuguese Neves-Corvo mine ore deposit was discovered (Barriga et al, 1997). In 1996, the active

mines in the IPB represented more than 75% of the total Portuguese mining activity in the metal mining sector (Rodriguez (1996).

The mining activity of the Portuguese sector of the IPB is confined to two mines: the Aljustrel mine next to the Aljustrel village and the Neves-Corvo mine near the villages of Castro Verde and Almodôvar.

Vipasca was the name given to the Aljustrel mine when it started exploitation back in Roman times. From 1850 to 1980 it exploited pyrite. In the early 90's began the copper exploitation. Presently the mine is developing copper and zinc projects (Oliveira et al., 2020).

4.1.2   Brownfield rehabilitation in the Portuguese sector of the Iberian Pyrite Belt

The Portuguese law no.198-A/2001 determined that EXMIN, an environmental and mining services company owned by EDM – Empresa de Desenvolvimento Mineiro, S.A., a holding representing the State interests in the Portuguese mining sector, would be responsible for the environmental remediation of mine brownfields. Until September 2011, 175 Portuguese abandoned mining areas have been listed, 61 of which are of radioactive minerals and 114 used to exploit metallic sulphides. About 20% of the last are in the IPB (EDM, 2011).

The very ancient mining activity in the IPB led to mine brownfields with severe environmental issues resulting from mine waste and acid mine drainage (Santos et al., 2017). In the Portuguese district of the IPB there are two well-known mine brownfield rehabilitation, Lousal and São Domingos mines. In Aljustrel, though the mine is still active, there are already areas – Algares and that have been remediated and revitalized (Relvas et al, 2012).

The Lousal mine was an important mineral exploitation in the IPB that was active between 1900 to 1988. The mine site has been environmentally remediated and it now holds a science centre, that promotes the geological and mining heritage and is a destination for nature, culture and patrimony tourism. (Relvas et al, 2012).

The Aljustrel mining area, also located in the IPB, comprises high environmental risk due to the acid mine drainage affected waters and large of tailings deposit. The environmental remediation has been carried out between 2001 and 2015 focusing on the mining affected areas prior to 1990 (Matos and Martins, 2006). The mining activities did not occur for a long time and restarted in 2008 (Luís et al., 2018).

Located in the northern sector of the IPB, the São Domingos mine was active between 1857 and 1966 (Guimarães and Cebada, 2016). The environmental rehabilitation of the affected areas has been going on since 2016.

4.2   Case Studies

4.2.1   Neves Corvo Mine: Somincor & Key Stakeholders Relationships

Neves-Corvo mine is located in the Alentejo district of southern Portugal, the operation being situated approximately 220 km southeast of Lisbon. This mine consists of five massive sulphide orebodies: Neves, Corvo, Graça, Zambujal and Lombador. Mine copper production began in 1989, tin production in 1990 and zinc production in 2006 (SOMINCOR, 2019). Concentrates are stored and expedited at a facility near the port of Setúbal.

In 1977, the Neves-Corvo massive sulphide deposit was discovered on the western edge of the Iberian Pyrite Belt. After this discovery, SOMINCOR was formed on the 24th of July 1980 and got hold of the concession for the Neves-Corvo mine. 51% of the company was owned by the Portuguese State (EDM) and 49% belonged to a French group, Peñarroya and BRGM – Bureau de Recherche Geologiques et Minières. In 1985 the French group sold their share to a large mining group, Rio Tinto.

In June 2004, SOMINCOR was acquired by Eurozinc Mining Corporation. In 2006 Lundin Mining Corporation[2] merged with Eurozinc Mining Corporation (Lundin Mining,

---

[2] Lundin Mining was founded in 1993. Lundin Mining's registered share capital as at December 31, 2004, amounted to CAD 206,220,120. It holds operations in several countries - Brazil, Chile, Portugal, Sweden and USA (Somincor, 2019).

2017). SOMINCOR is now fully incorporated into the Lundin Mining Group (SOMINCOR, 2017).

LM reports between 2004 and 2019, as well as other secondary data sources, have been analysed, in order to identify key stakeholders and information that would fit the questions placed in the operationalization tables.

From 2004 to 2008, LM published Annual Reports that mainly focused on investors. In 2009 LM started publishing Sustainability Reports (SR) as separate reports from the financial Annual Filings (AF) reports.

The 2007 AF report already mentioned local, regional and federal stakeholders and the 2008 AF report mentioned the relevance of including external stakeholders in the mine closure plans. The first sustainability report included a dedicated chapter to social responsibility with an introduction to stakeholder engagement and identified key stakeholder groups: employees and contractors, governments, local communities, customers, labour unions, Non-Governmental Organizations (ONGs), shareholders and financial institutions.

These groups remained more or less the same, with some nuances in their designation till 2017 and since then local communities head the stakeholders engagement list.

The very same year, LM designed a responsible mining management system (Figure 4) that is mandatory to all mines, where definitions, guidelines and corporate audits protocols are reflected in the Responsible Mining Policy, Responsible Mining Management System Standard and Corporate Health, Safety, environment and Communities (HSEC) Standards and Procedures (Lundin Mining, 2017). Mine sites have to apply these standards and responsible policy to develop site specific HSEC processes, improvement plans, procedures and work instructions (Lundin Mining, 2017).
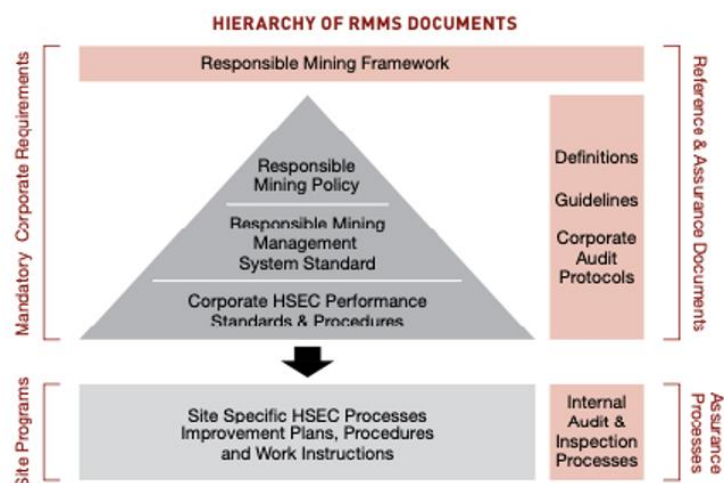
Figure 4 - Responsible Mining framework (source: LM Sustainability Report, 2017)

This mining activity influences five councils – Castro Verde, Almodôvar, Aljustrel, Ourique and Mértola.

This case study purpose is to understand the relationships between SOMINCOR and its key stakeholders. The study is mainly supported by semi-structured interviews and sustainability reports.

SOMINCOR was not available for interview, therefore inputs to operationalization tables on behalf of the company have been researched on SOMINCOR website, LinkedIn and Facebook and also on Lundin Mining Corporation sustainability reports (from 2004 to 2019) and website.

Being part of the Lundin Mining (LM) group compels SOMINCOR to commit to its policy and standards. SOMINCOR shares LM identity, where mission stands for "Responsibly mine base metals vital to society, creating meaningful value for our stakeholders", within values of "Safety, Respect, Integrity, Excellence" (LM, 2017; SOMINCOR, 2019). All the companies within the holding follow the principles of the Responsible Mining Policy (Figure 1): "(1) We are resolute in our effort to achieve Zero Harm and put the health and safety of our employees and contractors first and foremost in everything we do; (2) We are open to public scrutiny and conduct our business ethically. We empower our people to uphold our corporate values; (3) We are accountable

for meeting legal requirements and our commitments to stakeholders. (4) We promote environmental stewardship throughout the mining life cycle, emphasizing the conservation of land, air, water, biodiversity and energy resources; (5) We assess the risks and impacts of our activities and integrate these considerations into our planning, operating and business decisions; (6) We follow industry best practices in the design, safe operation and monitoring of facilities for managing water, tailings and other mineral wastes; (7) We proactively plan for mine closure based on science, environmental protection and long-term community interests; (8) We engage with our host communities to build trust-based relationships; (9) We encourage local hire and procurement, and work with our stakeholders to advance socioeconomic development in the regions where we operate; (10) We conduct our business in line with the United Nations Guiding Principles on Business and Human Rights; (11) We foster an inclusive and diverse workplace and do not tolerate harassment or discrimination; (12) We respect the rights, interests and traditions of Indigenous peoples where we operate; (13) We implement management systems, processes and training programs that support our commitment to responsible mining; (14) We expect our employees, suppliers, customers, contractors and business partners to adhere to the principles of this policy when operating on our sites or on our behalf; (15) We monitor, measure and publicly report our performance against internationally recognized reporting standards" (Lundin Mining, 2018, 2019, 2021).

Responsible Mining Policy

Lundin Mining's mission is to responsibly mine base metals vital to society while creating meaningful value for our stakeholders. Our approach to responsible mining integrates health, safety, environment and community (HSEC) into all aspects of our business. We aim to continually improve our HSEC performance through application of the following principles:

1. We are resolute in our effort to achieve Zero Harm and put the health and safety of our employees and contractors first and foremost in everything we do.
2. We are open to public scrutiny and conduct our business ethically. We empower our people to uphold our corporate values.
3. We are accountable for meeting legal requirements and our commitments to stakeholders.
4. We promote environmental stewardship throughout the mining life cycle, emphasizing the conservation of land, air, water, biodiversity and energy resources.
5. We assess the risks and impacts of our activities and integrate these considerations into our planning, operating and business decisions.
6. We follow industry best practices in the design, safe operation and monitoring of facilities for managing water, tailings and other mineral wastes.
7. We proactively plan for mine closure based on science, environmental protection and long-term community interests.
8. We engage with our host communities to build trust-based relationships.
9. We encourage local hire and procurement, and work with our stakeholders to advance socioeconomic development in the regions where we operate.
10. We conduct our business in line with the United Nations Guiding Principles on Business and Human Rights.
11. We foster an inclusive and diverse workplace and do not tolerate harassment or discrimination.
12. We respect the rights, interests and traditions of Indigenous peoples where we operate.
13. We implement management systems, processes and training programs that support our commitment to responsible mining.
14. We expect our employees, suppliers, customers, contractors and business partners to adhere to the principles of this policy when operating on our sites or on our behalf.
15. We monitor, measure and publicly report our performance against internationally recognized reporting standards.

October 2018

Marie Inkster
President and
CEO Director

Peter Jones
Chair, HSEC Committee
On behalf of the Board

Our Values
Safety   Respect   Integrity   Excellence

Figure 5 - Lundin Mining Responsible Mining Policy (source: Lundin Mining, 2021)

The company communicates its identity (values and beliefs) to its stakeholders on LM website, LM Sustainability Reports, in some locations at mine site, on meetings and in social media.

Company disclosure sustains that the most favourable decisions the company had regarding CSR were to increase the relevance of CSR within the company by changing the policy company to Responsible Mining Policy and to create the Social Investment Policy which allows to increase CSR investment and favour sustainable projects over ad-hoc supports.

The social impacts of this change, led to the following decisions and actions at Neves-Corvo project: "support programmes that focus on economic diversification through identifying opportunities; provide support for local business; provide support for promotion of entrepreneurship in local schools, install systems (seismographer) to address community concerns about blasting and monitor other mining related factors such as dust and noise" (Lundin Mining, 2019, p.59).

These decisions have been communicated on LM and Somincor websites and in LMC Sustainability Reports. They have also been published in company magazines.

Somincor communicates to stakeholders that they are responding to stakeholders' concerns on its Responsible Mining Policy, "3. We are accountable for meeting legal requirements and our commitments to stakeholders…7. We proactively plan for mine closure based on science, environmental protection and long-term community interests…12. We respect the rights, interests and traditions of Indigenous peoples where we operate" (LM, 2018).

The type of communication that reflects company's concerns are Responsible Mining Policy, Social Investment Policy, Somincor and LMC websites and LMC Sustainability Reports.

In this case study nine relationships have been analysed, involving key stakeholders such as employees, community representatives, labour union, regulatory authority and sustainable social projects partners (Table 16).

Key stakeholders identified and willing to contribute to this study were:

Table 16 - Neves-Corvo mine key stakeholders identified and available

1	Castro Verde City Council
2	Almodôvar City Council
3	Aljustrel City Council
4	Mértola City Council
5	Internal stakeholder
6	STIM – Mining Industry Workers Union
7	DGEG – Direção Geral de Energia e Geologia
8	ALSUD - Professional School
9	ATS – Syntropic Land Association

CSR identity, CSRC purpose, CSR strategy

Castro Verde City Council has a general idea of the company identity and is happy with the company new communication policy and CSR strategy, the "company has evolved towards disclosure" and "the dialogue has become deeper". New communication policy has broadened the spectrum of actors. There are individual meetings with each City Council and meetings that put together the five municipalities that the mine operation influences and other stakeholders. These are disclosure meetings that have the purpose to communicate the community about "detailed information on ongoing projects and areas of intervention" and also to address stakeholders' concerns. This is a relationship that has more than 30 years, since exploration activities started in the mining concession. The company has frequent meetings with Castro Verde City Council, according to needs. On those meetings they discuss "technical matters and also issues regarding the community".

The Almodôvar City Council knows the company values from meetings where the company "is keen to stress its policy regarding safety and society". The most relevant CSR actions are those on "safety and ensuring that workers' interests are fully safeguarded". These and other actions are communicated in regular meetings with Almodôvar City Council and in meetings extensive to community, "directly communicated to community…listen to the community on face-to-face

meetings…listening to the community and say what they were doing and what they were going to do…opinion makers from each community had the opportunity to listen to and question the company". This relationship is very old, about forty years, since the beginning of the mine. With this mayor about five years. Meetings are regular, "most of them are punctual, but they happen very regularly" where subjects such as "land management, construction projects, permits, safety at work…" are discussed.

Aljustrel City Council is not familiar with company values but the company has been promoting discussions around a new CSR model, "the model itself is being created. We have been invited to participate in some meetings where CSR priorities are defined". Aljustrel City Council praises the way the company is evolving on social matters and believes that is due to the major mining group that holds the company, "It was a good decision to have Lundin Foundation[3] as a partner… there were times when Somincor acted like an independent company but gradually we begin to notice the LMC effect – Canadian influence could be nothing but positive. It seems there is a new attitude towards social responsibility. This has been a good decision. There aren't any results yet. They are preparing a new intervention model on the community".

In order to communicate all these changes and intentions, the company promotes meetings, "there was a stakeholders' meeting and Lundin Foundation was also there, precisely on the CSR model evaluation…we started to have more frequent contacts with the board" The company has other strategies to communicate with stakeholders such as "Facebook, radio, workshops, I believe they also have a regular publication".

This relationship is rather old, about forty years. There are frequent meetings, "sometimes previously scheduled meetings, sometimes at request of the City Council, sometimes at request of the company". Mainly "we discuss social responsibility issues and we have

---

[3] The Lundin Foundation is a registered Canadian non-profit organization supported by the Lundin Group of Companies. They work closely with contributing partners to create shared value and build resilient communities everywhere they operate (https://www.lundinfoundation.org/).

been trying to raise their awareness about CSR having to be extensive to Aljustrel council".

The Mértola City Council is not familiar with the company responsible policy, though there have meetings about it, "we had our first meeting on SOMINCOR's social responsibility about two years ago". Meetings are the privileged mean of communication and where the company reveals its concerns regarding the future of the communities when the process of mine closure will arrive, "they have been talking about their intention in supporting the councils they impact, in a process of slowing down dependency on SOMINCOR when production will start to decrease or even if the mine closes".

Other ways of communicating the company actions are magazines "we have received a Lundin magazine once" and visits to mine site. These visits are usually included in "open day" visits, where "they invite partners, entities they are related to, the city councils, employees and then there is a visit program that includes a visit to some facilities, walking tours, cycling contests, lots of things" or dedicated visits for guest "last time I went to it took a whole day. The mayors were invited and we made a visit underground, 900 metres deep. We were about fifty people, several entities went underground".

The internal stakeholder is familiar with the company policy, "responsibly mine base metals vital to society, creating meaningful value for stakeholders, using the mining best practices, respecting the environment, safety, health and the community". The company communicates through "management meetings, newsletter, e-mails, document display, digital screens placed in strategic locations in the mine site, social media and website". The most favourable decisions regarding CSR are those regarding workers benefits "school allowances, meals at the canteen, 24-hour support at the company's medical centre, transportation to work, health insurance for the worker and family, life insurance…".

This is a twenty-eight years' old relationship, where meetings are frequent, some are daily meetings and others happen every month. Daily meetings discuss "tacit matters, very short-term" and monthly meetings discuss" strategic matters of long-term impact".

STIM knows the company policy, "I know that social policy includes transparency and three or more items but I don't know them by heart". The company values can be communicated in meetings, "we have regular meetings with the company and sometimes this subject is discussed". There are new CSR strategies, a dedicated communication channel where stakeholders, internal and external, can complain and an internal screen circuit with permanent information, "this is from Lundin itself, that has this social policy, they have a dedicated channel that we can use if we find less legitimate situations, such as harassment or less proper behaviour from a superior towards the subordinated. It is not exclusively for workers, it is also meant for outsiders. And now they have some screens that are always showing information, from all the Lundin mine sites, as well as CEO messages".

Meetings are very important, it is where the most important subjects are discussed. There are regular meetings and also ad hoc meetings. "Every month the union and the health and safety commission get together. There is a union leader in this commission. There is regular contact with HR and the board. If there is any issue to discuss, they call us. Still, there are regular meetings. We have the meeting and in the same meeting we schedule the next one".

The subjects discussed in meetings are related to working issues, "meetings with the union discuss salaries and working conditions…meetings with the health and safety commission, the commission presents workers' concerns and expresses its opinion".

DGEG is the main regulatory authority responsible for mining activity in Portugal and is currently integrated in the Ministry of Environment and Energy Transition. Mineral deposits, fundamental for the social and economic dimensions, are in the public domain[4] and DGEG is the authority that will assure the best exploitation of the orebody[5].

The ALSUD Professional School is owned by ALSUD, the Cooperative for Education and Professional Training of Alengarve, CIPRL whose founders are the municipalities of Mértola and Tavira, the NucliSol Jean Piaget Association and the mining company

---

[4] Not susceptible of individual appropriation. It can be explored and exploited in the form of a concession.
[5] An orebody is a mineral deposit being exploited or considered for extraction.

SOMINCOR, Minas de Neves Corvo, Santa Casa da Misericórdia and Parish Council of Mértola. ALSUD was founded with the aim of absorbing the Mértola delegation from the Bento de Jesus Caraça Professional School. The transfer was made in January 2008 and included students, teachers, employees, management, facilities and equipment. The change was not only assumed as a continuation of the pedagogical project and but also as a project of education areas diversification and its expansion to other places. They specialized in the area of heritage formation, especially in archaeology and the restoration of built heritage, tourism and animation. There is the willing to include other training areas in which there is a proven shortage of specialized technicians such as the environment, electricity, renewable energy, water treatment systems, industries extractive activities and game management. The mission of ALSUD follows the principles of education oriented towards sustainable development, a positive and dynamic view of the community-oriented school and an individual's view of being unique and with unlimited capacity to surpass oneself (https://alsud.pt/entidade/ accessed 13th August 2019).

ALSUD and Somincor are together in the World Biospheres by Girls and Women Project. This project has two main intersecting lines: women's training and nature conservation. These act as drivers of local development, capable of maintaining young people in a region where the aging rates are among the highest in the country. It is intended that the fixation of young women occurs as a result of the training acquired through work experiences in nature conservation projects in Portuguese-speaking countries, namely, São Tomé and Príncipe and Cape Verde, in addition to the knowledge and experiences lived in the region. The project seeks to establish bridges between nature conservation projects developed locally within the framework of the Vale do Guadiana Natural Park and the Castro Verde Biosphere Reserve and similar projects (https://alsud.pt/hortas-do-convento/accessed 13th August 2019).

ALSUD is familiar with company values, "we know SOMINCOR social responsibility policy", that have been communicated in meetings "in the context of the project World Biospheres by Girls and Women, we got to know SOMINCOR's social responsibility policy better and in a more structured way". "Mértola is not a place where the mine has a great impact but is part of the sphere of territorial influence and therefore SOMINCOR intended to make some exploration and ALSUD was like the counterpart, it was the way

that SOMINCOR found to be formally present in the territory, in an institution". Somincor has played a supportive role since 2004, helping to develop ALSUD "they were a member of the fiscal council. They joined with both people and capital and SOMINCOR, early 2008, was very important for ALSUD. When we started ALSUD we had with nothing. SOMINCOR advanced fifty thousand euros and it was SOMICOR that made it possible for ALSUD to survive the first months. We have refunded all that money. It was a loan paid up to the last penny… in 2017, SOMINCOR writes a letter to ALSUD saying that the way they saw their participation in the community did not include being part of institutions anymore. That kind of social responsibility stopped, but at the same time they became more available, because during the time they were part of the board they did not give any support to ALSUD". The strategy was the company to support the community in order to get legitimacy for its activities in the territory.

ATS is an association devoted to syntropic agriculture[6], located in Mértola. It has been developing several projects such as Garden of the Forgotten Varieties, that aims to identify, study and conserve vegetable varieties, herbaceous perennials, fruit trees and medicinal herbs used in the territory of Al-Andaluz, including native species or that have been introduced and disseminated since the Islamic period, Vegetable Forests, promoting vegetable gardens in schools, in accordance with the principles of syntropic agriculture, with the aim of promoting regenerative productive practices and a greater link between future consumers and agroecological production, Agroecology Centre, an agricultural farm, in organic production mode, which will be converted into a centre for demonstration, experimentation and training in terms of techniques for the regeneration of land use and will be the model property of the entire Mértola transition project (ATS, 2019).

ATS is not familiar with company values, they haven't been communicated. Supporting ATS work with schools was a very positive decision, "Somincor finances that component, working with schools", communicated in a meeting with ATS. This is a very young

---

[6] Syntropic Agriculture has been modelled on natural principles and uses soil recovery techniques that through planting methods, mimic the natural regeneration of forests. It is a system that produces its own organic matter through the practice of pruning, which constantly increases the resources available while boosting root activity and encouraging a higher rate of photosynthesis, which leads to more carbon being sequestered. https://sustainablefoodtrust.org/ accessed 13th August 2019

relationship, only one year old and they seldom meet to discuss the projects they have together.

The mission and values of the company are known by 67% of the interviewees. SOMINCOR communicates its mission and values in meetings, newsletters, website, social media (LinkedIn and Facebook), emails and digital screens placed in in strategic locations in the mine site. Two City Councils and one ONG are not familiar with company identity. One of the councils mentioned the company has been promoting discussions around a new CSR model.

The most favourable internal decisions regarding CSR are those regarding workers benefits "school allowances, meals at the canteen, 24-hour support at the company's medical centre, transportation to work, health insurance for the worker and family and life insurance". As regards external stakeholders, the most important decisions on CSR are the development of projects that aim at the well-being of local communities. Meetings is the privileged way to discuss the company's decisions towards stakeholders' concerns and expectations.

The meetings frequency goes from "one meeting two years ago" to "regular". Subjects discussed with City Councils include stakeholders' concerns and company's approaches regarding the future of the communities, "the company has evolved towards disclosure" and "the dialogue has become deeper".

Meetings with the labour union are more focused on workers issues, "every month the union and the health and safety commission get together. There is a union leader in this commission. There is regular contact with human resources and the board; meetings with the union discuss salaries and working conditions…meetings with the health and safety commission, the commission presents workers' concerns and expresses its opinion". Meetings with the regulator also include CSR matters, "these subjects are usually communicated in meetings; there are at least two meetings per year that include technical and social issues; the company regularly provides DGEG with information that can help DGEG to verify whether public interests are preserved or not". ALSUD and ATS meet

with SOMINCOR under the projects they have together, but the frequency they meet is low.

Table 17 summarizes the information collected on CSR identity, CSRC purpose and CSR strategy.

Table 17 - Neves Corvo mine - CSR identity, CSRC purpose and CSR strategy

Stakeholder	Relationship age (years)	CSR Identity	CSRC purpose	CSR Strategy
Castro Verde City Council	More than 30	General idea of company mission and values	Communication of values in meetings	Addresses stakeholders' concerns in frequent meetings
Almodôvar City Council	About 40	Knows company values	Values are communicated in meetings	Regular meetings extensive to the community
Aljustrel City Council	About 40	Not familiar with company values	Company has been promoting discussions around a new CSR model	Frequent meetings
Mértola City Council	About 40	Not familiar with the company responsible policy	One meeting two years ago about SOMINCOR's social responsibility	Meetings to reveal company's concerns regarding the future of the communities
Internal stakeholder	28	Familiar with the company responsible policy	"Management meetings, newsletter, e-mails, document display, digital screens placed in strategic locations in the mine site, social media and website"	The most favourable decisions regarding CSR are those regarding workers benefits.
STIM	22	Knows the "social policy includes transparency and three or more items"	Communication in meetings	There are regular meetings and also ad hoc meetings. Subjects related to working issues.
DGEG	About 40	Familiar with the company values	Communication on a huge outdoor with the company responsible mining policy	Meetings include CSR issues. Projects aiming at the well-being of local communities.

ALSUD	15	Knows the "company social responsibility policy"	communicated in meetings "in the context of the project World Biospheres by Girls and Women"	The company has played a supportive role since 2004, helping to develop the school
ATS	1	Not familiar with company values	No communication regarding the company values	The company seldom meets to discuss the projects they have together

CSRC processes of sensemaking and sensegiving within a context of consistency and transparency

Castro Verde City Council argues that the company communicates its choices and actions with transparency as "there has always been the strict care to disclose and share information timely" and "this attitude is very consistent throughout the years". The company has always been committed to its responsibilities, it "has never resigned from its social responsibility and has been able to fulfil expectations". Castro Verde City Council believes company actions make sense and are consistent because "it has always given us positive signs of being a good citizen and growing consolidation of that posture and availability" and "there has been this effort from SOMINCOR to get together all municipalities' representatives. Last meeting took place three months ago".

In meetings, the Almodôvar City Council has the opportunity to relate company CSR actions to company identity as the company "is keen to stress its policy regarding safety and society". It is not the company that relates actions to its identity.

There is consistency regarding the frequency of meetings "most of them are punctual, but they happen very regularly". The company communicates and justifies its choices and actions with transparency, "Somincor holds meetings with us, which tare transparent in terms of what interests us".

Aljustrel City Council perceives the company has having "matured its CSR model". Stakeholders are being involved in the development of a new CSR approach, "the model itself is being created. We have been invited to participate in some meetings where CSR priorities are defined". Aljustrel City Council believes the company communicates and

justifies its decisions with transparency, "We are a privileged stakeholder…I don't think there is much going on that we don't know anything about…We think other stakeholders should have the information but it is not up to us to decide on that…".

The company seems not to be able to communicate properly, "does not enlighten the relevance of what is being done…not even, as the Secretary of State stated, none of the politicians knows nothing about the mining sector, the message never arrives". Also, the company seems not to put enough effort on communication, "in my opinion they invest little on communication".

A change on company CSR is arising, they want to evolve from ad-hoc support to sustainable support, "it seems to us they want to create a model where there is no ad-hoc support, such as money requests for children equipment and for the village folk ball". It makes sense for this stakeholder, the company being looking for a more consistent model, not dependent on company future support, that will contribute to local sustainable development after the mine is closed, "For many years they have been supporting sporting, cultural and social events. Their main objective is the creation of alternatives to the mining company and I think there is a connection to the mine closure plan".

Mértola City Council is an example of the company preference for meetings as a CSR communication strategy, "we have been having regular meetings with SOMINCOR… we had our first meeting on SOMINCOR's social responsibility about two years ago" and Mértola City Council perceives there is an evolution in the company's CSR " I understand they have the intention to develop social responsibility". This CSR evolution is not perceived as not being enough, "in practice we don't see much, we could see a bit more", nor for Mértola City Council nor for the community "city council and the community would like to sense that the company is available to give more support".

The internal stakeholder perceives the company decide its values and beliefs not only to get legitimacy but also because it recognizes some responsibility towards the community. The company acts consistently according to its values and all the benefits that the company provides to its workers last for a long period of time. The company also communicates relating its actions to its values. These communications happen with an irregular frequency and whenever new CSR activities emerge. The company justifies and

communicates its decisions and actions with full transparency and fully understandable. The same happens when reporting, either positive or negative issues are mentioned, though positive situations get more attention.

STIM considers the company has to be clear and transparent on issues that union is aware and also because the company needs to keep a good reputation, "they know we are always on top of things. Besides being union leaders, we are also company workers. Also, there is some fear of anything less good that could be reported about the company, that could go against what the company says, and that would be bad because the company is listed in the stock exchange". On issues that the company does not discloses, such as financial details, STIM would like to have access to those in order to better understand the contribution of Neves Corvo mine to the Lundin Mining Corporation. The communication on CSR activities and other activities is continuous, mainly through the internal circuit, with screens strategically located for every worker and visitor, to watch. The company has been consistent for a long time on its CSR activities, mainly ad hoc financial support but in the last 15 years it has been evolving, "Somincor has a huge social responsibility. But this is Lundin social policy. Until recently we were not heard properly. Since 2004, with the new board, things have changed".

DGEG considers the company communication is transparent, unambiguous, "the annual operations report says clearly what has been done the previous year…" and always performs according to with its identity, "what Somincor says, Somincor does". The frequency of meetings is consistent "at least twice a year" and CSR actions and CSR evolution are subjects is every meeting. The company communicates and justifies its actions with transparency and clearness, "on environmental and social issues that affect community we don't see how they can avoid the truth…reports report facts, all the information is there. Whether it is the technical report or the environmental report".

ALSUD is familiar with company values, "we know SOMINCOR social responsibility policy", that have been communicated in meetings "in the context of the project World Biospheres by Girls and Women, we got to know SOMINCOR's social responsibility policy better and in a more structured way". "Mértola is not a place where the mine has a great impact but is part of the sphere of territorial influence and therefore SOMINCOR intended to make some exploration and ALSUD was like the counterpart, it was the way

that SOMINCOR found to be formally present in the territory, in an institution". Somincor has played a supportive role since 2004, helping to develop ALSUD "they were a member of the fiscal council. They joined with both people and capital and SOMINCOR, early 2008, was very important for ALSUD. When we started ALSUD we had with nothing. SOMINCOR advanced fifty thousand euros and it was SOMICOR that made it possible for ALSUD to survive the first months. We have refunded all that money. It was a loan paid up to the last penny… in 2017, SOMINCOR writes a letter to ALSUD saying that the way they saw their participation in the community did not include being part of institutions anymore. That kind of social responsibility stopped, but at the same time they became more available, because during the time they were part of the board they did not give any support to ALSUD". The strategy has been the company supporting the community in order to get legitimacy for its activities in the territory.

ATS perceives the company behaviour as rather perturbing, "it is not an easy relationship because there have been many changes in the company staff. We had a great interlocutor, very good relationship, good working meetings, but then he left and we haven't met his substitute yet…this was six months ago". It is not a consistent relationship, the company seldom meets to discuss the projects they have together, the last meeting had been six months before. ATS intends to take initiative and contact the company, "perhaps we take initiative and invite the company to join us in the next event".

Most of the stakeholders consider what the company says and does makes sense, in a context of consistency and transparency (Table 18).

Table 18 – Neves Corvo mine - CSRC processes of sensegiving and sensemaking within a context of transparency and commitment

Stakeholder	Sensegiving/ sensemaking	Consistency	Transparency
Castro Verde City Council	The company communicates its choices and actions	Disclosure is consistent throughout the years	Communication is transparent
Almodôvar City Council	Relates CSR actions to company identity	There is consistency in the frequency of meetings	Communication in meetings is transparent
Aljustrel City Council	Perceives the company has matured its CSR model; company justifies its decisions	The company is consistent in its search for a more consistent CSR model	Company communicates its decisions with transparency

Mértola City Council	Perceives there is an evolution in the company's CSR policy but is not perceived as being sufficient	Regular meetings	Company's intentions/ communication are clear
Employee	Perceives the company decide its values and beliefs not only to get legitimacy but also because it recognizes some responsibility towards the community	Communication relating its actions to its values. Communication happens with an irregular frequency and whenever new CSR activities emerge.	Company justifies and communicates its decisions and actions with full transparency and fully understandable. Reports either positive or negative issues
STIM	Perceives the company has to be clear and transparent on issues the union is aware of	Communication on CSR activities and others is continuous. The company has been consistent for a long time on its CSR activities	Perceives company has to be clear and transparent to keep a good reputation
DGEG	Perceives the company performs according to with its identity	"What the company says, the company does"	The company communicates and justifies its actions with transparency and clearness
ALSUD	Perceives the company has been changing its CSR policy according to its identity	A more consistent relationship since the social responsibility department has been involved	The company has been communicating clearly and with transparency
ATS	Perceives the company behaviour as rather perturbing, the company keeps changing the interlocutor	The company seldom meets to discuss the projects they have together and keep changing the interface staff	Not possible to identify "company transparency" in STK I narrative

IP – exchange, adaptation and coordination

There are exchange processes in every meeting with Castro Verde City Council, "we keep a permanent dialogue on technical issues and community related issues" and "there has always been the strict care to disclose and share information". There has been no need for any adaptation from the company but "the moment that situation arises, this is a relationship of trust that allows dialogue and the definition of a better solution". There are some agreements and most of them are formalized. There is a protocol between the company and "the City Council made available some space for lodging subcontractors'

employees" and "an agreement where the company gives away to the City Council some adjacent areas to the road for requalification".

Processes of exchange happen during meetings with Almodôvar City Council, discussing subjects that interest both parts, "land management, construction projects, permits, safety at work…". The company provides "training (with its own resources), funds and financial support". When the Almodôvar City Council needs funds for a project, the adaptation is mostly on its side, "we demand financial support. If it is not possible, we split by two. So, we adapt to what is possible". Also, they have some projects together.

The processes of exchange happen in meetings, either meetings just between Aljustrel City Council and the company or meetings involving other stakeholders. Meetings "happen when there is a particular subject to discuss. Either from SOMINCOR initiative or ours. These are naturally thematic meetings and sporadically we are also invited to meet together with the other stakeholders. The last meeting was to discuss the social responsibility issues of SOMINCOR and to identify some ideas that could be interesting from the perspective of the stakeholders, in our case of the municipality of Aljustrel, and of many other regional actors that also attended the meeting". More than dialoguing, the company also adapts its plans and activities to City Council interests and "it is very simple. We are now able to have a very fluid communication with all companies".

There are no projects where Aljustrel City Council and the company are working together or have some coordination or even protocols or agreements. The relationship is still evolving, "right now I cannot think of any project with Somincor. Right now, they are working on it. I have some expectations regarding next meeting, I hope they present something new". When Aljustrel City Council and Somincor discuss something, they don't have to formalize it, expect "when it is required by law".

Meetings with the Mértola City Council often happen to give information on special issues, "we already had three presentations on the zinc expansion project" and open meetings to community "yes (the open forum) they did it here in Mértola". The company provides equipment "for the community, for schools" and projects with the City Council, "the company is providing a vehicle so that the city council will adapt it and create an itinerant support for small domestic repairs for the entire council, mainly for helping older

people that can no longer do these repairs. We will employ two people". So far there has been no need to formalize any situation, "we discuss things. Usually, they make a presentation about mine production, talk a little bit about the future and then we discuss one or two issues regarding the Council that eventually require further evaluation or a later answer. Nothing is written down".

Meetings with internal stakeholders range from daily to monthly frequency. Daily meetings discuss "tacit matters, very short-term" and monthly meetings discuss" strategic matters of long-term impact". The company provides a variety of resources, such as "personal and collective work equipment, personal protection equipment, regular training, loans…". The company may adapt its activities to the internal stakeholder

 concerns but "only to the extent of current labour and environmental legislation, nothing further". There is a very important contractual arrangement, the employment contract and everything that is discussed is written down.

STIM and the company have meetings at least every month where they exchange information and discuss working conditions. When the subject is collective bargaining there are adaptations from both actors and "what is agreed in the collective bargaining is formalized".

DGEG and the company get together at least twice a year, to discuss technical matters regarding the mine evolution and often address the subject of CSR. Mine closure plan is a very important issue for both actors, and the company has been doing some adaptations according to DGEG suggestions, "Somincor, with the different mine closure plans revisions show an evolution, they are already integrating issues that weren't mentioned before". Due to the nature of DGEG there is no room for partnerships. There is a contract that allows the company to explore the mineral deposit under specific conditions. Official subjects have to be formalized in a document, other agreements don´t need any formalization, "not everything is written down, many things are verbal. There is trust".

ALSUD and the company rarely got together "they were still part of the board but all they did was to attend meetings…they asked if we wanted to submit projects for them to support…I had once a meeting with an Australian gentleman, to present the project

again". Besides providing financial resources there is no evidence of adaptation from the company. On the other hand, ALSUD adapts to SOMINCOR social responsibility narrative. There are projects the company supports, such as World biospheres by Girls and Women and "a school sports event where they are proactively helping with a few things, t-shirts and so on". It is not clear if these supports are subject to formalization. World biospheres by Girls and Women is an important project, it would be expected to have some kind of formalization. Donating money and things for small projects will not probably need any formalization.

ATS is a young relationship and there is very little interaction between SOMINCOR and this stakeholder. Whenever they meet, they discuss about the projects they have together. The only resources the company provides is financial support. They have arrangements regarding ATS projects. ATS has three main activities "the practical communities which means, when we know there is an interesting initiative, we gather the farmers and we all go together. Other initiative is the Children Academy that concerns the vegetables gardens. We have five primary schools, all of them have a syntropic vegetable garden. There is also the management component, that has to do with the interaction with ALSUD, regarding volunteers and internships". Somincor "finances the management of volunteers" that work in schools' vegetable gardens.

Information exchange usually happens in meetings. ALSUD and ATS have very little interaction with SOMINCOR and therefore very little exchange. It was not possible to recognize processes of adaption in 33% of the stakeholders. 11% of the stakeholders consider they adapt to the company but it is not mutual. SOMINCOR adapts to 33% of the stakeholders' expectations and only in one relationship there is adaptation from both sides. Coordination processes have been detected only in 67% of the relationships (Table 19).

<div align="center">Table 19 - Neves Corvo mine - IP of exchange, adaption and coordination</div>

Stakeholder	Exchange/ Information Exchange	Adaptation	Coordination
Castro Verde City Council	Permanent dialogue on community related issues	No adaptation	Most of agreements are formalized

Almodôvar City Council	Exchange happens in meetings, discussing subjects that interest both parts, "land management, construction projects, permits, safety at work…"	Adaptation is mostly on stakeholder side	Have some projects together
Aljustrel City Council	Exchange happen in meetings and meetings do not happen often	Adapts its plans and activities to stakeholder interests	No projects together, no protocols or agreements
Mértola City Council	Meetings to give information on special issues	No adaptation	No formalities, no projects together
Internal stakeholder	Meetings ranges from daily to monthly	May adapt its activities to employee concerns	Employment contract and everything that is discussed is written down.
STIM	Meetings at least every month where they exchange information	Adaptations from both actors	Formalization of what is agreed
DGEG	Meetings at least twice a year	Adaptations according to DGEG suggestions	Official matters are formalized, other agreements are not
ALSUD	Rarely got together	Adaptation only from ALSUD	No coordination evidence
ATS	Very little interaction	No adaptation	No coordination evidence

Outcomes – Cooperation, Commitment, Trust and Legitimacy

Castro Verde City Council has a project to requalify the road to Santa Bárbara de Padrões and due to the cooperation of the company, to give away the areas adjacent to the road, there can be a better requalification that will benefit Castro Verde City Council, the company and the community. This relationship is a long-term relationship and Castro Verde City Council is willing to continue. There are no critical events to strengthen or weaken this relationship but there are strong links between the company and Castro Verde City Council, and all problems can be solved. "The company has always given positive signs of being a good citizen and this posture is improving", "the company negotiates under fair conditions" and has honoured agreements by "fulfilling our expectations". Therefore, Castro Verde City Council accepts the way the company operates.

The Almodôvar City Council trusts the company, "you only trust a company if that company has people trustworthy, people who listen, who show you values and actions,

who show you they are in the same path. The last three mine managers that were at Somincor were trustworthy". Negotiations with the company are "fair" but "there are still commitments to honour. We are working (together) and I trust people and I know they will make it". This has been a long relationship and Almodôvar City Council is willing to continue it, "of course, we are only interested in doing so". There are no issues that cannot be solved, "they contact us, we talk and adjust our steps…if there are situations that have not been fully fulfilled, we will have to be here to point them out and get there". Almodôvar City Council accepts the way the company operates but he thinks "Somincor should give more back to the community, should be more assertive. In the social sphere, it unfortunately falls short of what I would expect".

The relationship has not yet evolved to cooperation between the company and Aljustrel City Council, therefore there are no results to report derived from working together. Still, is a long relationship and Aljustrel City Council is very eager to continue with it. He feels he can trust the company and accepts the way it operates but there is still room for improvement, "it could be better".

The Mértola City Council invited SOMINCOR to cooperate in "local professional school development, not only giving financial support but also to sponsor a course and welcome some students for internships". And there are projects yet to develop, such as bird watching and other nature tourism attractions, "Somincor looked for us in order to develop a project within CSR, that would involve the five municipalities, with the main objective to dynamize those places, where some local companies could invest, so that economic dynamization would exist beyond the mine…the project would include bird watching, cycling and other activities related to nature. So, they started to develop a touristic valuation project and we have participated in some meetings with the objective of achieving that goal". Mértola City Council trusts the company "Somincor looks like a very good company, with a good social perspective as well, it engages workers and engages the community, therefore we think it is a trustworthy company". The company managed to attain legitimacy, not only because it is looking for social licence to operate but also because feels responsible towards community, "they are always talking and we can sense that they are responsible and they show it in several ways but obviously, they also want their responsibility to lead to acceptance". This is a relationship meant to

continues, there are no problematic issues to solve and the relationship is evolving, "in the more recent years, they have been putting much more effort to maintain a relationship with us". Mértola City Council accepts the way company acts though, as a responsible citizen it could be doing more. Projects develop very slowly and projects mainly involve financial support, "we thought the projects we have been talking about would develop and implement faster. We expected they would come to City Council meetings more often, not just financial support but also partnerships and coalitions".

STIM considers that there two goals have been achieved due to company and STIM relationship, "the retirement age anticipation for ore treatment plant workers and the special holidays. This is the only company that has special holidays paid at 600%. It pays 300% the day you work and entitles you to a break that makes up the other 300%. It is a commitment that has more than 10 years and will have to continue. The special holidays are 1st January, 1st May, 4th December and 25th December. STIM is willing to continue this twenty-two years old relationship. However, is an issue that weakens the relationship, "Lundin website presents the financial report as a whole and not discriminated by company. There should be full transparency". Altogether, STIM accepts the way the company performs, "Somincor has this huge social responsibility" and not only considers its interests but it also considers STIM's interests, "Somincor is not only interested in its image, it is also self-aware of its responsibility".

According to DGEG's perspective, the main goal achieved together is the best exploitation of the mineral deposit, "the only thing to be assured is that there is compliance with the legislation and the best exploitation of the orebody. The government demands the mineral resource to be exploited in such a way that does not leave behind resources that cannot be exploited later". The relationship is more than forty years old and presently DGEG completely trusts the company, "we trust the technical manager…what Somincor says, Somincor does…complete trust, in all aspects". This a relationship that will last as long as the company is accountable. There are no difficult issues that can affect the relation or not be overcome, "DGEG and Lundin read the contract in different ways and that sparked a litigation. This situation was discussed in Arbitration Tribunal for 3 years in a row. But everything ended up being settled and we

managed to reach an understanding". Altogether, DGEG accepts the way the company performs.

The main goal SOMINCOR and ALSUD achieved together was the foundation of ALSUD itself. Another important achievement is the success of the project World Biospheres by Girls and Women. This is a fifteen-year-old relationship, which seems that will last as long as ALSUD presents projects that SOMINCOR will be willing to support if within their CSR policy. Still there are no links difficult to dissolve and no problematic issues to solve, if this relationship ended "some projects will not go forward but the school continues. SOMINCOR does not influence ALSUD's life directly at all. What SOMINCOR allowed was an increase in quality in some issues, namely in this issue of nature conservation". ALSUD trusts the company and accepts the way the company performs.

ATS considers the main goal achieved together with SOMINCOR was the success of ATS initiative, "at the time we had practically nothing and Somincor support was very positive". Still, it is a very young relationship, one year old, with some issues to solve, "the relationship is not very easy. Somincor has been doing many changes in their staff. We have not met our new liaison contact yet. Probably we will take the initiative to contact them". If the relationship ended, ATS would still manage to develop the project, "Katharina Serafimova, she is with us, she worked at exactly the same level of social responsibility, philanthropy, in Switzerland and therefore with issues related to the World Bank, the ethical banks of Germany and others and also with philanthropists, and that helps us a lot to get some funding to pursue this work". Trust could not be detected in the interview nor in any secondary source.

All stakeholders consider there is cooperation in the relationship with SOMINCOR, except for one, justifying their relationship has not yet evolved to cooperation. 78% of the stakeholders are committed to the relationship and wish it lasts forever. Two stakeholders, ALSUD and ATS, do not depend on the relationship with SOMINCOR. There is evidence of trust and legitimacy in almost every relationship. Only in ATS trust and legitimacy are not evident. Is a very young and difficult relationship due to little interaction and recurrent change of interlocutor (Table *20*).

Table 20 - Neves Corvo mine - Outcomes of cooperation, commitment, trust and legitimacy

Stakeholders	Cooperation	Commitment	Trust	Legitimacy
Castro Verde City Council	Company cooperation on a City Council project that will benefit the community	Long-term relationship; willing to continue with the relationship; no critical events to strengthen or weaken this relationship; strong ties, and all problems can be solved.	The company negotiates under fair conditions and honours agreements	Accepts the way the company performs
Almodôvar City Council	Company and City Council work together	Long-term relationship; no issues that cannot be solved	Trusts the company because company managers are trustworthy; fair negotiations but still commitments to honour	Accepts the way the company performs but it is not enough
Aljustrel City Council	Relationship has not yet evolved to cooperation	Long-term relationship and the stakeholder is willing to continue with it	Trusts the company	Accepts the way the company performs
Mértola City Council	Cooperation in local professional school development; envisaged cooperation in potential touristic projects	A relationship meant to continue, there are no problematic issues to solve and the relationship is evolving	Trusts the company	Accepts the way company performs but it could be doing more
Internal stakeholder	Company and workers had good labour negotiations that kept satisfied both workers and the company	Long-term relationship (30 years); issues that strengthened and issues that weakened the relationship,	Trusts the company due to fairness in negotiations	Accepts the way the company performs; positive feedback from media and social media
STIM	Two goals have been achieved due to cooperation	Long-term relationship (20 years); special holidays has been a commitment with more than ten years	Honours agreements	Accepts the way company performs

DGEG	Goal achieved together is the best exploitation of the mineral deposit	Very long-term relationship (40 years); no difficult issues that can affect the relation or not be overcome	Trusts the company; honours commitments	Accepts the way the company performs
ALSUD	The main goal achieved together was the foundation of ALSUD	No links difficult to dissolve and no problematic issues to solve; if this relationship ended the school would continue existing	Trusts the company	Accepts the way the company performs
ATS	The main goal achieved together was the success of ATS initiative	One-year-old relationship, with some issues to solve; not an easy relationship; if the relationship ended ATS would still manage to develop the project	Trust is not explicit; too young and difficult relationship	Not clear if ATS accepts the way the company performs

Stakeholder long-term relationship management and social, economic and environmental benefits consolidation

The long-term relationship between Castro Verde City Council and SOMINCOR has been going on for more than 30 years and is meant to last as long as the mine, and according to the stakeholder, it should last "forever". Castro Verde City Council believes that, when deciding, the company "takes into account the municipality interests". The nature of the relationship involves three management strategies. The most common attitude is the company "informs" Castro Verde City Council, "there has always been the strict care to disclose and share information". Still, there is room for the company to "consult" Castro Verde City Council, "this is a relationship of trust that allows dialogue and the definition of a better solution". In some critical situations, Castro Verde City Council has been "involved", "we had the opportunity to get together with the miners' union and with the company and managed to make them aware that there could be a bridge of understanding that would allow a faster solution for the whole process" (there was a strike in the company). The benefits resulting from the present relationship could not be revealed as they are still on an early stage and no commitment has been taken.

Some benefits were listed due to the mining activity, "Somincor leadership had good impact on local businesses, demographic growing and Castro Verde is presently the fourth Portuguese council with the highest salary income".

Almodôvar City Council and SOMINCOR have a long-term relationship that is about forty years and it is meant to last forever. Both actors intended to develop a project together but it failed to go through, as Almodôvar City Council did not have means to maintain it, "we had a project together, where the plan was precisely that (act after having the meetings with the community) but it did not go forward. We were unable to put it into practice, which was to form a fireman-miners school. We were unable to put it into practice due to lack of funds. Not initial budgets but maintenance of the system. It was not sustainable". This is a relationship where dialogue happens whenever it is necessary "whenever the city council and the company have to talk, they have been talking to us". Almodôvar City Council and the company are developing projects with a short and long-term vision, "we always have to think that the mark has to stay in the community. Sustainability depends after the execution or the type of project. But the trail has to stay in the community. Something that benefits the community, whether it benefits a niche in the community or the global community. But something has to stay. …I'm going to tell you about a concrete project. A connection of zones with means of transport that will provide the community, will be sustainable as long as it is financed. If Somincor stops financing it, either the council takes over or is no longer sustainable. We have to think that a project is sustainable when the stakeholders involved maintain their ability to manage that project".

The Aljustrel City Council wants this relationship to last "forever" and believes the company also cares about stakeholder interests and "not only its own interest". Although it is a long relationship, it is mainly characterized by information and dialogue. As there are no projects together, Aljustrel City Council can only refer to the benefits resulting from the company actions, "the relevance that the company has for small and micro companies as suppliers" of Somincor. Also, it has been important to create an open discussion with all stakeholders, regarding the environmental issues, "may not some be

on the side of the problem while others only point fingers. Instead, we can try to find a solution together…this is a long-term benefit".

This present relationship with the Mértola City Council is eleven years but interactions have been happening from far back to the early stages of the mine. Its nature lies mainly on information and less consultation or involvement. It will continue as long as the mine influences the municipality and Mértola City Council would like it to last forever. SOMINCOR is a responsible company that takes into account Mértola City Council interests, "we can sense that they are responsible and they show it in several ways". The itinerant support for small domestic repairs for the entire council and the nature tourism valuation project, the last is intended to be long-term, as an economic leverage beyond the mine.

For the internal stakeholder, this has been a long relationship, where company and stakeholder work together to attain their own goals "satisfied workers increase the possibility of business success". The relationship between company and workers is characterized mainly by information, "generally, the company only informs…acts without consulting and does not involve workers in decision making". This stakeholder considers the mining operation success, as a sustainable business, resulting from company and workers efforts, brought "a clear improvement in this region wellbeing", that is supposed to last for a long time.

According to STIM, this has been a long-term relationship and due to the actors' roles in the relationship and the issues that are discussed, there has to involvement from both parties. There can be fewer formal moments, where "the company asks for advice on several situations". This stakeholder perspective is that the goals achieved together are the retirement age anticipation and the special holidays, and both are intended to be long-term. The retirement age anticipation reached started being strongly discussed at Neves Corvo, and is a goal achieved at national level, leading to a change in legislation, Ordinance no. 88/2019 of 25th March.

The old relationship with DGEG has been characterized by different stages. In the early stages the company only gave information, "in the beginning Somincor was eager to show it was competent, first they did the work and then they informed". Then they evolved and started to consult and involve, "now they ask way beforehand and then they do it…when they have doubts in problem solving, they come ask DGEG for support on the best decision to make". In this relationship the main objective of the company is to take care of their own interests, "they intend only to make money and do not worry much about the rest. They comply with all legal specifications and even go further than Portuguese law requires. They act according to Canadian laws, therefore they fulfil more demanding requirements". A relationship that will have to last as long as the company is accountable. The long-term benefits resulting from this relationship are mainly the best exploitation of a public good and discussing together the best solutions regarding environmental issues.

It is an old relationship that ALSUD would like to last but has been characterized but STK8 future does not depend on this relationship, "we don't depend on Somincor at all". The company cares about stakeholder interests as long as they suit its interest, "until then, the conversation was "dress the bride well", "convince us". And after a certain point, the attitude was different, "we see interest in this, we will help". We have so many projects that it was not difficult for us to dress the bride in particular. They chose that one and we developed that one. And it has been great". The benefits resulting from the relationship SOMINCOR and ALSUD are mainly help developing small community projects, that usually only bring short-term benefits and developing projects, such as World Biospheres by Girls and Women, that are meant to fulfil sustainable purposes.

This relationship is only one year old and ATS would like to maintain it, "we have a new idea that we have already discussed with the former liaison and would like to make a formal presentation at Somincor. It is not directly related to syntropy but it is also connected to the issue of regeneration, attitude and work to be done by municipalities in

the mining areas, with the thought that the mine will not always be there". This relationship comprehends nothing but information. ATS considers the benefits resulting from the relationship between SOMINCOR and ATS are the benefits on children education and local development. Both are long-term benefits, education and sustainable agriculture.

Perception on SOMINCOR concern towards stakeholders' interests from 'company cares about stakeholders' interests' to 'the company cares about stakeholder interests as long as they suit its own interests'. Stakeholders identified stakeholder management strategies of information in every relationship, information and consultation in four relationships, and information, consultation and engagement in three relationships. According to interviewees, sustainable outcomes have been found in two relationships where the was stakeholder engagement, one relationship where the company consulted the stakeholder and four where the company merely informed the stakeholder (Table *21*).

Table 21 – Neves Corvo mine - Outcomes regarding stakeholder management and sustainability

Company/ Stakeholders	Stakeholder long-term relationships management	Social, economic and environmental benefits consolidation
Castro Verde City Council	40 years old relationship, meant to last forever; Somincor takes the municipality interests into account; information, consultation and involvement	No long-term benefits yet
Almodôvar City Council	40 years old relationship, meant to last forever; dialogue	Short and long-term benefits from developing projects
Aljustrel City Council	10 years old relationship, meant to last forever; company cares about stakeholder interests; information and dialogue	Trying to find a solution together regarding environmental issues
Mértola City Council	11 years old relationship; more information and less consultation and involvement	Nature tourism valuation project

Internal stakeholder	30 years old relationship; information	The mining operation success improved the region wellbeing
STIM	22 years old relationship; involvement	Retirement age anticipation and special holidays
DGEG	40 years old relationship; evolution from information to consultation and involvement; company cares about their own interests	The best possible exploitation of a public good
ALSUD	15 years old relationship; the company cares about stakeholder interests as long as they suit its own interests	World Biospheres by Girls and Women is meant to fulfil sustainable purposes
ATS	1 year old relationship; information	Education and sustainable agriculture

4.2.2   Aljustrel mine: ALMINA & Key Stakeholders Relationships

Mining activity in Aljustrel goes back prior to the Roman Empire's occupation of the Iberian Peninsula. During the Roman Empire, Aljustrel mine was known as Vipasca mine and exploited copper, lead, zinc, gold and silver ores. This mining exploration lasted until the century IV B.C., with fluctuations in production coinciding with the crises of the Empire, being then abandoned. There are some records on mining activity in 1252 and 1848 and it was only in 1973 that the concession was transferred to the ownership of the Portuguese company Pirites Alentejanas. In 2001 the Aljustrel mining complex was acquired by the Canadian company EuroZinc Mining Corporation (Município de Aljustrel, 2019).

In November 2008, following a decline in metal prices, the Aljustrel mine would be placed back on care and maintenance. In December, started the selling process of Pirites Alentejanas. The sale was completed in February 2009, being sold to a Portuguese group that changed the company's name to ALMINA - Minas do Alentejo, S.A. (LM, 2009).

ALMINA – Minas do Alentejo S.A., hereinafter referred to as ALMINA, is the Portuguese company presently exploiting the Aljustrel mine, extracting copper and zinc ores, and producing copper and zinc concentrates.

In this case study it was possible to interview ALMINA top management. The interview was done following the orientations of the interview guideline.

ALMINA mission, as published on its website, is "the extraction and valuing of pyrites, sulphides and other ores, the trade, transport of the products and derivatives and the research, purchase and development of technological methods for its mining activities" (ALMINA, 2019).

According to ALMINA, what the company "values most is the well-being of our people, their satisfaction, so that we reach high levels of productivity and competitiveness .... we take into account other stakeholders, whether they are shareholders or suppliers, and eventually local institutions or some associations that can also contribute to the well-being of the region". Almina goal is to expand and become a mining company committed to other values, "we are not a mining company just because we own a mine. If we manage to move forward with our expansion plan and become a mining company, maybe we will change our class of values".

ALMINA does not specifically communicate its identity to stakeholders. The company has set up an environmental monitoring commission, CAA (Comissão de Acompanhamento Ambiental), as a "a forum for sharing and a privileged place for a continuous relationship between the company and the surrounding society". This commission holds representatives from "ALMINA, Aljustrel City Council, Aljustrel County Assembly, Aljustrel Health and Environment County Assembly Permanent Commission, the Aljustrel and Rio de Moinhos Parish Council Union, Aljustrel Health Centre, Alentejo Health Regional Administration, Aljustrel Volunteer Firemen Humanitarian Association, Alentejo Regional Development and Coordination Commission, Beja Polytechnic, National Guard, Aljustrel School Cluster and Roxo Beneficiary Association".

This commission functions as a strategy to show responsiveness to stakeholders' expectations. Every three months, they discuss problems that are brought to them by entities and individuals, "if people have any problems, they talk to the City Council, or to the Municipal Assembly or to the Parish Council and the issues are discussed here and we always give notice of what we are doing regarding the environment".

Also, a CSR strategy, initially Almina made ad hoc contributions but presently they support projects, "initially we made contributions but now we donate to projects". ... the firefighters, Santa Casa da Misericórdia, football, which is very important for the local community". "We have contributed to the health centre with a high-end technology X-ray machine, to schools, to kinder-garden, to the Misericórdia, to the philharmonic band, and small things from fishing to other amateur activities".

Communication strategy does not involve corporate communication except for what is mentioned on the company website.

It is not clear whether the company decides its values in order to get legitimacy, "what ALMINA values most is the well-being of our people (workers), their satisfaction, so that we reach high levels of productivity and competitiveness". What seems to be relevant is to be productive, effective and efficient to keep the company in the market and generate profit to shareholders and, maintain the activity according to what regulators demand, "we as a company, it is in our DNA to comply with applicable law".

The CAA meetings every three months seem to be the only CSR communication strategy, "we created this Commission…people can come here to the company, but they have to represent associations and not individuals…if they have any problems, they will speak with the City Council, with the Municipal Assembly or with the Parish Council, and those subjects will be discussed here (at CAA meetings) and we will report on everything we will be doing regarding the environment".

There is a consistency in meeting every three months, there is a consistency in ad hoc support, it is going on even after the company decide to support only projects. The financial support the company gives to associations and others is not consistent, people

do not know how much they will receive or even if they are going to have that support, "In one year we can give 100 and the next year give 50 and then give 200 or give nothing".

The company believes the setting up of CAA has been a very good decision and is the best way to communicate with transparency, "our idea is that there is a platform for debate, clarification, continuous learning between what goes on inside the company and what goes on outside, we do a shared learning here. This commission has four objectives: to share, build, improve and promote. Share with stakeholders the aspects related to the activity and its difficulties, build a transparent thematic forum, improve Almina's knowledge of the community's concerns and promote the continuous improvement of Almina-Community communication… And we created it (the commission) in a transparent way, we share our information and people share their concerns…".

Company reports to shareholders and DGEG. These have to be accurate reports, no matter if the company performance is "good or bad", there must be evidence of every given information and what is presented has to be validated by independent entities.

Besides the CAA meetings, the company gets together with the City Council frequently, to discuss environmental and technical issues.

Adaptation can be found on the efforts the company takes to minimize community negative impact, "we are aware of the dust issue. We are not breaking the law, the air quality in Aljustrel is good, it is within the limits established by the current legislation. But we know that there is a discomfort and we are dealing with it to minimize that impact. And often the solutions that we find are not the best, but then we look for others and that is how it has been done. And it has worked".

What is agreed to follow the law has to be formalized and minutes are kept for each CAA meeting, the minutes of each meeting are public and this is the interaction that we intend to have". Regarding CSR agreements there is no need to formalize, "we have that responsibility, an exploitation contract with DGEG that commits us to report on our activity. We do that. But these are legal obligations and are formalized… If we give an

ambulance to the firefighters or if we give money to the Mineiro or if we give money to the Misericórdia, none of this is formalized".

There is no evidence of goals achieved by cooperation with stakeholders. The company is truly committed in complying with the law, "it is in our DNA to comply with applicable law" and according to the media "the company is committed to the sharing and deepening of information regarding its environmental impacts". The company believes it can be trusted, "people in general value Almina, they like Almina and therefore we do not feel that people do not want Almina... I think that people highly value Almina's work and trust us".

The media are a reflection of the company's legitimacy, negative and positive feedback:

"In Aljustrel, the black powder from the greedy labour of the mine sticks to the skin and mouth. But its umbilical relationship with the Alentejo village continues to prevent, in the name of widespread economic development, the questioning of what is the price to pay for health and the environment for this dust that covers the houses of the village, the same ones that tremble increasingly in line with the daily bursting of mining. The dust bill is charged at a high rate of cancers and subdued with the wages of the mine. Nobody complains or wants the end of the mine, but a social unrest is growing that challenges the old stigmas of environmental and health concerns, which have become taboo themes in the name of unquestionable economic productivity".

(Jornal Mapa, 2019).

"The guarantee of technical changes in the ore treatment plant, by Almina, is welcomed by the president of the City Council, who reminds the CAA that the municipality has long fought for solutions (for the black powder issue) with the mining company".

(Correio do Alentejo, 2018).

"Almina, responsible for the concession of Aljustrel Mine, promotes the first meeting of its new Environmental Monitoring Committee (CAA), led by the university professor José Manuel Palma and with the participation of 12 official and community entities… The Commission's meetings will be held on a regular and consistent basis, with the company

committed to the sharing and deepening of information regarding its environmental impacts".

(Correio do Alentejo, 2019).

"Since the mines reopened a decade ago, there have been four fatalities. 2019 is being the worst year, with two dead, two seriously injured and one slightly injured one. The two deaths were both employees in the mechanical maintenance area of EPDM - Empresa de Perfuração e Desenvolvimento Mineiro, a company controlled by the shareholders of Almina, the concessionaire of the mine... the Union of Mining Industry Workers denounced, once again, the existence of serious flaws in Almina. "There is no real safety culture. There are many accidents that are hidden. Fear persists, workers are afraid of losing their jobs and most of the time they do not speak", says coordinator Luís Cavaco".

(Visão, 2020).

Feedback on the media does not legitimate the company performance and asks for more supervision and measures to mitigate the mining impacts.

ALMINA acquired Pirites Alentejanas in February 2009 thus it has been interacting with the community for twelve years, in particular the Aljustrel City Council, "within the Aljustrel community, our key stakeholder is the City Council...we talk a lot". And this relationship will last as long as Almina owns Aljustrel Mine. The company manages the relationships with stakeholders considering two ways, discloses information to the community in the CAA meetings and dialogues with the City Council and DGEG. There is no stakeholder involvement, no partnership, "we don't have partnerships… a partnership is a stronger and more perpetual business interaction", though the intention exists,

The long-term benefits that may arise from the relationships with stakeholders are the financial support of projects that can be sustainable and eventually long-term environmental benefits resulting from the CAA meetings discussions.

The setting up of an environmental monitoring committee (CAA) that involves community entities, in order to discuss the issues presented by the population to the City Council and to the Parish Council.

In this case study four relationships have been analysed, involving key stakeholders such as employees, community representatives, labour union and regulatory authority (Table 22).

Table 22 - Aljustrel mine key stakeholders identified and available

1	Aljustrel City Council
2	Internal stakeholder
3	STIM
4	DGEG

CSR identity, CSRC purpose, CSR strategy

The Aljustrel City Council does not know the company values, there is no dialogue or corporate communication on that subject. Setting up CAA and Parque Mineiro Project are considered good CSR decisions, "recently, at the initiative of the company, a working group has been set up (CAA … It seems to us a very important step… another good indication given to us by the company has to do with a very relevant project that we have underway, which is the Parque Mineiro de Aljustrel, the use for tourism, cultural, scientific purposes of what is the mining heritage of Aljustrel". CAA meetings are a way to demonstrate stakeholders how the company integrates their concerns. The relation between ALMINA and Aljustrel City Council started in 2009 and is frequent, "the daily relationship with ALMINA means it is a company that is very present in the life of our community, namely in the village of Aljustrel".

They discuss issues concerning CAA, the Parque Mineiro and technical issues.

"*There are Almina's own working matters that need to be articulated with us, others come from us. For example, for Parque Mineiro we had to talk to them. Environmental issues*

were the same. They themselves, for constituting the commission (CAA), actively ended up creating an agenda in which these matters will be worked on...Before, they had already had an initiative to invite all sectors here of our society, associations, companies, schools, is what they called "open company". They held public sessions and the start of this initiative was affected by the noise due to the environmental issues that existed in the village that were generated around the dust of the mine. But there was also this action to open the company in relation to the community. There were many dozens of people. This also ends up happening in a context where the company, from the physical point of view, on the surface, has gained a proximity here to the village".

The CAA meeting is the place where the company communicates its actions in response to stakeholders' concerns. CAA consistently meets every three months and the general perception is that the subjects are discussed in an open and transparent way. There are no public disclosure reports. Nevertheless, the company should communicate more.

"There is conflict within the company, with workers. But this posture, at least from the point of view of communication, exists... I think they are at a point they want to preserve social peace within the company, there is a lot that they do that they do not communicate".

The internal stakeholder is an employee that holds a management position. He does not come from the Aljustrel but has been working in the region for more than 30 years. He has been working in Almina since 2010. The internal stakeholder recognizes "educational, cultural and environmental" as values that the company holds towards the community, together with the responsibility of "create and maintain a position and pay a salary to all hired workers". These values are communicated in meetings, "invited and got together with the various representatives of the local society, mayors, traders, teachers, students, associations, investors and others". The most favourable decisions the company had regarding CSR were, according to the internal stakeholder, "investing and believing in this project…hiring people and paying them the agreed salary". These job terms are communicated orally and later there is a written contract". The strategy the company choses to communicate internal stakeholders that the company is responding to

their concerns lies on "internal communication, sector and team meetings, email and lectures" and "at least every six months, every worker is listened to".

As mentioned before, STIM is the mining industry workers union. The interviewed has been a union leader for twenty-two years. As related by the interviewed, the previous owner of the concession contract, Pirites Alentejanas, had meetings with STIM and asked for advice. Though Almina does not mention the miners' union as a stakeholder, considering the social nature of STIM, it was considered important to explore this stakeholder relationship. STIM considers Almina does not have good values, and CSRC purpose is to get a good reputation, using CSR policy as a means to get it, "the social part, they want to implant it now so that they can get credits from society…they don't care about Aljustrel, about mitigating impacts…They don't have the slightest respect for workers".

At the time of the interview Almina had sued the STIM coordinator for defamation, "last week I received notification from the prosecutor's office saying that they (ALMINA) indicted me as a defendant due to statements I had made earlier when a worker died (3 years ago) …They have taken court action against me because they say I seriously harmed the company".

As mentioned before, DGEG is the Portuguese authority that has the function to assure that mineral resources, as part of public domain, are being exploited the best way, according to Portuguese law and current best practices. No values are identified or communicated. Nevertheless, there is an evolution in the company policy towards social responsibility, "at the beginning, it was not very concerned with social responsibility, not in the environmental component because it had always been concerned, in the economic and legal compliance component it had always been concerned, but the social part with the local community was something that the company in the first five years didn't care much." Reports, the annual technical report and the environmental report, are the privileged communication to this particular stakeholder that the company is responding to its concerns. Whenever DGEG visits the mine site he notices that "there are a lot of information panels and an internal TV circuit where a lot of information goes on".

Only the internal stakeholder is familiar with the company values. No values are communicated except for those that are discussed in meetings with the internal stakeholder. One of the stakeholders, the labour union, has not so far managed to have a relationship with the company.

A summary of the findings regarding dimensions CSR identity, CSRC purpose and CSR strategy is presented in Table 23.

Table 23 - Aljustrel mine - CSR identity, CSRC purpose and CSR strategy

Stakeholder	Relationship age (years)	CSR Identity	CSRC purpose	CSR Strategy
Aljustrel City Council	10	Not familiar with company values	No communication regarding the company values	The relationship started in 2009 and there are daily contacts
Internal stakeholder	9	Identifies company values	Values are communicated in meetings	Internal communication, sector and team meetings, email and lectures. Every worker is listened to every six months
STIM	N/A	Considers company does not have good values	Communication is merely a means to get a good reputation	There is no direct communication between the company and this stakeholder.
DGEG	10	No values are identified	No values are communicated	They meet twice a year. Social subjects are discussed in meetings.

CSRC processes – sensemaking and sensegiving within a context of Consistency and Transparency

There is no apparent evidence of a link between the company values and getting legitimacy. The Aljustrel City Council considers ALMINA is still very young in the mining sector and has still a long way to go regarding CSRC.

"*Almina's first steps began recently in this direction. An example of this is the constitution of a commission oriented to the environmental issue. I think it is an area (Social*

Responsibility) where they can improve a lot. Communication contributes to the perception that people have. It is much easier to create a negative perception of the mining sector if the information that comes out (in the media) about the mine is just an accident… it is the fear that differentiates the good perception and the bad perception of the mining sector. Clear communication policies are needed, explaining to people how they actually operate…They don't even have a communication structure."

The CAA meeting is the place where the company communicates its actions in response to stakeholders' concerns. CAA consistently meets every three months and the general perception is that the subjects are discussed in an open and transparent way. There are no public disclosure reports. Nevertheless, the company should communicate more.

"There is conflict within the company, with workers. But this posture, at least from the point of view of communication, exists. Humberto Costa Leite assumes that he wants a company cherished by the community ... I think they are at a point they want to, even to preserve social peace within the company, there is a lot that they do that they do not communicate".

According to the internal stakeholder, the company values are not decided in order to get legitimacy, "they are inherent to the proper social responsibility of a reputable company and with specific values of mining activity, in more or less isolated places". The internal stakeholder advocates the company communicates its CSR actions relating them to its identity. The company performs according to its values, thus its actions make sense, "health insurance for the worker and his family; life insurance for risky jobs; medical assistance in the workplace, etc.". These benefits are consistent over time and are consistent with company policy. The company does not communicate its CSR activities, there is no need considering "social responsibility is visible and present in its activity". According to the internal stakeholder, Almina communicates with transparency, telling the whole story to "whoever wants to hear or listen", clearly reporting positive and negative aspects of the company's activity.

STIM perception is that company behaviour can be deceiving, CSR actions are not due to the company considering itself responsible but the purpose is to get acceptance from society and run its activity, "the social part, they want to implant it now so that they can

get credits from society… they don't have the slightest respect for workers…they don't have a mine safety culture".

According to DGEG, the perception is that *"the entry of the new chairman of the board of directors of ALMINA, the old attitude has changed significantly. Previously the attitude towards the local community was different. It might have been a misperception, but it was what they showed. And even at the closing meeting we sometimes commented on something and addressed the issue of social responsibility. There was some friction here by the ALMINA administration at the time. Not now, now we notice that the change has been huge and there is more social responsibility"*.

Although ALMINA CSR has been improving, the perception is that the real goal of the company "is to exploit as much as it can and to get as much profit as possible". The company is consistent and transparent. They always act according to what they commit to and they do it transparently. If something important happens at the mine, "they cannot hide it from anyone, everybody gets to know what really happened". The technical reports and the environmental reports have to include everything, whether it is positive or negative, "the reports are mandatory and have a predefined structure".

A summary of the findings regarding dimensions CSRC processes of sensegiving and sensemaking within a context of transparency and commitment is presented in (Table *24*).

Table 24 - Aljustrel mine - CSRC processes of sensegiving and sensemaking within a context of transparency and commitment

Stakeholder	Sensegiving/ sensemaking	Consistency	Transparency
Aljustrel City Council	There is no apparent evidence of a link between the company values and getting legitimacy. The stakeholder perceives the company "is still very young in the mining sector and has	The environmental monitoring committee consistently meets every three months	"Clear communication policies are needed, explaining to people how they actually operate"; The general perception in the environmental

	still a long way to go regarding CSRC".		monitoring committee meetings is that the subjects are discussed in an open and transparent way.
Internal stakeholder	Considers the company performs according to its values, thus its actions make sense	Benefits are consistent over time and are consistent with company policy – "health insurance for the worker and his family; life insurance for risky jobs; medical assistance in the workplace"	Company communicates with transparency, telling the whole story to "whoever wants to hear or listen", clearly reporting positive and negative aspects of the company's activity.
STIM	Perceives company behaviour can be deceiving, CSR actions are not due to the company considering itself responsible but the purpose is to "get credits from society… they don't have the slightest respect for workers…they don't have a mine safety culture"	Not possible to identify "company consistency" in STK F narrative	Not possible to identify "company transparency" in STK F narrative
DGEG	"Previously, the attitude towards the local community was different… now it has changed significantly"; the perception is that the real goal	The company is consistent, it acts according to what they commit themselves.	The company is transparent, "they cannot hide it from anyone, everybody gets to know what really happened".

	of the company "is to get as much profit as possible"		The technical reports and the environmental reports have to include everything, whether it is positive or negative

IP– Exchange, adaptation and coordination

The Aljustrel City Council and Almina meet frequently to exchange information and discuss subjects such as Parque Mineiro, CAA and technical matters.

ALMINA has made some old real estate available for Aljustrel City Council, to revitalize and become part of the mine heritage. They also signed a protocol where ALMINA donated land in the existing mining districts, allowing the legalization of these land plots to conclude a twenty- year-old legalization process of the mining districts within Aljustrel Council (Correio do Alentejo, 5th March 2013). The Aljustrel City Council considers Parque Mineiro is a partnership with Almina and EDM.

Meetings with the internal stakeholder go from "daily, informal, not scheduled" to "at least every six months, depending on the hierarchical position". Daily meetings are meant to discuss short and long-term issues. Other meetings are meant to discuss "workers and company concerns".

Whenever requested, the company provides "use of company spaces for workers" and "provides training" with its own resources. Nevertheless, adaptation is mainly on the side of the employee, "the workers are those who have to adapt. They knock on the door, asking for a job. Let us not turn things upside down. The company belongs to the investor and not the other way around". The relationship between the company and the internal stakeholders is guided by "a written contract where the most important terms are mentioned".

There is no exchange, no adaptation and no coordination between Almina and STIM. There is no relationship, "there is no communication". The company does not allow this

stakeholder to enter the company facilities and neither accepts any kind of meeting, "we are forbidden to enter ALMINA's doorstep, to carry out our union action".

They do not get together, they do not discuss any subject unless there is a third actor, "the only way we had contact and managed to talk with them, was at DGERT- General Directorate for Employment and Labour Relations, Ministry of Labour". On STIM side there is a strong will to start a relationship, "the only formality we have is to send a formal letter, but until today there has been no reaction. Every year we mail it. We hold plenary sessions, listen to the workers and prepare the claim forms and send them by registered letter and thus we know that they receive it".

DGEG visits the company at least twice a year. On each visit there is an opening meeting and a closure meeting. In these meetings they discuss technical, environmental and social responsibility issues. Almina activities may have to undergo changes to adapt to DGEG recommendations, "on more complex activities, the company asks for permission…when they have doubts, they ask for support". In order for the activity to exist there must be a formal concession contract between STK4 and the company. Most of agreements don't need formalization and DGEG fully trusts the company, "not everything is written down…there is trust in the company and in technical managers…we trust the company completely".

A summary of the findings regarding dimensions IP processes of exchange, adaptation and coordination is presented in (Table 25).

Table 25 - Aljustrel mine - IP - Exchange, Adaptation and Coordination

Stakeholder	Exchange/ Information Exchange	Adaptation	Coordination
Aljustrel City Council	Frequent interaction	Adaptation regarding environmental impacts	Legal matters are formalized, CSR agreements are not
Internal stakeholder	From "daily, informal, not scheduled" to "at least every six months"	Use of company spaces for workers; adaptation is mainly on the side of the employee	Written and signed contract
STIM	One meeting only, subject to a third actor participation	No adaptation	No coordination; formal letters from STIM have been sent to ALMINA

DGEG	Meetings at least twice a year	Company adaptation to STK recommendations G	A formal concession contract; most of the agreements don't need formalization

Outcomes – Cooperation, Commitment, Trust and Legitimacy

The Aljustrel City Council considers Parque Mineiro is a goal achieved together with Almina, and together with CAA, these are critical events that strengthened the relationship. Their relationship has been going on since 2009, the Aljustrel City Council is willing to continue with it and believes "there is no problem that cannot be overcome". It is a trustworthy company, on every subject, making STK1 feel special, "we are a privileged stakeholder. We have information that other stakeholders do not have. It does not seem to me that there is much going on here that we are unaware of". ALMINA is fair during negotiations and honours its commitments.

The CEO "wants a company cherished by the community". The way the company operates is accepted but there are flaws, "it can improve…there has been a gradual positive evolution and we feel at the moment that should be more relevant positive changes",

Together, company and workers managed to achieve the most important goal, "ore extraction and ore concentrate production". The internal stakeholder expects the relationship to last until he retires, "till I become seventy years old". It is a strong relationship, "every labour event has always been positive and has strengthened the relationship…there are no problems that cannot be solved" but eventually, "all ties will fade away".

The company is a partner to be trusted, "there is a trust relationship between employee and the company and so far, there is no reason for not trusting the company on every subject related to the mining industry activity". Almina honours its agreements is fair in "wages negotiations and business negotiations".

According to the internal stakeholder, the company receives positive and negative feedback from the media, "the image is positive as far as I know, although there are some media that try to denigrate this image". Almina performance led to its legitimacy, "32 years following this project/ concession of Aljustrel, only this group (Almina Holding)

has managed to operate successfully, pay wages and taxes, provide jobs and revitalize the sluggish economy that we had here".

As regards STIM, there is no cooperation, no commitment, no trust, no acceptance.

Both company and DGEG assure "the orebody is being exploited the best way possible…there is no ambitious mining[7]". The relationship with ALMINA started in 2009, and it will have to continue as long as there is activity. It is a relationship that has been strengthened by personal relationships. Sometimes difficult situations arise "but everything ends up being resolved and we end up reaching an understanding". DGEG trusts the company on "every subject…there is much trust in the company, much trust in the technical manager" and the company honours its agreements, "it acts according to what it says and commits to". The company not always receives good feedback from the media but that does not prevent DGEG from accepting the way the company performs.

A summary of the findings regarding dimensions IP processes of exchange, adaptation and coordination is presented in Table 26.

Table 26 - Aljustrel mine - Outcomes - Cooperation, Commitment, Trust, Legitimacy

Stakeholders	Cooperation	Commitment	Trust	Legitimacy
Aljustrel City Council	Considers Parque Mineiro is a goal achieved together with Almina	Parque Mineiro and CAA are critical issues that strengthened the relationship	Trusts the company; ALMINA is fair during negotiations and honours its commitments.	Accepts the way the company operates but there is room for improvement
Internal stakeholder	Together are achieving the most important goal, "ore extraction and ore concentrate production"	Long-term relationship (10 years)	It is a trustful relationship; the company honours its agreements	Accepts the way the company performs
STIM	No cooperation	No commitment	No trust	No acceptance
DGEG	Cooperation to assure the orebody	Long-term relationship (10 years) that	Trusts the company on every subject; the	Accepts the way the company performs

---

[7] Ambitious mining happens when companies extract only the most valuable ore in order to get more profit more rapidly. This kind of exploitation is forbidden by law because it is not of public interest. Companies may not leave behind mineral resources that will not be exploited in the future because its access has been compromised today.

	is exploited the best way possible	forcibly will have to continue	company honours its commitments	

Stakeholder long-term relationship management and social, economic and environmental benefits consolidation

The long-term relationship with the Aljustrel City Council is more than 10 years old and it is meant to last forever. The company policy is evolving towards considering stakeholders' interests, CAA is the example of the materialization of this intention. The Aljustrel City Council considers their relationship is characterized by dialogue and partnership. This stakeholder advocates that CAA and Parque Mineiro are the best social and environmental benefits resulting from this relationship. They are long-term benefit whenever company and stakeholder decisions lead to benefits that will last beyond mine closure.

The relationship with the internal stakeholder is nine years old and he believes his concerns matter to the company, "in this company I have been treated as a person and not a number". Altogether, the internal stakeholder would like this relationship to last beyond his retirement, "afterwards, I would like to maintain a healthy relationship of friendship and recognition". The internal stakeholder advocates stakeholder management is mainly information without consulting, investments must be profitable, technically appropriate, environmentally sound and socially responsible. Thus, fulfilling these objectives for the sustainable use of the resource, you do not have to ask for opinion or consult anyone. Only those who understand the "business" should be consulted". This stakeholder has pointed out CSR as a benefit from company and workers relationship, "Almina's continuous commitment to an ethical performance that simultaneously contributes to sustainable economic development and to improve workers and local communities wellbeing and society in general, is Social Responsibility".

There is no interaction with STIM, therefore is no relationship to manage nor any sustainable outcomes that might have been achieved together.

The relationship with DGEG is ten years old and will last as long as ALMINA is in the Portuguese market. Due to the authority of DGEG the company has to take its interests

in consideration. When communicating with DGEG, the company "addresses in three ways". With the exception of complex cases, "the company acts first and informs later". In more complex situations, the company consults DGEG and acts accordingly or even involves DGEG in the decision. The long-lasting benefit resulting from this relationship is the good use of a public domain resource, which is to exploit the orebody according to the best practices.

A summary of the findings regarding dimensions of Stakeholder long-term relationship management and Social, economic and environmental benefits consolidation are presented in Table 27.

Table 27 - Aljustrel mine - Outcomes regarding stakeholder management and sustainability

Stakeholders	Stakeholder long-term relationships management	Social, economic and environmental benefits consolidation
Aljustrel City Council	10 years old relationship and meant to last forever; ALMINA policy is evolving towards considering stakeholders' interests; dialogue and involvement	CAA and the Mining Park will lead to benefits that will last beyond mine closure
Internal stakeholder	9 years old relationship; meant to last even after retirement; information	CSR is a benefit resulting from company's relationship with workers
STIM	There is no relationship; STIM wants a relationship but ALMINA does not.	No relationship.
DGEG	10 years old relationship meant to last forever; mostly information and consultation and involvement in complex situations	Best exploitation of a public domain resource.

4.2.3 Lousal Mine Brownfield: EDM & Key Stakeholders Relationships

Lousal Mine is located in the civil parish of Azinheira dos Barros and São Mamede do Sadão, municipality of Grândola, district of Setúbal and covers an area of around 30 ha. Lousal village exists due to Lousal Mine project. Before the mine there were only two hills on a rural area dedicated to forestry, mainly cork, cattle breeding and some cereal culture. António Manuel, a rural worker that lived in a small village called Ermidas do Sado, about 8 Km from Lousal, discovered the sulphide orebody in 1882. The Lousal mine laboured continuously from 1900 till 1988, exploring massive sulphide ores, mainly pyrite, to use as a sulphur source for the sulphuric acid in the manufacture of fertilizers (Matos & Oliveira, 2013). It was only in the 1930s that the mine attained significant production and became a major employer in the region. The 60s hold the best productivity rates due to underground mechanisation. On one hand this modernisation allowed better working conditions, on the other hand less workers where needed. In order to mitigate this negative impact on employment, the mining company assigned the surplus workers to exploration and research works and housing and road construction (Ferreira, 1968). The 1970s where the beginning of the mine decay, as a consequence of a no longer economically viable exploitation. The mine closed in 1988 and Lousal became a derelict place.

About a decade later, around 1997, SAPEC, the mine owner and Grândola Council, developed a revitalization program called RELOUSAL. This program developed cultural and touristic infrastructures, namely the Mining Museum of Lousal, inaugurated in 2001. The old electric central has also been rehabilitated and an interpretation centre has been built (Chainho, 2011). The Live Science Centre opened in 2010, as a cultural and scientific divulgation institution, and provided some local employment. Though it is not economically autonomous, this cultural infrastructure makes Lousal a contributor to regional life quality, in areas such as education, culture and community spirit. The mine culture is still alive, old miners longing for good old times at the mine.

As previously mentioned, EDM – Empresa de Desenvolvimento Mineiro, S.A., is a holding representing the State interests in the Portuguese mining sector, also responsible

for the environmental remediation of mine brownfields. The origins of the company go back to 1966, when SMS – Sociedade Mineira de Santiago was created. In 1979 SMS came to be EMMA – Empresa Mineira e Metalúrgica do Alentejo, EP. In 1982, EMMA became EDMA – Empresa de Desenvolvimento Mineiro do Alentejo, EP. EDM, EP was established as a result of the merger of the public companies EDMA – Empresa de Desenvolvimento Mineiro do Alentejo, EP and Ferrominas, EP. In 1989, EDM, EP was transformed into a legal person governed by private law, in the form of a public limited company with publicly-owned majority shareholdings, becoming known as EDM – Empresa de Desenvolvimento Mineiro, S.A. The EDM timeline diagram is presented in Figure 6 (EDM,2018).
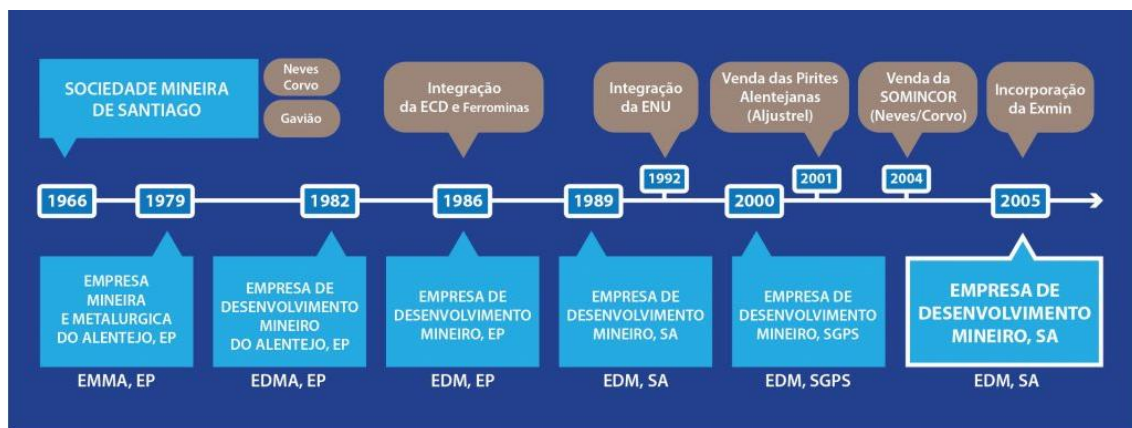

Figure 6 - EDM timeline (Source: EDM, 2018)

EDM was responsible for the environmental remediation of the Lousal mining area between 2010 and 2015. The former mining area of Lousal was the subject of two major environmental recovery operations. The first, in 2010/2011, consisted of modelling and preparation of a pyrite landfill, vertical waterproofing of the Dam Area, drainage of water with the construction of rainwater collection and leaching water collection ditches, an acid water treatment system, with the construction of wetlands located downstream of the cementation cells; construction of fences and footpaths; placement of topsoil; modelling of the tailings heap and sealing of galleries. The second, in 2014/2015, consisted of the sealing of shafts and tunnels; execution of a leachate and aeration channel; evapotranspiration dams; installation of fences and safety signs; construction wetlands and aeration channels; installation of fencing and signage in the wetlands; construction of stream wetlands; revegetation, and finally, the implementation of a surveillance,

control and monitoring plan. The investments were co-financed by the Cohesion Fund and allowed the environmental liabilities resulting from mining at this location to be resolved, bringing benefits to local populations through the improvement of current conditions and use of the areas reclaimed for other ends. (EDM, 2018).

Lousal remediation project is a special case. EDM mission regarding brownfields is "o be responsible for the environmental remediation of abandoned mines along with consequent monitoring and control (EDM, 2014-2021). This mission was accepted by EDM only regarding situations where the concession holders had disappeared or had gone bankrupt and were not contactable and then the Government assumed that situation. This was valid for all the abandoned mine sites except for Lousal, SAPEC was the mine owner and was still there. Due to political relationships Lousal has been considered a priority case. EDM felt there was some pressure from high political positions, due to personal relationships with the Foundation that had been created in Lousal, "you (SAPEC's management) make a lot of noise but someone might question why we spent money here if the owner still exists...you may be questioned and tomorrow you will have to return the money (which came from European funds) for all that was spent here".

In this case studies of mine brownfield remediation it was possible to interview an EDM member of former top management. The interview was done following the orientations of the interview guideline and the data collected was complemented by information collected from EDM website.

According to the company website, EDM has two main missions, to maximize knowledge of the country's mineral resources and to be responsible for the environmental rehabilitation and recovery of mine brownfields along with consequent monitoring and control (EDM, 2018, 2021).

The same website communicates the values of the company, trust – to demonstrate high standards of trust and credibility to those with whom the company forms relationships; ethics – to perform all acts in a highly ethical manner; competence – to promote knowledge and know-how as the cornerstones of its actions; efficiency – to guarantee processes that are based on simplicity, rigour and that generate value; transparency – to act responsibly in full compliance with all commitments assumed and sustainability – to

ensure the growth of the company and promote the development of the regions in which it conducts its operations (EDM, 2018, 2021).

The most favourable CSR decisions EDM considers having been taken, are the remediation works on abandoned former mining areas. These have been communicated on the company website, "São Domingos Mine environmental remediation, Aljustrel Mine environmental remediation, Lousal mine environmental remediation, Urgeiriça mine environmental remediation and others. Some of them have been news in the media, "at the invitation of the municipality, a meeting was held yesterday with EDM (Empresa de Desenvolvimento Mineiro), where a state of play was made on Environmental Requalification… and a strategy for using and enhancing the São Domingos Mine, in future projects" (Mértola City Council, 2021)

Meetings are the privileged way of communication to demonstrate stakeholders that the company integrate their concerns in future and ongoing projects.

Corporate communication is done mainly through meetings and information on the company website. Meetings were asked by stakeholders, sometimes every month. They intend mainly to discuss environmental recovery issues and stakeholders concerns regarding the rehabilitation projects promoted by EDM. There also have been presentations in strategic institutions, "I have been at NOVA and FEUP, giving a presentation on the work of EDM". In 2011, EDM edited the book "The Legacy of the Abandoned Mines – The Context and the Action in Portugal", an initiative that "has already had international recognition. This book was shown in Cornwall in Toronto and received much praise.... We also made a film about Urgeiriça".

EDM publishes its mission and values on its website only as "a management rule. Every company does that", and not in order to get legitimacy. In the same line of attitude, there is no evidence of a communication strategy to achieve sustainability goals, no communication to highlight any CSR actions, only narratives of environmental remediation on each mine brownfield.

Situations happened where communication was transparent but not clear, "It was not a question of transparency. It was really bad communication".

Meetings are meant to discuss remediation projects. They happen every time a stakeholder asks, sometimes every month. Whenever possible, adaptations have been made according to stakeholders' requests, "our goal is to make an intervention that meets the local people expectations…It is the community that receives the work done and the management of its continuity". In the past there were communication issues, "there were endless requests and the end of negotiation seemed to go on forever and nothing was being done…difficult dialogue, communication difficulties, even with internal teams. It was concluded that trying to be very collaborative or involve as many people as possible brought problems. So the company decided to decide for itself". I had another idea. I listened to others and then decided what I could and/or should incorporate into the project".

Some adaptations have been made but not together with the community. The company was aware of a few things that would benefit the community and tried to be responsive, but in an informal way. As an example, the walkways for visitors in the Lousal environmental rehabilitation project.

In the case of Lousal, there is an agreement with the Frédéric Velge Foundation. EDM did the environmental rehabilitation and "the Foundation is going to be in charge of the Live Science Centre and monitor and maintain and the works that have been done. A part of the protocol has been signed and hopefully the other part has already been signed".

EDM would like stakeholder relationships to go on "until the delivery of the intervention areas and as long as there is EDM, even beyond the completed work, EDM can be a technical backup of these stakeholders in relation to the work developed".

The company receives feedback from "the academia and European entities related to the mining sector. When it comes to the media, it is not news because the target audience has no scale. Unless the news is bad".

EDM has long-term relationships with the stakeholders involved and affected by the remediation works and would like the relationships to last "until the delivery of the intervention areas and as long as there is EDM". Stakeholders do not care about company

interests, "stakeholders usually look at EDM as a state-owned company from which they can withdraw money. They always look at EDM as a financial "partner" ... when stakeholders appear, they appear asking for money". This is a situation that has been observed in a stakeholders' meeting at Urgeiriça mine.

For general stakeholders, EDM does the project, does the works, and informs afterwards. Key stakeholders' relationships are usually characterized by dialogue, "there is dialogue and results will be there if there is common sense and agreement". Listen and incorporate is the way EDM would like to interact with key stakeholders, "the right thing to do would be to involve all local stakeholders and find a solution. That did not happen when I was the president and it has been realized that it was not possible to get there. It was intended that there would be a better approach to the situation of environmental rehabilitation, that is, to incorporate certain items in the project for a specific use. I admit that this has happened in some circumstances in a sporadic way. As happened with the football stadium bench as a result of an informal conversation. But it should be done systematically… Also, there is a strong political issue here, if I do not do what they want, they will complain politically that they did not get what they wanted. There is always political intrigue. In Portugal, nothing happens unless there is political intrigue.".

As stated by the interviewed, environmental remediation gives immediate environmental and social benefits that will last long if there is an appropriate management of the final result of the remediation, "the immediate benefits are environmental, regardless of the stakeholders. There is always an environmental improvement in these interventions. When there is dialogue, and I admit that there is in most circumstances, with stakeholders, there is an optimization of these environmental benefits that extend at the social level. And at the level of sustainability in a future perspective. So, the great benefits are being able to finish with the work the delivery to local stakeholders who are the ones who will guarantee sustainability in the medium and long term".

EDM identified the following key stakeholders in Lousal Case, "SAPEC (the owner of the land and former concession holder) and the Frédéric Velge Foundation, that included the Mértola City Council and the Lousal Live Science Centre". The Frédéric Velge Foundation was created in 1997 by SAPEC together with the Grândola City Council, and ceased in 2019.

In this case study two relationships have been analysed (Table 28Table *28*), the Grândola City Council and the Lousal Live Science Centre.

Table 28 - Lousal mine brownfield key stakeholders identified and available

1	Grândola City Council
2	Lousal Live Science Centre

CSR identity, CSRC purpose, CSR strategy

The Grândola City Council is responsible for and responsive to Grândola county communities' interests. The interviewed has been in Grândola City Council since 1974, with a break of 24 years between 1989 and 2013.

The Grândola City Council does not know specifically what EDM values stand for. There is no awareness that EDM communicates its values and beliefs and no awareness of EDM most favourable CSR decisions. They met only a few times, there is no relationship, communication only happened when they met at events, "we have been invited for two or three ceremonies, every time they ended a phase of the project… whenever EDM board came here or other entities, we went there as a formal guest, nothing was ever discussed with us regarding the project itself."

The Lousal Live Science Centre opened its doors in 2010. It has been created under the Revitalization Programme RELOUSAL – Project for the Lousal Integrated Development and is part of the Live Science Network, managed by the National Agency for Scientific and Technological Culture. This Live Science Centre explores the theme of geo-resources with the collaboration of researchers from academy (Matos & Oliveira, 2013).

The Lousal Live Science is not familiar with EDM values and neither is aware of any communication regarding the company identity. However, The Lousal Live Science recognizes favourable decisions the company had regarding CSR, such as "the environmental remediation where walkways have been built for regular visitors, and also to allow visitors will reduced mobilisation".

The relationship with EDM goes back to 2006, in the early steps of the Lousal Live Science Centre. They get together to discuss formal issues. Operational issues are discussed by phone or email. Generally those are discussions on environmental issues.

A summary of the findings regarding dimensions of CSR identity, CSRC purpose and CSR strategy is presented in Table *29*.

Table 29 - Lousal mine brownfield - CSR identity, CSRC purpose and CSR strategy

Stakeholder	CSR Identity	CSRC purpose	CSR Strategy
Grândola City Council	Not familiar with company values	No awareness that the company communicates its values and beliefs	There is no relationship, communication only happens when they met at events
Lousal Live Science Centre	Not familiar with company values	No awareness of any communication regarding the company identity	Response strategy. Meetings to discuss formal issues and emails or phone calls to discuss operational issues. The subject is always the environmental remediation.

CSRC processes of sensemaking and sensegiving within a context of Consistency and Transparency

The Grândola City Council is not aware of any communication regarding either company identity or CSR actions. Company actions make sense for the Grândola City Council regarding what has been done, "what was done there was well done and I think that from an environmental point of view, what is there is fundamental to the preservation of the environment and to keep that community safe from any other environmental hazards". Nevertheless, the Grândola City Council thinks the future will be difficult, "we fear about the future because a set of lagoons and some instruments of environmental preservation were built in defence of the environment and they will need maintenance in the future

and the land is owned by SAPEC. From what I have been hearing, I realize EDM will not be the right entity to maintain those lagoons and everything that was built there, and so I admit that in the future we will have some discussions around that".

The relationship is not long enough to understand whether EDM is transparent or acts according to its values, "I can't answer because our relationship was too short". Meetings only happened in formal events.

Having been told what the EDM values are. The Lousal Live Science acknowledges there is an effort to follow their values, "I recognize that they make an effort to be guided by these values. This in relation to the people I know, the operational staff, I cannot speak about the highest level of EDM with whom I do not have a relationship".

Meetings with EDM used to be more frequent and monitoring the environmental remediation is not so consistent anymore, "in the past yes, now less… now we do constant "monitoring" during the visits and have a natural perception of small variations. And EDM comes and takes swift action". The relationship is honest, "they never hide anything, they never do anything without telling us".

A summary of the findings regarding dimensions CSRC processes of sensegiving and sensemaking within a context of transparency and commitment is presented in Table 30.

Table 30 - Lousal mine brownfield - CSRC processes of sensegiving and sensemaking within a context of transparency and commitment

Stakeholder	Sensegiving/ sensemaking	Consistency	Transparency
Grândola City Council	Company actions make sense for this stakeholder, regarding its actions, "what was done there was well done… to keep that community safe from any other environmental hazards"	Not possible to identify "company consistency" in this stakeholder narrative	The relationship is not long enough to understand whether EDM is transparent or acts according to its values; Meetings were casual and only happened in formal events.

Stakeholder			
Lousal Live Science Centre	Acknowledges there is an effort of the company to follow its values	Meetings used to be more frequent and monitoring the environmental remediation is not so consistent anymore	The relationship is transparent, "they never hide anything, they never do anything without telling us".

IP – Exchange, adaptation and coordination

The Grândola City Council and EDM only met in official events and then there was some communication on abandoned mines remediation. The Grândola City Council tried to approach, "because we have other mines and we tried they would take care of these mines as well. But there has been no availability so far". There is no sharing of resources, no activities adaptations and no cooperation.

Meetings between the Lousal Live Science Centre and EDM are not frequent and usually happen at EDM request, to discuss matters related to environmental remediation works.

Some adaptations have been made to the remediation project, such as "the wooden walkway that allows the visit to the open pit mine in an integrative way, even for those with reduced mobility". There is no formalization on what is agreed.

A summary of the findings regarding dimensions IP processes of exchange, adaptation and coordination is presented in Table *31*.

Table 31 - Lousal mine brownfield - IP - Exchange, Adaptation and Coordination

Stakeholder	Exchange/ Information exchange	Adaptation	Coordination
Grândola City Council	No relationship; some talk on brownfields remediation through interaction in official events	No relationship	No relationship
Lousal Live Science Centre	Meetings are not frequent and usually happen at EDM request; discussion on environmental remediation works	Project adaptations	No formalisation on what is agreed

Outcomes – Cooperation, Commitment, Trust and Legitimacy

There are not any outcomes from interactions between the Grândola City Council and EDM. The absence of a relationship is an issue for the Grândola City Council, trusting is hard when there are no assurances regarding the future, "EDM is still responsible for water treatment. It worries us if, at a certain time, they will abandon the monitoring of the treatment plants".

The relationship between the Lousal Live Science Centre and EDM started in 2006 with the RELOUSAL project. According to this Centre, RELOUSAL project is a goal achieved through cooperation. It has been designed to revitalize Lousal. Cooperation between the Lousal Live Science and EDM allows visitors to have a broader knowledge on what Lousal has to offer, "EDM explains the environmental works to The Lousal Live Science visitors and The Lousal Live Science explains EDM guests how the museum works".

It is important for the Lousal Live Science Centre that this relationship continues, "it ensures the extent of knowledge about the remediation works that have been made". The Lousal Live Science recognises "EDM's availability to support visits strengthens this relationship and links that are difficult to break due to the good relationship with EDM's interlocutors. There are no issues that weaken the relationship and …yes, there are operational difficulties but those are solved and do not interfere in the relationship". It would be a lost for The Lousal Live Science if this relationship ended, "the Living Science Centre will lose and EDM will also lose because there is a symbiotic relationship between the two institutions".

It is a relationship based on trust, "we trust EDM because there was never anything that was done that was not transparent, nor was it done differently than what was said. There is no disappointment". Although the Lousal Live Science accepts the way EDM performs, it would like "EDM to improve its presence here to improve monitoring and maintenance".

A summary of the findings regarding dimensions IP processes of exchange, adaptation and coordination is presented in Table *32*.

Table 32 - Lousal mine brownfield - Outcomes - Cooperation, Commitment, Trust and Legitimacy

Stakeholder	Cooperation	Commitment	Trust	Legitimacy
Grândola City Council	No relationship, no cooperation	No relationship, no commitment	No relationship, no trust	No relationship, no legitimacy
Lousal Live Science Centre	RELOUSAL project is a goal achieved through cooperation	Relationship started in 2006; lost for LLSC if relationship ended	LLSC trusts EDM	There is no disappointment

Stakeholder long-term relationship management and social, economic and environmental benefits consolidation

According to Grândola City Council, EDM only informs and acts without consulting the municipality, "unless that happened before my mandate". There are no long-lasting benefit resulting from interactions between this stakeholder and EDM.

The relationship between EDM and the Lousal Live Science Centre is thirteen years old and this stakeholder would like it to last forever. In particular due to the fact that EDM considers The Lousal Live Science Centre interests when it comes to decide. This relationship can be characterized by two ways, "EDM informs and acts without consulting the Centre" and "whenever EDM thinks it might affect the Centre, EDM consults the Centre". EDM "does not involve the Lousal Live Science Centre in decision making regarding remediation projects".

The long-lasting economic benefits resulting from this relationship are very few, "it has to do with people interest to visit us and that is a share of benefit for the Lousal Live Science Centre operation". Social benefits are more outstanding, "society benefits because this space is better and is optimized in the relationship between the Lousal Live Science Centre and EDM. Not only for the local population but for the country in general". Environmental benefits are resulting from this relationship are obvious, "we are an operation that is on the ground and we can very quickly alert EDM to situations that

can get out of control…these are issues that are solved in the short-term but have long-term effect".

A summary of the findings regarding dimensions of stakeholder long-term relationship management and social, economic and environmental benefits consolidation are presented in Table *33*.Table *33*

Table 33 - Lousal mine brownfield - Outcomes regarding stakeholder management and sustainability

Stakeholders	Stakeholder long-term relationships management	Social, economic and environmental benefits consolidation
Grândola City Council	No relationship, just a few social interactions; information	No benefits resulting from interactions
Lousal Live Science Centre	13 years old relationship, that this stakeholder would like to last forever; usually information, consultation when activities may affect the Lousal Live Science Centre	Lousal Live Science Centre facilities optimization has social and environmental benefits to local community and public in general

4.2.4 Aljustrel Mine Brownfield: EDM & Key Stakeholders Relationships

In the late 90's there were problems in keeping Aljustrel Mine active and the Government decided to do something to avoid closure. To achieve that purpose, the Government negotiated with the new concessionaire that the environmental liabilities from past activity would be Government's responsibility. Thus, the Government disaffected a large parcel of the mine concession area that had already become a brownfield and started the decontamination in 2006 (interview EDM, 2018).

The environmental rehabilitation of the Aljustrel Mining Complex took place from 2006 to 2015. A similar system to that of Lousal has been installed and was carried out in four

stages and covered the mining areas of Algares, São João and Moinho, as well as the metallurgical area of Pedras Brancas (EDM, 2018).

According to EDM (2018), the key stakeholders for this remediation project were the Aljustrel City Council and the company ALMINA. Aljustrel has a strong mining culture and Aljustrel City Council was deeply interested in the recovery of some mine buildings to assure the mine heritage and cultural tourism. ALMINA is not only concessionaire since 2008 but also the landowner of the concession area and of the disaffected area.

According to Lusa (2020), Aljustrel has now the biggest urban mining route in the country. It has been created within the scope of the TransAlentejo project and is already homologated and registered.

In this case study two relationships have been analysed, involving key stakeholders such as the Aljustrel City Council and ALMINA, the company presently managing the mining activity (Table *34*Table *34*).

Table 34 - Aljustrel mine brownfield key stakeholders identified and available

1	Aljustrel City Council
2	ALMINA

CSR identity, CSRC purpose and CSR strategy

The Aljustrel City Council is not aware of EDM values specifically and neither EDM is communicating its identity except for what is mentioned in the company website. This stakeholder praises EDM work and its impacts, "not only it is exemplary in the relationship we have had, but from the point of view of some projects I think they should serve as a model for the work that is being done in the rehabilitation of some mining areas". This relationship goes back to 2009. According to EDM, "whenever the City

Council wanted to talk about something, we always received them … we always previously scheduled meetings…sometimes we met every month".

The meeting's agenda focuses on issues such as "environmental remediation and mineral exploration concessions". According to EDM, Aljustrel community clearly stated that "they want to preserve the mine heritage" and social actions happened to fulfil stakeholder expectations, "namely the Chimney in Aljustrel…the adaptation of the soccer field bench", among others.

Some of the Aljustrel mine concession area has been reduced and is now assigned to environmental recovery purposes. The land is still owned by ALMINA but the environmental remediation is EDM's responsibility.

ALMINA is not familiar with EDM values but is aware of EDM responsibility towards environmental remediation of abandoned mines, "I think that all the land for this environmental remediation is ours. But it was the responsibility of EDM to recover Algares because it once was EDM's. We discussed a few things with EDM but the responsibility was theirs". This relationship was born in 2009 and they rarely meet. When they get together, they discuss issues regarding what will happen after remediation works are done.

A summary of the findings regarding dimensions CSR identity, CSRC purpose and CSR strategy is presented in Table *35*.

Table 35 - Aljustrel mine brownfield - CSR identity, CSRC purpose and CSR strategy

Stakeholder	CSR Identity	CSRC purpose	CSR Strategy
Aljustrel City Council	Not familiar with company values	Company only communicates its values on company's website	Response strategy – fulfilment of stakeholder expectations
ALMINA	Not familiar with company values; aware of company's responsibility towards environmental remediation of abandoned mines	Company only communicates its values on company's website	Pro-active dialogue – discuss post-remediation issues

CSRC processes – sensemaking and sensegiving. Consistency and Transparency

The Aljustrel City Council realizes EDM values have been designed not only to get legitimacy but also because the company recognizes its social responsibility towards the community. However, this perception is more or less perceivable "depending on the interlocutors, who have not always been the same". The communication strategy regarding EDM's CSR achievements happens mainly through "its website, through floppy disks and books" such as "The legacy of Abandoned Mines", published in 2011.

The Aljustrel City Council does not think EDM communicates its actions relating them to its values. Nevertheless, communication is transparent, "regarding the relationship with us, it seems to me that they are transparent… we have always felt this openness to dialogue, to listen to us before and during interventions".

ALMINA's perception on EDM's performance is that the environmental remediation project has not been properly designed to meet sustainability goals. In ALMINA's opinion, "a lot of money has been spent on this recovery and it is not clear what is the use of the money that was spent. That is useless...". They also believe remining that area in the future will be compromised, "this area has been exploited as an open pit probably 50 or 60 years ago…we did some drilling and we know there is a bit of copper there but now, we can no longer know if there could be some more mining or not. Therefore, I believe that environmental recoveries should be better thought". Neither consistency nor transparency have not been identified in this relationship.

A summary of the findings regarding dimensions CSRC processes of sensegiving and sensemaking within a context of consistency and transparency is presented in Table *36*.

Table 36 - Aljustrel mine brownfield - CSRC processes of sensegiving and sensemaking within a context of consistency and transparency

Stakeholder	Sensegiving/ sensemaking	Consistency	Transparency
Aljustrel City Council	Values have been designed not only to get legitimacy but also because the company recognizes its social responsibility towards the community	Does not communicate its actions relating them to its values	Communication is transparent

ALMINA	The environmental remediation project has not been properly designed to meet sustainability goals	Not possible to identify "company consistency" in ALMINA narrative	Not possible to identify "company transparency" in ALMINA narrative

IP processes – Exchange, adaptation and coordination

EDM made some resources available, "the buildings that belonged to EDM, from the mining club, we also made a donation or sold at the price we had in the accounts, I don't remember accurately how that was done". Adaptations to the remediation projects have also been made to meet stakeholder expectations, such as "the adaptation of the soccer field bench, that was a request from the community and it has been done" and "the chimney in Aljustrel was built at City Council request." Aljustrel City Council also mentions that the Mining Park is a project that has been promoted by the Aljustrel City Council and holds two other entities, EDM and ALMINA. The Mining Park is a project that has been announced in the media, as a reference of a partnership between Aljustrel City Council, EDM and Almina (Diário de Notícias, 2019) and a project that not only will allow visitors to experience an underground mine gallery but also will preserve the Aljustrel community mining identity (Tribuna do Alentejo, 2019). Aljustrel City Council also mentions that they have prepared some projects together with EDM, namely the rehabilitation of a mine gallery to allow visitors, that became the most interesting asset of the Mining Park.

According to Aljustrel County City, there is no need to formalize what has been agreed, "EDM has always made the good decision to always consult us. We go far beyond the formalism between the two institutions".

There are processes of information exchange between EDM and ALMINA, "we discussed some matters with EDM but the responsibility was theirs". There is no evidence that EDM made any resources available for ALMINA or any project or schedule adaptations. Although the adaptation process has not been identified, the process of coordination may happen in the future, "what we discussed and what we talked with the Aljustrel City Council too, as a partnership of three, was what we would be doing after the remediation works are done".

A summary of the findings regarding dimensions IP processes of exchange, adaptation and coordination is presented in Table *37*.

Table 37 - Aljustrel mine brownfield - IP - Exchange, Adaptation and Coordination

Stakeholder	Exchange/ Information exchange	Adaptation	Coordination
Aljustrel City Council	Meetings were frequent	Company resources made available; adaptations to remediation projects according to community request	No need to formalize agreements; preparation of projects together
ALMINA	Some meetings	No adaptation	Future partnership

Outcomes – Cooperation, Commitment, Trust and Legitimacy

The mine gallery rehabilitation for people to visit has been a result of dialogue and cooperation between EDM and Aljustrel City Council, "everyone[8] who visited that gallery yesterday was delighted with what they saw and therefore this is the result of a dialogue and the capacity for cooperation between two institutions, in this case the municipality and EDM".

This is a relationship that started in 2009 and the Aljustrel City Council wants to continue this relationship. Due to personal very good relationship it would be very difficult to end this relationship. There are no problems that cannot be overcome. The Mine Gallery strengthened our relationship. The City Council did not choose to have a relationship with EDM, they think it is their duty. It would be bad if the relationship ended. They trust EDM, in all issues. The relationship has been very good regardless of whom might be in the board. EDM has always been fair in negotiations and honoured agreements.

Cooperation, defined as goals achieved together, may be found in the contribution ALMINA had to EDM's remediation project success, "there has been a tender for this

---

[8] The previous day, 18th March 2019, the Secretary of State for Energy, João Galamba, and other entities, visited the Mining Park project.

public work, some company won this contract and here and there we have collaborated on a few things".

The study of this relationship did not clearly unveil if there is trust between EDM and ALMINA and some statements point out that trust is not present. EDM claimed "we didn't have to ask ALMINA for permission. If they didn't like what we were doing, tomorrow we would demand that they would do it". ALMINA questioned the project management, "I am questioning the usefulness of the money that has been spent. That is useless…. And so I think that environmental recoveries should be better planned". Commitment and legitimacy have not also been identified.

A summary of the findings regarding outcomes dimensions of cooperation, commitment, trust and legitimacy is presented in Table *38*.

Table 38 - Aljustrel mine brownfield - Outcomes - Cooperation, Commitment, Trust and Legitimacy

Stakeholder	Cooperation	Commitment	Trust	Legitimacy
Aljustrel City Council	The mine gallery rehabilitation is the result of cooperation between municipality and EDM	Relationship that started in 2009; AAC wants to continue this relationship; no problems that cannot be overcome	AAC trusts EDM; fair in negotiations and honours agreements	AAC accepts the way the company performs
ALMINA	ALMINA has collaborated for the remediation project success	No commitment	Trust not found	ALMINA does not accept the way EDM performs

Stakeholder long-term relationship management and social, economic and environmental benefits consolidation

EDM dialogues, consults and involves, "EDM has always listened to us, has always consulted us, we even prepared some projects together, namely the preparation of the application for the rehabilitation of the mine gallery on floor 30. Parque Mineiro project. Nowadays it is the great ex-libris of the Mining Park project".

The environmental remediation is a long-term benefit that dragged along social benefits. "The creation of a formalism that allows the set of stakeholders to discuss the solutions"

led to the correct actions. "There cannot be one on the side of the problem and others on the side of those who point out the problem, but there we established a principle of trying to respond to the problem together".

According to Aljustrel City Council the rehabilitation of the mine gallery "is the result of a dialogue and the capacity for cooperation between two institutions, in this case the municipality and EDM" and EDM adds, "the gallery was built in response to requests from local authorities. But these do not assume its exploitation because it has an associated cost. We need to fine-tune some questions with Almina and someone must be there for it to work. It's been like this for two years. It is visitable but not open to the public. The land is owned by Almina and the work is by EDM, within the recovery concession".

"As a whole, this Mining Park project has received unanimous acceptance by the population, and we know that in politics, it is not easy to make decisions that bring together the consensus. This has to do with the mining identity. So, everything is meant to preserve this identity in this community".

EDM only informs and acts without consulting ALMINA. There is no evidence of long-lasting benefit resulting from interactions between EDM and ALMINA.

A summary of the findings regarding dimensions of stakeholder long-term relationship management and social, economic and environmental benefits consolidation are presented in Table *39*.

Table 39 - Aljustrel mine brownfield - Outcomes regarding stakeholder management and sustainability

Stakeholders	Stakeholder long-term relationships management	Social, economic and environmental benefits consolidation
Aljustrel City Council	10 years old relationship; dialogue, consultation and involvement	The rehabilitation of the mine gallery and the Mining Park project, both to preserve the community identity
ALMINA	10 years old relationship; information	No long-lasting benefits resulting from this relationship

4.2.5 São Domingos Mine Brownfield: EDM & Key Stakeholders Relationships

The village of São Domingos Mine is located in the Parishes of Santana de Cambas and Corte do Pinto, within the Mértola municipality, 17 Km far from the village of Mértola (Guita, 2011)

São Domingos mine, as most of the mines located in the IPB, dates back to the pre-roman times, extracted gold, silver and copper (Álvarez-Valero et al., 2008). The ore deposit has been explored during the first millennium B.C. (Oriental period), between 14 B.C. and 395 A.C. (Islamic period) and between 1854 and 1966 (Modern period) (Guita, 2011). Since the early times of the Modern period it has been considered an economic success (Guimarães and Cebada, 2016).

In 1854, the land and its potential are rediscovered, and around 1857 the English company Mason & Barry obtains an exploration concession from the landowners, the Spanish Mining Society La Sabina, and begins more than a century of mining. From 1858 onwards, a period of greater prosperity began, with marked demographic growth.

The mine exploitation has been innovative and in order to reduce costs, hydrometallurgy, also designated as 'natural cementation', has been a process developed and applied for the first time at the São Domingos mine, at the Achada do Gamo facility, located 3 km from the mine. The main problem generated by this process resulted from the periodic discharges of sulphated waters in the Guadiana River (Guimarães and Cebada, 2016).

At the end of the 1950's, mining extraction declined and the social and economic crisis began. In 1966, alleging depletion of mineral resources, the mine closed. The absence of adequate rehabilitation after the closure, led to the decay of the territory, forced hundreds of families to move to the greater Lisbon area or abroad and left a huge environmental liability. According to Serrão Martins Foundation (2019), the development strategy is towards finding solutions to environmental problems and to safeguarding and valuing the mining heritage. On the 3rd of June 2013, the Mina de S. Domingos mining complex became part of the "Public Interest Group".

EDM has been implementing an environmental remediation project since 2106. This project has been divided into six intervention phases. Phase one includes works for the restoration of the collection system of run-off Water drainage channels in the right bank of the former mining area; Phase two does the same works as Phase one, in the left bank; Phase three, encompasses the concentration and confinement of mining waste; Phase four comprehends the drainage and treatment system of acid waters; Phase five involves decontaminating the Ribeira de Mosteirão valley downstream the former mining area and Phase six, comprises the recovery and the tourism valorisation of the mining heritage.

Phase 1 has been concluded, the consignment of Phase two works has been signed on the 5th of June 2019 and in 2021 EDM and the Mértola City Council met to discuss the environmental rehabilitation and future revitalization projects strategy (Mértola City Council, 2021).

The Mértola City Council, the Serrão Martins Foundation and the company La Sabina, have been identified by EDM as key stakeholders. It was possible to interview the Mértola City Council and the Corte do Pinto Parish Council (Table *40*). Some information has been collected through observation, namely attending the São Domingos Mine Interdisciplinary Conferences, which took place from 2014 to 2020.

Table 40 - São Domingos mine brownfield key stakeholders identified and available

1	Mértola City Council
2	Corte do Pinho Parish Council

The Mértola City Council is responsible for and responsive to Mértola county communities' interests. This entity has been deeply involved in the redevelopment of São Domingos Mine, as a partner in some touristic and cultural entrepreneurships. On the 7th of November 2014, the first Interdisciplinary Conferences of the São Domingos Mine - "Mines, technologies and education: convergences" took place, promoted by the Centre for History and Philosophy of Science Studies at the University of Évora, together with

the Mértola City Council and the Serrão Martins Foundation[9]. Since then, this event has been held annually. In the 2016 edition, EDM participated in the round table subject to the theme "Heritage, Tourism and Sustainable Development for a territory in Baixo Alentejo".

The São Domingos Mine village belongs to the Corte do Pinto Parish Council where there are several archaeological remains scattered throughout the area that refer to a pre-Roman occupation. Since the beginning of the mining operation, Corte do Pinto was also a place of settlement for workers and families from other places, consisting mostly of miners and domestic women with large households.

CSR identity, CSRC purpose and CSR strategy

As mentioned previously, EDM values are trust, ethics, competence, efficiency, transparency and sustainability. Neither the Mértola City Council nor the Corte do Pinto Parish Council know EDM values but can recognize some of them in their actions.

EDM's identity has not been communicated neither to the Mértola City Council nor to the Corte do Pinto Parish Council. Once they have been told what EDM values are, stakeholders may identify EDM's behaviour with its values though EDM does not have any strategy to communicate either its identity or its CSR actions. Though EDM does not explicitly communicates on CSR subjects, it considers preserving the mining heritage when doing environmental remediation is a good CSR decision, as socially important as the remediation itself. The company is aware that São Domingos community expectation is "to preserve the mining heritage". Whenever necessary, EDM meets with the Mayor and whenever possible adjusts the remediation project works to stakeholders expectations. This relationship has been going for a long time, mainly discussing issues related to the environmental remediation and the future touristic use of the mine heritage.

According to EDM, ideally the company would "involve all the local community and find solutions together". This communication strategy "would lead to a better environmental

---

[9] The Serrão Martins Foundation has been created in 2004 by the Mértola City Council and the company La Sabina (https://www.fundacaoserraomartins.pt/ accessed 13th March 2018).

remediation approach by incorporating benefits, for future use, in the project". There was a problem with the implementation of this strategy, "mainly due to actors that lacked communication skills", people kept making requests, political intrigues arose and no decision was made, nothing was done, thus delaying the environmental remediation solution indefinitely. The new approach, "I can imagine what is necessary, I listen and then I incorporate it into my project", together with new EDM actors, lead to better results and environmental remediation projects started to be implemented.

Accepting some suggestions has been considered a good CSR decision "the questions I had (Corte do Pinto Parish Council), I sent to the constructor engineer giving knowledge to the EDM engineer who has always answered me".

To demonstrate EDM integrates stakeholders' expectations in the remediation projects, the company meets with stakeholders, in particular with the Mértola City Council, and whenever possible adapts. The company has been dialoguing with the Mértola City Council for a long time, mainly discussing issues related to the environmental remediation and the mining heritage. EDM technicians also have casual conversations with the Corte do Pinto Parish Council.

The frequency of contacts has been increasing. "Yes, we (Mértola City Council) have had a lot of contact with EDM since Professor Gaspar Nero's time and previously, trying to understand how this company could also support the municipality. This relationship became more practical when we started the São Domingos environmental requalification project, and after we had a lot more contacts with EDM… EDM meetings are only with us normally with the people who are working here in the recovery of the environment".

The Parish Councillor has been having regular informal meetings with the EDM environment manager since 2017.

The Mértola City Council participated in the decision process of the recovery of the patrimony, "we suggested what the trees and the elements to cover should be, we were always aware of the project. Obviously, the final decision is always made by EDM, but the City Council has always been aware of this process".

The Parish Councillor discusses environmental issues and remediation works, "we discussed environmental issues and everything, the company's concerns".

A summary of the findings regarding dimensions CSR identity, CSRC purpose and CSR strategy is presented in Table *41*.

Table 41 - São Domingos mine brownfield - CSR identity, CSRC purpose and CSR strategy

Stakeholder	CSR Identity	CSRC purpose	CSR Strategy
Mértola City Council	Not familiar with company values	No awareness that the company communicates its values but able to identify company's behaviour with its values	Old relationship, meetings with stakeholder and whenever possible adapts projects to stakeholder expectations – response strategy
Corte do Pinto Parish Council	Not familiar with company values	No awareness that the company communicates its values but able to identify company's behaviour with its values	Accepts this stakeholder suggestions – response strategy.

CSRC processes of sensemaking and sensegiving within a context of Consistency and Transparency

EDM did not decide its values in order to get legitimacy, nor even puts much effort in their communication strategy or relates its actions to its identity. According to the Mértola City Council, EDM shows "they are responsible but in turn they want to get acceptance, legitimacy ". The Parish Council perception says EDM gets the stakeholder approval, because the stakeholder cherishes the way "EDM interlocutors behaviour makes sense", how "EDM interlocutors respect, listen and are transparent and consistent in complying with what is agreed" and EDM also "cares about its stakeholders".

There is no evidence of communication strategy and no communication related to its identity. The environmental remediation projects reports are published in EDM website but no specific relation to CSR or sustainability is made. After EDM values have been told to the Parish Council, principles such as trust, ethics, efficiency, transparency and sustainability have been recognized on EDM actions.

Albeit the apparent indifference towards CSRC, both stakeholders' perceptions are that EDM communicates its decisions and actions with transparency, performs according to the aspects of commitment (maintain the relationship) and consistency, "keep having the same interaction and respect for a long time" and actions make sense according to its values, "from my contact with them, I think they have made these principles transparent until now. And at least in the intervention they have been doing, until the intervention in the 1st phase, there were even people who said that it was a megalomaniac work and that they were burying money, however they fulfilled the project (first phase)".

The Corte do Pinto Parish Council recognizes that at first there was no transparency but now there is, "on this issue there was withdrawal and as an interested party, I asked EDM for the project, to get to know about the project. I did it in the first phase and also in the second to find out what areas they were going to intervene in and how they were going to intervene. But now, I am having regular conversations with EDM. We have been talking a lot about the sixth phase of the project".

Mértola City Council and Corte do Pinto Parish Council meet frequently with EDM. The first with EDM top management and the second with technical and operational staff.

Company disclosure regarding remediation projects is specific, it states facts, highlighting the remediation results contribution to the local wellbeing and not mentioning any less favourable situations.

A summary of the findings regarding dimensions CSRC processes of sensegiving and sensemaking within a context of consistency and transparency and commitment is presented in Table *42*.

Table 42 - São Domingos mine brownfield - CSRC processes of sensegiving and sensemaking within a context of consistency and transparency

Stakeholder	Sensegiving/ sensemaking	Consistency	Transparency
Mértola City Council	Company interlocutors behaviour makes sense in line with company values; consistent in complying with what is agreed	Consistent in complying with what is agreed	Respect, listen and are transparent

Corte do Pinto Parish Council	Company interlocutors behaviour makes sense in line with company values; consistent in complying with what is agreed	Consistent in complying with what is agreed	Respect, listen and are transparent

IP processes – Information exchange, adaptation and coordination

The process of exchange happens in meetings, that may happen every month or whenever the stakeholder asks for one. It can work both ways but in the case of the Mértola City Council the stakeholder usually asks for the meeting. The meeting agenda comprehends issues related to the environmental remediation project, its compatibility with the mining heritage and its sustainability.

The Corte do Pinto Parish Councillor has "regular talks with the EDM environment responsible", where they discuss issues concerning "present and future remediation works" and recognizes EDM is open stakeholders' suggestions.

Neither the Mértola City Council nor the Corte do Pinto Parish Councillor identify resources that may have been available by EDM. Whenever feasible, adaptations have been made to the project's phases in order to fulfil stakeholder's requests to "contribute to the community, tourism development and heritage recovery".

There are no protocols, with neither of the key stakeholders. Nevertheless, the Mértola City Council may soon get some kind of written agreement if they get to develop a project together with EDM, "more recently I suggested to EDM, if they were available, to discuss and create a development model, taking advantage of the improvements that are being made, namely the tourist development. They are very interested in this and we will soon start working on that process".

Formalization is not common. The Mértola City Council referred "sometimes we put on writing what has been discussed on meetings". There is no type of formalization with the Corte do Pinto Parish Council.

A summary of the findings regarding dimensions IP processes of exchange, adaptation and coordination is presented in Table *43*.

Table 43 - São Domingos mine brownfield - IP - Exchange, Adaptation and Coordination

Stakeholder	Exchange/ Information exchange	Adaptation	Coordination
Mértola City Council	Meetings may happen every month; discuss environmental remediation project issues	Adaptations made to the remediation project	Sometimes meetings minutes; no formalisation on agreements
Corte do Pinto Parish Council	Regular talks; talk about present and future remediation works	Adaptations made to the remediation project	No formalization

Outcomes – Cooperation, Commitment, Trust and Legitimacy

Both stakeholders believe that there is cooperation between them and EDM and that they will achieve goals together, "projects are presented and we make suggestions. EDM incorporates them in the project. We work together in order to have environmental remediation that also brings social benefits"; "We have a new project coming to work together on local touristic development"; "We have been talking a lot about the 6th phase of the project. In this sense, I think it would be an asset if we achieved what was previously wanted, which was the greenway project from the mine to Pomarão".

The formal relationship with the Mértola City Council started in 2010 and the formal relationship with the Corte do Pinto Parish Council started in 2017. Informally, the Corte do Pinto Parish Council interviewee has been dealing with EDM long before that. These relationships have some weak and strong situation pointed out, "we (Mértola City Council) participating in the remediation project is a good thing but EDM takes too long to do the remediation works". The fact that initially EDM did not discuss the remediation project with the Parish Council is considered a flaw in the relationship, "on this issue we have never been consulted…on this issue there has been a withdrawal and as an interested party I had to ask EDM about the project". The fact that later the Parish Council got answers from questions asked and suggestions made, has strengthened the relationship, "I (Corte do Pinto Parish Councillor) arose questions and EDM answered me". Both consider they have good relationships with no issues that cannot be solved.

Both stakeholders are willing to commit to the relationship. If the relationship ended "there would be no future partnership and we would have less support" (Mértola City Council, Corte do Pinto Parish Council). There is trust in EDM on every issue, not only due to "they deliver what they promise", "what EDM has agreed with me, EDM has fulfilled" but also, due to the fact that they regard EDM as "an armed branch of the state and we have to trust the state". In the end, they accept the way the company performs

A summary of the findings regarding outcomes dimensions of cooperation, commitment, trust and legitimacy is presented in Table *44*.

Table 44 - São Domingos mine brownfield - Outcomes - Cooperation, Commitment, Trust and Legitimacy

Stakeholder	Cooperation	Commitment	Trust	Legitimacy
Mértola City Council	Stakeholder and company cooperate to "have environmental remediation that also brings social benefits"	The relationship is nine years old and the stakeholder is willing to continue	Stakeholder trusts EDM; fulfils promises and represents the State	Stakeholder accepts the way EDM performs
Corte do Pinto Parish Council	The greenway the mine to Pomarão will be a goal achieved together	The relationship is two years old; stakeholder is willing to continue the relationship	Stakeholder trusts EDM; fulfils promises	Stakeholder accepts the way EDM performs

Stakeholder long-term relationship management and social, economic and environmental benefits consolidation

The relationship with Mértola City Council has been going on since 2010. The relationship with the Corte do Pinto Parish Council started in 2017.

According to EDM, on some situations the company only communicates what is going to be done. With key stakeholders there is dialogue, not just information. "Normally I can imagine what are the stakeholders' expectations, then I listen to them and then I decide what to incorporate into the project". The Mértola City Council perception is that EDM has two ways to communicate. Sometimes "EDM consults and then acts according to

what EDM thinks the stakeholder needs", other times "EDM involves the Mértola City Council in their decisions and may even "work together on some projects".

The formal relationship with the Corte do Pinto Parish Councillor is very young, only since he got his position in 2017. In the beginning there was no information The stakeholder had to ask for it. Initiative came from stakeholder. Stakeholder hopes to have a future partnership.

According to EDM, the immediate benefits resulting from this relationship are environmental. "There is always an environmental improvement in these interventions. When there is dialogue with stakeholders, and that happened in most cases, there is an optimization of these environmental benefits that become extensive to the social sphere, in a long-term perspective. Thus, the great benefit from this relationship is being able to finish the project and deliver it to local stakeholders, who are the ones responsible for assuring sustainability in the long-term".

According to Mértola City Council, "environmental remediation integrates our suggestions and that promotes social and economic benefits such as touristic development and patrimony rehabilitation", all of them intended to be sustainable benefits.

According to Corte do Pinto Parish Council the 6th phase of the environmental remediation project, comprising the recovery and the tourism valorisation of the mining heritage as vehicles for the local sustainable development, will allow the Parish Council and EDM "to be partners such as the Santana parish council (from Cambas), as well as the City Council and I hope that this project will move forward. The mining route of Mina-Pomarão is 17 km long. It would be a greenway with 17 km with the possibility of incorporating pedestrian paths and also looking at Spain to have paths of trekking which is what they do".

A summary of the findings regarding dimensions of Stakeholder long-term relationship management and Social, economic and environmental benefits consolidation are presented in Table *45* .

Table 45 - São Domingos mine brownfield - Outcomes regarding stakeholder management and sustainability

Stakeholders	Stakeholder long-term relationships management	Social, economic and environmental benefits consolidation
Mértola City Council	9 years old relationship meant to last for a long time; EDM cares about stakeholder interests; consultation and involvement	Social and economic benefits integrated in the environmental remediation project
Corte do Pinto Parish Council	2 years old relationship meant to last for a long time; EDM cares about stakeholder interests; information	Tourism valorisation of the mining heritage as vehicles for the local sustainable development, resulting from integrations in the environmental remediation project

5   Data Analysis

This section comprises the cross-case analysis of the embedded unit of analysis (context, CSRC, IP and outcomes). As suggested by Eisenhardt (1989), looking for within-group similarities, coupled with intergroup differences of categories or dimensions, promotes reliability.

5.1   Analysis of the context

Organizational factors affect relationships and interaction (Baptista, 2014; Campbell, 1985; Gummesson, 2006; Håkansson et al., 1982; Möller & Wilson, 1995). The presence of similarities is due to the fact that all companies are part of the same sector of activity and, despite some differences between them, they are all exposed to similar features.

The context of mining, including the recovery of mine brownfields, immediately leads to environmental and social issues. More recently, the mining sector is growing a bad reputation on those issues and is losing credibility (Jenkins & Yakovleva, 2006). There is an urgent call to follow CSR guidance and companies are evolving in that sense, so that they can get and maintain a social licence to operate.

Both Neves-Corvo and Aljustrel mines are in the same market, same geographic location, similar ore deposits and face the same social, economic and environmental challenges.

The fact that SOMINCOR is part of a multinational holding that has a responsible mining policy and a solid stakeholder management structure, makes it possible to have a more developed performance than ALMINA, a non-mining company that is giving its first steps in the mining sector.

Through the next chapters we will doing cross-case analysis comparing how the CSRC and IP evolve in both companies and to what results they lead.

EDM, being the solely responsible for the environmental rehabilitation of mine brownfields that owners are no longer to be found, faces different problems of those of

mining. EDM has to deal with the environmental liabilities left by other mining companies and the social collapse of the mine sites.

5.2 Analysis of CSRC

Before analysing the CSRC processes it is important to understand the company communication strategy – if the company communicates its values and how it is done, if the company communicates its favourable CSR actions; if the company demonstrates stakeholders how the company integrates their concerns and how frequent are the contacts between company and stakeholders.

SOMINCOR (Neves-Corvo mine) communicates its identity in several forms and ALMINA (Aljustrel mine) does not communicate any CSR mission nor values. SOMINCOR does that mainly in regular meetings with its key stakeholders, through social media and in internal communication. ALMINA also has interactions with stakeholders where some CSR issues are discussed, but these subjects are conducted in a less formal and committed attitude.

Most stakeholders perceive consistency and transparency in SOMINCOR communication and actions and the way the company performs makes sense according to its identity. The consistency and transparency found in the Aljustrel mine case study shows an enormous fragility and is not coherent among key stakeholders. Their perception varies according to the kind of relationship they have with ALMINA.

EDM has a mission and values that are disclosed in the company website but does not put any effort in communicating them.

When comparing the cases of Lousal, Aljustrel and São Domingos, we identify meetings, whether they are formal or informal, as the privileged means to communicate. Though stakeholders are not familiar with company values, once they are told what they are, they can make sense out of company's behaviour according to EDM's values. Consistency and transparency were not detected except in the case of São Domingos one stakeholder in Lousal and one stakeholder in Aljustrel.

5.3   Analysis of Interaction Processes

Interaction processes entail three basic processes: exchange, adaptation and coordination (Baptista, 2013; Easton, 1992; Johanson & Mattsson, 1987; Möller & Wilson, 1988, 1995; Ruekert & Walker Jr, 1987).

Exchange happens in both Neves Corvo and Aljustrel cases. Adaptation and coordination are perceived in both cases though in Aljustrel mine the justifications are less solid.

In the mine brownfield cases there is evidence of information exchange in every case study, as well as adaptation and none presents coordination. The São Domingos case presents stronger evidence than the other two case studies.

5.4   Analysis of Outcomes

The analysis of the relationship outcome was centred on the outcomes of CSRC and IP and the ultimate outcomes related to stakeholder management and sustainability.

Cooperation, commitment, trust and legitimacy are clearly present in the case study of Neves Corvo mine. According to stakeholders perception, the same happens in Aljustrel mine.

In the Neves Corvo case, most of the relationships are long-term relationships, and where sustainable outcomes have been identified, the relationship communication goes from mere information to dialogue and involvement. Some positive results are expected from stakeholders that have a relationship characterized by information, consultation and involvement. In the Aljustrel mine case there are some long-term relationships and stakeholders identified information, consultation and involvement, still the last in very complex situations. Our analysis would tell information is the privileged form of communication. In this case there are no sustainable outcomes identified but there are embryonic situations where they can be expected.

6 Conclusions and Contributions

6.1 Concluding notes

This section aims at tying up the analytical considerations that have been drawn. The research problem of this thesis has been defined as "to understand the development of stakeholder relationships in the mining sector". Hence, based on this goal, the research questions are formally answered:

➢ How does the mining company develop its CSRC?

In Neves Corvo mine case study, it has been concluded that SOMINCOR performance fits the conceptual framework. The company communicates its CSR identity to all its stakeholders and engage key stakeholders in the CSRC development. The purpose is to manage the communication, applying communication strategies that may have a different evolution, depending on the stakeholder, and influence the relationships with stakeholders, in order to get their support. Sensemaking and sensegiving are clearly identified according to their conceptual definition, the company performance is meant to have an influence on its relationships with stakeholders in order to get their acceptance.

In the case of Aljustrel mine, ALMINA does not have a CSR identity and has not developed any structured CSRC strategy. The processes of sensegiving and sensemaking show that there are discrepancies between what the company says and what the company does, and what the stakeholders perceive. The context of consistency and transparency are very fragile and biased by the interviewees. Altogether there is no evidence the company has developed a sound CSRC strategy.

EDM, on its environmental remediation mission, does not clearly specify the CSR relevance in the whole process. Yet, EDM has some decisions regarding stakeholders' social expectations. The mine brownfield cases demonstrate EDM

has not developed CSRC. The company does not have a CSR identity, does not evidence a structured communication strategy and manages the relationships with key stakeholders depending on the interlocutors. The sensemaking and sensegiving processes identified mismatches between what the company thinks about the stakeholders and what the stakeholders perceive the company thinks about them. Curiously, stakeholders can identify transparency and what the company does makes sense for them by complying with company values. Curiously, this scenario does not prevent stakeholders from pointing sustainable outcomes resulting from their relationships with EDM.

➢ How can the interaction processes among mining companies and key stakeholders, within the scope of CSRC, be characterized?

In the mining cases, information exchange usually happens in meetings, some of which are regular and others are sporadic. Adaptation is mostly related to adapting plans and activities and is identified in three forms: (1) the company adapts; (2) the stakeholder adapts; (3) both actors adapt. Coordination is identified through projects where both company and stakeholder participate and by formalization of contracts and official matters.

In the mine brownfield cases information exchange happens in meetings. Adaptation is detected on the company side, with the intention to meet stakeholders' expectations. Coordination is very rare and only happens in the formalization of protocols and minute meetings.

➢ What are the outcomes of the mutual influence of CSRC and IP within stakeholder relationships?

Cooperation has been found in projects where both company and stakeholder are involved, in labour union negotiations and in the orebody best exploitation. Commitment is evident in long-term relationships, these presenting no major problems that could jeopardize the relationship. Trust has been identified in most in the form of fair negotiations, honoured agreements, fulfilled promises and in one case, the credibility of the state because "state is to be trusted". Legitimacy

appears side by side with trust. Where there is trust there is acceptance, where there is no trust there is no legitimacy.

> ➢ What are the social and environmental effects of the evolvement of the relationships between mining organizations and its key stakeholders?
> Sustainable outcomes have been pointed out by stakeholders and companies in the form of projects such as nature tourism valuation, mining heritage tourism valuation, local education and sustainable agriculture, projects that are being developed today that are meant to lead to sustainable benefits and other unspecified projects. Social, economic and environmental benefits have also been identified in solutions regarding environmental issues, the mining operation success, labour benefits (retirement age anticipation and special holidays) and the best exploitation of a public good.

Based on the results of this study it can be concluded that in order to understand to understand the development of stakeholder relationships in the mining sector, the four sets of variables proposed (CSR strategies, CSRC processes, interaction processes, outcomes) in the model of analysis need to be addressed.

Beyond the scope of these particular mining environments (active mines and mine brownfield redevelopment), several indications to other somewhat similar environments (mining or otherwise) can be drawn:

First of all, the CSR issues within companies' identities have to be identified and the communication strategies that the companies develop have to be understood. Investigating the communication strategies – information, response and involvement - allows a deeper understanding of the evolvement of a particular relationship.

Secondly, it has to be analysed if sensegiving and sensemaking processes happen in a context of consistency and transparency. This approach is especially relevant, considering the theoretical premise that sensegiving and sensemaking processes results are better within a context of consistency and transparency (Kim, 2017) has been identified in this study.

Thirdly, the interaction processes in the relationships have to be identified. Exchange, adaptation and coordination are to be identified as their investigation complement the CSRC processes, enabling results such as cooperation and commitment and reinforcing the outcome 'trust', variables that are key to understand stakeholder relationships (Palmatier et al., 2007).

Finally, the outcomes can be regarded essentially as a consequence of the CSRC processes and the interaction processes, developed between the company and the stakeholder. Their identification will allow to realize if the company attaining its CSR goals.

6.2   Contributions

The contribution of this thesis includes the development of a framework appropriate for the understanding of the development of long-term relationships in the mining industry.

Regarding the theoretical contribution, this thesis addresses research in two environments, Corporate Social Responsibility and the Industrial Marketing Purchase approach, more specifically the Corporate Social Responsibility Communication and the Interaction Processes. Research has been conducted through testing whether existing theoretical conceptual grounds could function together and apply to this research setting - that has not been previously investigated.

Managers in the mining sector, whether they are in active mining or redeveloping mine brownfields, can make use of this thesis in order to improve their stakeholder management.

6.3   Limitations and Future Research

Concerning the qualitative data, some of the respondents misinterpreted the questions or could not answer the questions as the researcher envisaged. Some respondents' perceptions and opinions were therefore considered to be more credible than those of others.

Future research could apply the framework to other similar contexts with huge social and environmental impacts.

References

Abrahamsen, M. H. (2016). "Researching business interaction: introducing a conceptual framework and methodology", *IMP Journal*, Vol. 10 No. 3, pp. 464-482.

Aljustrel City Council (2018). http://www.mun-aljustrel.pt/noticias/6062/qualidade-do-ar.aspx accessed 8th October 2018

Álvarez-Valero, A.M., Pérez-López, R., Matos, J. et al. Potential environmental impact at São Domingos mining district (Iberian Pyrite Belt, SW Iberian Peninsula): evidence from a chemical and mineralogical characterization. *Environmental Geology,* 55, 1797–1809 (2008). https://doi.org/10.1007/s00254-007-1131-x

Andriof, J., Waddock, S., Husted, B. & Rahman, S. S., (2017). *Unfolding Stakeholder Thinking: Theory, Responsibility and Engagement*, Greenleaf, Sheffield.

Andriof, J., Waddock, S., Husted, B., & Rahman, S. S. (2017). *Unfolding stakeholder thinking 2: Relationships, communication, reporting and performance*, Routledge, New York.

Associação Terra Sintrópica (2021). https://terrasintropica.herokuapp.com/ accessed 13th August 2019)

Baptista, C. (2013). "Interaction processes in long-term relationships in the metal mining industry: Longitudinal case studies of capital equipment buying", *Industrial Marketing Management*, Vol. 42 No. 6, pp. 969-982.

Barriga, F. J. A. S., Carvalho, D., & Ribeiro, A. (1997). Introduction to the Iberian Pyrite belt. *Geology and VMS deposits of the Iberian Pyrite Belt*, 27, 1-20.

Basu, K. & Palazzo, G. (2008). "Corporate Social responsibility: A process model of sensemaking", *Academy of Management Review*, Vol. 33 No. 1, pp. 122-136.

Bowen, H.R. (1953). *Social responsibility of the businessman*, Harper, New York.

Brennan, R., & Turnbull, P. W. (1999). "Adaptive behaviour in buyer–supplier relationships", *Industrial Marketing Management,* 26, pp. 481–495.

Brennan, R., Turnbull, P. W., & Wilson, D. (2003). "Dyadic adaptation in business-to-business markets", *European Journal of Marketing*, Vol. 37 No. 11/12, pp. 1636–1655.

Brennan, N., Merkl-Davies, D., & Beelitz, A. (2013). "Dialogism in Corporate Social Responsibility Communications: Conceptualising Verbal Interaction Between Organisations and Their Audiences", *Journal of Business Ethics*, Vol. 115 No. 4, pp. 665-679.

Bernardi, C., Boffi, M., & Snehota, I. (2012). "Living the innovation space without pre-existing relationships", *The IMP Journal*, Vol. 6 No. 1, pp. 69-84.

Canning, L., & Hanmer-Llyod, S. (2002). "Modelling the adaptation process in interactive business relationships", *The Journal of Business and Industrial Marketing*, Vol. 17 No. 7, pp. 615–636.

Capriotti, P. (2011). "Communicating corporate social responsibility through the internet and social media". In Ihlen, Ø., Bartlett, J. & May, S. (Eds.), *The handbook of communication and corporate social responsibility,* Wiley, New York, pp. 358-378.

Carroll, A.B. (1991). "The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders", *Business Horizons*, Vol. 34 No. 4, pp. 39-48.

Carroll, A. B. (1999). "Corporate Social Responsibility: Evolution of a Definitional Construct", *Business & Society*, Vol. 38 No. 3, pp. 268-295.

Carroll, A. B., & Shabana, K. M. (2010). "The business case for corporate social responsibility: A review of concepts, research and practice", *International journal of management reviews*, Vol. 12 No. 1, pp. 85-105.

Centro Notícias (2019). https://www.centronoticias.pt/2019/09/21/reabilitacao-ambiental-da-area-mineira-da-urgeirica-em-fase-de-conclusao/ accessed 21st September 2019

Chaudhri, V. (2016). "Corporate Social Responsibility and the Communication Imperative: Perspectives from CSR Managers", *International Journal of Business Communication*, Vol. 53 No. 4, pp. 419-442.

Cheney, G. & Thøger Christensen, L. (2001). Organizational Identity: Linkages Between Internal and External Communication, in Jablin, F. & Putman, L. (Eds.), *The New Handbook of Organizational Communication: Advances in Theory, Research, and Methods*, Sage, Thousand Oaks, pp. 231-269.

Clarkson, M. E. (1995). "A stakeholder framework for analysing and evaluating corporate social performance". *Academy of Management Review*, Vol. 20 No. 1, pp. 92-117.

Coombs, T. & Holladay, S. (2012). *Managing Corporate Social Responsibility. A communication approach*, John Wiley & Sons., West Sussex.

Cornelissen, J. P. 2012. "Sensemaking under pressure: The influence of professional roles and social accountability on the creation of sense", *Organization Science*, Vol. 23 No. 1, pp. 118–137.

Cornelissen, J. (2014). *Corporate communication: A guide to theory and practice*. Sage.

Correio do Alentejo (2018). http://www.correioalentejo.com/?diaria=18405 accessed 28th October 2018.

Correio do Alentejo (2019). http://www.correioalentejo.com/?diaria=18857 accessed 28th February 2019.

Crane, A. & Livesey, L. (2003). "Are you talking to me? Stakeholder communication and the risks and rewards of dialogue", in Andriof, J., Waddock, S., Husted, B., & Rahman, S. S. (Eds.), *Unfolding Stakeholder Thinking 2: Relationships, Communication, Reporting and Performance,* Routledge, New York, pp. 39–52.

Crane, A. & Glozer, S. (2016). "Researching corporate social responsibility communication: Themes, opportunities and challenges", *Journal of Management Studies*, Vol. 53 No. 7, pp. 1223-1252.

Cunningham, M. T. & Turnbull, P. W. (1982). "Inter-organizational personal contact patterns", in Håkansson, H. (Ed), *International marketing and purchasing of industrial goods: An interaction approach*, Wiley, Chichester, pp. 304–316.

Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, 20(1), 65–91.

Dahlsrud, A. (2008). "How corporate social responsibility is defined: an analysis of 37 definitions", *Corporate social responsibility and environmental management*, Vol. 15 No. 1, pp. 1-13.

Du, S., Bhattacharya, C. B., & Sen, S. (2010). "Maximizing business returns to corporate social responsibility (CSR): The role of CSR communication", *International Journal of Management Reviews*, Vol. 12 No. 1, pp. 8-19.

Duncan, T., & Moriarty, S. E. (1998). "A communication-based marketing model for managing relationships", *The Journal of marketing*, pp. 1-13.

Easton, G. (1995). "Methodology and industrial networks", in K. Möller and D. T. Wilson (Eds.), *Business marketing: An interaction and network perspective* (pp. 411–492). Norwell, Mass: Kluwer Academic Publishers.

EDM (2018). https://edm.pt/en/noticias/visit-to-the-environmental-recovery-works-in-aljustrel/ accessed February 2018.

EDM (2018). https://edm.pt/edm/historial/ accessed 13th May 2018

EDM (2021). https://edm.pt/edm/historial/ accessed 29th March 2021

Eisenhardt, K.M. (1989). "Building theories from case study research", *Academy of Management Review*, Vol. 14 No. 4, pp. 532-550.

European Commission. Directorate-General for Employment. (2001). *Promoting a European Framework for Corporate Social Responsibility: Green Paper*. Office for Official Publications of the European Communities.

Esse, B., Szántó, R. & Wimmer, A. (2012). "Business relationships and relationships with stakeholders – Perception of Hungarian executives. *IMP Journal*, Vol. 6 No. 2, pp. 98-108.

Fassin, Y. (2010). A dynamic perspective in Freeman's stakeholder model. *Journal of Business Ethics*, 96, 9–49.

Ford, D. (1980). The development of buyer–seller relationships in industrial markets", *European Journal of Marketing*, Vol. 14 No. 5/6, pp. 339–353.

Ford, D., Gadde, L.-E., Håkansson, H., Snehota, I. & Waluszewski, A. (2008). Analysing business interaction. In *24th Annual IMP Conference, Upssala*.

Ford, D., Gadde, L. E., Håkansson, H., Snehota, I., & Waluszewski, A. (2008, September). "Analysing business interaction", In *24th IMP Conference, Uppsala*.

Ford, D. and Håkansson, H., 2013. "Competition in business networks", *Industrial Marketing Management,* Vol. 42 No. 7, pp. 1017-1024.

Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*, Pitman, Boston.

Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L. and Colle, S. (2010). *Stakeholder Theory: The State of* the *Art*, Cambridge University Press, Cambridge.

Geersbro, J., & Ritter, T. (2013). "A Conceptualization of Relationship Management Processes: Distinguishing Strategy Implementation Processes and Interaction Processes", in *The 29th IMP Conference.*

Gillespie, N., Bond, C. J., Downs, V., & Staggs, J. (2016). "Stakeholder trust in the Queensland CSG industry", *The APPEA Journal*, Vol. 56 No. 1, pp. 239-246.

Gioia, D.A. and Chittipeddi, K. (1991). "Sensemaking and sensegiving in strategic change initiation", *Strategic Management Journal*, Vol. 12 No. 6, pp. 433–448.

Gond, J. P., Kang, N. & Moon, J. (2011). "The government of self-regulation: on the comparative dynamics of corporate social responsibility", *Economy and Society*, Vol. 40 No. 4, pp. 640-671.

Gray, B. (1989). *Collaborating: Finding common ground for multiparty problems*, Jossey-Bass, San Francisco.

Greenwood, M. R. (2007). "Stakeholder engagement: Beyond the myth of corporate responsibility", *Journal of Business Ethics*, Vol. 74 No. 4, pp. 315-327.

Grunig, J. E., and Grunig, L. A. (2013). "Models of public relations and communication", in Grunig, J. (Ed), *Excellence in public relations and communication management*, Routledge, New York, pp. 285-325.

Guimarães, P. E. (2016). Conflitos ambientais e progresso técnico na indústria mineira e metalúrgica em Portugal (1858-1938). *Conflitos Ambientais na Indústria Mineira e Metalúrgica: o passado e o presente*, Évora e Rio de Janeiro, CICP/CETEM, 157-183.

Guita, R. (2011). A Mina de São Domingos (Mértola, Baixo Alentejo, Portugal): actividade industrial moderna (1854-1966). *Mina de São Domingos*, Mértola.

Håkansson, H. (Ed.), (1982). *Industrial marketing and purchasing of industrial goods: An interaction approach*, J. Wiley Chichester.

Håkansson, H., Johanson, J., & Wootz, B. (1976). "Influence tactics in buyer–seller processes", *Industrial Marketing Management*, Vol. 5 No. 6, pp.319–332.

Håkansson, H., & Snehota, I. (Eds.). (1995). *Developing relationships in business networks*. London: Routledge.

Håkansson, H., 2010, September. "Duels or duets? Characterizing interaction between companies", In *26th IMP Conference: Business Networks–Globality, Regionality, Locality. Budapest: Corvinus University of Budapest, Hungary*, pp. 2-4.

Håkansson, H. & Ford, D. (2016). "The managerial challenge of business interaction: behind the market façade", *IMP Journal*, Vol. 10 No. 1, pp. 154-171.

Hallén, L., Johanson, J., & Seyde Mohamed, N. (1991). "Interfirm adaptation in business relationships", *Journal of Marketing*, 55, pp. 29–37.

Harvey, B. E. (2016). "The eye of the beholder—utility and beauty in mine closure", in *Mine Closure 2016: Proceedings of the 11th international conference on mine closure*, pp. 15-17.

Healey, P., 2009. "In search of the "strategic" in spatial strategy making". *Planning Theory & Practice*, Vol. 10 No. 4, pp. 439-457.

Holmlund, M., & Törnroos, J. Å. (1997). "What are relationships in business networks?", *Management decision*, Vol. 35 No. 4, pp. 304-309.

Hooghiemstra, R. (2000). "Corporate communication and impression management – new perspectives why companies engage in corporate social reporting", *Journal of Business Ethics*, Vol. 27 No. 1-2, pp. 55-68.

https://www.jornaldenegocios.pt/negocios-iniciativas/premios-exportacao---internacionalizacao/detalhe/almina-uma-aposta-dupla-no-cobre-e-zinco accessed the 11th July 2019

https://www.lneg.pt/en/area/geology-and-geological-resources/recursos-geologicos/mineral-resources/ accessed October 2020

https://www.lundinmining.com//news//lundin-mining-and-eurozinc-finalize-merger-122857 accessed April 2017

https://www.somincor.com.pt/operation/ accessed 17th December 2019

IMP Group (2017). www.impgroup.org accessed 10 November 2017

International Council on Mining & Metals. (2012). Community development toolkit

Ivens, B. & Pardo, C. (2010). "Ethical business-to-business exchange: A revised perspective", in *The 26th IMP Conference, Budapest.*

Jamali, D. (2008). "A Stakeholder Approach to Corporate Social Responsibility - A Fresh Perspective into Theory and Practice", *Journal of Business Ethics,* Vol. 82 No. 1, pp. 213-231.

Johanson, J., & Mattsson, L. G. (2015). "Internationalisation in industrial systems—a network approach", in Holm, U., Forsgren, M. & Johanson, J. (Eds), *Knowledge, Networks and Power*, Palgrave Macmillan UK, 111-132.

Jornal Mapa (2019). http://www.jornalmapa.pt/2014/09/22/o-po-negro-de-aljustrel/ accessed 2nd March 2019

Kaler, J. (2002). "Morality and strategy in stakeholder identification", *Journal of Business Ethics*, Vol. 39 No. 1-2, pp. 91–100.

Kim, S., & Ferguson, M. T. (2016). "Dimensions of effective CSR communication based on public expectation", *Journal of Marketing Communications*, pp. 1-20.

Kim, S. (2017). "The process model of corporate social responsibility (CSR) communication: CSR communication and its relationship with consumers' CSR knowledge, trust, and corporate reputation perception", *Journal of Business Ethics*, pp. 1-17.

La Rocca, A. (2013). "Approaching (inter-) actors in the business landscape", *IMP Journal*, Vol. 7 No. 3, pp. 171–179.

La Rocca, A., Hoholm, T., & Mørk, B. E. (2017). "Practice theory and the study of interaction in business relationships: Some methodological implications", *Industrial Marketing Management,* 60, pp. 187-195.

Langley, A. N. N., Smallman, C., Tsoukas, H., & Van de Ven, A. H. (2013). "Process studies of change in organization and management: Unveiling temporality, activity, and flow", *Academy of Management Journal*, Vol. 56 No. 1, pp. 1-13.

Laurence, D. (2006). "Optimisation of the mine closure process". *Journal of Cleaner Production*, Vol. 14 No. 3-4, pp. 285-298.

Luís, A. T., Grande, J. A., Davila, J. M., Aroba, J., Durães, N., Almeida, S. F. P., ... & Santisteban, M. (2018). Application of fuzzy logic tools for the biogeochemical characterisation of (un) contaminated waters from Aljustrel mining area (South Portugal). *Chemosphere*, 211, 736-744.

Maignan, I. and Ferrell, O. C. (2004). "Corporate social responsibility and marketing: an integrative framework", *Journal of the Academy of Marketing Science*, Vol. 32 No. 1, pp. 3–19.

Maitlis, S., & Christianson, M. (2014). "Sensemaking in organizations: Taking stock and moving forward", The *Academy of Management Annals,* Vol. 8 No. 1, pp. 57-125.

Matos, J. X., Carvalho, J., Represas, P., Batista, M. J., Sousa, P., Ramalho, E. C., ... & Dias, P. (2020). Geophysical surveys in the Portuguese sector of the Iberian Pyrite Belt: a global overview focused on the massive sulphide exploration and geologic interpretation. *Comunicações Geológicas*, 107, 41-78.

McBarnet, D. (2009). "Corporate social responsibility beyond law, through law, for law: The new corporate accountability", in *The new accountability: Corporate social responsibility and the law*, Cambridge University Press, Cambridge, pp. 9-56.

Medlin, C. J. (2004). "Interaction in business relationships: A time perspective", *Industrial marketing management*, Vol. 33 No. 3, pp. 185-193.

Mercer-Mapstone, L., Rifkin, W., Louis, W. R., & Moffat, K. (2018). "Company-community dialogue builds relationships, fairness, and trust leading to social acceptance of Australian mining developments", *Journal of Cleaner Production*, 184, pp. 671-677.

Mértola City Council (2021). Newsletter, 19th March 2021

Metcalf, L. E., Frear, C. R., & Krishnan, R. (1992). "Buyer–seller relationships: An application of the IMP interaction model", *European Journal of Marketing*, Vol. 26 No. 2, pp. 27–46.

Miles, S., & Friedman, A. (2003). "Exploring the social construction of stakeholder management in the UK", in *Academy of Management Annual Meeting, Seattle, Washington*.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis (2nd edition)*, Sage Publications, Thousand Oaks.

Mitchell, R. K., B. R. Agle & D. J. Wood (1997). "Towards a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts", *Academy of Management Review*, Vol. 22 No. 4, pp. 853–886.

Möller, K. & Wilson, D. T. (1995). "Business relationships - An interaction perspective", in Möller, K. & Wilson, D. T. (E.Ds.), *Business marketing: An interaction and network perspective*, Kluwer Academic Publishers, Norwell, 23–52.

Morsing, M. & Schultz, M. (2006). "Corporate social responsibility communication: stakeholder information, response and involvement strategies", *Business Ethics: A European Review*, Vol. 15 No. 4, pp. 323–338.

Município de Aljustrel (2019). https://www.portalalentejano.com/cronologia-do-funcionamento-das-minas-de-aljustrel-e-neves-corvo/ accessed 2nd May 2019

Município de Aljustrel (2019). http://www.mun-aljustrel.pt/menu/114/historia-da-mineracao.aspx accessed 9th May 2019

Palazzo, G., & Scherer, A. G. (2006). "Corporate legitimacy as deliberation: A communicative framework", *Journal of business ethics*, Vol. 66 No. 1, pp. 71-88.

Palmatier, R. W., Dant, R. P. & Grewal, D. (2007). "A comparative longitudinal analysis of theoretical perspectives of interorganisational relationship performance", *Journal of Marketing*, Vol. 71 No. 4, pp. 172–194.

Papa, M. J., Daniels, T. D. & Spiker, B. K. (2008). *Organisational communication: Perspectives and trends*, Sage, Thousand Oaks.

Patton, M. Q. (2002). *Qualitative research and evaluation methods (third edition)*, Sage Publications, Thousand Oaks, London.

Pérez, A., & López, C. (2015). "Corporate reputation in the Spanish context: an interaction between reporting to stakeholders and industry", *Journal of business ethics*, Vol. 129 No. 3, pp. 733-746.

Perna, A., Baraldi, E. & Gregori, G. L. (2012). "Exploring the conditions for marketing an innovative and unique customized solution: Mexus case study", *The IMP Journal*, Vol. 6 No. 1, pp. 1-16.

Perry, C. (1998). "Processes of a case study methodology for postgraduate research in marketing", *European Journal of Marketing*, Vol. 32 No. 9/10, pp. 785–802.

Potter, W. J. (2013). *An analysis of thinking and research about qualitative methods*. Routledge: New York.

Pivato, S., Misani, N. and Tencati, A. (2008). "The impact of corporate social responsibility on consumer trust: the case of organic food", *Business Ethics: A European Review*, Vol. 17 No. 1, pp. 3–12.

Pomeroy, R., & Douvere, F. (2008). "The engagement of stakeholders in the marine spatial planning process", *Marine Policy*, Vol. 32 No. 5, pp. 816-822.

Relvas, J. M. R. S., Pinto, A. M. M., & Matos, J. X. (2012). Lousal, Portugal: a successful example of rehabilitation of a closed mine in the Iberian Pyrite Belt. *Society for Geology Applied to Mineral Deposits SGA News*, 31, 1-16.

Ross Jr, W. T., & Robertson, D. C. (2007). "Compound relationships between firms", *Journal of Marketing*, Vol. 71 No. 3, pp. 108-123.

Röckmann, C., van Leeuwen, J., Goldsborough, D., Kraan, M., & Piet, G. (2015). "The interaction triangle as a tool for understanding stakeholder interactions in marine ecosystem based management", *Marine Policy*, 52, pp. 155-162.

Rourke, J. (2015) "Corporate reputation and the discipline of management communication", in Carroll, C. (Ed), *The Handbook of Communication and Corporate Reputation*. West Sussex: John Wiley & Sons.

Ruekert, R. W., & Walker, O. C., Jr. (1987). "Marketing's interaction with other functional units: A conceptual framework and empirical evidence", *Journal of Marketing*, Vol. 51 No. 1, pp. 1–19.

Salmi, A., & Heikkilä, K. (2015). "Managing relationships with public officials—A case of foreign MNCs in Russia", *Industrial Marketing Management,* 49, pp. 22-31.

Santos, E. S., Abreu, M. M., & Magalhães, M. C. F. (2017). Hazard assessment of soils and spoils from the Portuguese Iberian Pyrite Belt mining areas and their potential reclamation. In *Assessment, Restoration and Reclamation of Mining Influenced Soils* (pp. 63-88). Academic Press.

Sardinha, I., Craveiro, D., & Milheiras, S. (2013). "A sustainability framework for redevelopment of rural brownfields: stakeholder participation at SÃO DOMINGOS mine, Portugal", *Journal of Cleaner Production*, 57, pp. 200-208.

Saunders, M., Lewis, P. & Thornhill, A. (2016). *Research methods for business students (seventh edition)*. Pearson

Savage, G. T., Nix, T. W., Whitehead, C. J., & Blair, J. D. (1991). "Strategies for assessing and managing organisational stakeholders", *The executive*, Vol. 5 No. 2, pp. 61-75.

Scandelius, C., & Cohen, G. (2016). "Achieving collaboration with diverse stakeholders—The role of strategic ambiguity in CSR communication", *Journal of Business Research*, Vol. 69 No. 9, pp. 3487-3499.

Schädler, S., Morio, M., Bartke, S., Rohr-Zänker, R., & Finkel, M., 2011. "Designing sustainable and economically attractive brownfield revitalization option using an integrated assessment model". *Journal of Environmental Management*, 92, pp. 827-837.

Schultz, F., & Wehmeier, S. (2010). "Institutionalization of corporate social responsibility within corporate communications. Combining institutional, sensemaking and communication perspectives", *Corporate Communications: An international Journal*, Vol. 15 No. 1, pp. 9–29.

Schultz, F., Castelló, I, and Morsing, M. (2013). "The construction of Corporate social responsibility in network societies: A communication view", *Journal of Business Ethics*, Vol. 115 No. 4, pp. 681–692.

Schurr, P. (2007). "Buyer–seller relationship development episodes: Theories and methods", *The Journal of Business and Industrial Marketing*, Vol. 22 No. 3, pp. 161–170.

Silva, T. P., Matos, J. X., De Oliveira, D., Veiga, J. P., Morais, I., Gonçalves, P., & Albardeiro, L. (2020). Mineral Inventory of the Algares 30-Level Adit, Aljustrel Mine, Iberian Pyrite Belt, Portugal. Minerals, 10(10), 853.

Silver, L., & Vegholm, F. (2009). "The dyadic bank-SME relationship — Customer adaptation in interaction, role and organization", *Journal of Small Business and Enterprise Development*, Vol.16 No. 4, pp. 615–627.

Snehota, I. (2004). "Perspectives and theories of market", in Håkansson, H., Harrison, D. & Waluszewski, A. (Eds.), *Rethinking marketing: Developing a new understanding of markets*, John Wiley & Sons: Chichester, 15–32

Sonpar, K. (2011). "Book review on Freeman et al. (2010). Stakeholder Theory: The State of the Art", *Management*, Vol. 14 No. 3, pp.209-220.

Suchman, M. C. (1995). "Managing legitimacy: Strategic and institutional approaches", *Academy of management review*, Vol. 20 No. 3, pp. 571-610.

Svobodova, K., & Hajek, T. (2017). "Pilgrimage route recovery in an industrial landscape", *Journal of environmental planning and management*, Vol. 60 No. 6, pp. 959-976.

Swickard, T. J. (2008). "Regulatory incentives to promote private sector brownfield remediation and reuse", *Soil & Sediment Contamination*, Vol. 17 No. 2, pp. 121-136.

Thøger Christensen, L. & Cheney, G. (2011). "Interrogating the Communicative dimensions of corporate social responsibility", in Ihlen, Ø., Bartlett, J. & May, S. (Eds.), *The handbook of communication and corporate social responsibility*, John Wiley & Sons, West Sussex, pp. 491–504

Thomson, I., & Joyce, S. (2008). "The social licence to operate: what it is and why does it seem so difficult to obtain", presented at Prospectors & Developers Association of Canada (PDAC) Convention, 2 – 5 March, Toronto, available at https://oncommonground.ca/wp-content/downloads/PDAC_2008_Social_Licence.pdf.

Transparency International (2018). Transparency International – The Global Anti-Corruption Coalition. https://www.transparency.org/what-is-corruption#what-is-transparency, accessed 7th March 2018.

Van de Ven, A. H. (1992). "Suggestions for studying strategy process: A research note", *Strategic Management Journal,* Vol. 13, No. 5, pp.169-188.

Van Riel, C. & Fombrun, C. (2007). *Essentials of corporate communication: Implementing practices for effective reputation management*, Routledge, New York.

Visão (2020). https://visao.sapo.pt/atualidade/sociedade/2019-08-10-as-tristes-mortes-das-minas-de-aljustrel/ accessed February 2020.

Walton, C. C. (1967). *Corporate social responsibilities*, Wadsworth, Belmont.

Weber, M. (1978). *Economy and society: An outline of interpretive sociology* (Vol. 1), Univ. of California Press.

Webster, F. E. (1992). "The changing role of marketing in the corporation", *Journal of Marketing,* Vol. 50, pp. 1–17.

Weick, K.E. (1993). "Sensemaking in organization: Small structures with large consequences", *Social psychology in organizations: Advances in theory and research*, pp. 10-37.

Winn, M. I. (2001). "Building stakeholder theory with a decision modelling methodology", *Business & Society*, Vol. 40, No. 2, pp. 133-166.

Yin, R.K. (1994). *Case Study Research, Design and Methods*, SAGE Publications, London.

Zaefarian, G., Thiesbrummel, C., Henneberg, S. C., & Naudé, P. (2017). "Different recipes for success in business relationships", *Industrial Marketing Management,* Vol. 63, pp. 69-81.

Appendix A – Interview guide

1. INTERVIEWEE
   1.1. What is your name and what is your position in the organisation?
   1.2. How long have you been holding this position?

2. CSR
   2.1. Do you know the company's mission and values?

3. CSRC
   3.1. Does the company communicate its policy, its values? How?
   3.2. How old is the relationship with the company?
   3.3. How does the company communicate with you?
   3.4. How often do you meet? Is it scheduled? Does it happen at your request or at company's request?
   3.5. What are the main issues that are discussed when you meet?
   3.6. What are the most favourable CSR decisions that the company has taken? How where these communicated?

4. CSRC PROCESSES
   4.1. Sensegiving/ sensemaking
      4.1.1. Does the company embrace certain values aiming to get legitimacy or as recognition of its responsibility towards society?
      4.1.2. What is the company communication strategy regarding sustainability goals?
      4.1.3. Does the company communicate its CSR actions relating them to its identity/ values?
      4.1.4. Does the company act according to its identity/ values?
   4.2. Consistency
      4.2.1. How often does the company communicates its CSR activities?

4.2.2. Does the company carry out the same type of CSR activity for a long time?

4.2.3. Are company actions consistent with its values?

4.3. Transparency

4.3.1. Does the company justify and communicate its decisions and actions with transparency? Tells the whole story?

4.3.2. Does the company report not also the favourable issues but also the negative issues?

4.3.3. Do company reports (communications) clearly show that its values and objectives are related to its CSR?

4.3.4. Does the company communicate transparently or has an ambiguous speech?

5. IP

5.1. Information exchange

5.1.1. How often do you communicate with the company (meetings or other form of communication)?

5.1.2. What issues are discussed in those interactions?

5.2. Adaptation

5.2.1. Does the company provide any resources to the stakeholder?

5.2.2. Does the company adapt its plans and activities to stakeholder' needs? (Examples)

5.3. Coordination

5.3.1. What kind of agreements/ contracts exist between the company and the stakeholder?

5.3.2. How can the relationship be characterized in terms of formalization? Is everything written down?

5.3.3. Does the company collaborate on any research and development projects together with the stakeholder?

6. OUTCOMES

6.1. Cooperation

6.1.1. What objectives have been achieved from cooperation between the company and the stakeholder?

6.2. Commitment

6.2.1. How old is the relationship with the company? (Same as 3.2)

6.2.2. Do you intend to continue this relationship?

6.2.3. Can you mention events that have strengthened and/or weakened this relationship?

6.2.4. Are there ties difficult to undo?

6.2.5. Are there problems difficult to solve?

6.2.6. If this relationship ended how would the stakeholder be affected?

6.3. Trust

6.3.1. Do you trust the company?

6.3.2. Why do you trust? In what matters do you think you can trust the company?

6.3.3. Is the company far in negotiations?

6.3.4. Does the company honour its commitments?

6.4. Legitimacy

6.4.1. Is the company well referred to in the media and social media?

6.4.2. Do you accept the way the company performs?

6.5. Stakeholder management

6.5.1. How old is this relationship? (Same as 3.2 and 6.2.1)

6.5.2. How long would you like this relationship to last?

6.5.3. In this relationship, does the company considers the stakeholder interests?

6.5.4. How do you characterize this relationship?

a) The company only informs and acts without consulting the stakeholder.

b) The company consults the stakeholder and acts according to what the company has perceived the stakeholder wants.

c) The company involves the stakeholder in decision making.

6.6. Sustainability

6.6.1. What do you think are the social, economic and environmental benefits that have resulted from this relationship?

6.6.2. Which of those benefits are supposed to be long-term benefits?