

An abstract, high-speed photograph of liquid splashing against a white background. The liquid is split into two main colors: a vibrant blue and a bright pink. The blue liquid forms a vertical, elongated shape on the left side, while the pink liquid forms a larger, more complex shape on the right side, curving upwards and then downwards. Numerous small droplets and splatters are scattered throughout the scene, creating a sense of dynamic movement and energy.

FINANCIAL
MANAGEMENT
AND CORPORATE
GOVERNANCE
FROM THE FEMINIST
ETHICS OF CARE
PERSPECTIVE

DESI ADHARIANI,
NICK SCIULLI and
ROBERT CLIFT



Financial Management and Corporate
Governance from the Feminist Ethics of Care
Perspective

“With research on care ethics in accounting and related areas limited, this book addresses an area of research in much need of attention. Most importantly, this research has the capacity to move discourse from the procedural aspects of governance and accountability to open up discussion on ways governance may account for the ‘other.’”

—Steven Dellaportas, RMIT University, Melbourne, Australia

Desi Adhariani • Nick Sciulli • Robert Clift

Financial Management and Corporate Governance from the Feminist Ethics of Care Perspective

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Desi Adhariani
Universitas Indonesia
Depok
Indonesia

Nick Sciulli
Victoria University
Melbourne
Australia

Robert Clift
Victoria University
Melbourne
Australia

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Preface

In recent years, the issue of effective corporate governance has attracted much attention, especially to promote an ethical business environment to ensure corporate accountability and integrity. In the academic sphere, the mainstream research on corporate governance and ethics has been performed using various ethics theories based on the premise of conflict of interest. This research uses a feminist perspective to analyse the corporate governance practices at BHP Billiton using the lens of the feminist ethics of care, as well as projecting the financial condition of the company using the same principles.

It is argued that the application of the feminist ethics of care will result in a stakeholder model of corporate governance that places more emphasis on women's interests and maintaining good relationships with stakeholders. This study also projected that the financial condition will be stable, as the company will put more effort into balancing stakeholder interests while addressing social and environmental risk.

The two issues were answered using mixed methods. For the first one, the analysis of corporate governance practices from the feminist ethics of care perspective was performed using qualitative content analysis of the Annual and Sustainability Reports of BHP Billiton Limited, as the selected sample company for this study, for the period 2006–2015. Following the analysis, a financial planning model for the period 2012–2016 was designed using the quantitative optimisation method to

address the second issue and the projection was then compared to the actual data.

The original principles of the ethics of care, as developed by Gilligan (1982), are as follows:

1. The care approach is achieved through perception of one's self as connected to others. This is translated further as feminist stakeholder theory.
2. Moral dilemmas are contextual.
3. Dilemmas are solved through inductive thinking.
4. The moral development through stages is sequential and hierarchical.
5. Principle of moral responsibility is reflected in the voices of women.
6. The ethics of care is distinguished by an emphasis on attachments, issues of self-sacrifice and selflessness and consideration of relationships as primary.

This study adds two more principles based on the interpretation of the illumination of the ethics of care to corporate governance practices as follows:

7. The nature of corporate social responsibility (CSR) activities should be voluntary or discretionary.
8. Women's interests in various stakeholder groups are acknowledged.

The results based on the qualitative content analysis showed that BHP Billiton has not consistently applied principles suggested by the ethics of care. The principle relating to the perception of one's self as connected to others was represented in intensive stakeholder engagement programmes and various voluntary CSR programmes. The company also acknowledged women's interests in the employee group and other stakeholder groups by applying gender diversity and gender equality principles. However, the caring approaches through communications, contextual and inductive problem solutions, and sequential and hierarchical moral development were not consistent with the ethics of care. Therefore, the first proposition was not fully supported by the research findings from the qualitative content analysis.

The projection of the financial condition for the five-year period 2012–2016 showed that BHP Billiton could achieve an overall positive economic value retained even though negative results exist for 2015 and 2016. Sensitivity analysis was performed by providing two scenarios to show the impact of each on the projected financial condition. It was concluded that the company's financial condition would be stable in the future, which supports the second proposition.

Although not all propositions were supported in this study, the use of the ethics of care as a lens to support corporate governance practices and as guidance in financial projection has not been conducted in previous studies. This study therefore offers an original contribution to the literature of corporate governance, business ethics and financial planning.

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Desi Adhariani

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1

Introduction

1.1 Research Background

Corporate governance has emerged as an important issue within public companies. The term is used to describe the way a company is managed, monitored and held accountable. If governance is performed effectively, it can result in corporate accountability, reliability of public financial information, integrity and efficiency of the capital market. This can improve investor trust and confidence. Effective corporate governance is also expected to create an ethical business environment (Rezaee 2009).

Business ethics as the moral principles and ethical professional standards that guide business behaviour are the backbone of effective corporate governance, establishing the moral structure for the entire organisation (Rezaee 2009). The top level of management must set the appropriate tone to promote ethical conduct. Ethics in the workplace has received significant attention in corporate governance reforms following several reported cases of financial fraud (such as One Tel in Australia; Parmalat in Italy; Enron, WorldCom, Xerox in the United States (US); and Satyam Computer Services in India).

Several ethics theories can be used as the underpinning theory for corporate governance practices. The focus of this study is on the feminist ethics of care, which emphasises the self as connected to others, especially the care-giver's responsibility to the other to maintain that connection (Gilligan 1982). The concept of care ethics is often compared with the masculine ethics of justice (or sometimes referred to as the ethics of rights), which defines the self as separate and uses rights to protect boundaries between the self and others. Feminine thinking is represented as a web of relationships and responsibilities, compared to masculine thinking, which is represented by the use of hierarchy (Liedtka 2009). Since its conceptualisation in 1982 by Carol Gilligan, the theory of ethics of care has instigated many care-related publications within the philosophy field. However, little attention has been devoted to it within the business ethics literature, despite the fact that it has relevance to business as a relationship-based ethic and powerful linkages with stakeholder theory (Wicks 1996).

Just like the ethics of care, the stakeholder theory recognises the notion of interdependence, as noted by Wicks et al. (1994):

The corporation is constituted by the network of relationships which is involved with employees, customers, suppliers, communities, business and other groups who interact with and give meaning and definition to the corporation. (p. 12)

Interdependence, according to stakeholder theory, is between groups, while the ethics of care is between and among the individuals who comprise those groups. Despite these differences, both theories view business as a web of ongoing connections and an ethic of justice is needed as a complement to both theories to handle competing claims and inadequate resources. The ethics of care theory also recognises the need for clear boundaries around each individual's and each organisation's responsibility to care. The boundaries are necessary to avoid overwhelming the care-giver (in this case the care-giver is the corporation) with responsibilities beyond the emotional, intellectual and physical capacity to care. The creation of trusted collaborative networks that represent the relationships suggested by the ethics of care is essential in supporting and extending the capacity to care (Liedtka 2009).

Many factors seem to drive organisations to care. These align closely with Gilligan's notions of ethics of care (1982). The focus on relationships and connectedness is central and is reflected, on a basic level, in the willingness to care for customers and nurture employees.

Considering the potential contributions that the theory may make to business literature and practices, this study analyses the corporate governance practices from the feminist ethics of care point of view. As unethical business conduct can have financial consequences, this research also offers practical support for the application of care-based corporate governance in financial management and financial planning.

Companies all around the world require sound financial management strategies to support the achievement of their short- and long-term objectives. Those strategies will guide a firm in the decision-making of three major policies: investment, financing and dividends. Theories and methodologies of financial management have been developed in these areas, acknowledging the interrelationships and simultaneous considerations of investment, financing and dividend options facing firms (Lee et al. 2009, p. 668; Myers and Pogue 1974).

Good financial management is also essential to managing the divergence of interests between shareholders and managers as a consequence of the separation of ownership and control. This is posited in the classic work of Berle and Means (1932) and the agency theory of Jensen and Meckling (1976). A corporate governance concept was developed as a tool to manage conflicts of interest among parties, as an internal and external control mechanism in a firm. Good corporate governance is beneficial not only for shareholders but also for stakeholders, including investors, creditors, managers, employees and society as a whole. It resolves conflicts of interest, encourages controls and a sense of ethics, and improves transparency.

Financial management strategies developed within good governance principles will normatively guarantee the value maximisation and long-term performance of all companies. As these strategies are incorporated into a financial planning model in this study, an ethical corporate governance practice will result in reliable accounting data as the sources or input for the model. One important aspect of governance that should be exercised by companies is appropriate and effective risk management.

This will minimise or help avoid the possibility of unexpected losses arising from financial, operating, or other risks. Risk management requires a company, through the board of directors, to develop a risk strategy and risk tolerance in making decisions under uncertain conditions in the future.

Promoting good governance in financial management is not only supported by theory, but also imposed or recommended by regulators, stock exchanges and industrial groups. Rules and guidelines for good practices can be found in corporate and securities laws, bankruptcy procedures, corporate control practices, internal and external audit requirements, and stock market regulations. Each country has a slightly different set of rules, but these rules share the same message: to enhance the performance and sustainability of all companies to benefit stakeholders.

Despite theories and regulations being developed and imposed in the field of financial management for use by companies seeking sustainability, company failures still occur. Blame is often placed on uncertain conditions, such as an economic crisis. In fact, in some cases, company failures can lead to economic or financial crisis. No country is immune from such crises and once they occur, the costs of resolving them are often very high (Hunter 2002). It is also inappropriate to point the finger at the inadequacy of existing regulations, even though we frequently see a new regulation being endorsed following corporate failures to strengthen the economies and recover investors' confidence (e.g. the Enron and WorldCom case that led to the Sarbanes Oxley Act).

1.2 Limitations in the Current Literature and Rationale for the Research

There are at least three reasons for company failure in relation to financial management issues (Banks 2004): failure in corporate governance processes underpinning financial management strategies, including unclear corporate strategies, liberal accounting policies, and inadequate internal audits; inadequate risk management leading to excessive risk-taking; and the unethical behaviour of directors, executives, managers and employees.

The unethical behaviour as the last reason raises a question of what set of ethical frameworks apply in the companies for decision-making and

the adequacy of such ethics to prevent such failures. Another question is whether there is a higher level of ethics that can prevent such failures and scandals from occurring in the future. This research applies the ethics of care from a feminist perspective to answer these questions. It is conducted in the belief that the financial aspect of a company should be managed by exercising a more caring approach—which is an ethics of care point of view—rather than focusing only on formal rules and contracts. This kind of ethics could breathe life into formal rules and become an integrative and essential aspect of company financial management strategies. As Nelson (2016) beautifully put it: ‘Caring is a human trait and care is a human responsibility, in all areas of life in which we find ourselves. Men who neglect their capability to care are less fully men. An economy that neglects care advances towards only greed, robotic work and ecological destruction. The place of care in the economy is everywhere’ (p. 12).

The ethics of care theory has been used in prior finance, accounting and auditing research, including the stakeholder interpretation (Burton and Dunn 1996; Wicks et al. 1994), the audit firm rotation (Reiter 1997), corporate governance (Machold et al. 2008), crisis management (Simola 2005) and the education of ethics to students (Reiter 1996). None of these prior studies, however, has applied the ethics of care to current corporate governance practices or examined its impact on the financial condition of a company. Addressing these gaps in the literature represents the original contribution of this study.

1.3 Research Aims

This study had two research aims. First, an analysis of the corporate governance practices using the feminist ethics of care perspective was undertaken in the hope that the illumination of feminist ethics will generate a more caring approach in business operations. The second aim was to design sound financial planning strategies that integrate good corporate governance and risk management principles using a feminist perspective.

As already indicated, the feminist theory applied was restricted to the ethics of care most closely associated with the research work of Gilligan (1982). She argued that in moral discourse, males seem to maintain

autonomy-oriented traits and objectivity, and an adherence to universal principles (the ethics of rights), whereas females give responses more contextually (the ethics of care).

The ethics of care was selected for this research because masculinist ethical theories, which are reflected in the premise of conflicts of interest amongst competitive stakeholders, were not considered adequate to shape the corporate governance practices and financial planning strategies of a company. Indeed, perhaps the root cause of corporate collapses is the failure to apply feminist ethics within company financial management strategies. This inadequacy, which calls for a practical contribution and creates a knowledge gap, is explicated further in the literature review. However, for the purpose of explaining the aims of this project, it can be simply said that financial management strategies built on corporate governance and risk management principles within this ethical framework will engender a more caring approach in satisfying various stakeholders' interest in a company's sustainability over a long-term period.

This study aimed to address the knowledge gap by offering an integrative financial planning model using the feminist ethics of care perspective. More specifically, the objectives of this research are:

1. To examine the corporate governance model and practices based on the feminist ethical perspective.
2. To quantify the policy and mechanism of the caring corporate governance principles and identify the right proxy for them.
3. To develop an integrative optimisation model for sound financial management and/or planning strategies.
4. To simulate the model to obtain sound financial management strategies, using data from an Australian company.

1.4 Introduction to the Context of the Research

A large proportion of mainstream literature in accounting and finance conceptualises the conflict of interests between shareholders and managers, or what was first articulated by Jensen and Meckling (1976) as the

agency problem. This is understood in terms of competing and conflicting claims, problem-solving using rules and laws, and the rights and obligations measurement in legitimacy and power dimensions (Machold et al. 2008). Implicitly or explicitly, we can see that the moral reasoning within this discourse is taken from a masculinist ethics of right view (Gilligan 1982). Under this perspective, the agency problem of conflicting interests among parties in a company can be reduced but cannot really be eradicated. The corporate collapses that occur repeatedly provide strong evidence that solutions using rules, laws and a power framework are just short-term remedies with no guarantee of long-term success.

The failure of governance using the ethics of rights perspective gave rise to some studies that sought to view governance from the feminist ethics of care perspective. While the rights perspective emphasises the rules and respect for the rights of others, the care point of view stresses the importance of responsibility, relationship, concern, care, continued attachment, sacrifice and the avoidance of hurting another (Reiter 1997).

A different moral emphasis could be traced back to gender stereotypes. However, it is argued that 'the difference between masculinist and feminist perspectives is not exclusively and sharply defined along sexual lines' (Machold et al. 2008, p. 668). A feminine firm is identified by Dobson and White (1995) as an organisation in which the connected self is the predominant moral orientation. With this idea, we can envisage that a feminine firm, which values connectedness and relationships in its vision and mission, can generate the bonds of trust from its stakeholders and, hence, overcome the inefficiencies of its masculine counterpart.

Within the ethics of care framework, we can then formulate sound financial management strategies to project the future financial condition that will enhance the long-term performance and sustainability of a company. The corporate governance aspect, as one of the essential elements proposed in this research to develop those strategies, must also be shaped using feminist ethics. One model is proposed by Machold et al. (2008, p. 673), who view a firm as a web of relationships rather than a nexus of contracts. This model is postulated by principal-agent and multilateral contractarian stakeholder theorists.

The use of ethics of care as a moral grounding for corporate governance brings several consequences. First, the objective of the firm is not only to maximise value for shareholders but also to take into consideration other stakeholders, even those who do not have a formal contract with the firm. Only after considering these other stakeholders, can a company be expected to exercise ethical behaviour, as failure to do so can result in harmful outcomes. Second, risk management as one of the pillars of good governance must be built under a risk prudence approach to avoid the temptation to make a large return without considering the risks. In the literature review chapter of this study, the risk management aspect based on the feminist ethics of care is interpreted as more closely aligned to social and environmental risk management.

Care ethics place more emphasis on relationships, empathy and compassion rather than an appeal to generalisable principles, not because such principles are deemed worthless but because exclusive focus on these principles will make people forget how to actually respond to ethical situations. This does not mean that rules, rights, principles or consequences are not morally important, but rather that there is more to morality. Justice and care should be seen to exist in a dynamic and potentially harmonious relationship (Palmer and Stoll 2011).

Work on the ethics of care can be found in almost all humanities and most social science fields. Even neuroscience has been looking at how we process empathy, how the brain loves and how (and where) the brain processes moral thinking and responding (Tong 1997; Robertson et al. 2007; Wilkins 2008). Care ethics has also 'contributed to contemporary feminist thought on topics such as social welfare programs, disability policies, health care practices, and international relations' (Friedman and Bolte 2007, p. 84). This book specifically focuses on 'the more traditionally masculine spheres of markets and business' (Nelson 2016, p. 12), especially on corporate governance and financial management aspects.

The application of the ethics of care to the corporate governance concept is considered in line with the stakeholder aspect of corporate governance instead of the shareholder aspect. It will add social responsibility to the existing financial responsibilities. However, having corporate social responsibility (CSR) policies and programmes alone does not guarantee value maximisation to a company if ethics are not connected to the value creation.

This research addresses these issues using an integrated optimisation model in developing the sound financial management strategies of a company. Simulation and adjustment to the model using a trial and error method was made until optimum value and good financial strategies were achieved. Before the model was developed, an analysis of the corporate governance practices from the ethics of care perspective was conducted to identify the financial planning strategies that should be incorporated into the model. More importantly, the analysis was performed to gain an understanding of the applicability of the ethics of care theory to corporate governance practices.

As the ethics of care concept comes from feminist theory, which is rooted in women's experiences, the derivation of the perspective to the corporate governance practices also supports women's interests. This

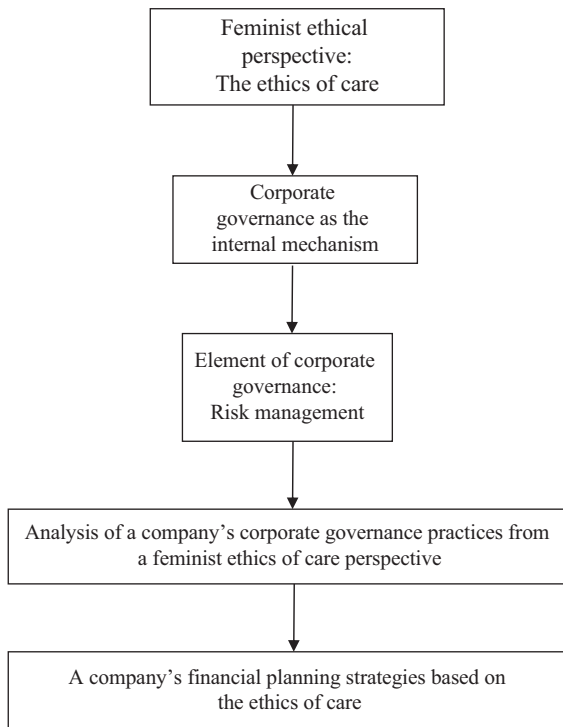


Fig. 1.1 The theoretical constructs framework

has been advocated in previous research, such as the work conducted by Williams (2003) who studied the relationship between the proportion of women serving on boards of directors and their influence on corporate philanthropy. Using a sample of 185 Fortune 500 firms for 1991–1994, the research results strongly supported the influence. Firms having a higher proportion of women serving on their boards engage in greater charitable activities, representing a more caring approach, although the underlying motives for women being more charitable than men remain unclear in the study. Having said that, this study does not create a boundary on the applicability of the results only to companies that have a high proportion of women in top positions. The results of the analysis of corporate governance practices from the feminist perspective and the financial planning model are expected to be applicable to other companies.

Based on the above discussion, the theoretical constructs framework is depicted in Fig. 1.1.

1.5 Contribution to Knowledge (Academic Contribution)

The research literature on corporate governance and ethics has been explored in several previous studies (Mason and Simmons 2014; Roberts 2001; Veasey 2003) but only a small amount of research has studied corporate governance from a feminist ethics of care perspective (Machold et al. 2008). This study contributes to knowledge by offering a different lens through which to study corporate governance, highlighting the potential that an ethics of care perspective may bring in illuminating more caring corporate practice.

There is also a knowledge gap in the financial planning model literature. The literature on the long-term financial analysis and planning of a firm has emerged using various methods for investigating this issue (Lee et al. 2009). These methods are optimisation methods, such as the linear programming method (Carleton 1970; Carleton et al. 1973; Ijiri et al. 1963); goal programming (Batson 1989; Kvanli 1980); stochastic programming (Cariño and Ziemba 1998; Mulvey and Shetty 2004); and the simultaneous equation model (Francis and Rowell 1978; Warren and

Shelton 1971). These works, however, are quite out-dated, as they have not incorporated the current corporate governance principles and regulatory environments. In addition, their methods are built within the classic agency theory framework, which is claimed to be a very masculinist view of accounting theory.

This study uses the different perspective of a feminist theory and linear programming method to develop financial management corporate strategies. This perspective has not been used by other researchers in the financial management area. The multidisciplinary approach of this research fills the knowledge gap in the literature and acknowledges the importance of analysing certain problems from various points of view.

1.6 Statement of Significance (Practical Contribution)

This study will be significant for corporate policy decision making in the following aspects:

1. The analysis of corporate governance practices from a feminist perspective can guide a company to behave ethically according to the ethics of care, in addition to merely following the rules as suggested by the ethics of justice.
2. The feminist ethics perspective adopted in the corporate governance practices can assist a company in maintaining connections and relationships with stakeholders and in finding solutions to problems it may face with various stakeholders.
3. Integrative and well-designed financial strategies will equip management with a better apparatus for achieving the advantages of good corporate governance and risk management principles, especially under conditions of uncertainty.
4. The inclusion of feminist ethics of care principles in the financial management model will ensure the ethical financial decisions made by a company are aimed at enhancing the value of the firm in the long term and maintaining a good relationship with the company's stakeholders.

5. The methodology adopted in this research may be extended to other companies in similar or different industries/sectors and may serve as a basis for a new multidisciplinary approach to strategic financial management.

1.7 Research Methodology

As already outlined, the use of rules and respect for the rights of others in corporate governance practices, as suggested by the ethics of justice, should be complemented with the ethics of care, emphasising responsibility, relationships, concern and care towards other parties. Since research in corporate governance is rarely conducted using the feminist ethics of care framework, this study explored the potential of using this type of ethical approach to balance the ethics of justice perspective in corporate governance research.

A series of steps were taken in the methodology to achieve the purpose of the research. These were:

a. **Defining the feminist perspective**

As discussed, the feminist perspective adopted in this research is limited to the ethics of care concept. The principles of the feminist ethics of care are:

1. Achieved through perception of one's self as connected to others.
2. Moral dilemmas are contextual.
3. Dilemmas are solved through inductive thinking.
4. Development through stages is sequential and hierarchical.
5. Principle of moral responsibility is reflected in the voices of women.
6. Distinguished by an emphasis on attachments, issues of self-sacrifice and selfishness and consideration of relationships as primary.

b. **The extension of the ethics of care to corporate governance practices**

Based on the different concerns of the ethics of care, its derivation to corporate governance practices was developed. Building good relationships with other parties is interpreted as developing a good

relationship with stakeholders, not merely to satisfy the shareholders. This study adds the environment as a stakeholder and hence, the social and environmental aspects should be managed according to the ethics of care principles.

c. **Selection of the sample**

One company was chosen to study the application of the feminist perspective in corporate governance practices, using its annual report, even though the company does not claim to apply the feminist perspective. BHP Billiton was selected as it is renowned in Australia as a large company with wide social and environmental responsibilities and has been awarded the annual report award (in 2002 and 2007) for its comprehensive and transparent annual and sustainability report.

d. **Selection of the method used for analysis**

The exploration of an applied feminist perspective was performed using content analysis (particularly from a qualitative perspective) for the period 2006–2015. This method was chosen as the annual reports were publicly available and represented the company's formal and written communication to its stakeholders.

e. **The projection of financial condition**

After the application of the feminist ethics of care was explored, a projection of the financial condition of the company was performed as a tool to describe how a company can use its resources while achieving the objective to satisfy the stakeholders. The projection was developed using the simple optimisation method (linear programming), which consists of objective and constraint functions.

1.8 Structure of the Study

This study is divided into seven chapters, outlined as follows: Chapter 2 presents the research paradigm, the basic concept of the ethics of care, its difference from the ethics of justice and its position in the ethics and feminist literature. Chapter 3 provides a literature review on corporate governance from the ethics of care perspective and the linkages between the two and sustainability activities, accounting and reporting. Chapter 4 introduces the research methodologies adopted and the process

involved in data collection, content analysis protocols and quantitative optimisation model building. Chapter 5 presents the case study using qualitative content analysis, the results and discussions of any connections to the principles of the feminist ethics of care. In Chap. 6, the case study using the quantitative optimisation model based on the ethics of care for financial planning is presented in detail, along with the data input from BHP Billiton as the sample. The original results, sensitivity analysis and comparison of projected and actual data are then provided. Finally, by summarising the major findings, implications and limitations of this research its conclusions are presented in Chap. 7.

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2

An Introduction to the Ethics of Care

2.1 Introduction

Chapters 2 and 3 present a review of the literature relevant to this study. First, the research paradigm and the feminist ethics of care are studied and presented in Chap. 2. Second, an alternative approach to corporate governance using the ethics of care is discussed in Chap. 3.

Chapter 2 discusses the ethics of care and its position in business ethics and feminist literature. The literature reviewed in this chapter was selected on the basis of its relevance to the ethics of care. However, since the concept of the ethics of care is relatively new, the extent of available literature in this area is still limited compared to the literature for other types of ethics.

A large proportion of mainstream literature in accounting and finance conceptualises the definition of a firm as a ‘nexus of contracts’ with conflicts of interest among the contracting parties (Coase 1937). One of the conflicts of interest occurs between shareholders and managers, or what is articulated by Jensen and Meckling (1976) as the agency problem, in terms of competing and conflicting claims, problem-solving using rules

and laws, rights and obligations measurement in legitimacy and the power dimensions (Machold et al. 2008). Implicitly or explicitly, according to Gilligan (1982), the moral reasoning within this discourse represents a masculinist view. Under this perspective, which is called the ethics of rights, the agency problem due to the conflicting interests among parties in a company can be reduced but not really eradicated at the roots. The corporate collapses that occur repeatedly are strong evidence that the mode of operating using rules, laws and a power framework are a short-term remedy without sufficient guarantee of long-term success in terms of the sustainability of a business. Research into Enron conducted by strategic management researchers at the State University of New York at Buffalo, provides one example of this conclusion. The researchers found that the existence of the agency problem among its managers and board of directors became a basis for the company's mis-management and unethical behaviour as they had incentives not to act in the best interest of shareholders (Contrada 2002). The lack of adequate controls over the agency problem also provided a chance for management to abuse their powers and act unethically.

As pointed out by Yong (2009), good and effective governance that leads to ethical and proper conduct in all business aspects and transactions is a necessary condition to direct global economies out of the global financial crisis. At the micro level, it is needed to avoid corporate collapse. The failure of world-class companies such as Barings, Enron and WorldCom reflects a fundamental deficiency in the application of governance principles, such as promoting ethical and responsible decision-making and safeguarding the integrity of financial reporting principles.

As indicated, the unexpected collapse of Enron in 2001 was associated with a lack of ethical behaviour among top management. The lack of ethical commitment, as reflected in the 'abuse' of accounting practice, seems to have been serendipitously 'supported' by US accounting standards—the US GAAP—pertinent to the consolidation of Special Purpose Entities (SPEs), which could be manipulated. This is highlighted by Clarke et al. (2003) as follows:

Enron, it is claimed, *bent* the applicable US GAAP group accounting rules. A well-publicised aspect of Enron's operations was the use it made of those

SPEs, allegedly to keep debt off the group consolidated balance sheet and to hide numerous losses. This was possible because US GAAP worked within an ownership criterion to determine which entities are subsidiaries and when their financials had to be consolidated. It was relatively easy for Enron to manipulate the ownership level of SPEs below the statutory 3 per cent benchmark. (p. 261)

The manipulation of the ownership level was possible as under GAAP rules at the time, Enron was not required to consolidate the SPEs with its financial statements if the independent third party(ies) had a controlling and 'substantial' equity interest in the SPE, where 'substantial' was defined as at least 3% of the SPEs' assets.

The accounting fraud by exploiting the rules determined by accounting standards was justified ethically by Enron's top executives as they 'followed' the ethics of rights principles to make decisions based on applicable rules and laws. The loophole in accounting standards in regard to the consolidation of the SPEs was used without considering its impact on the company and stakeholders, including the shareholders. Therefore, it can be argued that such company principles are based only on the ethics of rights perspective and ignore the other types of ethics that could complement them.

The inadequacy of applying only the ethics of rights perspective has given rise to literature which views governance from the feminist ethics perspective of ethics of care. While the ethics of rights perspective emphasises the rules and respect for the rights of others, the ethics of care point of view stresses responsibilities, relationships, concern, care, continued attachment, sacrifice and avoidance of hurting others (Reiter 1997).

Traditionally, a different moral emphasis can be traced back to gender stereotypes. A study conducted by Bampton and Maclagan (2009) suggests that women are more inclined than men to follow the ethics of care, which makes them react differently to business ethics issues. These conclusions were made after assessing 98 respondents' (moral) judgments using a questionnaire survey. The respondents were undergraduate accounting students in the United Kingdom (UK), with a sample of 66 males (67%) and 32 females (33%). The questionnaires contained five vignettes or scenarios that did not refer explicitly to moral or ethical

issues in the wording or administration. These ‘invite a care orientation’ vignettes were followed by a question asking respondents if they saw the action described as acceptable or otherwise. This approach allowed for variations in subjective meaning attached to the vignettes. Using a Chi Square (X^2) test, the results suggest that at least where a care orientation was invited, women judged situations differently from men. Moreover, the female respondents also seemed to have more concern for human welfare and protection of the environment.

Nevertheless, it is argued that ‘the difference between masculinist and feminist perspectives is not exclusively and sharply defined along sexual lines’ (Machold et al. 2008, p. 668). Moreover, Velasquez (1998, p. 126) emphasised that ‘caring is not the task of women, but a moral imperative for both men and women’. Within this context, a ‘feminist’ firm does not mean one that is managed by women, but it values connectedness and relationships in its vision and mission and can generate bonds of trust with its stakeholders, overcoming the deficiencies of its masculine counterpart. Machold et al. (2008) and Velasquez (1998) made their statements (as above) in theoretical journal articles based on empirical research. These will be discussed further in the next section related to the ethics of care.

This study is aimed at viewing corporate governance practices from the feminist ethics of care perspective. The discussion begins with the research paradigm adopted in the study. The discussion of the ethics of care as the moral grounding for corporate governance practices is then presented as depicted in Fig. 2.1.

2.2 Research Paradigm, Ontology and Epistemology

Research paradigms are different theoretical and methodological perspectives based on researchers’ philosophies and assumptions about the world and the nature of knowledge (Blaikie 2007; Collis and Hussey 2003). Blaikie (2007) divided research paradigms into two classifications: classical and contemporary. The classical paradigms represent the earli-

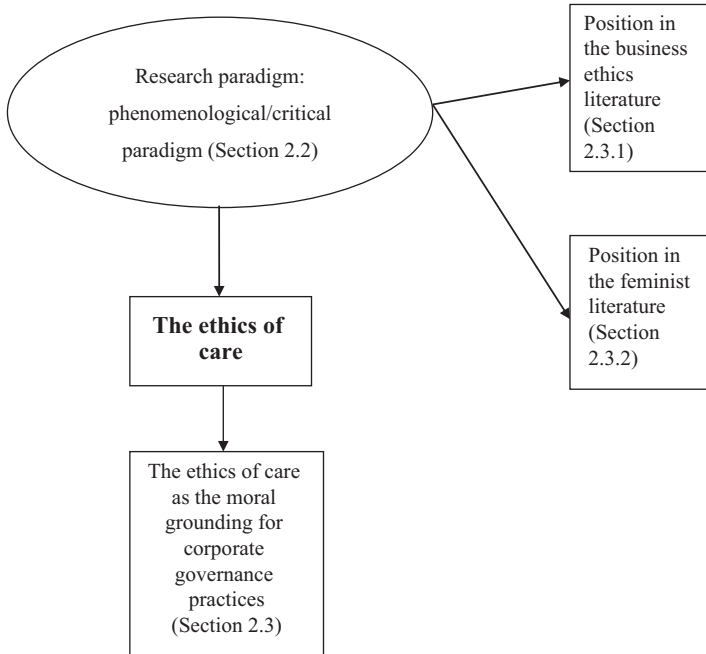


Fig. 2.1 The content and organisation of the literature review chapter

est endeavours to identify whether the natural science methods can be applied to the social sciences or ought to be rejected. Positivism, critical rationalism, classical hermeneutics and interpretivism are categorised as classical paradigms. Critical theory, ethnomethodology, social realism, contemporary hermeneutics, structuration theory and feminism are categorised as contemporary research paradigms.

Collis and Hussey (2003) also provided two classifications of research paradigms: positive and phenomenological. The positivistic approach seeks the facts or causes of social phenomena while still maintaining the objective state of the individual; in contrast, the phenomenological paradigm (which can be viewed as the critical perspective in Blaikie's (2007) classification) is used to understand human behaviour from the participant's own frame of reference. The features of Collis and Hussey's two paradigms are shown in Table 2.1.

Table 2.1 Features of positive and phenomenological paradigms

Features	Positivistic paradigm	Phenomenological paradigm
Ontological (the nature of reality)	Reality is objective and singular, apart from the researcher	Reality is subjective and multiple as seen by participants in a study
Epistemological (the relationship of the researcher to that researched)	Researcher is independent from that being researched	Researcher interacts with that being researched
Axiological (the role of values)	Value-free and unbiased	Value-laden and biased
Nature of data	Tends to produce quantitative data that is highly specific and precise	Tends to produce qualitative data that is rich and subjective
Sample size	Uses large samples	Uses small samples
Research concern	Concerned with hypothesis testing	Concerned with generating theories
Research location	The location is artificial	The location is natural
Reliability level	High	Low
Validity level	Low	High
Generalisation	Generalises from sample to population	Generalises from one setting to another

Source: Adapted from Creswell (1994) in Collis and Hussey (2003), p. 49 and from Collis and Hussey (2003), p. 55.

According to Collis and Hussey (2003), the two paradigms represent two extremes in a continuum. Many variations of each research paradigm can occur in the continuum. It is not appropriate to label the positivist approach as a quantitative research method and the phenomenological approach as a qualitative research method, as the researchers argue, 'It is possible for a positivistic paradigm to produce qualitative data and vice versa' (Collis and Hussey 2003, p. 56).

This study falls into the phenomenological or critical theory paradigm that provides a 'Yes and No' response to the question, 'Can the methods of the natural sciences be used in the social sciences?' (Blaikie 2007, p. 134). The leading exponent of this paradigm, Jürgen Habermas (1987), suggested the 'communicative experience' to study certain subject matter in

the social sciences as opposed to the 'sense experience' used in positivism. Nonetheless, critical theory does not completely reject all of the methods used in positivism, with its empirical-analytic science, on the grounds that several of the methods can also be applied to social life. As Roslender states, 'In principle, there is no reason why adopting such a perspective precludes empirical work' (2006, p. 265). Habermas (1987), however, does not favour this approach, believing that empirical insights cannot guarantee an in-depth and rich understanding of the issues being studied. In response to such criticism, Roslender (2006) suggests that empirical materials can still be used in a less systematic manner to provide general points and issues rather than detailed insights.

Critical theory goes beyond an explanation of 'what exists today' to the normative 'how it should be'. In this sense, critical theory does not have the pretence of being objective but, instead, appreciates the partiality not provided by other perspectives. It is intended as a complement to other perspectives, not a rejection of the current practice of accounting, in order to construct the alternative insights for accounting research and practice.

The critical perspective also challenges the notion of accounting information objectivity by stating that the information cannot be deemed as value-free or neutral but value-laden because it is a 'human-construct' discipline. More self-reflexive and contextualised accounting research should recognise the interrelationships between society, accounting theory and practice and values that are inherent in people in a society. Moreover, Goldberg (1965) states that 'the basis of accounting theory, as that of economic theory or legal theory, lies not only in the institutional framework of a particular society, but also in social philosophy' (p. 4).

The assumptions of the research paradigm lead to the research methodology (Collis and Hussey 2003). In this study the feminist perspective research methodology has been adopted as one of the approaches to social sciences under the phenomenological paradigm. According to Crotty (1998), several attempts have been made to identify women's forms of research to differentiate them from male ones. One point of view identifies quantitative research as male and qualitative research as female. However, this is not widely accepted, as stated by Fonow and Cook (1991, p. 8):

... that carefully designed research grounded in feminist theory and ethics is more useful to understanding women's experiences than an allegiance to any one particular method as more 'feminist' than another. A well-crafted quantitative study may be more useful to policy makers and cause less harm to women than a poorly crafted qualitative one.

In line with the classification and explanation provided above, this research adopted the critical or phenomenological approach based on the following criteria:

1. The axiology applied in this research is value-laden and biased as accounting is socially constructed and, hence, cannot be taught as neutral or value-free. The value or belief adopted in this study is the feminist perspective which will use the experiences or nature of women in constructing a more ethical theory and practice of accounting and financial planning.
2. This project is not an empirical study to explain 'what is' or 'what happens' as commonly used in the positivistic approach. Rather, the 'what ought' approach will be used to evaluate current practice and to offer a construction of ethical accounting and finance based on the feminist perspective.
3. Even though quantitative data will be used in conjunction with qualitative data, this research does not fall into the positivistic approach. As stated by Collis and Hussey (2003), it is possible within the positivistic approach to work with qualitative data and vice versa for the phenomenological/critical approach. The critical paradigm operates at the philosophical level in this study, leading to the technical level of methods, including the selection of the nature of the data. Mixed methods (quantitative and qualitative) are used to describe the possibility of the application of the constructed theory into practice.

The research methodology will be described further in Chap. 4.

2.3 The Ethics of Care as the Underpinning Perspective

As one branch of social science, accounting cannot be treated as a value-neutral science like its natural science counterparts. Indeed, there are behavioural aspects, human and social factors that should be considered. Hopwood (1974) gave some examples of this. For instance, in management accounting the use of the budget for performance measurement is related to the behaviour of management and staff in determining the goal to measure the performance. In financial accounting, the level of disclosures is also determined by social pressures and the willingness of a company to disclose certain information. The issues of gender also become relevant, especially in respect of ethics (Gaffikin 2008). The attention to the significance of this aspect was drawn from Gilligan's 1982 work. Gilligan (1982) examined the contrasts between male and female voices to highlight the difference between two modes of thought and to focus on a problem of interpretation rather than to represent a generalisation about either sex.

Even though Gilligan's *In Different Voice* (1982) discusses the mode of moral reasoning for girls and boys, it does not claim that the 'different' voice of connected self and of the ethics of care is exclusively a woman's voice. In other words, she does not describe a generalised split between women and men's moral thinking, as explained in this statement:

The different voice I describe is characterized not by gender but theme. Its association with women is an empirical observation and it is primarily through women's voices that I trace its development. But this association is not absolute, and the contrasts between male and female voices are presented here to highlight a distinction between two modes of thought and to focus a problem of interpretation rather than to represent a generalization about either sex. (Gilligan 1982, p. 2)

Gilligan's work (1982) was a response to the observations made by developmental psychologist Kohlberg (1981) who found that women scored lower on the test of moral development. Gilligan argued that the result might be biased since Kohlberg's theory was developed using

exclusively male samples; therefore, she introduced a different perspective of female moral discourse, labelled the ethics of care, as the opposite to the ethics of justice attributed to males. Gilligan was able to show that females' understanding of morality arises from the recognition of relationships and a belief in communication as the mode of conflict resolution. She asserts that 'the focus on care in moral reasoning, although not characteristic of all women, is characteristically a female phenomenon in the advantaged populations that have been studied' (Gilligan 1993, p. 212).

Gilligan's work was conducted by discussing a real life moral dilemma experienced by the women who were sampled. Gilligan (1982) interviewed 29 women in the US who were in the first trimester of pregnancy and were considering abortion. Although most of the women thought that they could make a choice about abortion, they did not feel that the foetus was of no value or had no status. The choice of abortion was viewed in terms of its effects on past, current and future relationships and life plans. The women rarely expressed abstract concepts of justice, whether it was the rights of

Table 2.2 Comparison of the ethics of care and the ethics of rights

Ethics of care	Ethics of rights
Achieved through perception of one's self as connected to others	Achieved through process of separation and individuation of self from others
Moral reasoning is contextual, detail of situations grasped as specific and unique	Moral reasoning is universal
Dilemmas are solved through inductive thinking	Dilemmas are solved through application of abstract or formal thinking
Development through stages is sequential and hierarchical	Development through stages is invariantly sequential and hierarchical
Principle of moral responsibility is reflected in the voices of women	Principle of moral responsibility is universal
Distinguished by an emphasis on attachments, issues of self-sacrifice and selfishness and consideration of relationships as primary	Distinguished by an emphasis on separateness, issues of rules and legalities and consideration of the individual as primary

Source: modified from Reiter (1997).

the foetus to live or women’s rights to choose abortion. It was concluded that the traditional tools of justice ethics did not express or articulate the women’s moral experiences because the decisions made by women regarding the moral problem of abortion were constructed as a problem of care and responsibility in relationships rather than as one of rights and rules.

The different concerns of the ethics of care and the ethics of rights are presented in Table 2.2.

From the comparison provided in Table 2.2 it can be concluded that:

1. The ethics of care emphasises responsibility, relationships and connection between a person and others; while the ethics of justice stresses rules and respect for the rights of others, rights that are rooted in objectivity, separation and individuation of self from others. In the corporate governance area, prioritising relationships as suggested by the ethics of care is translated into stakeholder interests within a company; which will be discussed later in Chap. 3.
2. In the ethics of rights, adherence to universal principles is sought to solve moral dilemmas; while the ethics of care suggests more contextual responses to moral issues (case-by-case or concentrating on a particular situation). Resolutions in the ethics of care concept include concern, care, continued attachment, responsibility, sacrifice and the avoidance of hurting another. According to Noddings (2012), each caring relationship is unique and universal principles cannot be applied for prescribed action and judgement, meaning that care must always be contextually applied.

Table 2.3 Different concepts of autonomy and independence

Ethics of care	Ethics of rights
Individuals are interdependent	Individuals are separate
Relationships are in the form of attention and response	Relationships are hierarchical or contractual
Care is viewed as strength	Independence is viewed as strength
Importance of interdependence and interpersonal connections	Importance of autonomy and self-sufficiency
Needs of others are important	Rights of others are important

Source: Reiter (1997).

The different concept of autonomy and independence between the ethics of rights and the ethics of care is summarised in Table 2.3.

3. One of the ethics of care features, as depicted in Table 2.2, 'principle of moral responsibility is reflected in the voices of women', stems from Gilligan's (1982) contention that women tend to exhibit a strong ethics of care, providing them the ability to speak in a different moral language, rather than just an ethics of justice or rule-based moral reasoning, which may be more characteristic of men. Gilligan and Attanucci (1988) found the 'two voices' are not mutually exclusive, more specifically, 'concerns about justice and care are both represented in people's thinking about real-life moral dilemmas, but people tend to focus on one set of concerns and minimally represent the other' (p. 232). As Moore (1999) says: 'justice ethic dominates the moral development of men; whereas, the morality of care is found predominantly, though not exclusively, in the moral development of women'. It can be said that Gilligan's work suggests the distinct moral orientations between women and men. However, Gilligan (1982) does not claim that one moral system is better; both are equally valid and complementary in nature. Only by integrating these complementary male (justice) and female (care) orientations will people be able to realize the full human potential in moral development.

On the other hand, even though several researchers have empirically demonstrated that gender differences exist in ethical decision-making (Bampton and Maclagan 2009; O'Fallon and Butterfield 2005; Stedham et al. 2007), some weaknesses are inherent in those studies. First, there are statistical issues of generalisation from samples to larger and different populations, such as from students to managers. Second, the research was conducted using surveys with cases or vignettes that directly led respondents to a female-care orientation.

Walker (1991) provided other empirical evidence regarding the contentious issue of sex differences in moral reasoning and sex bias in theories of morality. He provided critiques of Gilligan's view (1982) that males view morality as conflicting rights while females are believed to have a care/response orientation which represents conflicting responsibilities. The typical view of females is rooted in their perception of the

self as connected to and interdependent with others, the need to avoid hurting others, their concern for the well-being and care for others, as well as maintaining harmonious relationships. These orientations are believed to be sex-related, but not sex-specific (Walker 1991).

Walker (1991) provided his critiques after conducting research based on the data of 233 participants who were interviewed twice. The interview had two parts: three hypothetical dilemmas and the real-life dilemma. The results show non-significant sex differences. Walker (1991) also performed meta-analysis to test the hypothesis that men are more advanced in moral reasoning than are females. The meta-analysis involved reviews of several related research studies such as Ford and Lowery (1986) who failed to find sex differences among undergraduate students who were asked to describe a moral conflict. Similar results are found by Archer and Waterman (1988) who reported non-significant sex differences on four constructs deemed to reflect psychological individualism (vs. connectedness) namely identity, self-actualization, internal locus of control, and principled moral judgement. Based on the meta-analysis, it is concluded that there is only limited support for Gilligan's claim of different moral orientations for females and males. Thoma (1986), who also conducted a meta-analysis of 56 samples of over 6000 male and female subjects which yielded similar results, further found that education was 250 times more powerful in predicting moral judgement level than gender.

The mixed evidence from research reflects the fact that there are still debates on gender differences in ethics and moral reasoning. Latest research such as Brabeck and Shore (2003) also refutes the claim that there are gender differences in intellectual and moral development. In contrast, Garmon et al. (1996) found gender differences in content expression as empathy- or caring-related concerns—even caring for strangers—were more prevalent among females. They stated that this higher prevalence may reflect females' greater tendency to 'imagine themselves in the other's place' (Hoffman 1977, p. 712). Tirri and Nokelainen (2007) who examined the ethical sensitivity of students also found that female students estimated their ethical skills higher than male peers, a finding which may be attributed to the nature of questionnaire

items that mostly measure caring ethics with emotional and social intelligence. The gender differences finding is also partially supported by Einolf (2011) who found sex differences in the institutional helping behaviours of volunteering and charitable giving. The study was based on psychological research which has found that women score higher on most measures of traits, motivations and values that predict the behaviour of helping others. It was hypothesised that women are more motivated to help others than men, but men may have more social and human capital, which compensates for their lower motivation. The results showed that women are more motivated to help others and more involved in volunteering activities; however, men's and women's contributions to charitable giving are found to be similar. Other research supporting Gilligan's theory of gender differences in the construction of a world-view includes Stimpson et al. (1991).

Considering the mixed evidence in prior research, this study takes the position of Gilligan's (1982) proposal that there are gender differences in moral reasoning. This stance was selected to investigate whether the number of female executives as decision-makers has impact in the application of feminist ethics of care in corporate governance practices. The position is tested using the case study presented in Chap. 5.

Moral development of an ethic of care progresses through three general stages (Gilligan 1982). Stage one is the caring for one's self which is then continued to the sense of responsibility for another at the expense of one's self. Lastly, there is reconciliation of the two stages with a focus on caring for the other as well as oneself in an interconnected and healthy relationship.

The application of the inclusive ethics of care in an organisational setting can be exercised either by male or female executives, even though quota rules such as '30% of board directors should be female' can still be followed to ensure a balancing voice. The existence of such quota rules is an example of how the application of the ethics of justice can be complemented by the ethics of care. As indicated by Hoffman (2001), caring and different types of justice can be viewed as 'ideal types' that may occur in varying degrees in all situations. Women's participation at senior levels of corporate decision-making brings fem-

inist values to enhance corporate governance as women tend to bring innovation, collaboration and relationship building. These represent valuable contributions to the company.

4. Since building good relationships is of primary importance, acknowledgement and effective management of relationships is at the core of the ethics of care.

Gilligan's theory was developed through an analysis and interpretation of quoted excerpts from interviews. However, Brabeck (1993) noted several weaknesses in Gilligan's study. First, conclusions about gender differences in moral development were drawn from an all-female sample of the abortion study. Colby and Damon (1983) suggested that comparative data with men faced with the same dilemma could be more powerful. The lack of comparison did not provide support for sex bias in Kohlberg's theory even though Gilligan's abortion interview resulted in interesting data on real life decision-making processes. Second, the research also suffered through the interview technique. While it might have been rich in exploratory data, it was argued that 'generalisations from small numbers are risky, probe questions may vary from subject to subject, and the representativeness of the excerpts cited by Gilligan is uncertain' (Brabeck 1993, p. 38).

Considering the identified flaws, Colby and Damon (1983) concluded that Gilligan's most important contribution was not her critique of existing moral developmental theories, but rather her preliminary extension of the moral development theory and method. For example, the use of real situations could be considered an advance over the use of hypothetical moral dilemmas. Despite the weaknesses, the work of Gilligan (1982) has sparked several research studies around the ethics of care. Noddings (1984) also developed philosophical work on caring, which she called 'a feminine approach to ethics' and equated care with 'burdens': to care is to be in a burdened mental state, fearful or anxious about something or someone. Both Noddings (1984), the philosopher, and Gilligan (1982), the psychologist, draw from the work of feminist object-relations theorist Nancy Chodorow. The work of Chodorow (1978) presented the psychoanalysis and sociology of gender, centring on the reproduction of mothering, to provide understanding of important aspects of female development and the dynamics of the female psyche. It is claimed that

women experience a sense of self-in-relation which is different with men's experience of a self that tends to deny relation and connection.

Again, as discussed earlier, the description of ethics of caring as a feminine ethic does not imply that it speaks for all women or excludes men. Since caring implies a relationship, the ethics of care is naturally 'other-regarding', which means that we do not sacrifice ourselves when we care for others. Rather, caring serves as a constructive development of one's self and the other at the same time. This is why Noddings (1984) says that 'caring is not in itself a virtue' (p. 96). The genuine ethical commitment to care gives rise to the exercise of virtue but these must be assessed in the context of caring situations. For example, it is not just patience that is virtuous; it is patience with respect to the particular weaknesses of others.

The different perspectives within the moral discourse, as explained above, bring about different approaches to problem resolution. In the rights perspective, a problem may be solved by heavy reliance on the rules and respect for the rights of others. From this point of view, agency theory, which is often used to study and predict behaviour in accounting settings, 'assumes competing, rational, self-interested players and focuses on contractual solutions to conflict' (Reiter 1997, p. 302). In the care perspective the focus is on responsibility and relationships; hence, the resolution of conflicts is conducted primarily by compromise and negotiation.

However, Gilligan (1982) did not suggest that care and responsibility are the sole basis of morality and can be used to replace impartiality. Rather, Gilligan argued that 'there is an appropriate place for impartiality, universal principle, and the like within morality, and that a final mature morality involves a complex interaction and dialogue between the concerns of impartiality and those of personal relationship and care' (Blum 1993, p. 50). This is consistent with Brabeck's (1993) suggestion to take Kohlberg's and Gilligan's theories together to form a morality that embraces reasoned and deliberate judgements to ensure justice is followed while maintaining care and concern. In this more adequate conception of morality, justice and care are joined, the demands of universal principles and contextual moral principles are bridged, and the need for autonomy and for interconnection is united.

A number of studies have used the ethics of care as a framework to investigate the issues being studied, namely, to improve auditor independence (Reiter 1997), to prevent organisational crisis (Simola 2003, 2005) and to develop stakeholder theory (Burton and Dunn 1996). However, none of the existing studies has used the care perspective as a framework to identify the corporate governance practices and to develop a model to project and analyse the financial condition of a company. This study fills the gap in the literature, exploring the importance of a feminist ethical perspective within corporate governance.

The study of corporate governance practices from the ethics of care point of view challenges the idea that feminist ethics is only appropriate in small groups, such as the family, and least appropriate in large institutions (Taylor 1998). As care-giving (focused on identifying individual needs) is more time-consuming and because time is a scarce commodity in an economic sense, the ethics of justice (with the simple application of rules) might be more attractive. This study will be focused on the translation and application of care-giving principles to fill the literature gap around the ethics of care in company settings. This responds to the statement made by Folbre (1995 in Taylor 1998, p. 479) that: 'Feminist theorists are increasingly fond of the term "care," but have yet to systematically explore its economic implications.' In the imbalance of the application of the ethics of care in organisational settings, feminist theory is important 'in explaining why a particular set of views stereotypically associated with women has been largely ignored and devalued' (Reiter 1997, p. 321). The inclusiveness of feminist theory can be viewed as an attempt to provide alternative ways of theorising and to encourage researchers to explicitly add a value-based perspective to 'previously determined value-free' research.

2.3.1 The Position of the Ethics of Care in the Business Ethics Literature

Business ethics provide an understanding of what is good and right, a moral debate, in doing business. According to Velasquez (1998), there are four basic kinds of moral standards: utilitarianism, rights, justice

and caring. Each of these business ethics moral standards, as they relate to ethics of care in the business literature, is presented in the following sub-sections.

2.3.1.1 Utilitarianism

A 'utilitarian' or a 'consequentialist' approach states that actions and policies should be analysed based on the costs and benefits they will impose on society. The right action or policy in this type of ethics is the one that will generate the utility that maximises benefits or minimises costs, either from monetary or non-monetary perspectives. This approach is popular as many business analysts rely on the utilitarian cost–benefit analysis in evaluating business decisions.

The utilitarian principle assumes that all immediate and foreseeable future benefits and action or policy costs can be measured on a common numerical scale that will help determine the 'right' action 'whose net benefits are greatest by comparison to the net benefits of all other possible alternatives' (Velasquez 1998, p. 73).

However, the measurement assumption creates a major problem because utility and the costs and benefits are sometimes difficult to measure and cannot be reliably predicted. To counter the measurement problem, utilitarian theorists argue that the requirement to have accurate quantifiable measurements can be relaxed when it is impossible. For instance, quantitative methods can be replaced by common-sense criteria, in other words, personal value judgements: intrinsic goods such as life and health are considered more valuable than instrumental goods such as money, and satisfaction of basic needs is more important than just satisfying wants.

2.3.1.2 Rights

The ethics of rights contends that an individual's entitlement to something is derived from a system of moral standards that are not limited to a particular legal system or jurisdiction. A basis of such moral rights was

developed by philosopher Immanuel Kant, who formulated the following principle (Velasquez 1998, p. 94):

An action is morally right for a person in a certain situation if, and only if, the person's reason for carrying out the action is a reason that he or she would be willing to have every person act on, in any similar situation.

An action is morally right for a person if, and only if, in performing the action, the person does not use others merely as a means for advancing his or her own interests, but also both respects and develops their capacity to choose freely for themselves.

Compared to utilitarianism, the moral rights principles do not focus on the consequences of one's actions (greater utility) but on the person's interior motivations or the reasons behind the actions. An action will be morally right if it is motivated by a sense of duty, that is, a belief that it is the right way for all people to behave and a belief that people should not be viewed as objects without free choice.

The ethics of rights has limitations in explaining the limits of rights possessed by several people in conflicting situations. In this condition, the rights approach does not give suggestions about how conflicting rights should be balanced or constrained in favour of one or the other. This limitation can be overcome by examining the relative importance of the interests that each right protects so that, while everyone has equal moral rights, they still have to respect the interests of others.

2.3.1.3 Justice and Fairness

The justice and fairness approach argues that there is a fair method for choosing the principles to resolve conflicts (Velasquez 1998). The first principle is that each person has an equal right that must be protected from attack by others. For example, advertising must be free of fraud and every employee is given the right to vote and freedom of speech. The second principle relates to social and economic inequalities; several

steps must be taken to improve the condition of the least advantaged person in society. The maximisation of benefits for the neediest members of society implies that business institutions should be efficient in using their resources. Hence, pollution and other environmental problems are considered unjust and wrong because they consume resources inefficiently and reduce the benefits for the least advantaged persons.

Criticisms of this approach are centred on the claims that the justice principles are themselves mistaken and would not be chosen by rational people. This is because it is not an adequate method for choosing moral principles or ethical conduct in certain situations. However, the proponents of this approach claim that despite the weaknesses, the justice and fairness approach still offers many advantages. First, it recognises the basic inherent values in our moral beliefs, such as freedom and equality. Second, the theory fits into basic economic institutions, such as the market system, providing fair work incentives and an appropriate division of labour.

2.3.1.4 The Ethics of Care

The ethics of care views ethics and moral tasks as partial and non-universal principles because we have to exercise special care towards particular persons who are valuable and in a close relationship. Two moral principles are emphasised in this approach, as follows (Velasquez 1998, p. 122):

1. We each exist in a web of relationships and should preserve and nurture those concrete and valuable relationships we have with specific persons.
2. We each should exercise special care for those with whom we are concretely related by attending to their particular needs, values, desires and concrete well-being as seen from their own personal perspectives, and by responding positively to these needs, values, desires and concrete well-being, particularly of those who are vulnerable and dependent on our care.

These arguments are based on the claim that the identity of the self depends on the relationships of the self to other selves; that individuals cannot live in isolation from others.

As already indicated, the care approach to ethics has been developed primarily by feminist ethicists on the grounds that the history of ethics has been constructed from male points of view (for instance, the moral stages idea of justice developed by Kohlberg 1981) and has been built on assumptions and concepts that are by no means gender neutral (Held 1993). From a feminist point of view, moral theory needs to be transformed to take adequate account of the experience of women.

Gilligan's (1982) work on the ethics of care owes allegiance to philosophers like David Hume, Annette Baier, Sara Ruddick, and Nel Noddings. The philosophical basis of care also comes from psychologists like Nancy Chodorow, Jean Baker Miller, Irene Stivers, Judith Jordan, and other relational theorists.

Hume introduced the term 'utility' into moral vocabulary, and some see him as 'an early proponent of the emotivist metaethical view that moral judgments principally express our feelings' (Fieser n.d.). His book, *A Treatise of Human Nature*, which was published in the mid-eighteenth century, begins with examinations on the nature of ideas and concludes with contemplation on morals and virtue (Hume 2012). Reflecting on this book, Annette Baier suggests that morality emphasises the importance of virtuous character traits including gentleness, sympathy and good temperedness (Baier 1987a). She further recommended the need for more than justice and to harmonise the ideals of care and justice (Baier 1987b). Sara Ruddick explored the epistemology that comes from maternal thinking and articulated a distinctly feminine approach to ethics. The lived experience of mothering exhibits conceptions of virtue with larger moral relevance to act in the interests of preservation and growth (Ruddick 1980).

Criticism of the ethics of care relates to the possibility of conflicts with the other demands of utility, justice and rights. Critics claim that the ethics of care will lead to unjust favouritism. In response to this criticism, the proponents of the ethics of care concept state that we cannot get rid of all moral conflicts but we can learn to balance different demands in specific situations. As Held (1993) suggests, the

feminist approaches to ethics share a commitment to rethinking ethics with a view to correcting whatever forms of male bias it may contain. There is no intention of neglecting the other moral or ethical considerations. Brabeck (1993) further recommends an integration of justice and care to constitute a moral ideal: that 'the moral person is seen as one whose moral choices reflect reasoned and deliberate judgments [*sic*] that ensure justice be accorded each person while maintaining a passionate concern for the well-being and care of each individual' (p. 48).

The types of business ethics discussed above can be summarised as follows:

1. The ethics of care represents one set of business ethics that can be applied in certain situations without neglecting other kinds of business ethics. The four types of ethical approaches should be integrated to create a basic moral reasoning.
2. When there are conflicts between the care values and the other type of ethics, careful consideration is needed to determine the ethical conduct in specific situations.

In this study, discussion is limited to the analysis of corporate governance practices from the feminist ethics of care perspective. However, there was no intention to ignore the other types of ethics whenever applicable. For instance, the quantitative measurement principle of utilitarianism was employed in measuring several aspects of social and environmental factors. This is an important factor in the projected model of financial condition because such monetary measurement is inevitable. The externalities cost was also acknowledged in line with ethics of care principles, even though it might be not material according to the 'justice' accounting rule. Despite the application of the other types of ethics, the ethics of care is still the 'umbrella' that guides the study of corporate governance practices.

Table 2.4 A summary of feminist thinking

	Main thoughts	Critiques from opponents	Some theorists
Liberal feminism	<ul style="list-style-type: none"> The equal education, liberty, suffrage and rights for women are needed to eliminate gender inequity. Gender equality can be achieved by reforming the system The overall goal of this movement is to create a just and compassionate society in which freedom flourishes There are two types of liberal feminists: <ol style="list-style-type: none"> Classical liberal feminists favour limited government and a free market, and view political, legal rights, freedom of expression, religion and conscience as particularly important Welfare liberal feminists favour full function of government to provide citizens with basic needs and believe the market should be limited by taxes and a curb on profits 	<ul style="list-style-type: none"> Reason, freedom and autonomy are not as good as they sound The idea that women can become like men is inappropriate because there is a possibility that some sex differences are biologically determined rather than the products of culture and nurture Mainly focused on the interests of white, middle-class, heterosexual women 	<ul style="list-style-type: none"> Mary Wollstonecraft (1759) John Stuart Mill (1832) Harriet Taylor (1851) Betty Friedan (1963)

(continued)

Table 2.4 (continued)

	Main thoughts	Critiques from opponents	Some theorists
Radical feminism	<ul style="list-style-type: none"> • Women are different from men, so there is no need to find a place for women in the system • Women are encouraged to become androgynous persons who embody both masculine and feminine characteristics • Patriarchy's sex/gender system should be changed because it is the root of women's oppression 	<ul style="list-style-type: none"> • The claim on the different biologies of men and women is wrong because it denies the unique and fascinating history of individual men and women and tends to entrap women in rigid roles • Patriarchy is not always about men hating women; there is rich diversity in different societies 	<ul style="list-style-type: none"> • Joreen Freeman (1970) • Gayle Rubin (1975) • Marilyn French (1985) • Mary Daly (1973)
Marxist and socialist feminism	<ul style="list-style-type: none"> • Unless capitalist economic structures are destroyed, two classes of rich and poor will continue to persist • Because capitalism and patriarchy reinforce each other, women will be found in the ranks of the have-nots • Capitalism oppresses women as workers, but patriarchy oppresses women as women, an oppression that affects women's identity as well as activity. Therefore, patriarchy and capitalism should be overthrown to create a humanised society 	<ul style="list-style-type: none"> • The root of the attitudes towards women is not capitalism because the attitudes will never really change as long as both female and male psychology is dominated by the phallic symbol 	<ul style="list-style-type: none"> • Evelyn Reed (1970) • Juliet Mitchell (1970) • Iris Marion Young (1981) • Heidi Hartmann (1981)

Psychoanalytic feminism

- The fundamental explanation for women's way of acting is rooted deep in women's psyche, specifically, in the way they think of themselves as women
- Gender identity and gender inequity are rooted in a series of infantile and early childhood experiences
- Women's capacity for care is a human strength that is different from male moral language

Care-focused feminism

- The root causes of women's oppression are social rather than psychological
- Psychoanalytic feminists have not offered women any truly desirable ways to achieve a fuller human life
- Linking women with caring may promote the view that women care by nature, and they should always care, no matter the cost to themselves
- The value of ethics of care has been over-estimated whereas the value of ethics of justice has been under-appreciated

- Men's emphasis on separation and autonomy leads to the moral reasoning that stresses justice, fairness and rights. In contrast, women's emphasis on connections and relationships leads to the moral reasoning that stresses the wants, needs and interests of particular people
- The concepts, metaphors and images are associated with the mother-infant or parent-child relationship. However, the principles can be extended to the public domain

- Alfred Adler (1927)
- Karen Horney (1973)
- Clara Thompson (1964)
- Jacques Lacan (1977)

- Carol Gilligan (1982)
- Nel Noddings (1984)

- Sara Ruddick (1989)
- Eva Kittay (1999)

(continued)

Table 2.4 (continued)

Main thoughts	Criticques from opponents	Some theorists
<p>Multicultural, global, and post-colonial feminism</p> <ul style="list-style-type: none"> • Group difference or women's diversity should be recognised; all women are not created or constructed as equal • The definition of feminism must be broadened to include all factors (e.g. race, ethnicity, class, sexual identity, age) • However, it is suggested that women achieve unity in diversity through the sisterhood of friendship and the sisterhood of political solidarity 	<ul style="list-style-type: none"> • The concept of multicultural feminism is still unclear and there is a poor understanding of white culture • It is not an easy task to strike a balance between universalism and relativism 	<ul style="list-style-type: none"> • Maria Lugones (1992) • Ella Shohat (1998) • Naomi Zack (1994) • Audre Lorde (1984)
<p>Eco-feminism</p> <ul style="list-style-type: none"> • Human beings are connected to one another and to the non-human world: animal, planet and inert • Human beings have dominated the non-human world or nature • It is argued that patriarchy's hierarchical, dualistic and oppressive mode of thinking has harmed both women and nature • Earth/nature is associated with woman (mother). The environment is ruined because men think that earth is only to be used 	<ul style="list-style-type: none"> • The nature–woman connection has been over-emphasised to women • Eco-feminism grounded in women's traditional feminine virtues, maternal roles, and their special relationship to nature need not be reactionary but can be revolutionary to motivate women to get engaged in political action 	<ul style="list-style-type: none"> • Rachel Carson (1962) • Simone de Beauvoir (1952) • Sherry B. Ortner (1995) • Susan Griffin (1981)

Post-modern
and third-
wave feminism

- Woman is about the individual, no category and no group
- There is no single formula for being a good feminist
- Each woman is invited to become the kind of feminist she wants to be
- Diversity and change are accommodated because difference is the way things are
- A list of core values is still needed as an agenda to help women to achieve a goal that goes beyond just being oneself
- Post-modern feminist thought is no more than jargon for an elite group of feminists and other social critics, 'feminism for academicians'

- Judith Butler (1992)
- Leslie Heywood (1997)
- Jennifer Drake (1997)

Source: Summarised from Tong (2009).

2.3.2 The Position of Feminist Ethics of Care in the Feminist Literature

The thoughts of various feminist writers are presented here in brief to explore and identify the position of the feminist ethics of care in the feminist literature and to provide justification for the application of the concept of care in this study. While feminist thinking is interdisciplinary, intersectional and interlocking in nature, Tong (2009) formulates the categorisation of feminist thoughts with recognition that labels are incomplete and highly contestable. Nonetheless, Tong's categorisation is summarised here in Table 2.4.

From the brief outline of various feminist theories, as presented in Table 2.4, it can be concluded that:

1. The ethics of care is rooted in care-focused feminism that stresses the caring nature of women as opposed to the justice nature of men.
2. Care-focused feminism was adopted in this study as it shapes the ethics of care needed as a complement to the ethics of justice and other types of ethics in running a business.

The other strands of feminism mainly focus on the oppression of women. Liberal feminism seeks equal opportunity with support from government to get rid of oppression. Radical feminists argue that the patriarchal system with its social and cultural institutions has to be eliminated to remove the oppression of women. Marxist and socialist feminism addresses the issue of structural change in capitalism, believing that women's oppression was caused by the introduction of capitalism. Psychoanalytic feminism 'grounds women's oppression in the depths of the female psyche' (Crotty 1998, p. 165). Multicultural, global and post-colonial feminism acknowledges women's diversity and argues that 'race, class, and gender oppression could not continue without powerful ideological justification for their existence' (Collins 1990, p. 67). Post-modern and third-wave feminism also accommodates diversity and change and is 'particularly eager to understand the ways in which gender oppression and other kinds of human oppression co-create and co-maintain each other' (Tong 2009, p. 271).

Care-focused feminists, however, do not talk only about the oppression of women and the factors that contribute to such oppression. Instead, care-focused feminism emphasises the different virtues offered by women's characters and experiences that are also needed in the private and public domains, including in business. This category of feminism recognises the role of women's 'different voices' in moral and ethical development and, hence, was considered the most relevant feminist thought to be explored in this study.

3. Eco-feminism focuses on the interrelationship of human beings and nature and the domination of human beings over nature due to patriarchy's hierarchical, dualistic and oppressive mode of thinking. Even though eco-feminism also elucidates the importance of nature/environment, which is identified as one of the stakeholders in this research (discussed further in Sect. 3.5.1), eco-feminism is deemed inadequate as the underpinning theoretical background of this study as there are many parties (or stakeholders) other than the environment that interact and should be recognised by companies. This category of feminism does not specifically address the relationships among human beings (stakeholders), such as shareholders, employees, government and suppliers whose interests are central to this study. Therefore, its relevance to this study is limited.

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3

Corporate Governance Practices from the Ethics of Care Perspective

This chapter discusses corporate governance practices from the ethics of care perspective. The literature reviewed was selected based on several aspects, outlined as follows:

1. A review of previous studies that investigated, theoretically or empirically, corporate governance using the ethics of care. These include the discussion of the shareholder or stakeholder model, which best describes corporate governance from the ethics of care perspective.
2. A review of previous research that studied the risk management, enabling the possibility to undertake an analysis from an ethics of care perspective.
3. The interpretation of corporate governance practices from the feminist ethics of care perspective was applied in developing a financial planning model. Therefore, previous studies that have discussed accounting and financial reporting using the ethics of care were also reviewed. This is because the financial projection required accounting data from the financial reports as inputs for the model.

3.1 The Ethics of Care and Corporate Governance Aspects

The separation of ownership and control between owners and managers creates the principal-agent problem which naturally comes into existence (as predicted by the agency theory) and causes agency costs. These costs are incurred when: (1) managers as agents make decisions that will hamper value-maximising objectives; and (2) owners or principals incur costs to monitor managers and influence their decisions (Brealey et al. 2000).

Corporate governance is a tool to minimise conflicts of interest between managers, owners and other parties involved in a firm (such as conflicts between managers and directors, creditors and shareholders, and shareholders and other stakeholders) by exercising control over managerial decisions. Rezaee (2009) highlighted the shareholder and stakeholder aspects of corporate governance. This was to acknowledge the evolution of the corporate governance role from reducing agency costs to creating long-term shareholder value and, more recently, to increasing value for all stakeholders.

The stakeholder model of corporate governance views the company from a broader perspective as the nexus of contracts between all corporate participants with the common goal of creating value. While the alignment of management interests with those of shareholders as investors is the focus of the shareholder aspect, the stakeholder model emphasises the value maximisation for all stakeholders, including contractual participants and social constituents. The stakeholders' value maximisation objective is achieved through several policies, such as minimising cost and waste while improving product quality, enhancing employees' skills and satisfaction and contributing to the development of the community.

Even though the objective of maximising the shareholders' wealth is believed not to be neglecting the interests of other stakeholders, it is contended in this research that the explicit statement of a company's objective to maximise the stakeholders' interest will be better able to guarantee the consideration of business impacts on stakeholders in the decision-making process. According to Bird et al. (2007) and Godfrey (2005), the stakeholder-maximisation objective will also not jeopardise the interests of shareholders. Bird et al. (2007) analysed the relationship between six corporate social responsibility (CSR) activities,

namely, contributions to community, employment diversity policies, employee relations, environment protection, high product quality, and future stock returns that represent market valuation. Using a statistical regression method, the author found a positive relationship, which suggests that there is no conflict between various CSR activities and the shareholders' interest. In line with this, Godfrey (2005) presented theoretical explanations for the relationships between corporate philanthropy and shareholders' wealth. He argued that philanthropic activity generates positive moral capital among communities and stakeholders, which contributes to shareholders' wealth. However, Bird et al. (2007) highlighted a particular concern that management pursuing the objective of maximising shareholders' wealth may not have the incentive to be proactive in environmental policy. It is suggested that government should play an active role in ensuring that companies meet the legitimate concerns of stakeholders.

Increasing profits requires the acceptance and contribution from other stakeholders with different and often contradictory interests. In the end, if we relate the objective of the firm with the corporate governance mosaic then we find that 'protecting the rights of shareholders and preserving important long-term relationships with external stakeholders are important fundamentals to good governance practice', as stated by Dallas (2004, p. 83). This really resonates with the problem of determining the objective of a firm due to the controversy between shareholders and other stakeholders about the primacy of the company's objective.

The importance of adopting stakeholder interests as a company objective was also recognised in the wake of several corporate collapses around the world. These called for better corporate governance structures to ensure that managers act not only to satisfy shareholders' interests but also that of other stakeholders 'as each of the stakeholders has a legitimate or moral right to claim on the value created by the firm' (Alam 2006, p. 218). Several theories, including social contract theory and institutional theory, support the stakeholder claim. In social contract theory, an organisation can gain legitimacy if its activities are in line with social expectations. Within institutional theory, a broader perspective is adopted to include the internal and external organisational contexts. The claim is protected by several companies' legislation and other legal

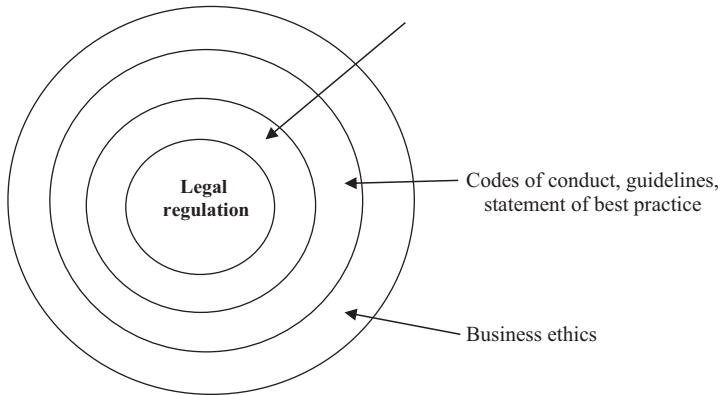


Fig. 3.1 The structure of corporate governance

Source: Farrar (2001).

controls to build control and accountability systems within companies. Farrar (2001) depicts the relationship as ‘The structure of corporate governance’, which is illustrated in Fig. 3.1.

Another consideration before adopting the stakeholder model of corporate governance is to ensure that the interests of women are taken into account in corporate decisions. In the shareholder paradigm, the interests of women as workers, small creditors, mothers and small investors tend to be ignored (Sarra 2002). The importance of considering women’s voices and experiences is the focus of this study as the ethics of care is used to explain further the interrelationship between corporate governance and business ethics. As Francis (2000, p. 32) stated, ‘remoteness of relationship makes it easier to behave unethically’, and thus such interrelationship is manifested in this research.

Feminist corporate governance ‘recognises a multiplicity of actual and potential relationships with varying degrees of asymmetry of power distribution, within which there is an obligation of care’ (Machold et al. 2008, p. 673). The proposed feminist governance model is presented in Fig. 3.2. In the model, governance is not about abstract relationships between anonymous and homogeneous stakeholder groups but healthy and contextual relationships between concrete individuals in one or several stakeholder groups.

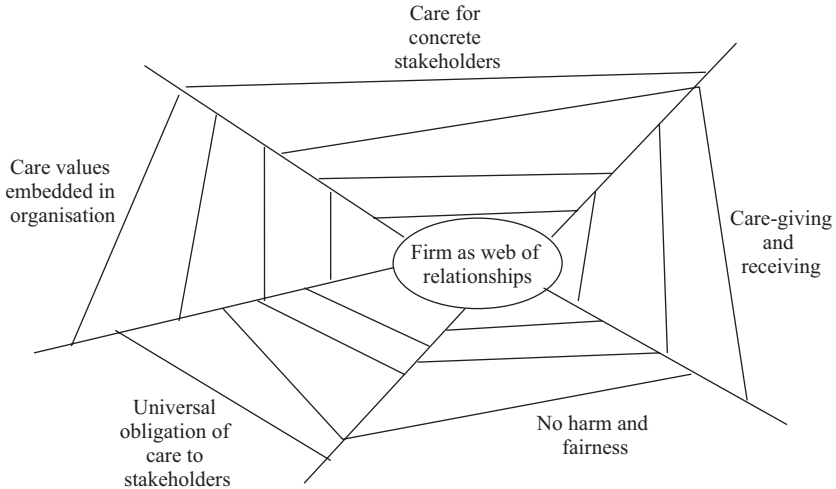


Fig. 3.2 A feminist governance model

Source: Machold et al. (2008).

As feminist corporate governance emphasises the importance of relationships among different parties, it has many points of contact with stakeholder theory. Stakeholder theory, as inherent in Freeman's definition (1984), positions the firm as *contractually* related to any number of stakeholders. The contractual notion means that approaches to management are focused on the legalistic, contractual, masculine side of human existence (Burton and Dunn 1996).

Differing from the 'contractual approach', the feminist perspective has a broader view of a firm's responsibility. It recognises the importance of protecting stakeholders who do not have a contractual relationship. Clarke (1998) discussed the distinction between contractual and community stakeholders. The contractual stakeholders are shareholders, employees, customers, distributors, suppliers and lenders; while the community stakeholders are regulators, government, pressure groups and local communities. The stakeholders have their own interests and expectations of a company. The interests of some of the stakeholders were summarised by Woodward et al. (1996), as presented in Table 3.1.

An example of dealing with community stakeholders is when a company avoids the practice of bribery in developing countries, even

Table 3.1 Stakeholders' interests

Stakeholder	Expectations of stakeholder from a company	Nature of accountability by a company
Employees	Remuneration, employment security, conditions, training	Company reports, employment news, bargaining information
Owners	Dividends and share price appreciation	Annual report and accounts, merger and takeover information
Customers	Quality, service, safety, value for money	Sales literature, advertising, servicing
Bankers	Liquidity and solvency of company, value of security, cash generation	Cover ratios, collateral, cash forecasts
Suppliers	Stable and enduring relationship	Payment according to terms
Government	Compliance with law, jobs, competitiveness, accurate data	Reports to official bodies, press releases
General public	Safety of operations, contribution to the community	Safety reports, press reports
Environment	Benign operations, substitution of non-renewable resources	Environmental reports, compliance reports

Source: Woodward et al. (1996).

though law enforcement in those countries is still lax. Another example might be avoiding polluting even when there is no sanction or government rule against it. In this sense, the acts in favour of the interests of stakeholders become the broad mission of management, bringing the consequence of sharing control with stakeholders. It is argued in this study that such commitment to non-contractual stakeholders by paying attention to their interests is a corporate governance concept from the caring approach perspective.

Wicks et al. (1994) argue that 'normal' stakeholder theory has retained certain 'masculinist' assumptions that limit its usefulness. They then suggest the reinterpretation of the theory using feminist thinking, for two underlying reasons:

1. A moral concern: the stakeholder concept was not simply a strategy to increase profits, but an attempt to articulate the responsibility of a corporation to inside and outside parties.
2. Some masculine metaphors should be transformed to improve the responsiveness and adaptability of a firm.

This does not mean that all masculinist concepts should be abolished, as both justice and care perspectives are needed to shape moral perceptions.

The masculine and feminist readings of the stakeholder concept are summarised in Table 3.2.

Stakeholder theory from the feminist ethics of care perspective is built around relationships rather than just formal structures with clear demarcation lines. The values for stakeholders are created through caring for them and maintaining the web of cooperation to get people to work together to create value. Another key point from the Wicks et al. (1994) identification of masculine and feminine views of the stakeholder concept lies in the process of decision-making; good corporate governance can be achieved when the rights and responsibilities of stakeholders are reflected in corporate decision-making. As presented previously, the 'normal' stakeholder theory suggests the view of corporations as a set of relationships. However, these relationships are based on rights and power, on contractual, legalistic relationships. The feminist theory grounds the decision-making in a stakeholder model, using not only the legalistic approach but also taking into account a moral emphasis.

On this specific point of decision-making, Burton and Dunn (1996) identified another contribution that feminist ethics of care could bring to the stakeholder theory, complementing the arguments of Wicks et al. (1994). The latter proposed a rule of consensus and understanding according to the ethics of care. First, they suggested finding win-win solutions to resolve issues confronting a firm and its stakeholders. If this was not possible, communication was urged to encourage an understanding of others' positions and eventual acceptance of a 'second best' result. However, this approach would only work if all involved stakeholders adopted a caring approach to their interactions.

Table 3.2 Masculine vs. feminine metaphors in the stakeholder concept

Masculine concepts	Feminist concepts
<p>Corporations should be thought of as 'autonomous' entities, separated from the external environment.</p> <p><i>'Stakeholders are all parties who effect or are affected by the corporation, but they are not integral to its basic identity.'</i></p>	<p>Corporations represent webs of relationships among stakeholders.</p> <p><i>'The corporation is constituted by the network of relationships which it is involved in with the employees, customers, suppliers, communities, businesses and other groups who interact with and give meaning and definition to the corporation.'</i></p>
<p>Corporations can and should enact or control their external environment.</p> <p><i>'Change and uncertainty are threats that should be controlled. Failure to exercise control can result in lost opportunities, unfavourable market conditions, government restrictions, decreased profits etc. that threaten the survival of a company.'</i></p>	<p>Corporations should thrive on chaos and environmental change.</p> <p><i>'Harmonious relationships with the fluctuating and dynamic business environment should be created, nurtured, and sustained, rather than conquered or controlled. Interdependence with other parties can emerge in patterns of cooperation, joint ventures or global alliances.'</i></p>
<p>The language of competition and conflict best describes the character of managing a firm.</p> <p><i>'Conflict among various stakeholders' interests is resolved by competition to determine the weightier or more compelling interest.'</i></p>	<p>Replace conflict and competition with communication and collective action.</p> <p><i>'Better to find win-win situations where what initially appear to be conflict of interest among stakeholders can be turned into forms of collaboration and effective communication to resolve conflicts. Encouraging participation and collective action also helps validate decision making.'</i></p>
<p>The mode of thinking in generating strategy should be 'objective'.</p> <p><i>'Objectivity through facts collection and empirical investigation pushes decision makers to be distant from their leanings, senses and interpretations. It means the stakeholders are silenced and their identities, emotions, needs, and perceptions should not be considered in the objective mode of thinking.'</i></p>	<p>Strategy as solidarity.</p> <p><i>'Where strategy as objectivity seeks to describe decision as dictated by the numbers or as business decisions, the feminist view of solidarity requires that managers make choices based on the responsibilities and relationships it has with specific stakeholders. Starting with solidarity requires that the use of scientific data be done in service of specific wants, that it not impede the ability to talk in terms of particular persons and their needs, and that the numbers or facts it produces can never dictate decisions.'</i></p>

Table 3.2 (continued)

Masculine concepts	Feminist concepts
Corporations should structure power and authority within strict hierarchies. <i>'Hierarchies or organizational structure tend to exclude the voice of stakeholders and erode the effort to operate in terms of the needs and interests of stakeholders, and to recognize the validity of stakeholder concerns.'</i>	Replace hierarchy with radical decentralisation and empowerment. <i>'Company structure and division of labour are not completely abolished, but are put in the service of humanising work practices and increasing employee involvement and responsibility. By pushing for more decentralisation, the firm not only nurtures communication and interdependence among stakeholders, it is able to draw more fully on the latent abilities and creativity of all. The worker benefits from more control and involvement in work, while the firm as a whole is better able to serve the interests of all stakeholders.'</i>

Source: Modified from Wicks et al. (1994), including the quotations.

Burton and Dunn (1996) further claimed that any theory based on the feminist stakeholder concept would run into problems when 'two stakeholders have opposite views of a decision and will be affected adversely if the decision goes against them' (Burton and Dunn 1996, p. 141). In this case, the difficulty is to try to answer the questions: Who should be given priority when a decision must be made? Whose contract should be broken? Burton and Dunn (1996) recommended adopting a caring principle, that is, special attention should be given to the least advantaged members of the moral community. The suggested principle would then become, 'Care enough for the least advantaged stakeholders that they not be harmed; insofar as they are not harmed, privilege those stakeholders with whom you have a close relationship' (Burton and Dunn 1996, p. 144). This principle adds to the understanding of the web of relationships, as discussed by Gilligan (1982). While she envisaged the web of relationships as involving all human beings and not only one's circle of acquaintances, it is not clear in her writing as to how the extension to all persons is to be accomplished (Blum 1993). Burton and Dunn's principle thus translates Gilligan's web concept into a more practical understanding that could be applied in business settings.

Wicks (1996) later commented on Burton and Dunn's (1996) principle. He resisted the particular direction Burton and Dunn appeared to take because the care approach is much more contextual and intuitive, resisting abstract, universal and generalisable formulations. Relevance is created not through the more detailed application of general principles and the creation of decision rules, but through finding ways of embodying various traits, characteristics or virtues.

However, in this study, Wicks' (1996) comments have not been accepted while Burton and Dunn's approach has. This is based on the practicality needed in operationalising the ethics of care concept into company decision-making processes. The universal decision rules are necessary to provide decision-makers with principles to follow. The results of decision-making will depend on the context and situation, as the least advantaged stakeholders as well as the immediately close ones could be different in various contexts.

The principle introduced by Burton and Dunn (1996) has several implications, as follows:

- (i) this approach may not eliminate harm but it at least limits harm to the most vulnerable parties;
- (ii) the caring principle should be applied by the company board and employees and be reflected in the company's ethics principles; and
- (iii) a firm must perform a stakeholder analysis in order to recognise which stakeholders have power and which have a stake in decisions and, most importantly, to understand which stakeholders are most vulnerable to the action. This means that the determination of whether a specific stakeholder needs more care than another will be company-specific rather than a general criterion.

However, for the purposes of this study, the Clarkson (1995) model of stakeholder ranking was applied. This ranking consists of primary and secondary stakeholders. Primary stakeholders are prioritised as they contribute vital support for the survival of a company. Such primary stakeholders comprise shareholders, employees, customers, suppliers and lenders, as well as government and community. Secondary stakeholders are those who are not considered to be critical for the survival of an

organisation; they include environmentalists, media and consumer advocates. Companies must build strong relationships with all key stakeholders to be competitive.

Clarkson's (1995) model of stakeholder ranking resembles the circles of caring relationships seen by Noddings (1984). The first is the inner circle of loved ones, primarily family, where the most intense and sustained caring relationship can be found. The second circle is for parties whose interactions occur on a regular basis or depend on the contexts where the caring relationship is needed. The first and second circles are like primary stakeholders in Clarkson's (1995) model. The third circle is vast, comprising the rest of the world, where only general and sporadic caring behaviours can occur. However, individuals may find opportunities to engage more in specific charitable and/or volunteer activities that represent the caring relationship in the last circle.

Even though Clarkson (1995) does not include the natural environment as a stakeholder, due to the lack of an appropriate political 'voice', it is assumed in this study that the natural environment qualifies as a stakeholder since it affects and is affected by a company's operations. Even if it does not qualify as a stakeholder, according to Phillips (2003) there are at least two reasons why the natural environment should be taken into account in company decision-making:

1. The natural environment may retain moral significance regardless of stakeholder status.
2. The obligations owed to other stakeholders will likely dictate managerial diligence regarding the natural environment. (Phillips 2003, p. 144)

Haigh and Griffiths (2009) suggested that the natural environment could be easily identified as a stakeholder when climate change is brought into consideration. The dynamics of the natural environment can affect competitors, suppliers and customers. For instance, the paths of severe storms associated with sea temperatures will affect the areas where operations, suppliers, competitors or markets are located. The heavy floods associated with climate change which occurred in Jakarta, Indonesia in 2013 also impacted the supply chain. Therefore, companies should

develop strategic approaches in regard to the natural environment as one of their stakeholders.

Another interpretation added in this study is that feminist corporate governance will implicitly pay more attention to the interests of women who present as a proportion of the stakeholder groups. This can be translated into any policies that are ‘women friendly’, such as work–life balance policies for employees, flexible working hours, child-care facilities and the empowerment of women in the community. The notion of women as stakeholders has been proposed by Grosser (2009). While Grosser’s study focused on women as employees, the principles can be applied to other stakeholder groups. Ultimately, this means that there is a longer list of stakeholders in the feminist corporate governance structure, as each group is further subdivided based on gender. A company that only applies the ‘normal’ or ‘masculine’ type of stakeholder model may have a large portion of women in its stakeholder cohort (such as employees, shareholders and community groups) but this fact is not automatically translated into ‘women friendly’ company policies. Hence, paying more attention to women’s interests through a feminist ethics of care perspective can enrich the literature on corporate governance.

Providing more chances for highly qualified women to participate in top management is also a factor of the feminist ethics of care in corporate governance practices. Research by Carter and Wagner (2011) suggested that companies in the USA that achieve gender diversity and manage it well attain better financial results, on average, than other companies. This study was conducted in the period of 2004–2008 using three measures to examine financial performance: return on sales (ROS), return on invested capital (ROIC), and return on equity (ROE). The findings suggested that:

1. Companies with the most women board directors (WBD) outperform those with the least on ROS by 16%.
2. Companies with the most WBD outperform those with the least on ROIC by 26%.
3. Companies with sustained high representation of WBD, defined as those with three or more WBD in at least four of five years, signifi-

cantly outperformed those with sustained low representation by 84% on ROS, by 60% on ROIC, and by 46% on ROE.

Other than enhancing financial performance, gender diversity can also enhance corporate governance by generating new ideas and approaches to decision-making and corporate activity, as well as monitoring and eliminating all forms of discrimination and sexual harassment and evaluating managerial performance using the lens of diversity (Sarra 2002). However, cracking the glass ceiling still has to be done to bring women into corporate decision-making positions (Rosenblum 2009). Some barriers to participation include sex discrimination arising from institutional factors. In this respect, companies are slow to remove impediments for women due to their family responsibilities, sex-based differences in competencies and experience (as women usually lack experience in senior management roles), sex-based preferences in terms of employment conditions (as women tend to be reluctant to be in a top corporate position), and women's lack of access to valuable social and financial networks and mentoring (Nelson and Levesque 2007). To overcome these barriers, paying more attention to female employees' interests, as interpreted through feminist corporate governance, is necessary. One example is to provide work–family balance programmes to reduce the high turnover of women and give women opportunities to advance to more senior positions (O'Connor 2005).

As has been presented previously, the ethics of care perspective on corporate governance affects the stakeholder perspective. From this point of view, stakeholder theory appears as the theory of organisational management and ethics, because good corporate governance will enhance stakeholder value, company morale and productivity as all members of the firm, from the board and management team to the production workers, have a positive and important role to play (Francis 2000). Freeman and Velamuri (2008) went further, saying that the willingness to satisfy key stakeholders must be based on the idea of voluntarism by the company itself rather than being imposed by government agencies or courts.

The challenge for a company applying the stakeholder approach is more than simply maximising shareholders' wealth. However, this notion does

not mean that all stakeholders must be treated equally: 'Corporations should attempt to distribute the benefits of their activities as equitably as possible among stakeholders, *in light of their respective contributions, costs, and risks*' (Sloan Colloquy in Phillips 2003, p. 27).

Beside the fulfilment of stakeholders' interests, another challenge faced by companies adopting the stakeholder principle is the relationship between social responsibility and corporate economic performance. This relationship is crucial to maintaining the sustainable operation of a business. Conceptually, Freeman and Velamuri (2008) stated that the stakeholder approach to business can integrate business, ethics and societal considerations. Technically, Ullmann (1985) found an inverted U-shaped correlation between social and economic performance. To an optimal level, they are positively related. Conversely, beyond that level, the social activities will negatively affect the economic performance. This issue is discussed further in the next section about the ethics of care and sustainability reporting.

The feminist view on the stakeholder aspect will also lead to a broader view of risk management as a component of the stakeholder corporate governance model. Francis and Armstrong (2003) stressed the relationship between good ethical practices and risk management in that an essential risk management strategy is a commitment to ethics in an organisation or company. As the ethics of care is applied in this study, it is argued that the risk aversion approach is better to prevent a company incurring huge losses in investment and other activities. This approach can be traced to women's attitudes to risk, with several researchers claiming that females are more risk averse than males (see for example Powell and Ansic 1997; Smith 1999). From the feminist ethics of care perspective, the risk aversion approach is also aimed at protecting the stakeholders from any harm resulting from corporate collapses. According to Clarke (2010), the failure to adopt a risk aversion approach has led to recurring crises. For instance, the spectacular risks with extremely leveraged positions on many securities and derivatives that have been taken by investment banks and other financial institutions have led to the systemic crises in international financial markets commencing in 2007.

Another interpretation of the feminist attitude towards risk is related to social and environmental risk. This is due to the roles of nurturer and

care-giver that are usually attributed to women and are associated with general issues of health and safety and social and environmental risks (Gustafson 1998). This type of risk arises when a company's behaviour or the actions of others in the operating environment create vulnerabilities. Kytle and Ruggie (2005) suggested that companies manage their social risks by fully embedding them in corporate strategy, particularly through CSR activities.

3.2 The Ethics of Care and Sustainability Activities, Accounting and Reporting

Sustainability activities or CSR have been debated and practised in various forms for more than 4,000 years. Visser (2010, p. 312) states:

The ancient *Vedic* and *Sutra* texts of Hinduism and the *Jatakas* of Buddhism include ethical admonitions on usury (the charging of excessive interest), and Islam has long advocated the use of *zakat*, or a wealth tax.

Sustainability in doing business creates challenges for companies in making decisions that simultaneously improve the economy, the community and the environment. The benefits of engaging in sustainability include but are not limited to: reducing energy consumption; reducing waste and cost; creating innovative new products or processes; attracting and retaining best employees; and improving companies' images with shareholders and other stakeholders (Hitchcock and Willard 2009).

Stahl and Grigsby (1997) defined three levels of CSR as follows:

1. Minimum legal compliance: companies conduct activities in compliance with the minimum social requirements of the law.
2. Enlightened self-interest: companies use CSR programs as a strategic tool to send signals to the market that they are better than competitors and, hence, long-term profitability is expected from this position.
3. Pro-active change: companies take positions far beyond the requirements of the law by utilising their assets effectively to improve society, regardless of the direct benefit to the firm.

McWilliams and Siegel (2001) provide some examples of 'beyond legal requirements' activities. These include the adoption of progressive human resource management programmes (which can involve flexible work schedules, work-at-home programmes, reimbursement of child-care costs and health-care packages to lower-wage bracket employees); the development of non-animal testing procedures; support for local businesses; and product attachment to social attributes or characteristics.

In order to push the agenda of sustainability in doing business, organisations must move from a mechanistic, patriarchal system of governance to one that is systems-based and views all stakeholders as important parts of an interdependent system. From this point of view, there is a close relationship between corporate governance from a feminist perspective and the sustainability agenda, forming so-called 'sustainable governance'. The sustainability agenda or CSR is 'an extended model of corporate governance', that governs the relationship between the board, management, employees and other stakeholders based on fiduciary duties owed to all the firm's stakeholders.

The relationship between CSR and profitability remains inconclusive as the results of empirical studies report positive, negative and neutral results (McWilliams and Siegel 2000). Often CSR programs burden the company with higher costs. For example, Clegg (2011) identifies the following costs associated with taking a sustainable approach:

- (a) more expensive sustainable raw materials;
- (b) initial up-front capital cost of new plants and buildings, and others;
- (c) additional maintenance costs over an 'only fix it if it breaks' approach to keep operations sustainable;
- (d) more effort in the design of processes and products;
- (e) extra product costs from production to packaging and disposal; and
- (f) additional human resource costs such as paying a living wage.

All of these identified costs are expected to generate benefits through reduced waste, reduced energy use, better productivity and improved image and sales. Weber (2008) presented a business case for a company to evaluate monetary and non-monetary CSR benefits. The values added from CSR activities are calculated by comparing the primary and secondary value drivers of each CSR benefit and costs.

The high up-front costs to become sustainable drive the necessity of financial analysis and planning to ensure that a company remains economically viable, avoiding bankruptcy while continuing to be socially and environmentally responsible. Regardless of the inconclusiveness of empirical results, it must be concluded that sustainability decisions come at a cost to profitability.

The notion of being simultaneously profitable and socially responsible was acknowledged by Carroll (1979) who proposed the following four-part definition of CSR:

1. *Economic responsibilities.* This is the fundamental assumption of business social responsibility to produce goods and services that society wants and needs and that make a profit.
2. *Legal responsibilities.* This requires business to comply with laws and regulations in conducting their economic mission.
3. *Ethical responsibilities.* These represent society's expectations of business to behave ethically and above legal requirements by respecting people's moral rights and avoiding harm or social injury.
4. *Discretionary responsibilities.* Discretionary or philanthropic responsibilities require business to make voluntary contributions based on desire, not because they are mandated or required by law. Examples of voluntary activities include making philanthropic contributions, being active in pollution abatement or providing child-care service centres for working parents. Feminist ethics centre on the importance of relationship maintenance that goes beyond rules and regulations and maintains good relationships with stakeholders.

Balancing economic, social and environmental factors is necessary; a company that becomes too charitable may sacrifice its financial viability, meaning that the economic benefit will be less than the increased costs and the business may become unsustainable. However, considering the financial aspect does not mean conflict with the ethics of care perspective. The corporate governance practices from the feminist perspective suggest that the relationships with stakeholders be maintained in order to create long-term value and achieve business sustainability. The maintenance of such relationships can be done through CSR activities. At the practical

level, the amount spent on CSR activities has to be considered in the context of the company's financial position.

The extent to which a firm can follow pro-CSR policies should be determined at managements' discretion and be treated as any other investment. The optimum level that balances the need for maximising the benefit ('profit from CSR') and the 'demand for CSR' from multiple stakeholders can be resolved by performing a cost-benefit analysis (McWilliams and Siegel 2001) and by implementing 'stakeholder dialogue and assessment of their expectations and, consequently, by translation of these expectations into the strategic plan of the organisation' (Castka et al. 2004, p. 222). In this study, strategic planning was considered using the optimisation approach. This is discussed further in Chapter 4.

3.2.1 Sustainability Accounting and Reporting

Sustainability accounting and reporting are discussed briefly here as the ethics of care view of corporate governance is related to this issue. The discussion is necessary as the projection of the company's financial condition, as conducted in this study (discussed in Chapter 4), involved financial amounts resulting from the accounting process. The construction of a whole new set of accounting concepts under the ethics of care, however, was not necessary as applications of the ethics can be found in the existing sustainability accounting and reporting concepts.

Sustainability reporting is used as a tool to communicate a company's social performance to its internal and external stakeholders. It is an extension of accounting reports, including information about products, employee interests, community activities and environmental impact. The history of sustainability reporting began with employee reporting and then moved on to social reporting, environmental reporting and triple-bottom-line reporting and is expected to reach the ideal of sustainability reporting (Buhr 2007). Triple-bottom-line reporting does not meet the definition of sustainability reporting as other aspects are incorporated, such as justice and equity.

There is a possibility that a company provides social reporting simply because it cares about how it is perceived by stakeholders. In other words, the reporting is only used to create a 'good image' of CSR. Therefore, the

use of a research method to analyse the report, such as content analysis, should be exercised carefully to identify the *actual* level of sustainability activities in a company. The emphasis should be on social and environmental performance measurement, which goes beyond glossy company reports and public relations.

One important issue in sustainability, specific to accounting, is related to the question of how to account for environmental and social impacts. While financial accounting has already been standardised through accounting standards, there are, as yet, no generally accepted practices for evaluating non-financial performance. In order to develop long-term sustainability, a company has to be transparent about both positive and negative stakeholder effects. This means that supplying only financial information might not be adequate and should be supplemented with other information on the effects on company stakeholders, such as wages, employment, health, taxes and levels of pollution. There are several guidelines to assist in such reporting, including the Global Reporting Initiative (GRI), which was a joint initiative of the US-based Coalition for Environmentally Responsible Economies (CERES) and UNEP (United Nations Environment Programme) in 1997. However, the number of companies that use these guiding principles is still small.

Despite the current limitations, CSR and sustainability reporting (which may be presented as part of the annual report or in a stand-alone report) can be said to be the ‘most developed form of non-financial reporting’ (Elkington and Zollinger 2004, p. 200), attempting to capture, measure and value performance across the triple-bottom-line of economic, social and environmental value-adds. The wider conception of performance and reporting is devoted to presenting the accounting information to a broad range of stakeholders rather than purely to shareholders (Alam 2006).

In Australia, social and environmental reporting remains predominantly voluntary. Only a few specific Australian accounting standards require companies to provide such reporting. These were identified by Deegan (2010), as follows:

- (a) AASB 116 Property, Plant and Equipment requires the cost of an item of property, plant or equipment to include the initial estimate of the costs of dismantling and removing the item and

restoring the site on which it is located. An entity incurs the obligation for this either when the item is acquired or as a consequence of having used the item during a particular period for purposes other than to produce inventories.

- (b) AASB 137 Provisions, Contingent Liabilities and Contingent Assets state that obligations relating to environmental performance could be included in either 'provisions' or 'contingent liabilities', depending upon the circumstances. It also discusses constructive obligations especially in Paragraphs 10 and 21, which will often require recognition in an entity's financial statements. In conclusion, Deegan (2010) contended that there is still limited coverage of environmental issues in accounting standards. The nature of limited coverage is also restricted to the financial consequences of various actions rather than motivated by a true willingness to present the information about social and environmental performance.

Besides the lack of appropriate accounting standards, Deegan (2010) also asserted that 'traditional' financial accounting has several limitations in terms of reporting externalities by companies. Externalities are the impacts a company has on external parties, either human or non-human. Those effects can be related to the social and environmental implications of a company's operations and merit special consideration when developing more 'friendly' accounting and reporting. The limitations of traditional accounting, as identified by Deegan (2010), are set out as follows:

- (a) There is a 'Major focus on the information needs of stakeholders with a financial interest' (Deegan 2010, p. 1260). This focus denies the needs of other parties seeking information that may be non-financial in nature. Companies can provide this information voluntarily.
- (b) The concept of materiality in accounting tends to preclude the reporting of social and environmental information because something which is considered immaterial does not have to be disclosed in financial statements. In many cases, the social and environmental externalities cannot be quantified and are gen-

erally not considered to be material and, therefore, do not need separate disclosure. For example, the pollution arising from a company engaging in just-in-time production is not measured and disclosed.

The fact that the social and environmental information is not disclosed, because the individual expenditure is deemed to be immaterial or because it cannot be financially measured, ignores the possibility that such information can have significant impacts on a company's reputation and stakeholder support. Therefore, it is suggested that the impact should be determined and measured even though the determination is a dynamic and subjective process. Stakeholder expectations must be considered and careful examination should be made to determine whether these stakeholders are different from those described in the financial materiality concept.

- (c) The practice of discounting liabilities to their present value tends to make future expenditures less significant in the present period depending upon the discount rate chosen and assumptions about advances in technology. As a result of discounting, future environmental expenditure that is remedial (such as site clean-up and remediation of contaminated land) will be recognised as of little or no current cost and therefore warrant no disclosure. Hence, such practice is inconsistent with the sustainability agenda and does not make good ecological sense.
- (d) The entity assumption requires a company to be treated as a separate and independent unit from its owners, other companies and other stakeholders. Using this assumption, a transaction or an event that does not directly affect the entity will not be recorded and reported for accounting purposes. This means that externalities will also be ignored, making performance measures such as profitability incomplete from a broader societal perspective. Rubenstein (1994) suggested that to account properly for sustainability issues, the entity should be the firm (in the natural capital context) upon which it is economically dependent but may not own (according to the conventional sense of private property).

- (e) Current financial accounting does not recognise environmental resources as company assets as they are not controlled by companies (which are required to recognise assets from an accounting perspective). This limitation brings about the consequence of not recognising the expenses of using or abusing the resources unless there are fines or other cash flows occurring. It also leads to a failure to recognise the full costs of production, which includes natural capital such as water, air or fertile land.
- (f) The measurability concept tends to preclude the recognition of environmental obligations and externalities in financial accounts because no reasonable valuation method is currently available to accurately measure the externalities. Various estimates should be applied to place a monetary value on certain social and environmental resources. However, this may lead to inaccuracy of the measurement.

3.2.2 'Feminist' Accounting

The limitations highlighted by Deegan (2010) resonate with a feminist revision of accounting. This is aligned with the political perspective of oppressed parties as suggested by Hammond and Oakes (1992). The following changes in accounting practice might be suggested through feminist theory (Hammond and Oakes 1992):

- (a) Money will not be the only unit of measurement. Qualitative information on corporate contributions to the community will also be included. This can be done in the disclosures a company provides in its reports.
- (b) Information on distribution of corporate wealth will be provided, such as information on the difference between the highest and lowest paid employees, health-care provisions, training programs, gender and age compositions of each group of employees and employee ownership.

- (c) Women will not be objectified or exploited as decorative additions to financial reports.
- (d) Environmental information will be provided to induce more socially responsible behaviour, such as information on the natural resources exploited by the company, the location of environmental waste sites and the company's programmes to overcome damage to the environment. This is also suggested by Cooper (1992).
- (e) Accounting will include information on other areas of social responsibility, especially in regard to multinational corporations' operation in developing countries.

Accounting in this view is not just a technical phenomenon, but 'one that has the potential for having a reciprocal relationship with the wider societies in which we live' (Hopwood 1987, p. 65).

The development of the optimisation model using accounting from a feminist ethics of care point of view is discussed further in Chapter 4. The approach taken is somewhat optimistic and pragmatic in order to make the ethics of care more workable in the accounting and financial management area. This is quite different to Cooper (1992) who suggested that feminine accounting is terms of 'green accounting' or environmental accounting will be likely to reduce profit, and hence, will be subject to resistance. It will be made possible only by a change to society, in a radically transformed social order. As several years have passed since Cooper's (1992) article, we can see a slight difference in the present world where environmental or sustainability accounting has flourished; even though feminists probably will still view it as 'masculine'. The approach taken in this study is hence a contribution towards a more 'workable' feminine accounting.

3.3 Inferences

Based on the preceding discussion on ethics of care, sustainability activities, accounting and reporting, the following inferences can be drawn:

1. Feminist ethics, although rooted in a feminist political perspective, is not necessarily only exercised by women. Like other ethical systems, it can be

- categorised as ‘virtue’ ethics and is considered more than just a gender issue. It is the human quality that counts, not the gender itself. The consequence of this interpretation influences the choice of samples and the evaluation of a company’s activity from the feminist ethics point of view.
2. Feminist ethics envisages the importance of relationship maintenance that goes beyond rules and regulations. This means that a company’s CSR activities should go beyond complying with regulations from government or international pressures; they should also be designed to maintain good relationships with stakeholders. This means that the nature of activities should not only be mandatory or compulsory but also, more importantly, voluntary or discretionary.
 3. Because the projection of a company’s financial condition is central to this study, all activities must be measured in monetary terms by taking into account social and environmental accounting. The optimal level of CSR activities that still generates the necessary company outcome (in terms of revenues/profits) will be determined using the optimisation approach (discussed further in Chapter 4).

3.4 Previous Research Using the Content Analysis Method

Disclosure is one component of governance aimed at protecting stakeholders’ interests of timely and accurate reports. A content analysis method is generally applied to the study of company disclosures. Consequently, this method was used in this study to study corporate governance practices from a feminist ethics of care perspective. A discussion of the content analysis methods as applied in previous research is presented in this section to provide context for this study.

The content analysis method can be categorised as quantitative or qualitative, applied within various theoretical frameworks. Using legitimacy theory, which is based on the idea that in order to continue operating successfully corporations must act within the bounds of socially acceptable behaviour as identified by society, Deegan et al. (2002) examined the corporate social and environmental disclosures of BHP Billiton Ltd (one of Australia’s largest companies) from 1983 to 1997. Their research

was motivated by Guthrie and Parker (1989) who analysed the same company's disclosures to see whether corporate disclosures were made as reactions to environmental pressures and aimed at legitimising the corporation's existence and actions. Unlike Guthrie and Parker (1989), who findings did not support legitimacy theory, Deegan et al. (2002) found significant positive correlations between community concern for particular social and environmental issues (which was measured by the extent of media attention) and BHP Billiton's annual report disclosures on the same issues. The findings represent support for legitimisation motives for the company's social and environmental disclosures as BHP Billiton adopted disclosure strategies to comply with community expectations. Support for the legitimacy theory, as an explanatory factor for environmental disclosures, was also found by O'Donovan (2000) who utilised semi-structured interviews with senior personnel from three large Australian public companies to investigate such legitimacy motives.

Kent and Monem (2008) went beyond legitimacy theory to include good corporate governance as another factor that drives triple-bottom-line reporting. Using binary logistic regression, their research provided support for both legitimacy theory and good corporate governance structures as the explanations for the adoption of triple-bottom-line reporting by Australian companies.

Just as BHP Billiton has become the favourite case study for research in Australia, General Motors (GM) in the USA also enjoys the same status. Neimark (1992) used the dialectical theory to analyse the non-financial aspects of GM's annual reports. She was able to show that through the history of the company, the reports were used to assert the superiority of management over the unions, support social consumption and reinforce family values. The implication here is that accounting consists not only of financial statements, but also includes photos and text from annual reports, which she calls the 'hidden dimensions'. Even though such hidden dimensions are usually examined in content analysis, Neimark (1992) provides a new way of thinking in terms of studying the history of a company through its annual reports.

Still focussed on GM's annual reports, Tinker and Neimark (1987) developed a longitudinal study on the relationship between crises in late capitalism and the changing roles women and men play in such crises as

reflected in the annual reports of a corporation. Using the content analysis method, text and photographs relating to the issues were measured according to the space devoted to them in the reports. The inequality in the representation of women and men was observed in GM's annual reports between 1917 and 1976: 'women appear in the annual reports as adornments and symbols of (presumably) male achievement' (Tinker and Neimark (1987, p. 83). The same finding was regrettably still ubiquitous 20 years later in the annual reports of 30 firms in the Netherlands, which were studied by Benschop and Meihuizen (2002) using the same method.

Over a shorter period, from 1971 to 1990, Malone and Roberts (1996) examined the public interest reports of GM and discussed the principal areas disclosed by the company during those years. These areas were women and employment issues, energy and the environment, international operations, automotive safety and philanthropic activity. They concluded that there were at least three principal forces driving GM's disclosures: the extent to which public attention is focused on the problem; potential costs associated with GM's adherence to a public standard of social behaviour; and the relative objectivity of an issue.

Beside the quantitative content analysis method, the qualitative one is also used in several studies. Grosser, Kate and Moon (2008) investigated the reporting of gender equality in the workplace among UK companies. They used a CSR perspective as there had been growing interest in employee issues, including gender and diversity within CSR. Quantitative analysis was based on the companies' annual reports, CSR reports and websites, searching the reporting of data on such issues as workplace profiles, career development, equal pay, work-life balance and general management related to gender issues. Then a qualitative content analysis was performed by differentiating two main categories of data. The first included rhetoric, declarative, policy, endeavour or intent and programme reporting. The second included targets, quantified data (monetary or non-monetary), descriptions of performance and outcomes. The findings suggested that there was some improved reporting of gender performance information beyond basic workplace profiles. This had occurred despite no new reporting regulations.

From a review of prior research, it can be concluded that company motivation to engage with its stakeholders (including CSR activities) is driven by the need for legitimacy (external factor) and improvement in corporate governance structures (internal factor). This study focuses more on the internal factor using the feminist ethics of care to study corporate governance practices, an approach that has not been widely applied in previous research. In

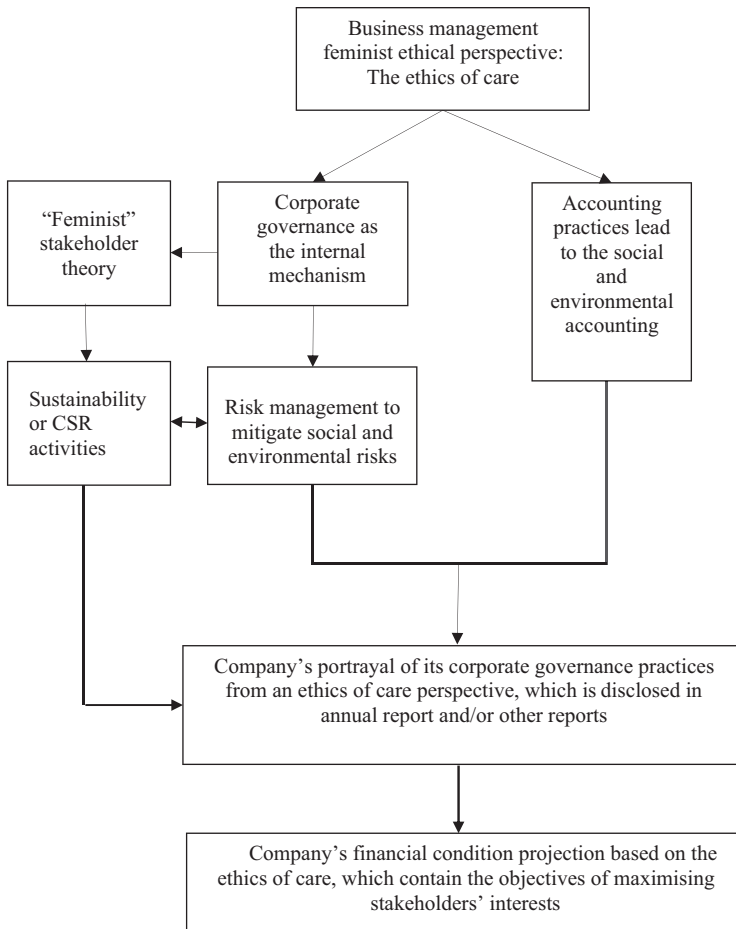


Fig. 3.3 Conceptual framework

addition, the quantitative content analysis method is used in most of the research, but this study applied a qualitative content analysis method to gain a more thorough and deeper understanding of corporate governance practices. Finally, while some researchers have used case studies, empirical research using a sample of many companies still dominates. This study used the former approach, with a case study of an Australian company.

3.5 Conceptual Framework

The conceptual framework of this study was developed from an analysis of feminist ethics, corporate governance and risk management, as outlined in the preceding discussions. This framework is shown in Fig. 3.3, which is an elaboration of the framework of theoretical constructs depicted in Fig. 1.1. The ethics of care becomes the underpinning perspective, shaping the corporate governance and accounting practices of a company. Risk management emerges as an essential component of corporate governance, receiving special attention in this study because of its importance in developing financial management strategies. Together with external factors in the form of regulatory environments, these factors should be considered in developing strategies to achieve the benefits of good corporate governance.

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4

Research Methodology

4.1 Introduction: Feminist Research

The phenomenological or critical theory paradigm and the research questions presented in Chap. 2 provided guidance to the methodology for this research. The choice of mixed methods to answer the research questions is rooted in critical theory, especially the feminist paradigm.

In principle, feminist research is connected primarily to the feminist struggle by documenting women's lives, experiences and concerns (Hesse-Biber and Leavy 2007). No single method, methodology or epistemology informs feminist research, as various perspectives, a wide range of methods and methodologies and multiple lenses can be applied, depending on the research question(s) and objective(s).

Feminist research originated within an increasing awareness that women's lives and experiences were not accurately represented in mainstream social research. As Beauvoir (1974) put it 'Representation of the world, like the world itself, is the work of men; they describe it from their own point of view, which they confuse with absolute truth' (p. 134). These omissions prompted the early feminist scholars and researchers to rework

the traditional theoretical and methodological techniques, such as providing constructive critique for positivism as the most widespread and well-known paradigm in social science.

Such reworking of positivist approaches, characterised by objective, value-free knowledge, neutral and value-free instruments of measurement, resulted in feminist modifications to include women's experiences. Feminist researchers who remain committed to these basic characteristics are known as feminist empiricists. The remedies for the shortcomings and omissions in the traditional positivist paradigm are conducted by collecting new empirical data that take women's experiences into account, including women in research samples or remodelling some positivist methods. These modifications are believed to increase the possibility for neutral, objective and generalisable research findings (Hesse-Biber and Leavy 2007).

However, there have been efforts to engage in providing alternatives to the positivist paradigm, rather than simply providing reworks and modifications (Hesse-Biber and Leavy 2007). This approach incorporates and pays attention to elements associated with women, such as interpretation, subjectivity and emotion, which are usually excluded from mainstream, positivist research. This feminist epistemological framework challenges the objectivity concept of typical empirical research, as specific experiences and perspectives can become a tool for knowledge building rather than barriers to uncovering the objective truth. Support for subjectivity in a research methodology does not mean a rejection of the notion that research should be rigorous, critical and accurate; it just provides a chance for women to draw on personal knowledge, re-evaluate ways of knowing, develop theories and use women's experiences as sources of knowledge. Such experiences have been devalued or ignored in the positivism stream, which emphasises rationality and objectivity.

This study can be categorised as taking the 'alternative approach' of feminist research. Even though a quantitative method was used in addition to a qualitative one, it is not value-free research as the feminist ethics of care is the paradigm that guides the quantitative method. Generalisability is also not the research objective, as a case study approach was applied in this study.

The mixed methods used in this study comprise qualitative content analysis and the quantitative optimisation method. Both are discussed in the following sections.

4.2 Qualitative Analysis

Qualitative techniques emphasise the processes and meanings not examined or measured in terms of quantity, amount, intensity or frequency (Denzin and Lincoln 1998). Cassell and Symon (1994, p. 7) list the characteristics of qualitative research in contrast to quantitative research as follows:

... a focus on interpretation rather than quantification; an emphasis on subjectivity rather than objectivity; flexibility in the process of conducting research; an orientation towards process rather than outcome; a concern with context—regarding behaviour and situation as inextricably linked in forming experience; and finally, an explicit recognition of the impact of the research process on the research situation.

Many qualitative techniques can be used in particular research, such as ethnomethodology, phenomenology, hermeneutics, interviews, content analysis and survey research.

Content analysis was applied in this study to study the corporate governance practices of BHP Billiton through publicly available reports. Information from the popular press was also used to supplement the formal BHP Billiton reports.

The analysis was also performed to identify necessary variables and measurements that could be adopted in developing the financial planning model using the quantitative optimisation approach.

4.2.1 Content Analysis

Content analysis is a research method to analyse texts (or other meaningful matter) in the contexts of their uses with the purpose of providing

knowledge, new insights, a representation of facts and a practical guide to action (Krippendorff 2004). It is considered a reliable method and to result in replicable findings and valid inferences from the texts. The technique can be quantitative and qualitative.

The content analysis technique has several advantages compared to other data-generating and analysis techniques. Weber (1990) lists the following:

- (a) Communication is an important aspect of human interaction. The content analytic method assists in understanding the communication process and information through text or transcripts.
- (b) Both qualitative and quantitative operations on text can be applied in the content analysis method.
- (c) The method can be used in conjunction with other reliable data to assess the relationships among economic, social, political and cultural change.
- (d) There is little danger of any force for change that confounds the data since the analysis usually yields unobtrusive measures in which no parties that send or receive the message are aware that the information is being analysed. This means that the data are 'naturalistic' which provides a unique level of authenticity.

The qualitative technique of content analysis was applied in this study. This is defined as 'a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns' (Hsieh and Shannon 2005, p. 1278). Using this method, the emphasis is not on how many or how frequently certain words appear in a text but, rather, on the meanings of the texts. The analysis is not limited to a submissive interpretation of the disclosure; external audits were also carried out by matching company disclosures with external sources (such as media and websites). Whenever possible, a quantitative analysis is also performed, although this is not the major focus. Beside the texts, visual images in the form of photographs or pictures are also studied in the annual and sustainability reports to gain a richer understanding.

Qualitative or interpretative content analysis has roots in literary theory, the social sciences (symbolic interactionism, ethnomethodology) and critical scholarship (such as feminist theory). According to Krippendorff (2004), the qualitative approaches to content analysis have the following characteristics:

- (a) a thorough reading of relatively small amounts of textual matter is required; and
- (b) the given texts are interpreted or rearticulated into new narratives (analytical or critical) which are sometimes opposed to the positivist mode of inquiry.

The processes and procedures involved in qualitative content analysis are depicted as in Fig. 4.1.

The diagram in Fig. 4.1 outlines the procedures followed in qualitative content analysis (Krippendorff 2004). These are explained as follows:

1. The flow begins from recontextualising given texts using known literature, rearticulating the meanings of the texts and allowing the redefinition of research questions and answers until interpretation is satisfactorily reached.
2. There is no particular sequence of analytical steps because of the holistic qualities of texts. It is deemed appropriate to go back and revise earlier

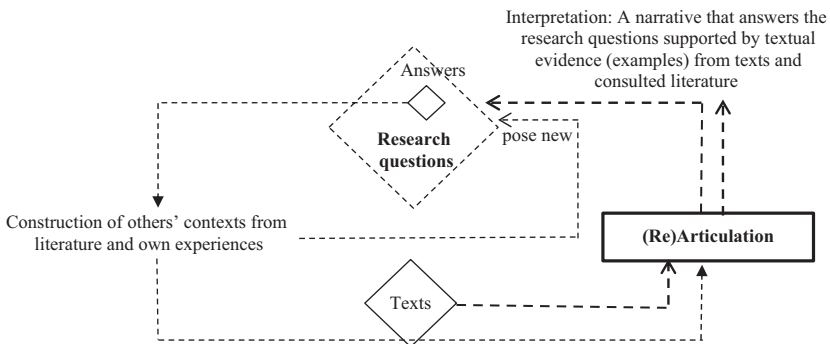


Fig. 4.1 Qualitative content analysis Source: Krippendorff (2004), p. 89.

interpretations after doing some later readings. Due to the difficulties of standardising such readings, this process severely limits the volume of texts that can be analysed consistently and in accordance with uniform standards. Moreover, Krippendorff (2004) states that this process is difficult to describe and to communicate, hence, qualitative analysis tends to be worked alone by the researcher and replicability is generally not a major concern.

3. Multiple inferences and interpretations are possible from consideration of diverse voices (readers), alternative perspectives (from different ideological views), oppositional readings (critiques) or varied uses of the text examined by different groups.
4. The interpretations are supported by providing in the conclusion quotations from the analysed texts and literature about the contexts of these texts.

The content analysis used in this study aimed at looking for any corporate governance practices using the ethics of care lens that have been disclosed by the company in its annual and sustainability reports, as well as from other sources outside the company (such as newspaper and other media). It was not aimed at searching for the motivation that drives the company to disclose certain 'feminist governance' items. Motivation might be associated with legitimacy needs, which are best studied using legitimacy theory, an example of which could be measured through the increase in environmental disclosure (such as O'Donovan 2000). The qualitative content analysis fits the research question of 'What are the existing corporate governance practices applied in a sample company from the feminist ethics of care perspective?' through the use of analysis of texts provided in company reports and other independent sources.

As qualitative content analysis is used to interpret a document as a whole or in part, the texts are first grouped into several categories or themes. A category is a group of content that has common meanings (Krippendorff 2004). A category can be divided into a number of sub-categories or sub-sub-categories at varying degrees of abstraction (Graneheim and Lundman 2004). The analytic categories can come from the data; for example, words are used directly from the texts to form the code categories (Leavy 2007). Various texts and artefacts can be studied,

including historical documents, newspapers, magazines, photographs, books, diaries, literature, music, cinema, television and websites.

The themes used in this qualitative content analysis have connections with theories other than the feminist ethics of care, such as stakeholder theory and legitimacy theory. This is acceptable for the following reasons:

1. The ethics of care principle of maintaining relationships with other parties is consistent with the principle applied in stakeholder theory. However, as discussed in Chap. 3, there are three different foci on the stakeholder issue between stakeholder theory and the ethics of care, which are:
 - (a) The ethics of care puts more attention on women—who work in a company or institution or who are in the community—and their interests even though women are not explicitly mentioned as one of the stakeholders.
 - (b) The ethics of care considers not only contractual stakeholders but also non-contractual ones.
 - (c) In decision-making, the ethics of care relates the caring principle to the least advantaged members of the moral community.
2. In legitimacy theory, corporate actions and disclosures are performed as reactions to environmental factors with the aim of legitimising those actions. A company applying the ethics of care principles may exercise and provide the same actions and disclosures; however, the aim goes beyond legitimacy to a genuine ‘care’ for stakeholders.

4.2.2 Content Classification and Procedures

The central problem of content analysis is in the data reduction process, which seeks to classify many words in the texts into much fewer content categories (Weber 1990). In this study, the classification was driven by theory. The deductive position was taken because the theory was essential to guide the design of the content analysis protocol by the way certain concepts are defined in the theory.

Based on the theories of ethics of care and corporate governance, the classification of words was done using thematic analysis, which includes the identification of themes, context and theoretical frameworks within which the research is conducted. The themes are identified using top-down coding, bottom-up coding or iterative coding (Bergman 2010). In top-down coding, the coding scheme is imposed by researchers on the texts; in bottom-up coding, relevant elements are identified inductively from the texts which will lead to a set of relevant themes; while in iterative coding, the coding is conducted iteratively between top-down and bottom-up coding.

Iterative coding was used in this study. The themes were defined first based on theory and then other themes were identified during the reading and analysing of the texts. The procedures aligned to an approach called ‘zigzag’ (Rivas 2012). This approach began from identification of themes, through the ethics of care theory, to preliminary reading of the texts to inform further data gathering so that data gaps were filled or newly picked from the texts. The process ended when no new themes emerged from the data (this is called saturation of themes). The process is depicted in Fig. 4.2.

The procedures applied in this research were as follows:

1. The themes were identified and classified based on ethics of care principles. As has been explained in Chap. 2, the principles developed by Gilligan (1982) are:

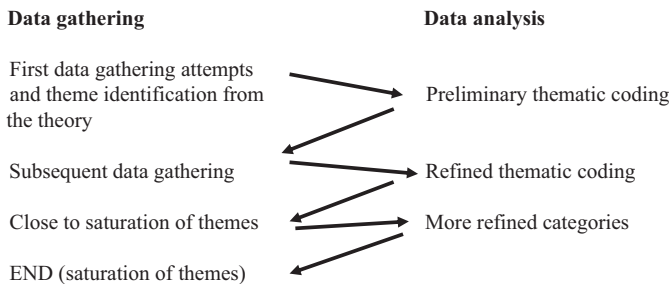


Fig. 4.2 ‘Zigzag’ approach in the qualitative content analysis

Source: Modified from Rivas (2012).

- (a) care is achieved through perception of one's self as connected to others;
 - (b) moral dilemmas are contextual;
 - (c) dilemmas are solved through inductive thinking;
 - (d) development through stages is sequential and hierarchical;
 - (e) principle of moral responsibility is reflected in the voices of women; and
 - (f) distinguished by an emphasis on attachments, issues of self-sacrifice and selflessness and consideration of relationships as primary.
2. Two more principles were added in this study based on the interpretation of the association of the ethics of care to the corporate governance area, as explained in Chap. 3. These are:
- (a) The nature of CSR activities should not only be mandatory or compulsory but, more importantly, voluntary or discretionary responsibilities (Carroll 1979). This is built on the ethics of care principle to maintain good relationships with stakeholders that go beyond rules and regulations.
 - (b) Paying more attention to women's interests. This can be translated into any policies that are 'women friendly', such as work-life balance policies for employees, providing child-care facilities, supporting women employees in reaching top management positions and empowerment of women in the community.
3. Including the two additional principles, there are eight basic principles contained in the qualitative content analysis protocol. These are:
- (a) care is achieved through perception of one's self as connected to others;
 - (b) moral dilemmas are contextual;
 - (c) dilemmas are solved through inductive thinking;
 - (d) development through stages is sequential and hierarchical;
 - (e) principle of moral responsibility is reflected in the voices of women;

- (f) distinguished by an emphasis on attachments, issues of self-sacrifice and selflessness, and consideration of relationships as primary;
 - (g) the nature of the CSR activities should be voluntary or discretionary responsibilities; and
 - (h) more attention is put on women's interests.
4. The first basic principle—achieved through perception of one's self as connected to others—represents stakeholder theory in business research. This argument is further elaborated using several sub-principles in accordance with stakeholder theory from the feminist perspective (Wicks et al. 1994). These sub-principles are as follows:
- (a) corporations are webs of relationships among stakeholders;
 - (b) corporations should thrive on chaos and environmental change;
 - (c) replace conflict and competition with communication and collective action;
 - (d) strategy as solidarity; and
 - (e) replace hierarchy with radical decentralisation and empowerment.
5. Based on the eight basic principles and preliminary readings of the sample's (BHP Billiton's) annual and sustainability reports, the themes for the qualitative content analysis were developed.
6. Several themes were developed by referring to Corporate Governance Principles and Recommendations (ASX 2007), especially Principle 3: Promote ethical and responsible decision-making. The Principles and Recommendations set out recommended corporate governance practices for entities listed on the Australia Stock Exchange (ASX).
7. The rules or protocols to search for the disclosure of the themes in the reports were then developed, as depicted in Table 4.1.

Based on the protocols identified above, the data were collected through the following steps:

- (a) Preliminary reading of the entire reports was performed to gain understanding of the information disclosed.

Table 4.1 Qualitative content analysis protocol

Principles/theory of the ethics of care (1)	Qualitative content analysis (themes to be investigated in annual report and sustainability report) (2)	Rules/protocol (3)
<p>Care is achieved through perception of one's self as connected to others (Gilligan 1982)</p>		<p>General rule:</p> <ul style="list-style-type: none"> - Read the reports carefully in their entirety to gain understanding of the information disclosed - The reports examined are the Annual Reports and Sustainability Reports of BHP Billiton Limited
<p>Corporations are webs of relationships among stakeholders</p> <p><i>'The corporation is constituted by the network of relationships which it is involved in with the employees, customers, suppliers, communities, businesses and other groups who interact with and give meaning and definition to the corporation.'</i></p> <p>(Wicks et al. 1994)</p>	<p>a. Company's vision and mission are in line with the ethics of care view of corporations as webs of relationships among stakeholders</p>	<ul style="list-style-type: none"> a. Read the company's vision and mission with the caring approach (i.e. paying attention to stakeholders' interest) b. Check whether the vision and mission are in line with the caring approach (i.e. paying attention to stakeholders' interest) c. The company might not explicitly state its 'vision' and 'mission'. In this case, the whole report should be read carefully. Other expressions may present: 'critical success factor', 'our approach', 'our view', 'we value', 'corporate objective' <p>All the expressions above are deemed as company's vision and mission statements</p>
	<p>b. Stakeholder is explicitly mentioned</p>	<ul style="list-style-type: none"> d. Compare the vision and mission statements for each year (2006–2015), note any differences or changes a. Read the report to find the explanation of the stakeholder b. State the stakeholders mentioned by company

(continued)

Table 4.1 (continued)

Principles/theory of the ethics of care (1)	Qualitative content analysis (themes to be investigated in annual report and sustainability report) (2)	Rules/protocol (3)
	c. Detail of the company's responsibilities to shareholders and the financial community generally	a. Read the 'shareholders', 'investors', and 'financial community' section b. Quote the responsibility in qualitative and quantitative terms Look for any statements that seem to give priority to the shareholders, analyse the statement to find out whether the company is actually in a shareholder or stakeholder model of corporate governance. For example, a statement such as 'We strive to deliver strong financial returns to shareholders' may seem to be an expression of shareholders' maximisation objective. However, if later in other pages the company provides a statement such as 'While we strive to deliver strong financial returns to shareholders, we fully recognise and deliver on our wider responsibilities to our stakeholders', it means that the company is actually applying the stakeholder model a. Find the statement of responsibilities for each
	d. Specifications of the company's responsibilities to employees, customers, suppliers, creditors, consumers and the broader community	

e. Description of the company's approach to the community (including environmental protection policies, support for community activities and donation of sponsorship policies)

- a. Read through the environment and community sections of the sustainability report to find descriptions
- b. Compare the description from year to year to indicate improvements the company may have made in terms of:
 1. the number of programmes exercised every year (including the launch of new programmes);
 2. the amount spent every year;
 3. the quality of the programme (such as involving the employees in community programmes, and specific programmes designed for specific issues)

f. Outline of the company's employment practices

- a. Read through the employment section of the sustainability report to find the detail of description in terms of:
 1. reference to OHS;
 2. policies on child workers;
 3. employment opportunity practices;
 4. special entitlements above the statutory minimum;
 5. employee security trading policies;
 6. training and further education support policy; and
 7. practices on drug and alcohol usage

(continued)

Table 4.1 (continued)

Principles/theory of the ethics of care (1)	Qualitative content analysis (themes to be investigated in annual report and sustainability report) (2)	Rules/protocol (3)
	9. The company's organisational structure support for the commitment to maintaining relationships	<ul style="list-style-type: none">a. Investigate the disclosure of certain committees that might support the notion of company as a web of relationships, such as the existence of the audit committee and environmental or sustainable development committeeb. Analyse the roles played by the committee. For instance, does the audit committee play a role in assuring high-quality financial reporting and improving disclosure and accountability to society? Does the environmental or sustainable development committee enhance the company's commitment to sustainable development, social accountability and transparency?c. Search for information on the frequency of meetings of those particular committees and compare from year to year

Corporations should thrive on chaos and environmental change
'Harmonious relationships with the fluctuating and dynamic business environment should be created, nurtured, and sustained, rather than conquered or controlled
Interdependence with other parties can emerge in patterns of cooperation, joint ventures or global alliances.'
(Wicks et al. 1994)

- a. Sustainability/CSR is explicitly mentioned as applied
- b. Description of sustainability challenges
- c. The benefits of applying sustainability principles are mentioned
- d. The explanation of social and environmental risk to which the company is exposed
- e. The steps taken to mitigate the social and environmental risk are described

For each of these items:

- a. Read the 'sustainability' and 'social and environmental risk' sections;
- b. Read through the description and diagram of company structure, if any;
- c. Compare year to year to indicate any changes in patterns of activities and risk

(continued)

Table 4.1 (continued)

Principles/theory of the ethics of care (1)	Qualitative content analysis (themes to be investigated in annual report and sustainability report) (2)	Rules/protocol (3)
<p>Replace conflict and competition with communication and collective action</p> <p><i>'Better to find win-win situations where what initially appear to be conflict of interest among stakeholders can be turned into forms of collaboration and effective communication to resolve conflicts. Encouraging participation and collective action also helps validate decision making.'</i></p> <p>(Wicks et al. 1994)</p>	<p>a. Statement of the measures the company follows to promote active compliance with legislation affecting its operations wherever it operates</p> <p>b. Specification of how the company handles actual or potential conflicts of interest</p> <p>c. The practices necessary to take into account the legal obligations and the reasonable expectations of stakeholders (shareholders, employees, customers, suppliers, creditors, consumers and the broader community)</p>	<p>a. Search for any statement that describes company's compliance to each country/site location (including compliance with the tax law, bribery rules, working conditions, and environmental protection law)</p> <p>b. Read the report to find any actual conflict of interest and the description of how the company solves it</p> <p>c. Search for any statement indicating the potential conflict of interest (using the search tool) or if not mentioned, read thoroughly and analyse any parties that could bring potential conflict of interest. For example, if the company states that it plans to open a new site in the future, find any statements disclosed by the company indicating that it is aware of any potential conflict of interest</p> <p>d. Search for any table that describes each stakeholder's interests and company's approach in managing the relationship with them</p> <p>e. Search for the 'legal' or 'case' to find the legal obligations</p> <p>f. Quote any description of legal obligation in qualitative and quantitative terms (such as the amounts of fines or legal costs)</p> <p>g. Analyse the approach taken to solve each legal case</p> <p>h. Study the pattern of the legal obligations to find any improvement of the approaches the company has taken to solve them (such as reduced fines and more a communicative approach in dealing with prosecutors)</p>

Strategy as solidarity

'Where strategy as objectivity seeks to describe decision as dictated by the numbers or as business decisions, the feminist view of solidarity requires that managers make choices based on the responsibilities and relationships it has with specific stakeholders. Starting with solidarity requires that the use of scientific data be done in service of specific wants, that it not impede the ability to talk in terms of particular persons and their needs, and that the numbers or facts it produces can never dictate decisions.'

(Wicks et al. 1994)

- a. Specifications of the company's responsibilities to employees, customers, suppliers, creditors, consumers and the broader community
- b. Specification of the strategy that company applies based on the responsibilities and relationships with specific stakeholders

- a. Read through the company's strategies
- b. Investigate whether the strategies are formulated using a solidarity among stakeholders framework

(continued)

Table 4.1 (continued)

Principles/theory of the ethics of care (1)	Qualitative content analysis (themes to be investigated in annual report and sustainability report) (2)	Rules/protocol (3)
<p>Replace hierarchy with radical decentralisation and empowerment</p> <p><i>'Company structure and division of labour are not completely abolished, but are put in the service of humanising work practices and increasing employee involvement and responsibility. By pushing for more decentralisation, the firm not only nurtures communication and interdependence among stakeholders, it is able to draw more fully on the latent abilities and creativity of all. The worker benefits from more control and involvement in work, while the firm as a whole is better able to serve the interests of all stakeholders.'</i></p> <p>(Wicks et al. 1994)</p>	<p>a. Description of decentralisation and staff empowerment</p>	<p>a. Study the organisational structure to determine whether the company applies a hierarchy or decentralisation structure</p> <p>b. Read through the employee section and other sections that describe employee involvement and empowerment</p>

Moral dilemmas are contextual
(Gilligan 1982)

- a. The practices necessary to maintain confidence in the company's integrity
- b. A clear commitment by the board and senior executives to the code of conduct
- c. Description of the means by which the company monitors and ensures compliance with its code
- d. Description of the company's approach to any moral dilemmas

- a. Read the code of conduct
- b. Investigate any moral dilemmas such as 'business courtesies', 'bribes', 'facilitation payments', 'inducements' and 'commissions'
- c. Read through how the company maintains its integrity and approaches any moral dilemmas
- d. Analyse whether the approach taken is a 'contextual approach' (based on the situation, condition, specific case) and look for any statement of universal rules that are suggested by the ethics of justice as a complement to the ethics of care

Dilemmas are solved through inductive thinking (Gilligan 1982)

- a. Identification of the measures the company follows to encourage the reporting of unlawful or unethical behaviour
- b. The responsibility and accountability of individuals for reporting and investigating reports of unethical practices

- a. Read and analyse the policy of 'whistle-blower', 'unlawful' and 'unethical' behaviour
- b. Try to find any indication of strict rules for reporting and investigating it

(continued)

Table 4.1 (continued)

Principles/theory of the ethics of care (1)	Qualitative content analysis (themes to be investigated in annual report and sustainability report) (2)	Rules/protocol (3)
Development through stages is sequential and hierarchical (Gilligan 1982)	<p>a. Identification of any sequential and hierarchical moral judgement, from an initial concern to self-survival and not to hurt others to an injunction to act responsively towards self and others, and finally to sustain connection and relationships with other parties</p>	<p>a. Study any policy or legal case that shows the sequential and hierarchical mode b. Read them thoroughly to find if the sequential and hierarchical moral development actually exist</p>
Principle of moral responsibility is reflected in the voices of women (Gilligan 1982) Distinguished by an emphasis on attachments, issues of self-sacrifice and selfishness and consideration of relationships as primary (Gilligan 1982)	<p>a. The number of women executives b. The number of women staff a. The term 'caring' and similar terms, which are related to the feminist ethics of care principles are used</p>	<p>a. Read the employee section of the sustainability report that discloses the number of female staff and executives a. Search for 'caring' or 'care' b. Analyse what the company means by 'caring', ignore any which is not related to the ethics of care</p>
The nature of the CSR activities should not only be mandatory or compulsory but also, more importantly, voluntary, or discretionary responsibilities (Carroll 1979)	<p>a. Feminist CSR (genuine, beyond the obligatory one) is stated to be applied b. Legitimacy (licence to operate) or similar is mentioned (represents the justice and care approaches that work together)</p>	<p>a. Read the CSR section of the sustainability report b. Read the government rules and compare with the CSR activities to determine any initiatives beyond the obligatory one c. Read the 'legitimacy' or 'licence' statement and analyse whether it is related to the ethics of justice</p>

Women's interests in the employee group and in other stakeholder groups are acknowledged. This can be translated into any policies that are 'women friendly'

- a. The policy regarding the family matters of women staff
- b. Gender diversity policy
- c. Gender equality for women as consumers, suppliers, investors, and as part of the community
- d. Pictures of female manager and staff
- e. Company's policies to remove the glass-ceiling phenomenon

- a. Investigate any policy on 'work-life balance', 'child-care', 'flexible working hours', 'gender diversity' and 'gender equality'
- b. Investigate the policy of product design, development and marketing to a women's market
- c. Study the community CSR initiatives that are related to women, supplier diversity policy and gender issues in investments
- d. Study the pictures of women in the report:
 - count the number of pictures each year and compare;
 - study the pattern of women portrayed each year: career woman, traditional woman, young woman, etc.
- e. Investigate the company's policies to remove barriers to women's participation, such as:
 - 1. sex discrimination from institutional factors;
 - 2. sex-based differences in competencies and experience;
 - 3. sex-based preferences in terms of working conditions; and
 - 4. women's lack of access to valuable social and financial networks and mentoring

Source: Developed by the author based on content analysis guidance provided by Krippendorff (2004) and Rivas (2012).

- (b) The documents were then read carefully to identify quotations that could be categorised into a certain theme(s). Some quotations were used for more than one theme.
- (c) Certain theme(s) were added to quotations found to contain features of the ethics of care. This represented the 'zigzag' approach adopted in this study.

4.2.3 Reliability and Validity

Reliability is the degree of independence of the findings and validity is the degree of interpreting the findings in a defensible way (Kirk and Miller 1986). To measure the reliability, the coding of texts is assigned to multiple coders to see whether the coders can reliably apply the same codes and achieve the same results (Kohlbacher 2006).

In qualitative content analysis, several approaches similar to validity and reliability have been developed to assess the quality of the coding and analysis process. Lincoln and Guba (1985) suggested four criteria, as follows:

1. Credibility

Credibility is the equivalent of internal validity, seeking the identification of all important factors in the research question. The ways these factors are reflected in the data gathered are then described accurately and completely.

2. Transferability

Transferability or external validity is an evaluation of the applicability of findings from one context to another. This study involved the intensive study of a single setting (case study), which makes representativeness and external validity questionable as the breadth is sacrificed for depth of research. Seale (2012) provided justification for the reduced importance of external validity because the originality and discovery might be seen as indicators of the quality of qualitative research. This is expressed as theoretical generalisation, as a contrast to the 'empirical generalisation' of statistical studies. It means that the importance of a newly discovered phenomenon can only be judged by

referring to its contribution to some existing body of knowledge or theory. This ‘theorising’ of an area of inquiry is achieved when the research findings are put in a relevant theoretical context.

3. Dependability

Dependability is the replicability and stability in findings after considering the rational and logical changes during repetitions of the study.

4. Confirmability

Confirmability or reliability in qualitative research findings is evaluated by looking at the data instead of the researcher(s) to determine if the conclusions are supported by the data. The reliability is achieved not in certain inter-rater numerical correspondence (between coders) but in conceptual consistency between observations and conclusions.

4.3 Quantitative Optimisation Method

4.3.1 Optimisation and the Linear Programming Approach

Mathematical programming, also known as optimisation, is an approach to finding the best possible solution (the optimal or most efficient way) of using limited resources to achieve certain defined objectives. There are many types of optimisation models, one of which is linear programming. If we want to use linear programming as a tool for financial decision-making, then a firm’s decisions must be formulated in a linear manner. The general form of the linear programming model (Lee et al. 2009) is as follows:

Decision variables: x_1, x_2, \dots, x_n

Objective function: Maximise (or minimise)

$$Z = c_1x_1 + c_2x_2 + c_3x_3 + \dots + c_nx_n$$

Constraints: subject to

$$\begin{aligned}
 &a_{11}x_1 + a_{12}x_2 + a_{13}x_3 + \dots + a_{1n}x_n \leq / = / \geq b_1 \\
 &a_{21}x_1 + a_{22}x_2 + a_{23}x_3 + \dots + a_{2n}x_n \leq / = / \geq b_2 \\
 &\dots\dots\dots \\
 &\dots\dots\dots \\
 &a_{m1}x_1 + a_{m2}x_2 + a_{m3}x_3 + \dots + a_{mn}x_n \leq / = / \geq b_m \\
 &x_j \geq 0 (j = 1, 2, \dots, n).
 \end{aligned}$$

There are three elements in optimisation problems: decisions, constraints and objective(s) (Ragsdale 2001). These are described as follows:

1. Decisions or variables in an optimisation problem might represent any decisions a company wants to make or achieve. They can represent the quantities of different products a company can choose to produce, or the amount of money to be lent or withdrawn from different accounts, or the quantities of products that minimise costs. The decisions are often represented by the symbols X_1, X_2, \dots, X_n .
2. Constraints represent the limited resources a company faces in its operation. There are three general ways to express the possible constraint relationships in an optimisation problem:

less than or equal to constraint: $f(X_1, X_2, \dots, X_n) \leq b$

greater than or equal to constraint: $f(X_1, X_2, \dots, X_n) \geq b$

equal to constraint: $f(X_1, X_2, \dots, X_n) = b$

For instance, a company only has 2000 labour hours in a production cycle to produce two products. In this case, the constraint is a less than or equal to 2000 labour hours to ensure that the total labour used in production does not exceed the amount of available labour hours.

3. The objective(s) or goal(s) is considered by the decision-maker to decide which course of action is best. It can be a maximisation or minimisation function; for instance, the maximum profit to be achieved with a product mix or the total costs of transporting products. The general format is:

MAX (or MIN): $f(X_1, X_2, \dots, X_n)$

This study used an optimisation approach to project the financial condition of a company. This approach was taken because it clearly incorporates the objectives statement of a company and the constraints that the company faces and, hence, it fits within the aim of this study. Specifically, this research used the linear programming method, which is a deterministic model, with assumptions that all controllable and uncontrollable variables are known.

4.3.2 The Use of the Optimisation Approach as a Corporate Planning Model

According to Shim and McGlade (1984), there are two planning model approaches: simulation and optimisation. Simulation models are mathematical representations of a company's operations or of the conditions in the external economic environment. The future implications of present decision-making can be estimated by adjusting the values of controllable variables and assumed external conditions. Simulation models can take the form of probabilistic models, which incorporate probability estimates into the forecast sequence, or deterministic models, which do not use random or probabilistic variables. Optimisation models are used to identify the best decision given specific constraints.

Corporate financial modelling is commonly used in financial forecasting, pro forma financial statements, capital budgeting, merger and acquisition analysis, profit planning and other areas of corporate finance (Shim and McGlade 1984). In general, the corporate simulation models are used to:

1. evaluate alternative policies;
2. provide financial projections;
3. facilitate long-term planning;
4. make decisions;
5. facilitate short-term planning (Naylor and Schauland 1976).

This study used the optimisation model to provide financial projections of the condition of a company if the ethics of care principles are introduced into its financial system.

4.3.3 The Optimisation Model: The Existing vs. the Feminist Model

This study developed a quantitative financial optimisation model adapted from Carleton's (1970) linear programming model. This is referred to as the 'traditional' model because it was developed using the masculinist view of finance and accounting theory. Carleton's model is considered complete as it shows relationships between the four interrelated policy decisions: the investment decision, the dividend decision, the financing decision and the production decision, which is inherently embodied in the sales forecast (Lee et al. 2009). Carleton's (1970) model is depicted in Tables 4.2 and 4.3.

The objective function in Carleton's model (1970) is maximising the shareholder wealth, represented by a proxy-share price which, in this model, is valued using the stream-of-dividends approach. The constraints represent both company policies and accounting relationships to define the maximum valuation of share price possible under the various realities faced by a company. After the linear programme model and solution of the problem are completed, the pro-forma financial statements can be constructed to illustrate the implications of the particular solution variables at the company level.

As the feminist ethics of care was used in this study, the development of a feminist model is guided not only by the finance and accounting theory but also by the ethics of care theory and principles. Hence, the objectives and constraints should represent the principles inherently contained in the ethics of care theory.

The modification of Carleton's model (1970) using the ethics of care is explained in detail in Chap. 6. The objective function in the proposed model is the economic value retained concept, which is an economic performance indicator in the Sustainability Reporting Guidelines advised by

the GRI. This is defined as the direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments and payments, to capital providers and governments.

As linear programming is a mathematical technique, discretion and judgement were applied to find the solution and construct the pro-forma financial statements. Analysis was then performed to evaluate the company's financial performance if the ethics of care principles are applied. It should also be noted that as a mathematical model, not all reality can be captured in the optimisation model. It is sufficient to treat it as a tool for decision-making processes instead of as a substitute for the process itself.

4.4 Research Design

4.4.1 Mixed Methods

A mixed method focuses on collecting, analysing and mixing both quantitative and qualitative data in a single study, or series of studies, to provide a better understanding of research problems than a single approach alone (Leckenby and Hesse-Biber 2007). Both data types can be collected in phases (sequentially) or at the same time (concurrently). As has been mentioned previously, even though feminist research is usually associated with the qualitative research method, feminist researchers do not limit themselves to using this method entirely. Harding (1987, p. 3) argued that 'it is not by looking at research methods that one will be able to identify the distinctive features of the best of feminist research'. Furthermore, feminist scholars argue that both qualitative and quantitative methods are only differing modes to understanding social phenomena; neither of them is inherently superior to the other (Campbell and Schram 1995).

Within the context of an inclusive viewpoint on methods, the appropriate use of both qualitative and quantitative approaches as feminist research tools depends on which method can best answer particular research questions. The methods employed must be consistent with broad feminist values, goals and ideology. In this study, the qualitative

Table 4.2 Carleton's linear programming model

I. Objective function

$$\text{MAX } \frac{Po}{No} = \sum_{t=1}^{t-1} \left[\frac{D_t}{No(t+k)} - \frac{E_t^n}{No(t+k)^t(1-C)} \right] + \frac{P_t - E_t^n}{N_t(1+k)^t}$$

II. Constraints*A. Definitional constraints*

$$AFC_t = ATP_t - Pfdiv_t - SA_{ti}$$

$$ATP_t = (1-\bar{A}) \left(\bar{A}_t + eA_t - aA_t - \sum_{z=1}^{z-1} i_z(L_{z,0} + C_{z,t}) - i_t \sum_{z=1}^{z-1} DL_t \right) + B_1 B_2 (I_t + eA_{t-1}) + (1-\bar{A}) (aA_t - eA_{t-1});$$

$$\bar{A}_t = \bar{A}_{0,t} + \sum_{s=1}^{s-1} \bar{A}_s(I_s);$$

$$I_t = \frac{\bar{A} - C_0}{C_t} \left(1 + \frac{\bar{A} - C_0}{C_t} \right)^{t-1} A_0;$$

$$A_t = \left(1 + \frac{\bar{A} - C_0}{C_t} \right)^t A_0$$

B. Sources and uses of funds constraints

$$I_t = AFC_{t-1} - D_{t-1} + \sum_{z=1}^{z-1} CL_{z,t} + DL_t + DTL_{t-1} + E_t^n$$

*C. Policy constraints**1. Interest coverage*

$$\frac{t}{\sum_{z=1}^{z-1} i_z(L_{z,0} + C_{z,t}) + i_t \sum_{z=1}^{z-1} DL_s} \geq X$$

2. Maximum leverage

$$\sum_{z=1}^{z-1} i_z(L_{z,0} + C_{z,t}) + \sum_{T=1}^{t-1} DL_t \leq \left(\frac{S}{1+S} \right) A_t$$

3. Prefinancing limitation

$$\sum_T^{t=1} \Delta DL_t - \sum_{T-1}^{t=1} \Delta DL_t \leq I_t$$

4. Minimum dividend growth

$$D_t - \Delta_{t-1} \geq 0;$$

$$P_t - E_t^n \geq \frac{1}{\Delta_t} P_t$$

5. Payout restriction

$$D_t \geq \Delta_1 AFC_t;$$

$$D_t \geq \Delta_2 AFC_t$$

6. Cumulative payout restriction

$$\sum_T^{t=1} D_t - \Delta \sum_{T-1}^{t=1} AFC_t \leq 0$$

Table 4.3 Decision variables and list of parameters

I. Decision variable

A. Independent variables of the objective function

D_t = total dividends paid by the firm in period t ;

E_t^n = net funds received from equity issued in period t

B. Constraint variables

AFC_t = Available for common funds;

ΔDL_t = change in long-term debt in period t ;

II. List of parameters

A. Accounting parameters

C = an estimate of the proportion of equity lost to under-pricing and transaction costs;

No = number of ordinary shares outstanding;

Table 4.3 (continued)

$ATPt$ = after tax profits;

$Pfdiv$ = preferred dividends;

π_t = period's EBIT;

Δ_e = stockholder report depreciation rate of assets;

A_t = total net assets;

Aa_t = tax report assets;

$L_{z,0}$ = initial amount in liability account z ;

$C_{z,t}$ = known cumulative in $L_{z,0}$ as a result of prearranged loan 'take-down'

amortisation schedule, etc., $C_{z,t} = \sum_t^{T-1} CL_{z,i}$. It includes expansion of trade

credit and payment of long-term debt through sinking funds;

ΔCL_z = change in $C_{z,i}$;

I_t = net investment;

X = minimum acceptable interest coverage;

S = maximum debt/equity ratio;

$\pi_{0,t}$ = known profit at time t associated with the firm's initial stock of assets A_0 ;

ΔDTL_{t-1} = change of deferred corporate income tax.

B. Financial parameters and definitions

k = the appropriate discount rate;

SA_t = Special Adjustments;

Δa = tax-reported accelerated depreciation;

$\alpha_t = 1 +$ the minimum dividend growth rate;

δ_1 = lower-bound payout ratio;

δ_2 = upper-bound payout ratio;

δ = cumulative payout restriction;

ρ = internal rate-of-return per period earned on I_1 (Growth Profit Margin as a proxy);

D_0 = total dividend payments in period zero;

P_0 = theoretical equity value in period zero.

C. Economic parameters

τ = corporate tax rate;

i_z = interest rate of z th liability;

i_t = interest rate for new long-term debt in year t ;

B_1 = investment tax credit rate;

B_2 = proportion of firm's assets on which investment tax credit is applicable;

C_0 and C_1 = production function parameters associated with

$$\hat{A}_s = C_0 + C_1 \frac{I_s}{A_{s-1}} \quad (C_0 > 0, C_1 < 0);$$

P_t = aggregate market value of the firm's equity at the beginning of period t ($t = 0, 1, 2, \dots, T$);

N_t = number of common shares outstanding in period T .

Source: Lee et al. (2009).

content analysis method was used to answer the research question: What are corporate governance practices applied in a sample company from the feminist ethics of care perspective? The quantitative optimisation method is used to answer the research question: How is the financial condition of the company affected if the feminist ethics of care is applied in its corporate governance practices? Both methods are used under the feminist ethics of care framework.

In mixed methods, the following procedures are undertaken:

- (a) collect and analyse both qualitative and quantitative data based on research question(s);
- (b) mix or integrate the two types of data concurrently by combining them, or sequentially by having one build on the other, and in a way that gives priority to one or to both;
- (c) use these procedures in a single study or in multiple phases of a study;
- (d) frame the procedures within a philosophical paradigm and a theoretical lens; and
- (e) combine the procedures into the specific research design of a study.

In this study, qualitative and quantitative data were analysed sequentially, with qualitative data analysed first. This information gathered through the qualitative data was then used to build a quantitative model.

4.4.2 Sample Selection

This research centres on a case study of one particular company in Australia. As a method of studying social phenomena through the thorough analysis of an individual sample, the case study approach is designed to look for specificity and exceptions rather than generalisations. Some feminist researchers found that the emphasis on generalisations in social science has obscured phenomena important to particular groups, including women (Reinharz 1992). This happens because the research on women may result in specific and unique findings that might be different from other groups. Therefore, the case study approach was chosen in this

study to examine the ethics of care, rooted in women's psychological feelings and experience.

The case study evidence in this study was based on documentation (investigation of annual and sustainability reports). While the documentation brings several strengths as it can be viewed repeatedly and unobtrusively, it also possesses weaknesses. For example, reporting bias that reflects the (unknown) bias of the author can be difficult to find or access and biased selectivity remains an issue if the collection of documents is incomplete (Hesse-Biber and Leavy 2011).

Since regulatory environments exist at national levels (La Porta et al. 2000), the first step in the sample selection involved the selection of a country from where the case study company would be chosen. The criteria of sample selection at country level are as follows:

1. The country had major corporate collapses that have driven the enactment of new rules and regulations or the confounding effects are spread to other countries. This criterion was specified since this project focused on the feminist ethical perspective rather than gender issues (such as the number of females in boards or executive positions in any particular country); therefore, the most relevant criterion is ethical matters.
2. The country has applied the International Financial Reporting Standards (IFRS) for the period of research, to omit the unnecessarily complicated task of converting financial statements based on local accounting standards to international standards. This criterion was also significant as the world is now in a phase of IFRS convergence, making the contribution of this research up to date with the current trend.
3. The country was predicted to apply the agency theory of corporate governance; hence, the feminist stakeholder theory used in this study was expected to improve the theory for corporate sustainability purposes.

There are many countries that satisfy these criteria but Australia was chosen to gain more understanding of this country. The company chosen as a sample needed to be a public company with wide and significant

social responsibility and with no problems relating to data accessibility for the purpose of this research. Another reason is that '*mining is a spatial context traditionally gendered as masculine*' (Mayes and Pini 2010, p. 233), and hence, it is interesting to study the possibility of applying the feminist ethics of care in this so-called 'masculine industry'.

Considering the criteria presented above, BHP Billiton was selected as the sample company for this study. It was also selected on the basis that the data needed for this study had been disclosed comprehensively by the company. In addition, BHP Billiton has been awarded several Sustainability Reporting Awards, making it a world leader in this field of disclosure. More specifically:

1. BHP Billiton received the Corporate Governance Reporting Award in the Australasian Reporting Awards 2012 and 2013. This indicates the completeness of information provided by BHP Billiton in the corporate governance area, one of the foci of this study.
2. As a multinational and one of the world's largest diversified resources companies, BHP Billiton has broad and significant social responsibility. A study on whether the company has fulfilled the responsibility ethically from the feminist ethics of care perspective will therefore expand our knowledge in this area.
3. As a company with wide and significant social responsibility, BHP Billiton faces the challenges of maintaining its relationships with stakeholders. It was considered interesting to study how the company manages its various stakeholders from the feminist ethics of care perspective.

Even though generalisability is not the main objective of this research (because of the case study design), considering the multinational operations of BHP Billiton, the findings of this study are not restricted to the Australian context alone.

4.4.3 Data Sources and Collection

In this research, secondary data were used and collected from annual and sustainability reports, including financial statements and Australian macroeconomic data from relevant sources. Other data from newspapers and magazines were also collected for further investigation on certain cases of corporate governance practices. A ten-year period from 2006 to 2015 was chosen as it represents the latest period within the scope of this study writing. As already discussed, the information disclosed in the 2006–2015 reports was studied using the qualitative content analysis. The financial information during the period was then used as a basis to project the financial condition of the sample company using the quantitative optimisation method.

The heavy reliance on secondary sources is decided on the basis of the ease of access. For the qualitative analysis, the reliance on secondary data from annual and sustainability reports is chosen for further investigation of corporate governance practices that have been disclosed by BHP Billiton. For certain cases, the disclosure is compared to those reported in mass media to gain a more objective perspective from other sources. For the quantitative analysis, the reliance on secondary data is chosen to develop the financial modelling from publicly available accounting data.

4.4.4 Research Approach

This study involved two significant parts designed to answer two research questions and give support for, or reject, two propositions. These parts were:

1. *Part 1*: the qualitative content analysis was conducted to analyse the corporate governance practices from the feminist ethics of care point of view.
2. *Part 2*: the quantitative optimisation model was developed and simulation was performed to determine the financial condition of the sample company. The performance analysis was done using four performance ratios: liquidity, activity, financial solvability and profitability ratios.

4.4.5 Method of Analysis

The qualitative content analysis was integrated into coding as new themes emerged during the coding process. The results could be presented using numbers and/or percentages or in graphic and tabular forms. This then allowed for the crucial further step of giving interpretations to the patterns found. The text provided a narrative of findings with quotations to illustrate the results and conclusions (White and Marsh 2006).

For the quantitative optimisation method, the linear programming problems were solved using the optimisation tool called 'Premium Solver'. It was used as it could accommodate the linear programming model that was developed for this investigation. Premium Solver can quickly identify the value of factors or decision variables to meet specific objectives or goals subject to certain constraints. The decision to use Premium Solver was made *after* the completion of the modelling process. After the results were obtained, the interpretation and analysis was conducted using finance and accounting knowledge, including financial ratios.

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5

Qualitative Content Analysis: Results and Discussion

5.1 A Brief Description of BHP Billiton

This chapter presents the results of the qualitative content analysis of a sample company. The qualitative part of the case study was developed by analysing the Annual and Sustainability Reports of BHP Billiton from 2006 to 2015; as well as by analysing external sources such as newspapers and other media. Before presenting the results and discussion, a brief description of this company is provided.

As stated on the Company website (www.bhpbilliton.com), BHP Billiton was formed as a result of a merger between Broken Hill Propriety (BHP) and Billiton. The two small mining companies were founded in the mid-1800s. The history of Billiton can be traced back to 1860 when it was a tin mine on a little-known island in Indonesia, Billiton (Belitung) island. BHP's history began in a silver, lead and zinc mine in Broken Hill, Australia. Incorporated in 1885, BHP engaged in the discovery, development, production and marketing of iron ore, copper, oil and gas, diamonds, silver, lead, zinc and a range of other natural resources. BHP was also a market leader in value-added flat steel products. Billiton became

a global leader in the metals and mining sector and a major producer of aluminium and alumina, chrome and manganese ores and alloys, steaming coal, nickel and titanium minerals. Billiton also developed a substantial and growing copper portfolio.

BHP and Billiton merged in June 2001 to become one of the world's largest diversified resources companies. It now has significant positions in major commodity businesses including aluminium, energy coal and metallurgical coal, copper, manganese, iron ore, uranium, nickel, silver and titanium minerals and substantial interests in oil, gas, liquefied natural gas and diamonds. The group is headquartered in Melbourne, Australia, and consists of the BHP Billiton Limited Group and the BHP Billiton Plc Group as a combined enterprise, following the completion of the Dual Listed Company (DLC) merger. BHP Billiton Plc is located in London, UK. BHP Billiton Limited and BHP Billiton Plc have each retained their separate corporate identities and maintained their separate stock exchange listings. However, they are operated and managed as a single unified economic entity, with their boards and senior executive management comprising the same people. Shareholders in each company have equivalent economic and voting rights in both companies. BHP Billiton Limited has a primary listing on the Australian Securities Exchange (ASX) in Australia while BHP Billiton Plc has a premium listing on the London Stock Exchange (LSE) in the UK and a secondary listing on the Johannesburg Stock Exchange (JSE) in South Africa.

In 2010, BHP Billiton celebrated its 150th anniversary and three significant milestones: Billiton's establishment on 28 October 1860, BHP's incorporation on 13 August 1885 and BHP Billiton's listing on the Australian and London Stock Exchanges on 29 June 2001. By building on the past and combining the assets of each company with the very best of its skills and people, BHP Billiton strives to continue to lead the resources industry into the future.

These are the statements of purpose and strategy of BHP Billiton as stated on its website and within its Reports:

Our purpose is to create long-term shareholder value through the discovery, acquisition, development and marketing of natural resources.

Our strategy is to own and operate large, long-life, low-cost, expandable, upstream assets diversified by commodity, geography and market. This

strategy means more predictable business performance over time which, in turn, underpins the creation of value for our shareholders, customers, employees and, importantly, the communities in which we operate. (<http://www.bhpbilliton.com/home/aboutus/ourcompany/Pages/Charter.aspx>)

Twenty-first century issues associated with the licence to operate, corporate integrity and sustainability were introduced to BHP Billiton by Paul Anderson, the Chief Executive Officer (CEO) in 1998–2001, through his March 1999 hand-written charter entitled ‘Moving into the 21st Century’ (Thompson and Macklin 2009).

BHP Billiton provides a number of public social and environmental reports in hard copy and electronic form. It was awarded the Best Sustainability Report Award in the ACCA (Association of Chartered Certified Accountants) Australia and New Zealand Sustainability Reporting Awards 2008, announced in August 2009.

5.2 Results and Discussions from the Qualitative Content Analysis

This study tried to answer the research question: What are the corporate governance practices applied in a sample company from the feminist ethics of care perspective? This question guided the qualitative analysis of the content of BHP Billiton’s Sustainability and Annual Reports. The research question does not imply a claim that the company has followed the feminist ethics of care in its corporate governance practices. Rather, such practices were studied using the lens of the ethics of care.

The findings were structured based on the principles of the feminist ethics of care, which have already been discussed in Chap. 2. In brief, the principles are:

1. Achieved through perception of one’s self as connected to others.
2. Moral dilemmas are contextual.
3. Dilemmas solved through inductive thinking.
4. Development through stages is sequential and hierarchical.
5. Principle of moral responsibility is reflected in the voices of women.
6. Distinguished by an emphasis on attachments, issues of self-sacrifice and selfishness and consideration of relationships as primary.

In addition to findings based on those principles, other relevant results are also presented and discussed (i.e. the voluntary nature of CSR activities, the acknowledgement of women's interests, and the social and environmental risks).

To improve the reliability of the thematic analysis, the use of multiple coders in the content analysis process was performed. There were no major discrepancies found in the data extraction consistency. The reliability check in terms of conceptual consistency was then conducted by ensuring that correspondence between observations and conclusions was achieved.

5.2.1 Principle Number 1: Achieved Through Perception of One's Self as Connected to Others

As a principle, the perception of connection to others was translated into several sub-principles in corporate setting, as explained in Chap. 3. The translations were based on Wicks et al.'s (1994) interpretation of the stakeholder concept from a feminist perspective.

5.2.1.1 Sub-principle (a): Corporations are Webs of Relationships Among Stakeholders

Stakeholders are defined as 'people who are adversely or positively impacted by our operations, those who have an interest in what we do, or those who have an influence on what we do' (2006 Sustainability Report, p. 109). They are explicitly mentioned in the company's Annual and Sustainability Reports, along with the approach taken to engage with them. The company's stakeholders are:

- investment community
- shareholders
- customers
- media
- business partners
- employees and contractors
- local and indigenous community

- industry associations
- suppliers
- governments and regulators
- non-government organisations
- labour unions.

These stakeholders are engaged through an effective ‘stakeholder relationships programme’ which is crucial to BHP Billiton in order to:

1. Maintain the licence to operate
2. Ensure access to resources and future business opportunities
3. Enhance and protect the corporate reputation
4. Mitigate potential social, environmental and business risks. (2007 Sustainability Report, p. 245)

Furthermore, BHP Billiton states that its success in creating value is when:

- our shareholders are realising a superior return on their investment
- our customers and suppliers are benefiting from our business relationships
- the communities in which we operate value our citizenship
- every employee starts each day with a sense of purpose and ends each day with a sense of accomplishment. (2006 Sustainability Report, p. 4)

The consideration of relationships as primary to the feminist ethics of care is reflected in BHP Billiton’s stakeholder relationships, which are performed through regular and transparent communication. This is explained as follows:

We engage regularly, openly and honestly with our host governments and people affected by our operations and take their views and concerns into account in our decision-making ... Engaging openly with our host communities, governments and other key stakeholders is critical if we are to make a positive contribution to the lives of people who live near our operations and to society more broadly. Only through meaningful engagement

are we able to understand and address potential impacts and concerns about our projects and operations and create opportunities that are aligned with the interests of the affected people. (2011 Sustainability Report, p. 18)

The excerpt from the 2011 Sustainability Report shows the open and honest engagement BHP Billiton has with its stakeholders. The stakeholder relationships are maintained through the stakeholder engagement method, as depicted in Table 5.1.

Despite this explanation of its stakeholder engagement model, the ‘stakeholder web relationships’ are not explicitly stated in the corporate objective for the period 2009–2011. In the 2006–2008 Reports, the Company stated its corporate objective in a ‘neutral’ or general fashion followed by the statement of responsibilities to stakeholders in the Sustainable Development Policy section, as quoted below:

BHP Billiton’s corporate objective is to create long term value through the discovery, development and conversion of natural resources and the provision of innovative customer focused solutions. (2006 Sustainability Report, p. 189; 2007 Sustainability Report, p. 36; 2008 Annual Report, p. 125)

While we strive to deliver strong financial returns to shareholders, we fully recognise and deliver on our wider responsibilities to our stakeholders: as the Policy states ‘our objective is to be the Company of choice—creating sustainable value for our shareholders, employees, contractors, suppliers, customers, business partners and host communities.’ (2006 Sustainability Report, p. 199; 2007 Sustainability Report, p. 112; 2008 Sustainability Report, p. 46)

The ‘quite clear’ statements of the stakeholders’ objective in 2006–2008 Reports are totally different from those in the 2009–2011 Reports. In the latter period, the company explicitly stated their objective towards their shareholders as follows:

Our corporate objective is to create long-term value for shareholders through the discovery, development and conversion of natural resources, and the provision of innovative customer and market-focused solutions. (2009 Annual Report, p. 5; 2010 Sustainability Report, p. 4 with slightly different words; 2011 Annual Report, p. 5 with slightly different words)

Table 5.1 The stakeholder engagement method

Stakeholder	Interest	Engagement methods
<p>Investment community includes mainstream financial analysts, socially responsible investment (SRI) analysts, and corporate governance analysts</p>	<p>These analysts are located globally and assess whether BHP Billiton's performance closely aligns with shareholder interests, including delivering good financial returns and demonstrating strong group performance and governance. Increasingly, non-financial performance is also of interest; elements of this include improved governance mechanisms and non-financial risks and their mitigation</p>	<ul style="list-style-type: none"> • Regular communications to mainstream investment organisations, SRI analysts and corporate governance analysts • Analyst briefings on key issues (subject to applicable laws), including briefings for SRI and mainstream analysts with a particular interest in environmental and social performance, and dialogue on key sustainability issues with a range of stakeholders, including the SRI and mainstream investment community • Printed reports (Annual Report, Sustainability Report) • Participation in external bench-marking initiatives
<p>Shareholders are a diverse group, with significant representation in Australasia, Europe, South Africa and North America</p>	<p>The creation of long-term shareholder value through a combination of consistent financial returns and high-quality governance; continuous improvement and the understanding of shareholders' concerns</p>	<ul style="list-style-type: none"> • Annual General Meetings • Regular printed and electronic communications • Regular meetings with institutional shareholders and investor representatives • Access to all investment community presentations via website www.bhpbilliton.com

(continued)

Table 5.1 (continued)

Stakeholder	Interest	Engagement methods
<p>Customers are generally other large organisations</p>	<p>Typically focused on reliability and supply; product quality, cost and delivery; the full life-cycle impacts of products and the downstream products made using BHP Billiton materials; materials and resource efficiency and the management of final waste materials</p>	<ul style="list-style-type: none"> • Regular communications with BHP Billiton marketing • Technical support to assist with product use, either in terms of process efficiency or product handling • Product information, including material safety data sheets • Visits to operations • Technology exchanges with operations • Participation in a range of stewardship initiatives, such as the Responsible Jewellery Council and the World Nuclear Association Uranium Stewardship Working Group <ul style="list-style-type: none"> • Media releases, briefings, presentations and interviews
<p>Media includes representatives from print, online and broadcast media</p>	<p>A broad range of issues reflecting all stakeholder interests</p>	
<p>Business partners include those organisations with joint venture arrangements</p>	<p>Interested in ensuring that suitable governance mechanisms are in place, financial returns are delivered and that risks are sufficiently mitigated</p>	<ul style="list-style-type: none"> • Via joint venture boards and operating committees • Printed reports (Annual Report, Sustainability Report) • Joint venture partner participation in Health, Safety, Environment and Community (HSEC) audit programmes

Employees and contractors located in more than 25 countries

Matters concerning the health and safety of employees and colleagues, working conditions and career development opportunities. For employees and contractors who reside near the operations, it is common for any prevailing local issues, such as employment opportunities, business creation, social infrastructure, schooling and health-care, to be shared with local communities. In many remote communities, housing, basic services and amenities are key to employee attraction and retention

- Regular performance reviews and employee perception surveys
- Direct communication with employees through immediate supervisors and management
- Operation-based newsletters and general communications
- BHP Billiton intranet
- Asset and operation-based Sustainability Reports
- Business Conduct Advisory Service
- Participation in HSEC performance improvement initiatives at their own operations

Local and Indigenous communities

Potential environmental and social impacts associated with company's operations. A focus is to ensure opportunities are optimised (e.g. maintaining sustainable community development opportunities after a mine closure). Results from stakeholder perception surveys, regularly conducted by operations, rate local employment and business creation, support for social infrastructure and programmes, a desire for improved community engagement mechanisms and improved environmental performance as local communities' most important interests and concerns

- Community consultation and engagement groups
- Participation in BHP Billiton activities
- Newsletters and targeted communications
- Community perception surveys
- Support through local foundations (e.g. in Chile, Peru, Colombia and Mozambique)
- Other operation-specific engagements developed as part of operation community relations plans

Table 5.1 (continued)

Stakeholder	Interest	Engagement methods
<p>Industry associations include commodity-specific associations, as well as sector-specific associations, at national and international levels</p>	<p>A diverse range of issues relating to the sector or commodity, such as environmental legislation, safety standards and promotion of leading practice</p>	<ul style="list-style-type: none"> • BHP Billiton engages with this group through ongoing representation on specific committees and engagement during specific projects with industry associations, both nationally and internationally, such as the Minerals Council of Australia and the International Council on Mining and Metals
<p>Suppliers include local businesses as well as large international suppliers</p>	<p>Supply agreements, payment processes and required supplier standards</p>	<ul style="list-style-type: none"> • In addition to a review of zero-tolerance requirements across suppliers, BHP Billiton performs a supplier segmentation based on HSEC and business conduct requirements. Based on this segmentation, they define the appropriate engagement throughout the supplier life cycle
<p>Governments and regulators at local, regional, national and international levels</p>	<p>National, regional or local legislative and regulatory policy frameworks for the natural resources sector through the full project life cycle. They are also interested in market access, product stewardship, environmental performance, social policy and fiscal regimes applicable to the resources sector</p>	<ul style="list-style-type: none"> • Group representatives attend selected events, such as political party conventions, for the purpose of better understanding the implications of public policy development on business operations • Employees may participate in political processes as individuals, provided it is made clear that in doing so they are not representing BHP Billiton • BHP Billiton will express its views to governments on subjects that affect the group's interests and operations. This must be done in a manner that adheres to high standards of ethics and complies with the letter and spirit of the law • BHP Billiton will not make political contributions in cash or in-kind anywhere in the world and will not participate directly in the activities of political parties

<p>Non-government organisations include environmental, social and human rights organisations at local, national and international levels</p>	<p>Ethical, social and environmental performance of existing operations, proposed operations or closed operations. These stakeholders are increasingly interested in non-financial performance, such as better governance mechanisms and non-financial risks and mitigation</p>	<ul style="list-style-type: none"> • Each operation identifies relevant local non-government organisations (NGOs) and includes mechanisms for engagement with them within the asset's community engagement plan • At the corporate level, BHP Billiton regularly engages with relevant national and international organisations. The Forum on Corporate Responsibility (FCR) includes leaders from a number of NGOs, including WWF Australia, Oxfam Australia, Alliance for Responsible Mining (Colombia), International Alert (UK) and Centre for Social Markets (India). The FCR meets twice a year and is chaired by the company's CEO
<p>Labour unions</p>	<p>The types of issues that are raised by unions include workers' rights and interests, collective bargaining opportunities, health and safety matters, remuneration, working hours and roster arrangements</p>	<ul style="list-style-type: none"> • Direct communication with unions as required. BHP Billiton respects the rights of all employees to freely choose to join labour unions and has a mix of collective and individual work arrangements at the operations. Prospective employees are made aware of employment arrangements prior to joining the group

Source: 2011 BHP Billiton's Sustainability Report, p. 3.

The responsibilities to other stakeholders were still outlined in the 2009–2011 Reports, even though they are not explicitly mentioned in the corporate objective. This trend was still consistently applied in the 2012–2015 Reports. Only in the 2015 Sustainability Report, the company provide a statement that linked the corporate objective and stakeholders as follows.

Our broad socio-economic contribution

Our strategy of owning and operating large, long-life, low-cost, expandable, upstream assets diversified by commodity, geography and market means we have the capacity to plan for, and deliver, long-term economic and social development outcomes and impacts in the countries in which we operate. (2015 Sustainability Report, p. 53)

Based on the substance of the Report presentations, it is argued that the company did not move away from the stakeholder notion, but the exclusion of other stakeholders in its corporate objective remains questionable.

The relationships maintained with stakeholders were also reflected in the company's vision and mission, which are in line with the ethics of care principles. The vision also took into account the ethical perspective that leads to sustainable development, as outlined in the following quotes:

BHP Billiton's corporate objective is to create long term value through the discovery, development and conversion of natural resources and the provision of innovative customer focused solutions. In pursuing this objective, we have committed to the highest level of governance and strive to foster a culture that values and rewards exemplary ethical standards, personal and corporate integrity and respect for others. We consider this fundamental to our commitment to sustainable development. We also believe that there is a link between high-quality governance and the creation of value. (2006 Sustainability Report, p. 189)

For BHP Billiton, sustainable development is about ensuring our business remains viable and contributes lasting benefits to society through the consideration of social, environmental, ethical and economic aspects in all that we do. Working through complex operational issues associated with our operations has highlighted environmental and social performance as a critical success factor for the Company. We are well aware of the costs of getting it wrong;

but, more importantly, we recognise the value that can be created by getting it right. Consequently, we adopt a holistic approach to business strategy, seeking to realise value for our stakeholders through a sustainable business philosophy ... Line managers have ultimate accountability for ensuring our businesses contribute to sustainable development. (2011 Sustainability Report, p. 45)

Three groups of stakeholders are substantially represented in the Annual and Sustainability Reports. They are the shareholders, employees and the environment and community.

BHP Billiton's responsibilities to its shareholders, investors and the financial community generally are explicitly and completely explained in both the Annual Reports and Sustainable Reports 2006–2015. The responsibilities include, but are not limited to, ensuring the right to vote on important matters; providing return in dividends and capital returns; creating long-term shareholder value by implementing strategies of investment in large, high-quality assets that deliver growth and superior margins throughout the economic cycle; and maintaining the highest standards of disclosure. The responsibilities to the shareholders represent BHP Billiton's commitment to the creation of long-term value not only related to dividend distribution but also to good governance practices.

For employees, the company also clearly stated its responsibilities in both Annual and Sustainability Reports. These responsibilities include developing the employees' skills and capabilities through regular performance reviews combined with adequate training and development programmes; providing local employment with recruitment standards; facilitating opportunities for employees to assist others through arrangements such as the Matched Giving Programme; developing and maintaining a diverse workforce and providing a work environment in which every employee is treated fairly and with respect.

BHP Billiton also prohibits the use of child labour and forced labour at the company's operations. In the 2009 Sustainability Supplementary Report, it is stated that children must not be hired before completing their compulsory education. The minimum age for entry into employment must be 15 years old. Employee attraction and retention are recognised as fundamental to the company's success and are addressed through effective development and training programmes, attractive remuneration packages,

Table 5.2 Employee turnover rate 2006–2015 (%)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
7.3	12	14	15.5	8.9	8.8	11.3	10.5	10.9	12.2

Source: BHP Billiton's Sustainability Reports for 2006–2015.

work–life balance initiatives and providing a fair and non-discriminatory work environment. The conducive work environment results in low turnover rates (11.14% on average), as illustrated in Table 5.2, which shows employees' satisfaction with working conditions.

The company's approaches to the environment and community stakeholder group manifest through various channels and efforts. These include biodiversity protection, voluntary community programmes, collaboration with governments, NGOs and academic institutions worldwide to undertake and support research on improving sustainability performance, emissions management, recognition of indigenous people's culture, heritage and traditional rights, and acknowledgement of the risks of climate change and the need for accelerated action to stabilise greenhouse gas concentrations at acceptable levels.

BHP Billiton once stated that it adopts a rights-based approach that is implemented by the people, rather than for the people, and requires significant skills and resources. This approach places much of the decision-making in the hands of individuals or groups within the community. From the ethics of care perspective, the rights-based approach also means caring for people, as BHP Billiton seeks to empower people by implementing participatory and sustainable community development. One of the outcomes of these community approaches is a decrease in community complaints from 2006 to 2015, as illustrated in Table 5.3, even though the company struggled to decrease the number of complaints in subsequent years. BHP Billiton has also committed to preserving the environment and, since 2008, has focused on integrating environmental responsibility directly into each activity in its operations.

In line with its multinational operations in several countries, BHP Billiton claims to benefit local environments and communities through contributions, as implicit in the statements below:

Table 5.3 The number of community complaints and environmental spending

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Community complaints (noise-related issues are the most common)	603	543	536	377	232	194	353	578	410	336
Environmental spending , including R&D costs, site rehabilitation, environmental monitoring, and other expenditure such as environmental impact assessment and training (US\$ million)	309	288	These expenditures are no longer reported as the company's focus on integrating environmental responsibility into all activities means that it is not possible to accurately extract expenditure on the environment							

Source: BHP Billiton's Sustainability Reports for the years 2006–2015.

When BHP Billiton Petroleum began a major expansion of its Zamzama gas plant in Pakistan to accelerate commercialisation of unallocated reserves, it faced the challenge of having a workforce with limited or no experience of construction sites or of effective occupational health and safety processes. At the end of the two-and-a-half-year project, besides achieving outstanding safety results, BHP Billiton was successful in transferring safe work processes to its contractor and the contractor's workforce. (2009 Sustainability Supplementary Report, p. 32)

In Zululand, South Africa, BHP Billiton Aluminium, in partnership with The Wildlands Conservation Trust, funded the establishment of the Indigenous Trees for Life Program to create livelihoods for disadvantaged community members, while also establishing lasting environmental benefits. The program contracts unemployed members of the Mzimela community to plant and care for seedlings in the local forest and to sell a portion of seedlings to generate income. Participants—named 'Treepreneurs'—are trained in indigenous tree propagation, mentored and given starter packs and a market through which to sell a portion of the trees they propagate. (2011 Sustainability Report, p. 23)

Our IndoMet Coal Project (IMC) is located in Central and East Kalimantan (Indonesian Borneo) within a region globally recognised for its biodiversity and cultural values ...

Since 2009, we have supported community-based conservation and sustainable development projects, bringing benefits to the region where IMC is located. Through a partnership with Fauna & Flora International (FFI), a High Conservation Value Assessment of over 2 million hectares in the Murung Raya District was conducted to strengthen land use planning capacity within local government and identify conservation priorities and sustainable development options for the region. Complementing this work, a five-year Community Forest Conservation Project was initiated with FFI and a community close to the district capital of Puruk Cahu. (2015 Sustainability Report, p. 37)

The notion of corporations as webs of relationships is supported by the company's organisational structure and commitment to maintain relationships. The BHP Billiton governance structure is depicted in Fig. 5.1. As illustrated, there are four committees that play significant and important roles in maintaining relationships with stakeholders. These are the Risk and Audit

Committee (RAC), Sustainability Committee, Nomination Committee and Remuneration Committee.

The RAC assists the Board in monitoring the decisions and actions of the CEO and the Group and in gaining assurance that progress is being made towards the corporate objective. The RAC oversees the development of the financial statements, the appointment, remuneration, qualifications, independence and performance of the External Auditor and the integrity of the audit process as a whole, as well as compliance with applicable legal and regulatory requirements. The RAC’s role, in assuring high-quality financial reporting and improving disclosure and accountability, benefits society and other stakeholders in financial decision-making.

The Remuneration Committee assists the Board in its oversight of remuneration policy, the determination of levels of reward for the CEO, the annual evaluation of the performance of the CEO, and com-

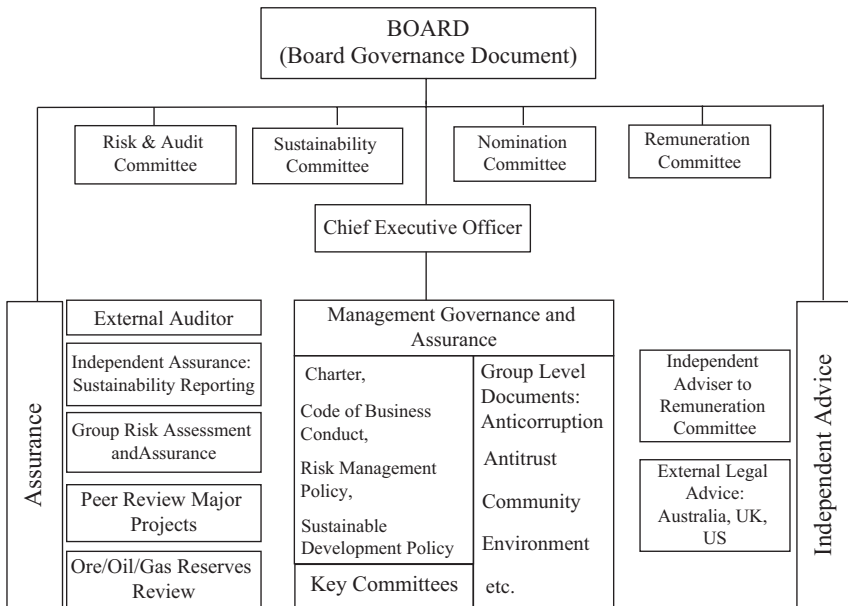


Fig. 5.1 BHP Billiton governance structure

Source: BHP Billiton’s 2011 Annual Report, p. 110.

pliance with applicable legal and regulatory requirements associated with remuneration matters. Even though the role of the Remuneration Committee is specifically focused on employee interests, it also serves the interests of shareholders by ensuring that the company has utilised its funds to properly remunerate its employees.

The Nomination Committee assists in ensuring that the Board comprises individuals who are best able to discharge the responsibilities of a Director, having regard to the highest standards of governance, the strategic direction of the Group and the diversity aspirations of the Board. The Nomination Committee also has oversight of the training and development activity for all Directors. This allows for consideration and review of the appropriate skills mix for the Board. Even though the role of the Nomination Committee is not addressed to specific groups of stakeholders, it indirectly serves the interests of all stakeholders, ensuring that governance is conducted appropriately with ‘the right man in the right place’.

Finally, the Sustainability Committee assists the Board in its oversight of the effectiveness of the Group’s strategies, policies and systems associated with health, safety, environment and community (HSEC) matters, compliance with applicable legal and regulatory requirements associated with HSEC matters, and communication to shareholders regarding the work of the Committee on behalf of the Board. The roles played by the Sustainability Committee reflect the company’s approach to HSEC and sustainable development governance, which specifically address the interests of environment and community groups of stakeholders.

Those four committees have conducted regular meetings every year to fulfil their roles and discuss several issues. The frequency of meetings is disclosed in the Annual Reports and summarised in Table 5.4.

In managing its relationships with stakeholders, the ethics of care principle, as suggested by Burton and Dunn (1996, p. 144)—‘Care enough for the least advantaged stakeholders that they not be harmed; insofar as they are not harmed, privilege those stakeholders with whom you have a close relationship’—is reflected in the company’s goal of Zero Harm, as follows:

Our vision for sustainable development is to be the Company of choice—creating sustainable value for shareholders, employees, contractors, suppliers, customers, business partners and host communities. Central to our

Table 5.4 The frequency of meetings

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Risk & Audit Committee	8	9	6	9	9	9	11	12	9	8
Sustainability Committee	4	4	6	7	7	7	7	7	7	6
Nomination Committee	6	6	7	7	6	7	7	6	6	5
Remuneration Committee	6	7	5	7	7	8	8	9	7	7

Source: Summarised from BHP Billiton's Annual Reports 2006–2015,

vision is our aspirational goal of Zero Harm to people, our host communities and the environment. (2008 Sustainability Report, p. 18)

Community engagement activities are required to be socially inclusive by involving disadvantaged and vulnerable groups. (2010 Sustainability Supplementary Report, p. 3)

The Zero Harm goal at BHP Billiton is simply defined as:

Our aspirational goal, expressed in our Sustainable Development Policy that reflects our continual drive to minimise harm to people, our host communities and the environment from our activities. (2006 Sustainability Report, p. 33)

The company has put considerable efforts into achieving the Zero Harm goal, which can be seen in several indicators, as presented in Table 5.5.

From Table 5.5, we can see that the company was still struggling to achieve the target of Zero Harm. 'Green light' can be given to the environmental incidents indicator as the company has been consistent in having no significant incidents in a few years. However, the term 'significant' is somewhat misleading as it is defined as 'one with a severity rating of four and above, based on our internal severity rating scale (tiered from one to seven by increasing severity), and aligned to our Risk Management GLD (Group Level Document)' (2015 Sustainability Report, p. 3). On 5 November 2015, an incident occurred at Samarco, Brazil due to the failure of the Fundão tailings dam which destroyed environment and livelihoods and brought death to 19 people (Knight et al. 2016). BHP Billiton stated it as a 'tragedy' on

Table 5.5 Zero Harm goals at BHP Billiton

Zero Harm Goal	Realisation			
	2006	2007	2008	2009
Zero Harm				
Zero fatalities	3 fatalities	8	11	7
Zero significant environmental incidents	3 incidents	0	0	1
Zero fines and prosecutions	7 fines greater than US\$1000; total fines paid US\$479,809 Safety fines \$314,410 Environmental fines \$141,526	Health fines \$8256 Environmental fines \$37,387 Safety fines 186,096	Safety fines \$217,650 Environmental fines 117,835	Safety fines \$329,135
Health				
Annual reduction in exposures above occupational exposure limits, expressed as a percentage of people of the workforce	Potential occupational exposure to noise, if not for the use of personal protective equipment (PPE), reduced by 6% from 2004/05	Potential occupational noise exposure, if not for the use of PPE, increased by 4% from 2005/06	4% increase in potential employee exposures over the OEL (excluding noise) since 2007	10% reduction since 2007 There was a 30% reduction in the proportion of employees potentially exposed to airborne substances and a 3% reduction in the proportion of employees potentially exposed to noise
Annual reduction in incidence of occupational disease	The incidence reduced by 10%	Increased by 17%	26% reduction	27% reduction 51 fewer employees reported occupational disease
Safety				
Annual reduction in Classified Injury Frequency Rate (CIFR) or Total Recordable Injury Frequency (TRIF)	CIFR increased from 3.9% to 4.8%, resulting in an overall reduction to date of 28% against the baseline CIFR of 6.7%	CIFR reduced from 4.8% to 4.3%, resulting in an overall reduction to date of 36% against the baseline CIFR of 6.7%	Total Recordable Injury Frequency Rate (TRIFR) for 2008 was 5.9, an improvement of 20% on the TRIFR recorded in 2007	24% reduction since 2007 base year The TRIFR for 2009 was 5.6
Environment				
Aggregate Group target for reduction in greenhouse gas (GHG) emissions per unit of production	During the year, the GHG intensity index increased by 3%	Increased by 2%	5% increase in GHG emissions per unit of production in 2008	GHG intensity index is currently tracking at 3% increase

2010	2011	2012	2013	2014	2015
5	2	3	3	0	5
1	0	0	0	0	0
Safety fines \$189,674 Environmental fines \$35,057	Safety fines \$306,300 Environmental fines \$2454	Safety fines \$273,454 Environmental fines \$27,200	Safety fines \$220,678 Environmental fines \$195,405	Safety fines \$552,962 Environmental fines \$128,898	Safety fines \$242,450 Environmental fines \$32,454
Overall 3.9% reduction. 29% reduction in the proportion of employees exposed to chemical agents offset by 4.7% increase in proportion of employees exposed to noise	Total employees exposed 21,464 (reduction of 7.8% on FY2007 base year)	An 8% reduction in potential employee exposures (2) (but for the use of personal protective equipment) compared with the FY2007 base year	A 5.7% reduction in potential employee exposures compared with FY2012	A 22% reduction in potential exposures compared with our FY2012 baseline	A 40% reduction in potential exposures compared with our FY2012 baseline
52 fewer employees reported occupational illness, a 27% reduction in the rate compared with 2007	We are on track to meet the public target with 68 fewer cases than reported in 2007 (39% reduction)	A 22% reduction in the incidence of employee occupational disease compared with the FY2007 base year	The incidence of occupational illness was 47.9 cases per 10,000 employees, an increase of 1.7% compared with 47.1 cases per 10,000 employees in FY2012	The incidence of employee occupational illness was 2.84 per million hours worked, an increase of 19% on FY2013.	The incidence of employee occupational illness was 4.93 per million hours worked, an increase of 74% on FY2014.
28% reduction since 2007 base year The TRIFR for 2010 was 5.3	The TRIFR for FY2011 was 5.0	TRIF for FY2012 was 4.7, a 36% reduction compared with the FY2007 base year	TRIF performance for FY2013 was 4.6, a 2% improvement compared with FY2012	TRIF performance was 4.2, a 9% improvement compared with FY2013	TRIF performance was 4.1, a 2% improvement compared with FY2014 (4.2)
GHG emissions intensity index has reduced 7%	GHG emissions intensity is 18% lower than 2006 base year	A 16% reduction in GHG energy intensity compared with the FY2006 base year	FY2013 greenhouse gas emissions were lower than the FY2006 baseline	Greenhouse gas emissions were lower than the FY2006 baseline	Greenhouse gas emissions were lower than the FY2006 baseline

Table 5.5 (continued)

Zero Harm Goal	Realisation			
Aggregate Group target of 10% reduction in fresh water consumption per unit of production	During the year our water intensity reduced by 6%	Increased by 3%	7% improvement in the ratio of water recycled/reused to high-quality water consumed since 2007	The water use index is currently tracking at 8% above 2007 base year
Community No significant community incidents resulting from operations at operated assets	0	No data provided 0		1 significant community incident (Ravensthorpe)
Aggregate contribution to community programmes, including in-kind support, of a target of 1% of pre-tax profits, calculated on a three-year rolling average	Expenditure totalled US\$81.3 million, equivalent to 1.45% of pre-tax profits on a three-year rolling average	Expenditure totalled US\$103.4 million, equivalent to 1.1% of pre-tax profits on a three-year rolling average	Expenditure totalled US\$141 million, equivalent to 1.0% of pre-tax profits based on the average of the previous three years' pre-tax profit publicly reported in each of those years	1% pre-tax profit invested in community programmes. Total community investment was \$197.8 million

Source: Summarised from BHP Billiton's Sustainability Reports 2006–2015.

its website (www.bhpbilliton.com) but surprisingly did not categorise it as a significant incident. Coupled with the other indicators that are still in 'red light' conditions, these may be signs that the company has set its target to 'care' yet still failed in its application.

5.2.1.2 Sub-principle (b): Corporations Should Thrive on Chaos and Environmental Change

The connection to others, as suggested by the ethics of care, is manifested in creating a harmonious relationship with the dynamic business environment to create diversity, offer new opportunities and take change and adaptation as a guiding principle in managing business.

Improved 7% on our FY2007 baseline year	The water use index is currently tracking at 8% improvement on 2007 base year	A 29% improvement in the ratio of water recycled/reused to high-quality water consumed compared with the FY2007 base year	Operations identified 80 water-related projects that were expected to be completed during FY2013, of which 54 were implemented	All operations that identified water-related material risks, implemented at least one project to improve the management of associated water resources	All our operations that identified water-related material risks, implemented at least one project to improve the management of associated water resources
0	0	0	0	A significant community incident occurred at our Cerro Matoso nickel operation in Colombia involving protests from a local Indigenous community	There were two significant community incidents during FY2015, both being collisions on public roads
\$200.5 million invested in community programmes	US\$195.5 million invested in community programmes	US\$214 million invested in community programmes, including US\$65 million contributed to BHP Billiton Sustainable Communities	US\$245.8 million invested in community programmes, including US\$106 million to the BHP Billiton Foundation	US\$241.7 million invested in community programmes, including US\$100 million to the BHP Billiton Foundation	US\$225 million invested in community programmes, including US\$83 million to the BHP Billiton Foundation

At BHP Billiton, the harmonious relationship is sustained through the sustainability programme. The ‘sustainability’ mission, developed as the consequence of concern among stakeholders and as suggested by the feminist ethics of care, is explained explicitly in the Sustainability Report, along with the challenges and benefits of applying sustainability principles. The Company’s approach to sustainable development through the improved integration of social, environmental, ethical and economic factors has been disclosed since 1997 when it began its environmental reporting. The Company explains:

... there are also many clear societal benefits that flow from our ability to integrate aspects of sustainability into our business. These benefits include, but are not limited to, contributing to improved standards of living and self-sustaining communities. (2006 Sustainability Report, p. 55)

The challenges to sustainability are disclosed as those issues that may have a material impact on the company's ability to be successful in business. These impacts can directly affect shareholders, employees, communities and the natural environment. The company lists the sustainability challenges as follows:

- (a) Eliminating fatal risks
- (b) Occupational and community health
- (c) Greenhouse gas emissions
- (d) Access to and management of resources—land, water, biodiversity and people
- (e) Sustainable community development and closure.

The company acknowledges that each challenge is complex, often converging with other challenges. In defining and reviewing those challenges, internal and external factors have been taken into account. External factors include concerns raised by stakeholders; sector challenges reported by peers; competitors and key industry forums; relevant laws, regulations and international agreements; and anticipated sustainability impacts, risks or opportunities identified by its people, often in partnership with independent recognised experts. Internal factors are identified in the Board Governance Document, Company Charter, Strategic Framework, Sustainable Development Policy, HSEC Management Standards and HSEC performance targets; the interests and expectations of its people; key risk factors; and the core competencies and structure of the company's organisation.

Despite the challenges, the company admitted that the benefits of applying sustainability principles as bottom-line performance are dependent on ensuring access to resources and securing and maintaining the licence to operate and grow. Enhancing the sustainability performance is deemed as recognising the value protection and value-added to maximise bottom-line performance. The benefits from a business perspective are as follows:

- (a) Reduced business risk and enhanced business opportunities by embedding risk management in all critical business systems and processes so that risks can be identified and managed in a consistent and holistic manner.

- (b) Gain and maintain the licence to operate and grow.
- (c) Improved operational performance and efficiency.
- (d) Improved attraction and retention of the workforce.
- (e) Maintained security of operations as trusting and supportive relationships can lead to reduced security risks, whereas distrustful relationships can lead to heightened security risks. This is particularly critical for operations in parts of the world with politically unstable environments.
- (f) Enhanced reputation.
- (g) Enhanced ability to plan strategically for the longer term by anticipating and understanding trends in society such as new regulations, heightened societal expectations and improved scientific knowledge.

Beyond the business case described above, the company also highlighted many societal benefits that flow from the ability to integrate sustainability concepts into the culture, policies and processes. These benefits include:

- Improved standards of living
- Self-sustaining communities
- Enhanced resource conservation
- Enhancement of biodiversity conservation
- Enhanced economic contributions
- Improved stakeholder trust. (2008 Sustainability Report, p. 20)

The balance between the profit motive of a company and social responsibility is acknowledged through the sustainable development strategy, which comprises two dimensions—the business dimension and the sustainability dimension. Together these contribute to bottom-line performance. The sustainability dimension is a ‘necessary condition’ for the business dimension to achieve bottom-line performance, as described by BHP Billiton:

Business Dimension

The business dimension represents traditional contributors to a financially successful and competitive business, recognising that without a profitable business we are unable to contribute to the broader goals of sustainability. This dimension includes:

- Business excellence and customer focus.
- Portfolio diversity.
- Deep inventory of growth projects across all Customer Sector Groups ... as well as appropriate merger and acquisition activities.
- Quality, long-life assets.

Sustainability Dimension

Our bottom-line performance is, however, dependent upon ensuring access to resources and gaining and maintaining a licence to operate and grow. Maximising bottom-line performance is about recognising the value protection and value-add to be achieved through performance in non-financial dimensions—or sustainability dimensions, such as:

- Aspiring towards Zero Harm to people, our host communities and the environment.
- Ensuring effective governance and risk management processes are in place to ensure a precautionary approach is taken to achieving business outcomes.
- Recognising the need to be socially responsible and contribute to sustainable community development.
- Ensuring the broader economic contributions of our operations are effectively injected into the regions where we operate. (2007 Sustainability Report, p. 46)

The company uses a metaphor of a natural diamond structure to portray its sustainable development strategy, as illustrated in Fig. 5.2, stating that, ‘The diamond’s inherently stable structure is created by the strength in each dimension that contributes equally to an even stronger, stable and more valuable whole and is symbolic of our total business approach to sustainable development.’ (2007 Sustainability Report, p. 47)

By balancing the gained profit and social responsibility aspects, BHP Billiton even claimed that the economic contribution to social responsibility activities represents something much more valuable than just profit:

The economic contribution we make to society is much more than the financial profits we derive. Our contribution includes the value that flows from the broader contributions of our operations, such as payments to our employees and suppliers and disbursements to governments, including taxes and royalties. (2010 Sustainability Supplementary Report, p. 25)

The comparison between BHP Billiton's profits and its economic contributions is summarised in Table 5.6.

BHP Billiton identifies risk factors each year and conducts risk management. The approach to governance and risk management processes is based on a precautionary attitude to achieving business outcomes by embedding risk management processes into all critical business systems. The risk profile for the whole business is reviewed and considered by the Board. The oversight of risk management is delegated to the RAC although the Board retains overall accountability for the risk profile.

The Company has identified several business risks that could negatively affect its results and performance, as follows.

- (a) Impacts arising from the global financial crisis.
- (b) Fluctuations in commodity prices and currency exchange rates.
- (c) Failure or non-performance of counter-parties, failure to discover new reserves, maintain or enhance existing reserves or develop new operations.
- (d) Breaches in information technology security and in governance process.
- (e) Impact of health, safety, environmental and community exposures and related regulations on operations and reputation.
- (f) Unexpected natural and operational catastrophes.
- (g) Climate change, greenhouse effects and related regulations and taxes.

Disclosure Box 1. Exploration under way at the Caroon Coal Project, Australia

In 2006, BHP Billiton was granted an exploration licence to enable it to conduct exploration activities to determine the extent of a coal resource, undertake environmental and social impact assessment studies and potentially develop a mine proposal in the Gunnedah Basin of New South Wales, Australia. The exploration licence is located in an area that contains ridge country for grazing and forestry, fertile cropping land and deep alluvial irrigation aquifers that together form a rich agricultural resource. Working with local landholders, BHP Billiton has completed over 150 slim core exploration bore holes and established numerous groundwater and environmental monitoring stations within the exploration area.

The challenge

Some landholders in the area have actively voiced concerns relating to the effects of both exploration and a potential mine on the farming country and deep alluvial aquifers, and there has been substantial media interest in the project. Over the past year, a group of local residents has established a blockade to prevent BHP Billiton from accessing an exploration site on one of the landholder's properties.

Earlier in calendar year 2009, some landholders undertook legal proceedings against BHP Billiton in the NSW Mining Wardens Court with the aim of, among other things, preventing BHP Billiton from exercising its right under its exploration licence to access their properties to undertake exploration activity.

The legal action was unsuccessful and BHP Billiton was granted access to the properties to conduct exploration drilling. The landholders have appealed this decision to the NSW Supreme Court. Also, an action group formed by local residents has commenced proceedings in the NSW Land & Environment Court against the NSW Minister for Mineral Resources and BHP Billiton challenging the validity of the grant of the exploration licence by the Minister.

The project

BHP Billiton has been working with the local community throughout the Caroona Coal Project area to better understand and address concerns being raised about the potential effects of exploration and mining.

Achievements

BHP Billiton undertook a review of its exploration and development plans and provided the New South Wales Government with recommendations to help address community concerns. The Government has announced amendments to the Special Conditions of BHP Billiton's Exploration Licence (EL6505) that will formalise BHP Billiton's commitment not to undertake any of the following activities in the area covered by the Exploration Licence:

- long wall mining underneath the deep alluvial irrigation aquifers
- long wall mining underneath the floodplain
- open-cut mining.

We will continue to work hard to engage with the local community to ensure their concerns are fully understood and addressed. This work is expected to take several years.

The last three business risks identified in this list actually relate to social and environmental risks. This indicates that BHP Billiton has interpreted risk factors from a feminist ethics of care perspective.

In mitigating the social and environmental risks, the company has taken several steps, including working together with other organisations or global alliances. These steps are:

- (a) Taking an active role in climate change policy development and engaging with the Australian Government in developing the climate change policy response. Effective strategy for minimising Australia's exposure to a future global carbon price has been proposed, which includes avoiding the construction of new long-life, carbon emission intensive assets where affordable low-carbon alternatives are available, especially in the power and building sectors. The company recognises any alliances to tackle this challenge, which will need to cross national and cultural boundaries, but the developed world has a clear leadership responsibility in achieving a global approach.
- (b) Complying with applicable laws, regulations and other requirements, including assessing the adequacy of the laws of host countries com-

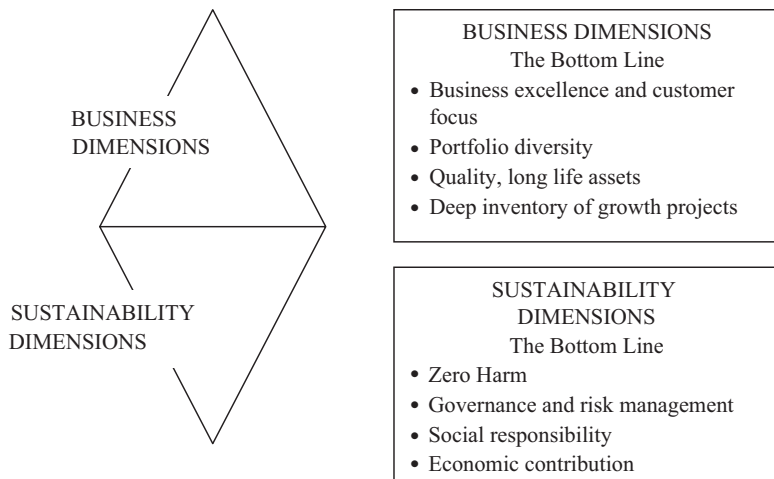


Fig. 5.2 A metaphor of natural diamond structure
Source: 2007 Sustainability Report, p. 47.

pared with the company's standards. The risk management approach addresses corruption-related risks in making decisions, including hiring and deploying personnel, business planning, investments, new country entry, all interactions with government officials and all activities with business partners.

- (c) Focusing on the efficient use of resources and preventing and reducing pollution.
- (d) Advising on the responsible use of the Company's products and by-products, including consumption, storage, transport, recycling and disposal; working with those involved throughout product life cycles and recognising the shared responsibility across the value chain.
- (e) Enhancing biodiversity protection by assessing and considering ecological values and land-use aspects in investment, operational and closure activities. A five-year alliance has been embarked on since July 2011 by Conservation International and BHP Billiton to deliver significant and lasting benefits to the environment by preserving land of high conservation value in key regions where BHP Billiton operates. Achievement of this outcome will be planned in collaboration with local partners.

5.2.1.3 Sub-principle (c): Replace Conflict and Competition with Communication and Collective Action

A feminist rereading of the stakeholder concept suggests finding win-win situations to turn what initially appears to be conflict of interest among stakeholders into forms of collaboration and effective communication to resolve conflicts (Wicks et al. 1994).

Two cases are presented below to analyse whether the Company has replaced conflict and competition among stakeholders with communication and collective action.

Case 1: Carooona Coal Project in New South Wales (NSW), Australia

In the 2009, 2012, and 2011 Sustainability Reports, BHP Billiton provided community updates on the Carooona Coal Project in NSW, Australia. Below is an excerpt from the 2009 Sustainability Supplementary Report on this project.

In 2010, legal proceedings challenging the validity of the Carooona exploration licence and BHP Billiton's right to access properties to conduct

Table 5.6 Profit and the economic contribution (US\$ million)

Year	Profit after taxation	Economic contribution (economic value distributed)						Total economic contribution	Economic value retained
		Economic value generated (revenues)	Payments to suppliers, contractors, etc.	Employee benefits, wages and providers	Payments to government	Community investment ^a	Payments to capital providers		
2006	10,534	39,886	17,988	2982	2562	5341	81,3	28,954	10,931
2007	13,496	47,962	19,936	3311	2872	6061	103	32,283	15,679
2008	15,962	59,991	26,358	4360	3857	8121	141	42,837	17,154
2009	6338	50,762	23,877	4345	5152	7940	198	41,512	9250
2010	13,009	53,212	22,306	4830	5114	6892	200	39,342	13,870
2011	23,946	72,229	26,997	5457	5551	9943	196	47,948	24,281
2012	15,532	73,016	29,243	6915	6632	11,862	214	54,652	18,364
2013	12,820	66,732	28,036	7618	7198	11,597	246	54,449	12,283
2014	15,224	68,083	27,217	7038	7164	9580	242	50,999	17,084
2015	2878	45,123	17,020	5100	7147	6462	225	35,729	9394

Source: Summarised from BHP Billiton's Annual Reports and Sustainability Reports 2006–2015.

^aReported separately, not included in the economic value table in Sustainability Report

exploration activities continued. The challenge to the validity of the Caroonia exploration licence grant (reported in 2009) was unsuccessful in the Land and Environment Court and the local action group appealed this decision to the NSW Court of Appeal.

In late 2009, the Company engaged an independent community engagement specialist to conduct interviews with stakeholders, including community activists, to better understand their concerns. With permission from stakeholders, BHP Billiton published the community's feedback in a report and openly acknowledged community concerns, which included property rights and environmental protection of farming land and water supply. In responding to the report, BHP Billiton gave a commitment to work with the community, including through a series of community workshops, to prioritise issues of concern and establish a pathway towards resolution. Through the interviews, community members made it clear that they wanted BHP Billiton to listen to and respect their concerns. This reflects the intensive communication strategy implemented by the Company to resolve the conflict.

In addition to the commitment to develop mutually agreeable solutions to issues that were raised, BHP Billiton committed to a number of new community engagement initiatives that have been implemented to address community concerns regarding the protection of the region's water resources. This involves:

- Committing to an independent third party review of the water monitoring programme so the community can be assured that the company has built a robust model of the water systems and will have sufficient information to evaluate possible impacts of any mine.
- Establishing a forum to share information about exploration drilling techniques and data generated from water monitoring activities. Local landholders will have the opportunity to share their knowledge and experience of the region's natural resources through the forum.

Despite BHP Billiton's intensive communication efforts, disagreement and dissatisfaction among local people (especially farmers) still continues for there is potential that the coal project will contaminate underground natural aquifers and destroy prime farming land (Cunich 2008; The Centre

for Media and Democracy 2012). In 2010, a ‘David and Goliath style’ fight occurred as two landholders legally prevented BHP Billiton from accessing their properties to conduct exploration activities. The NSW Supreme Court decided that access arrangements determined by the Mining Warden and Land and Environment Court were invalid. The Court determined this partly on the basis that BHP Billiton had not notified and entered into a single access arrangement with all landholders with a relevant interest in the land, including mortgages. This court decision did not stop mining; it was a matter of legalities about how an explorer gets access to properties to explore. However, this decision has had widespread implications for the NSW exploration industry as the Court’s interpretation of the legislation was contrary to that generally adopted by the government, mining companies and landholders. Amendments to NSW legislation have since been passed to ensure that the legislative regime for accessing properties to conduct exploration is workable for all parties (2010 Sustainability Report).

The option taken by landholders to undertake legal proceedings against BHP Billiton shows that the company has not been successful in appeasing the local people through active and thorough communications. Consequently, it has not been successful in this case in resolving the conflict by applying communication and collective action, an approach suggested by the ethics of care. However, the communication process implemented prior to the legal proceedings can be interpreted as the application of both the ethics of care and the ethics of justice (through formal rule and law) in seeking a resolution.

Case 2: Labour strike in South Africa

In the 2011 Sustainability Report, BHP Billiton reported on a labour strike of more than one week’s duration in one of its operations in South Africa. The company did not disclose much about this strike, let alone the communication and negotiation approach to accommodate the workers’ demand. Only this statement is presented regarding the strike: ‘In line with employee relations approach, we believe that ensuring our employees are directly engaged with the business and aligned with business goals is the most effective way of avoiding any form of industrial action’ (2011 Sustainability Report, p. 10).

External sources reported this as a strike over pay after failing to reach agreement with BHP Billiton. The demand for a larger share of profits

for pay increases, higher production bonuses and better job conditions had caused significant lost production due to the stoppage (The Sydney Morning Herald 2011). The workers remained on strike as the company indicated it did not want to talk with the union anymore. This reluctance on the side of BHP Billiton might be due to constant complaints of rising costs, including rising labour costs. However, all input costs that the industry faces are comparatively small compared to the profits made from rising commodity prices and hence, there should be a room to negotiate with the workers.

The labour strike case showed the lack of intensive communication to resolve a problem as suggested by the ethics of care. BHP Billiton had already developed a sympathetic employee policy, which acknowledged the freedom to join a labour union and directly engage them with the business. However, when there was a demand from employees, the communicative action to achieve an agreement was not followed intensively, resulting in the labour strike. Previous strikes in Escondida, Chile in 2006 and in Ekati Diamond, Canada in 2007 also showed management's lack of communication in terms of reaching agreement regarding the workers' demands.

The frequently occurring labour strikes might represent masculine metaphors behind the stakeholder concept, as indicated by Wick et al. (1994), which evoke conflict and competition as the best language to describe how firms should be managed. In this metaphor, weighing or balancing the merits of various competing interests should be performed by good management, pursuing those which are most compelling or beneficial and working to resolve conflict. In the case of the labour strike, BHP Billiton faced competing demands, between workers for higher wages and better working conditions and other stakeholders, such as shareholders, customers and suppliers, to keep the production costs (including labour) low so that it can maintain the dividend levels and product price, as well as its ability to pay suppliers. In the 'masculine' metaphor, managers should discuss how the interests of stakeholders are affected, weigh their options, and then make a decision, placing little emphasis on communication and collective action.

Another interpretation to conclude the justice approach chosen by management of BHP, though beyond the scope of this research, may

stem from the lawyer team BHP Billiton hired for its legal cases. Burton et al. (1991) hypothesised that if the legal profession is perceived as male-dominated and justice-oriented, then it is predicted that law firms will attract more justice-oriented attorneys. Women who are practising law may already have been self-selected so that they are no more caring, or possess the same general attributes as their male colleagues to signal the strength of their skills and positions. However, Burton et al. (1991) found inconclusive results from empirical data. This means that there is no strong evidence to support the contention that men follow a justice approach while women are more caring. Both male and female attorneys interviewed in the research expressed a strong preference towards negotiation and mediation rather than litigation to solve legal problems. Burton et al. (1991) further concluded that neither care nor justice is sufficient or any one attorney; attributes of both are perceived to be important and effective, regardless of gender. If we related these findings to the justice approach taken by BHP, it might provide evidence that the approach was decided by BHP's management itself which describe the favouring of justice rather than caring ethics in the top management.

5.2.1.4 Sub-principle (d): Strategy as Solidarity

The fourth assumption in stakeholder theory is that strategy formulation should be conducted objectively and analytically based on factual data, quantification and empirical inquiry. The perceptions and interpretations of decision-makers are not prioritised. The implication of this is that stakeholders are silenced, and detachment from the identities, emotions, needs and perceptions of particular individuals distance the decision-makers from stakeholders.

Feminist reading of this concept is the opposite, as relationships and cooperation cannot be easily translated into abstract formulation. While strategy as objectivity suggests decisions should be 'dictated by the numbers' or constructed as 'business decisions', the feminist view of solidarity requires that decisions are made based on the responsibilities and relationships a company has with specific stakeholders. This does not mean that the feminist perspective rejects empirical study or

quantification in formulating strategy. It suggests that numbers alone are not enough; they should not dictate decisions and should be complemented by solidarity among stakeholders. This approach will also achieve several practical goals, such as improving communication and coordination, allowing a company to be more responsive and decentralised and increase the coherence between the actions of employees and the direction set by BHP Billiton. Hence, the strategic decision is thought of and developed in terms of the interests, desires and needs of all stakeholder groups through negotiations and agreements with these groups, rather than as determined solely by the company.

Two strategies are analysed to determine whether the notion of strategy as solidarity has been followed by BHP Billiton. These are discussed as follows.

Analysis 1: General corporate strategy

As evidenced in the documentation from 2006 to 2015, a slightly different statement of the corporate strategy was developed in this period, as presented in Table 5.7.

From these corporate strategy statements, there are inferences of narrowing down from the broad statement in 2006. This includes several factors, from incorporating people in a seven-layered pyramid, to 'investing in large, high-quality assets that deliver growth and superior margins throughout the economic cycle to create long-term shareholder value' as the strategy in subsequent years. The narrowing down focus in the corporate strategy to the so-called pure economic one creates an impression that the strategy was formulated based solely on factual and objective data while ignoring the responsibilities and relationships it has with specific stakeholders. However, in 2011, BHP Billiton stated that after owning and operating large, long-life and low-cost assets, there would be a further step to creating value for various stakeholders as the consequence of the strategy. The corporate strategy was also accompanied by sustainable development strategies that encompass other aspects beyond the economic.

Hence, it can be concluded that the corporate strategy formulation at BHP Billiton has been conducted using the solidarity basis as suggested by the ethics of care, even though an all-inclusive, broad statement of strategy as presented in 2006 would better reflect the 'strategy

as solidarity' concept applied by the company. A complete statement of strategy is also important to highlight that the company does not indicate growth as a key objective as it is 'problematic from an environmental sustainability perspective: growth at all costs is oxymoronic to preservation of natural assets' (Brennan et al. 2011, p. 57).

Analysis 2: Specific strategies

Beside the general corporate strategy, there are several specific strategies disclosed in BHP Billiton's Reports, as outlined in Table 5.8.

The specific strategies disclosed in the Reports show that the company had applied the 'strategy as solidarity' as it incorporated the relationships with and responsibilities to various stakeholders in formulating the strategies.

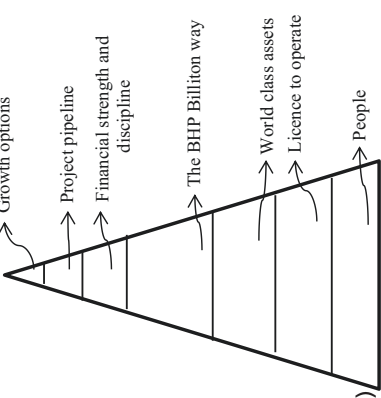
5.2.1.5 Sub-principle (e): Replace Hierarchy with Radical Decentralisation and Empowerment

The last feminist reading of the stakeholder concept according to Wicks et al. (1994) is focused on decentralisation, team structures and worker empowerment to replace centralisation and hierarchy as a means of structuring power and authority. The primary goal is not to search for structure, order and a simple mechanistic approach but to connect employees with their jobs and unleash their potential by giving them responsibility and involvement with their jobs. The movement away from hierarchy can shift the role of managers from dictating and supervising to teaching and coordinating, promoting worker involvement, increasing trust, commitment and productivity without abolishing corporate structure and the division of labour.

The decentralised authority not only benefits employees through more control and involvement in work, but also all stakeholder groups since decentralisation nurtures communication and interdependence among this group. After all, this approach will result in an increase in the company's ability to serve the interests of all stakeholders through new ideas, greater efficiency and increased responsiveness.

BHP Billiton did not present a diagram of their organisational structure to describe the position of staff in its Reports. Instead, several statements

Table 5.7 BHP Billiton's general corporate strategy statements 2006–2015

Year	Sustainability Report	Annual Report
2006	<p>Our sustainable development strategy comprises two dimensions—the business dimension and the sustainability dimension—that together contribute to bottom-line performance.</p> <p>The business dimension represents traditional contributors to a financially successful and competitive business, as without a profitable business we are unable to contribute to the broader goals of sustainability.</p> <p>Our bottom-line performance is, however, dependent upon ensuring access to resources and gaining and maintaining a licence to operate and grow. This highlights the criticality of the value protection and value added that can be achieved through enhanced performance in non-financial dimensions—or sustainability dimensions. (p. 57)</p> <p>Same as 2006</p>	<p>We have chosen to represent this refined strategy in a simple form, via a seven-layered pyramid.</p>  <p>(p. 8)</p>
2007		<p>Essentially, our strategy is to ensure we have a suite of long-life, low-cost assets, diversified by geography and commodity, that can be expanded and that are largely export-oriented. The growth opportunities implicit in this strategy mean we can move quickly to increase capacity from an existing operation when we determine that global demand warrants such an expansion. (p. 9)</p>

2008	Same as 2006	<p>Our strategy</p> <p>Our objective as a corporation is to create long-term shareholder value through the discovery, development and conversion of natural resources, and the provision of innovative customer and market-focused solutions.</p> <p>To achieve this, we aim to own and operate a portfolio of upstream, large, long-life, low-cost, expandable, export-oriented assets across a diversified geographic and commodity base, and pursue growth opportunities consistent with our core skills. (p. 95)</p>
2009	<p>For almost a decade, we have been committed to a long-term strategy of investing in low-cost, world-class, expandable and export-oriented operations that reflect diversification across markets and geographic regions. (p. D)</p> <p>We continue to be committed to a long-term strategy of investing in low-cost, world-class, expandable and export-oriented operations, diversified across markets and geographic regions. BHP Billiton has a long-term view that includes continued investment through the cycles and a focus on the fundamentals. The result is a significant capability and a portfolio that balances risk and provides flexibility. (p. D)</p>	Same as 2009 Sustainability Report
2010		<p>Our corporate objective is to create long-term value for shareholders through the discovery, development and conversion of natural resources, and the provision of innovative customer and market-focused solutions.</p> <p>We pursue this objective through our unchanged strategy of investing in 'tier one' assets that are large, low-cost and long-life to provide a balanced portfolio of export-oriented commodities. We continue to invest in the future and have a deep inventory of growth assets. (p. 7)</p>

(continued)

Table 5.7 (continued)

Year	Sustainability Report	Annual Report
2011	<p>For many years, we have implemented our strategy of investing in large, high-quality assets that deliver growth and superior margins throughout the economic cycle to create long-term shareholder value. (p. 6)</p> <p>Our strategy is founded on the need for diversification—by commodity, geography and market. To succeed we need a workforce that reflects our values and the communities in which we operate. (p. 9)</p> <p>... we adopt a holistic approach to business strategy, seeking to realise value for our stakeholders through a sustainable business philosophy. (p. 45)</p>	<p>Our corporate objective is to create long-term shareholder value through the discovery, acquisition, development and marketing of natural resources.</p> <p>We pursue this through our consistent strategy of owning and operating large, long-life, low-cost, expandable, upstream assets diversified by commodity, geography and market.</p> <p>This strategy means more predictable business performance over time which, in turn, underpins the creation of value for our shareholders, customers, employees and, importantly, the communities in which we operate. (p. 5)</p>
2012	<p>Sustainable development is core to our business strategy; we integrate health, safety, environmental, social and economic factors into our decision-making.</p> <p>We transparently report the financial and non-financial dimensions of what we do. (p. 2)</p>	<p>Same as 2011</p>
2013–2015	<p>Same as 2012</p>	<p>Same as 2011</p>

were presented in the Annual Report and on BHP Billiton's website, as follows:

Our Operating Model describes the way the Company is organised and sets out the relationship between the Businesses, Group Functions and Marketing. The core principles of the Operating Model include mandatory performance requirements, common organisational design, common systems and processes, and common planning and reporting. (2015 Annual Report, p. 7)

As we grow, the creation of a simple, accountable and scalable organisation will ensure we remain capable of managing the larger footprint that will result over time. To this end, through the BHP Billiton Operating Model, we have set up the organisation to be more scalable, more functionally specialised and in a position to deploy capital easily when required. By having a simple structure, we can organise work more effectively and let our people focus on doing what is important.

(2011 Annual Report, p. 7)

Our organisation is structured in a way that is focused on building functional expertise and where our people understand their accountabilities.

- Resources are developed and converted by our businesses—Aluminium, Manganese and Nickel; Coal; Copper; Iron Ore; and Petroleum—who are responsible for delivering on our strategy. Our businesses reflect a unique diversification across markets and geographic regions.
- Marketing is accountable for the BHP Billiton revenue line, including sales and the physical movement of product to market. Marketing also procures traded commodity inputs to our operations.
- Our Group Functions operate under the instruction of the Group Management Committee to ensure the Group meets governance and assurance requirements and the activities necessary to improve the overall effectiveness of the Group.

(<http://www.bhpbilliton.com/home/aboutus/ourcompany/Pages/our-Structure.aspx>)

The statements reflect the decentralised business model with responsibility for day-to-day business operations residing within each business or 'Customer Sector Group' (there are nine Customer Sector Groups: petroleum, aluminium, base metals, diamonds and specialty products,

Table 5.8 BHP Billiton's specific strategies statements 2006–2015

Year	Sustainability Report	Annual Report
2006	<p>Our safety strategy is based on three principles:</p> <ul style="list-style-type: none"> • leadership effectiveness • behaviours and awareness • rigorous standards and systems for managing risks and ensuring full compliance. (p. 62) <p>Local and Indigenous Communities</p> <p>Our strategy is to engage our communities in our business where possible and establish an open communication channel where all parties feel they have the right to participate in discussions. (p. 84)</p> <p>Our global footprint and our multi-source supply strategy underpin our commitment to and capability of delivering to customer requirements. (p. 149)</p> <p>We have developed a human resources strategy to connect our values, culture and business objectives to the way we manage our people. (p. 464)</p>	
2007	<p>Community Investment Strategy</p> <p>We aim to make a valuable contribution to our local communities, not only by providing employment opportunities, but also by supporting organisations that help to create a healthy and sustainable social fabric in those communities. (p. 248)</p> <p>The Emerging Markets program is a long-term strategy. The Company does not intend to source all products and services from emerging markets. (p. 299)</p>	<p>Our capital management strategy remains the same: to reinvest in our extensive pipeline of world-class projects that carry attractive rates of return regardless of the economic climate; ensure a solid balance sheet; and return excess capital to shareholders. (p. 21)</p>

(continued)

Table 5.8 (continued)

2008	Our strategy to achieve our greenhouse intensity targets includes improving our energy efficiency and investigating cost effective alternative energy sources, including wind, solar and geothermal power. (p. 109)	The financial risks arising from the Group's operations are market risk, including risks associated with movements in interest rates, foreign currencies and commodity prices, liquidity risk and credit risk. These risks arise in the normal course of business, and the Group manages its exposure to them in accordance with the Group's Portfolio Risk Management Strategy. (p. 207)
2009	At BHP Billiton, we have an integrated people strategy that is founded on the need for effective recruitment, development and retention of talented people. (p. 8)	
2010		We seek to maintain a solid 'A' credit rating as part of our strategy. (p. 12) Diversity of gender, ethnicity, skill, thought, experience, style and language are important elements of our people strategy and are key drivers for our success. (p. 59)
2011	Our strategy is to invest in natural gas as one of the cleanest burning, lowest carbon dioxide intensity, fossil fuels. (p. 13) After consulting with neighbours, the preferred strategy to minimise noise disturbance involved creating a network of intermediate run-of-mine stockpiles set in areas where noise was less likely to carry to residents. (p. 19)	A Cash Flow at Risk (CFaR) framework is used to measure the aggregate and diversified impact of financial risks upon the Group's financial targets. (p. 207)

(continued)

Table 5.8 (continued)

Year	Sustainability Report	Annual Report
2012	<p>People and our strategy</p> <p>We manage significant organisational change locally and consult with our employees about changes that affect them, seeking input and guidance where possible. We are committed to complying with legislative requirements across the jurisdictions in which we work. (p. 15)</p>	<p>The diversification of our portfolio of commodities, geographies and currencies is a key strategy for reducing volatility. (p. 12)</p>
2013	<p>In addition, we will execute our Group-wide diversity and inclusion strategy and actions that focus on further promoting a work environment of inclusion that embraces and effectively leverages the diversity of our people. (p. 20)</p>	<p>Our Potash strategy is to build a material industry position over the long term. We have acquired exploration permits, issued by the Government of Saskatchewan, covering over 14,000 square kilometres of mineral rights in the Province of Saskatchewan in Canada. (p. 27)</p>
2014	<p>The Pilbara Water Resource Management Strategy (PWRMS) was developed to provide a holistic, consistent approach to mine development and operations within these three water management catchments. (p.34)</p>	<p>Our strategy is tied to economic growth in both emerging and developed economies. Sustainable growth requires an effective response to climate change. (p. 3)</p>
2015	<p>We are currently implementing a strategy to support REDD+ (Reducing Emissions from Deforestation and Forest Degradation), an international mechanism that provides economic, social and environmental incentives for developing countries to reduce GHG emissions from deforestation and related activities through the creation of carbon credits. (p. 18)</p>	<p>Our remuneration policy and strategy is focused on long-term success and minimising short-term behaviours or results that would jeopardise longer-term outcomes. (p. 27)</p>

stainless steel materials, iron ore, manganese, metallurgical coal and energy coal). The structure enables effective stakeholder engagement through specific activities, which vary from monthly meetings to open public forums with topics ranging from town amenity and housing to the impacts of growth and expansion projects, contractor management, security, cultural issues and social development. Improvements in the organisational structure are continual. For instance, after the succession of a new CEO, Andrew McKenzie, in 2013, a revised executive structure was announced. The top management committee was extended, but the company created a more decentralised and simplified organisational structure (Dagge 2013).

5.2.2 Principle Number 2: Moral Reasoning is Contextual

From the ethics of care perspective, the moral problem arises from conflicting responsibilities as threats to harmony and relationships rather than from competing rights. Contextual resolution is required for such moral dilemmas, referring to the different approaches the company has taken for different operation sites worldwide and for different cases.

Besides analysing the Annual Reports and Sustainability Reports, several online comments and news items about its operation were analysed to determine whether BHP Billiton had instigated contextual resolutions. The use of external information was deemed necessary to capture ‘both sides of the story’. The same approach was also applied in analysing Principle number 3—dilemmas solved through inductive thinking—and Principle number 4—moral development through stages is sequential and hierarchical.

In its Reports, the Company stated the clear commitment by the Board and senior executives to the code of conduct. This would serve as guidance to the company in finding the best solution to the moral dilemmas it faces, as highlighted in the following quotes:

... irrespective of how well a Board defines its role and its expectations, corporate behaviour is dictated above anything else by the 'tone at the top'. (2006 Annual Report, p. 7)

The tone at the top and within the Board has fostered an environment in which we are committed to high ethical standards, fairness, full compliance with legal requirements and resistance to market pressures for short-term results. (2008 Annual Report, p. 6)

Two cases disclosed in the Reports are analysed below. The cases were selected after comparing them with information provided by external sources (such as newspapers and the web pages of mining communities). If the disclosure and the external information are significantly different, this indicates moral dilemmas that need to be investigated.

Case 1: Cerrejon Coal

Cerrejon Coal is a mining operation in Colombia jointly owned by BHP Billiton, Anglo American and Xstrata and managed by a joint venture management team. Since 2006, BHP Billiton disclosed two major issues relating to Cerrejon:

1. unresolved community concerns
2. class actions concerning Cerrejón privatisation

The community issues were no longer presented in the 2011 Annual Report and Sustainability Report. While this creates an impression that the problems no longer exist, the information from external sources suggested otherwise.

The London Mining Network (2012) provided news from the company's Annual General Meeting (AGM) on 25 October 2012 with a provocative title: 'Killing me softly with his song: inside another BHP Billiton AGM'. This was to satirise BHP Billiton's responses over several issues discussed in the AGM that it had been over-skilled in confronting criticism with courtesy: 'Thank you for coming; thank you for raising that issue; we'll look into it; let's continue the dialogue ...'

One of the issues discussed in the AGM was the Cerrejon community concerns regarding the process to resettle communities affected by the mine. Cerrejon had agreed to support affected communities in obtaining independent advice and guidance. While challenges would remain, BHP

Billiton was confident that this step would assist communities in their engagement with the company on these issues. The community representative who was present at the 2012 AGM pointed out that the first community had been destroyed in 1986 without a relocation agreement or any form of adequate compensation. He acknowledged that BHP Billiton's effort to negotiate with communities in the process of relocation was the right thing to do but there were still five communities that had been displaced before 2000 and they had not received such a response. BHP Billiton responded to some of the long-standing and more recent issues by insisting that Cerrejon management address them. A number of key initiatives had been implemented and progress was being made. The representative also said that the local communities were totally opposed to BHP Billiton's plan to divert the Rancheria River, the only river in this desert, to increase carbon production by 50 million tons per year. Recently, Cerrejon mining has decided to postpone a study into the possible diversion of the river, due to the weak carbon price experienced over the last two years (Mining.com 2012). It announced that it would continue to analyse other alternatives to the diversion of the river.

The relocation problem, which is still unresolved after almost 30 years, shows that BHP Billiton had not been applying a contextual resolution to this moral dilemma. Complaints that their operations bring misery and disruption to local communities are justified because the relocation and compensation plans, which were very important for the affected local people in this context, were not carefully thought out at the beginning of the operation. Furthermore, the conflict worsened with the plan to divert Columbia's Rancheria River, which was only postponed for reasons unrelated to the local community's interests. The Annual Reports and Sustainability Reports did not explicitly disclose the working opportunities provided for the local people, but if it is true that there were not many opportunities, then the local people remained the least disadvantaged stakeholder of the Company.

Case 2: Development project of Metallurgical Coal mining operations: IndoMet Coal Project (Indonesia)

The 2011 Sustainability Report disclosed a development project called IndoMet Coal, which comprised seven coal contracts of work (CCoWs) covering a large metallurgical coal resource in Kalimantan, Indonesia,

discovered by BHP Billiton in the 1990s. Following an assessment of the importance of local participation in developing the project in 2010, BHP Billiton sold a 25% interest in the project to a subsidiary of PT Adaro Energy TBK. BHP Billiton retains 75% and holds management responsibility for the project. Work was conducted to identify development options across CCoWs.

BHP Billiton had been reviewing this project for some time and was progressing certain elements, such as a railway that would aid in the initial stages of mining. Due to some complexities, however, the project had not yet involved a mine and the project still had not gone ahead in 2012. There was also scant public attention to the Indigenous and local communities, climate change and the biodiversity impact (BHP Billiton Watch 2011).

In the 2008 Sustainability Report, the Company stated that the area 'has been under considerable threat from changes in land use, such as forestry and the rapid growth of palm oil plantations, poorly managed mining practices and illegal mining' (p. 127). The company planned to commence by creating small mines in the key CCoWs, stating that, 'By starting small, our aim is to develop further understanding of and experience in how to manage the environmental and biodiversity impacts within the region before large scale operations commence' (p. 128).

BHP Billiton presented several contextual programmes to prepare for the operation as follows:

- (a) Developing a range of procedures and systems that ensure that biodiversity considerations are included in all relevant aspects of the mine project design and execution.
- (b) Embarking on a process of engagement with conservation NGOs, biodiversity professionals, the community and researchers aimed at delivering biodiversity conservation benefits within areas of operation and supporting broad-based conservation activities in the wider landscape of the Murung Raya district.
- (c) Committing to minimise impact on the forest by redesigning the exploration programme to reduce unnecessary clearing of the forest by having a single exploration camp rather than satellite camps and using helicopters to transport people and equipment rather than constructing access roads.

In this early stage, it is suspected that BHP Billiton showed a contextual approach in resolving the moral dilemma of whether to start the project as soon as possible or study and review the situation first. There are oil palm plantations and other mining companies in the area and not all of them were perfectly ethical in their conduct. BHP Billiton did not take advantage of the lack of legal enforcement in Indonesia by rushing into commencing the operation; instead they committed to doing things correctly. The company disclosed the preparation and early work on infrastructure development in its 2012–2014 Annual Reports. In the 2015 Annual Report, it was stated that the IndoMet project had completed infrastructure development and received an operating permit to commence mining at Haju Mine. Production is expected to commence from Haju mine in Indonesia in 2016. The biodiversity strategy together with land rehabilitation approach was disclosed in the 2015 Sustainability Report.

5.2.3 Principle Number 3: Dilemmas Solved Through Inductive Thinking

One difference between the ethics of care and the ethics of justice lies in the resolution of moral dilemmas. The caring principle holds the view that moral dilemmas are contextual and are resolved through inductive thinking, while for the justice approach moral principles are universal and are applied to moral dilemmas through formal and abstract thinking (Reiter 1996). Inductive reasoning frames moral dilemmas as challenges with no universally accepted and sound principles to govern the practical reasoning process.

The two cases discussed below were selected by comparing the information disclosed in the Annual Reports and Sustainability Reports and the information provided by external sources. Any gaps found in the comparison indicate the moral dilemmas faced by the company and, hence, become the studied objects to investigate whether the company has applied inductive thinking in solving its moral dilemma.

Case 1: Bribery to Cambodia government

Information provided by external sources showed that BHP Billiton was under investigation in the USA and Australia for allegedly corrupt

practices in mining deals in Cambodia. Cambodia consistently ranks among the most corrupt countries in Asia. Several newspapers reported on Australian documents that described officials from BHP Billiton seeking a special meeting with Hun Sen prior to being given mineral exploration rights in 2006 (Doherty 2010). In September 2006, BHP Billiton paid US\$1 million to the Cambodian government for a mining concession to conduct exploratory drilling for bauxite on 100,000 hectares in Mondolkiri province, in Cambodia's far east. The world's biggest mining company also gave the government an additional \$US2.5 million to go towards a 'social fund' for development projects for local communities. Despite promises from the government that the social fund would be administered by the finance ministry, budget documents show that none of BHP Billiton's money ever appeared on the government's books. The government's Quick Reaction Unit, which deals with media, responded by stating that the report was 'exaggerated' and meant to 'dishonour' Hun Sen ahead of the national elections (Voice of America 2013).

In response to this case, the BHP Billiton CEO, Marius Kloppers, sent an internal memo to all staff to remind all employees that working with integrity is 'critical to our successes'. He also reassured staff that the probe was still at an early stage but that BHP Billiton would also perform a thorough and fair investigation (Fitzgerald and Murphy 2010).

In the Annual and Sustainability Reports, BHP Billiton explicitly stated that it follows the Business Conduct code, prohibiting bribery. This was considered a 'universal principle' that had not been followed in the Cambodia alleged bribery case. The moral dilemma showed that the company had not followed deductive thinking by ignoring its own established rule. However, in this case, it cannot be concluded that BHP Billiton had followed the inductive reasoning in the right direction. It probably had observed the situation in Cambodia as the one of the most corrupt countries in Asia and, hence, decided to follow the 'common crime' by providing funds to be categorised as a 'social fund' to the local government. Worse than that, it also failed to disclose the information in the Annual and Sustainability Report for the period of study. Such confession might not damage BHP Billiton's image if the information regarding the background of the case is disclosed and follows up with evidence that it has taken steps to prevent such cases reoccurring in the future.

Gilligan (1982) provided a somewhat unclear distinction between the two principles that moral dilemmas are contextual and that inductive thinking is applied as the resolution to the dilemmas. The inductive reasoning applied also contains a weakness in that we are only able to observe particular events, not generalities, which occurred in the past. The supposition that a similar sequence of events will occur in the future as had occurred in the past is a problem of induction, since other possibilities or different consequences are not taken into account. This problem is observed in the Cambodia bribery case, as BHP Billiton did not consider the international monitoring of such practice as the consequence. Hence, it should be added to the inductive solution principle that it will be valid only if all matters of fact are based on causal relationships and the relationships are found by induction.

Case 2: Land compensation for semi-nomadic communities

In the 2006–2011 Sustainability Reports, BHP Billiton disclosed that its approach to land compensation was undertaken on a case-by-case basis. Firstly, the needed land was considered then the short-term and long-term possible impacts on that land were studied. This included the present and past use of the land and the effects it may have on biodiversity and the associated ecosystem services, as well as existing landowners and occupiers.

As a general procedure, compensatory activities were implemented where residual impacts exceeded the acceptable level of impact to biodiversity, land use, watersheds and/or water sources. When financial compensation was appropriate, relevant legislative requirements, industry practices, standards or norms that may exist within a country or region and any special circumstances that may apply, were taken into account. In some countries and regions, legislation prescribes who is to be paid land compensation, the amount, what it is for and how it is to be calculated. In other places, compensation may be by negotiation with the affected parties.

BHP Billiton preferred to have a substantial portion of any compensation payments dedicated to sustainable socio-economic projects or programmes that will leave tangible and long-term benefits for the community or people receiving the compensation. It also endeavoured to ensure that benefits were provided to as many people as possible who may be entitled to them. Where substantial sums of money were involved,

BHP Billiton would work to put in place appropriate governance structures so that these monies could be managed in a responsible, transparent and accountable manner.

The case-by-case policy reflects the inductive thinking applied in solving the dilemma of gaining profits from land use and expansion, and maintaining cultural heritage and relationships with host communities. The application of this policy is reflected in the community consultation and compensation process for the Ksar Hirane exploration programme in Algeria, which was disclosed in the 2006 Sustainability Report. The programme was designed to take into account the fact that the communities affected were typically semi-nomadic Bedouin people who were land occupiers rather than landowners. They cultivated crops and reared livestock over extensive distances, depending on seasonal factors and the availability of water.

In July 2004, BHP Billiton committed to undertake a two-dimensional seismic survey in the area and drilled a minimum of one exploration well. The local communities were informed about this activity. Prior to commencement of the survey, a local archaeologist was employed to identify any culturally significant areas along the exploration route and to conduct cultural awareness sessions with the crew so that they would appreciate heritage sites and know how to protect them.

During this time, a local permit agent working with the crew accompanied the mapping team so they could also document any potentially sensitive areas. These were typically buildings, sunken water catchment tanks or areas of cultivation. The permit agent provided details to the crew manager, who prepared an appropriate mitigation plan for the crew.

The permit agent also actively sought out local Bedouins and advised them of the planned works, asked if there were any sensitive areas the crew should be aware of, and provided contact information for follow-up queries or complaints. Given the semi-nomadic nature of the inhabitants, some owners of buildings, crops and sunken water tanks could not always be found prior to the survey. Consequently, once the recording crew had passed, it was important for the permit agent to return to the lines and make himself available should anyone raise a concern.

The project's consultation process required every complaint to be logged. Due to low literacy levels in the region, complaint forms were

often completed by the permit agent on behalf of stakeholders. An HSEC adviser was on site at all times to oversee the process. Various local government officials were then engaged to investigate claims and determine if there was a need for compensation. When a claim was difficult to determine, stakeholders were generally given the benefit of the doubt. If a claim was deemed to be valid, a specialist in agriculture, water or construction, according to the type of claim, was appointed by the local administration to determine an appropriate level of compensation.

The compensation agreement was then provided to the claimant for signing. The contents were typically explained orally and the signature was often an ink thumbprint. In line with regulations, the money was wired to the nearest post office for collection by the claimant, who was identified by their copy of the agreement. In one compensation case, BHP Billiton's trucks unavoidably had to pass through a wheat crop. This was discussed with a family who had sown the crop and a claim for compensation for the damaged area was subsequently raised. The householder said he had 'no problem' with the consultation process or the amount of compensation his family received but pointed out that 'the process is a bit slow'.

BHP Billiton addressed and sought solutions to this and other issues, which were a consequence of the need to engage a diverse range of stakeholders in the process, the long distances involved and the need to recognise the local culture and customs of the semi-nomadic Bedouins in host communities.

5.2.4 Principle Number 4: Moral Development Through Stages is Sequential and Hierarchical

Gilligan (1982) described three levels and two transition periods in the moral development of the ethic of care.

The first level is the orientation to individual survival. At this level, the self is the sole object of concern where self-survival is the main issue and moral consideration emerges only when one's own needs are in conflict. This level is then developed to the first transition period: from selfishness to responsibility, which reflects a definition of self within its attachments and connections to other people. The conflict is defined as what one 'would' and what one 'should' do.

The second level is goodness as self-sacrifice where concern for others becomes the major concern and moral judgements are based on social norms and consensus. Moral development is further expanded to the second transition: from goodness to truth. At this level, the morality of care includes care of self as well as others. The evaluation of others is not of primary importance here because the situation, the intentions and the consequences of an action are more important.

At the third level, the conflict between selfishness and responsibility to self is resolved through a principle of non-violence. As Gilligan (1982) said: 'Care then becomes a universal obligation, the self-chosen ethic of a post conventional judgment that reconstructs the dilemma in a way that allows the assumption of responsibility for choice' (p. 504).

In summary, the morality of responsibility in the ethics of care is based on a concept of harmony and non-violence and recognition of the need for compassion and care for self and others. This is in contrast to the ethics of justice where morality is based on a concept of reciprocity and fairness and recognition that one must respect the rights of others as well as one's own. The different stages of moral development between the ethics of care and justice are summarised in Table 5.9.

The stages of moral development based on the ethics of care, as described previously, become the basis to analyse the approaches that have been taken by BHP Billiton in solving the moral dilemmas that it faced in two further case studies.

Case 1: Ok Tedi Mine, Papua New Guinea

BHP Billiton's project at the Ok Tedi Mine, Papua New Guinea (PNG) was a case of a 'joint' moral dilemma with the PNG government between environmental interests, the desire to increase the company's revenue and the nation's wealth (as it accounted for one-fifth of PNG exports and 10% of its GDP), and the need to maintain local employment opportunities (it employed about 2000 people, 97% of whom were Papua New Guineans) (Sharp 2007).

The Ok Tedi Mine is found in Mount Fubilan, which is part of the Star Mountains situated on the Ok Tedi River. The mine, which began operating in 1984, is run by Ok Tedi Mining Ltd (OTML) and BHP, along with the PNG government, which owned 20% (Eslinger, n.d.). The PNG government and the Ok Tedi people welcomed the development

of the mine because of its economic and social benefits. Unfortunately, due to poor political choices, the mine activities caused damage to the river system. When the mine first operated, a tailing dam had been under development but was destroyed by a landslide in January 1984. The construction of the tailings storage facility was abandoned because OTML's shareholders and the PNG government were concerned that any major dam constructed in the area would run the risk of being destroyed by future landslides or earthquakes. The cost consideration was also taken into account. To minimise the cost of building another dam and due to the difficulties associated with tailings separation in the copper mining process, the government granted OTML temporary permission to dump the tailings into the Ok Tedi River. The argument was that any toxic materials would be diluted downstream, given the extremely high rainfall. Unfortunately, the 'temporary' permission has continued for approximately 20 years because of the government's fear of losing valuable revenue if the mine is closed.

The pollution caused by this situation caught the attention of almost 30,000 landowners and in 1994 they decided to take BHP to the Supreme Court in Australia. The class action case was settled out of court, with BHP agreeing to provide a package worth \$400 million to the landowners. In the decade following, environmental problems continued to plague the site and surrounding areas. Due to the number of ecological problems, BHP Billiton proposed the mine closure in 2001 and endorsed a statement that the company would refrain from the practice of riverine disposal in future projects. The closure proposal was rejected by the PNG parliament because of the immense importance of the mine to the nation's economy. Even after the examination and analysis of the environmental impacts and recommendations from international communities, the World Bank and NGOs, for the closure of the mine, the PNG government was very reluctant to close the mine earlier than 2010. Instead, a phase-out production plan was decided and mine closure was scheduled for 2012 (Sharp 2007).

Due to the continued dumping of tailings and other mine waste into the river system, another class action lawsuit against the mine occurred in 2000. This was also settled out of court in 2004 after BHP Billiton divested its 52% majority shares in OTML through a transfer to PNG

Table 5.9 Moral development comparison

Morality of care and responsibility	Morality of justice
<p>Three stages and two transitional phases</p> <p>I. Orientation to individual survival</p> <p>IA. From selfishness to responsibility: a definition of self within connection with others</p> <p>Recognition that precipitates internal criticism that previous actions were selfish and, as such, morally inappropriate. The criticism precipitates a new understanding of the connection between self and others, articulating the concept of responsibility, which leads to the second stage of development</p> <p>II. Self-sacrifice and social conformity: moral judgements are derived from social norms; desire to care for others</p> <p>IIA. From goodness to truth: a morality of care must include care of self as well as others</p> <p>Recognition that one is harming oneself by exclusive focus on the needs of others and that such exclusionary focus is morally inappropriate. The inequality manifested in the relationships between the self and others, which is the outcome of the selfishness of the second stage, and is questioned in the second transitional phase gives rise to a balance of selfishness and responsibility at the third stage</p> <p>III. Morality of non-violence: a moral equality between self and other is achieved by equally applying non-violence principle</p> <p>At this final stage there is a new understanding of the interconnection between the self and others, and the responsibility to care comes to include both the self and others. No longer will the individual be mired in self-sacrifice or extreme altruism. Now s/he will consider her/his own welfare, needs and desires equally with the needs and desires of others with whom s/he has relationship, letting the contextual details answer the question of whose need is greatest in this particular situation and thereby indicate an appropriate course of action</p>	<p>Three levels and six stages</p> <p>Pre-conventional—focus is self</p> <p>I. Punishment and obedience: do what is told primarily to avoid punishment</p> <p>II. Instrumental egotism and simple exchange: deals are made or only consider the cost and/or benefit</p> <p>Conventional level—focus is relationships</p> <p>III. Interpersonal conformity</p> <p>Being considerate, nice, and kind to get along and cooperate with people</p> <p>IV. Social system and conscience maintenance</p> <p>Cooperate with society in general; everyone in society is obligated and is protected by the law</p> <p>Post-conventional level—focus is personally held principles</p> <p>V. Prior rights and social contract</p> <p>Being obliged by whatever arrangements are agreed to and by due process and procedure.</p> <p>Focus is on fairness of the law or rule as determined by equity and equality in the process of developing the rule</p> <p>VI. Universal ethical principle</p> <p>Rational and impartial people would view cooperation as moral. Focus is on fairness of the law or rules derived from general principles of just and right as determined by rational people</p>

Source: Brabeck (1993); Bay (2002); Fisher (2001).

Sustainable Development Program Limited (PNGSDPL). The mine's management now pays additional compensation to the affected communities through the Mine Continuation Agreement while still discharging tonnes of tailings and other mine waste into local rivers. A dredge in the lower Ok Tedi River removes slightly less than half of the tailings for on-land storage.

In line with the transfer of the 52% share to the government, the company released itself from any responsibilities to clean up the destroyed environment. News in 2013 indicated that the government of PNG was still considering extending the mining lease until 2025 under a new management structure (Eslinger 2013).

The company disclosed the Ok Tedi case among its discussion of former operations in its 2007, 2008 and 2009 Reports. Only a few paragraphs were offered to describe its final involvement in the Ok Tedi Mine, as presented below:

In December 2006, seven individual plaintiffs (the 'Plaintiffs') said to be representing the members of seven clans from the vicinity of the Ok Tedi mine obtained an order of the National Court of Papua New Guinea joining BHP Billiton Limited as a defendant to proceedings against the current shareholders of Ok Tedi Mining Limited and a previous managing director. Ok Tedi Mining Limited is the owner and operator of the Ok Tedi mine.

BHP Billiton transferred all of its shareholding in OK Tedi Mining Limited to PNG Sustainable Development Program Company Limited in February 2002.

The plaintiffs sought unspecified damages for numerous matters, including contamination of the environment and adverse effects to fishing, drinking water, irrigation of crops and washing, as well as US\$3.75 billion in exemplary damages.

On 20 November 2007, the National Court of Papua New Guinea dismissed the entire claim. The plaintiffs' appeal of this decision was heard by the Papua New Guinea Supreme Court on 2 October 2008.

On 13 March 2009, the Papua New Guinea Supreme Court delivered its judgement, dismissing the appeal with costs. In view of the state of the proceedings referred to above, this matter is no longer considered material to the Group and we do not intend to include it in future reports. (2009 Annual Report, p. 174)

In the 2014 and 2015 Annual Reports and Sustainability Reports, the Company presented again about Ok Tedi. The disclosure, which was fairly similar for the two years, is as follows:

BHP Billiton exited from Ok Tedi Mining Limited (OTML) in February 2002. The exit arrangements included the transfer of BHP Billiton's shares in OTML to Papua New Guinea Sustainable Development Program Limited (PNGSDP) and a statutory undertaking protecting BHP Billiton from environmental claims by the PNG Government. In September 2013, the PNG Parliament passed laws which compulsorily acquired PNGSDP's shares in OTML and changed other aspects of the exit arrangements, including the repeal of the protection from environmental claims by the PNG Government. PNGSDP is challenging the validity of actions taken by the PNG Government to restructure and obtain control of PNGSDP. BHP Billiton retains an indemnity from PNGSDP in respect of environmental claims by the PNG Government and certain environmental claims by third parties. This indemnity is secured against certain key assets of PNGSDP. BHP Billiton remains committed to ensuring that the substantial long-term fund held by PNGSDP remains well governed for the benefit of the people of Papua New Guinea and the Western Province in particular. (2015 Annual Report, p. 57)

Even though the company stated that it remains committed to ensuring the long-term fund is well managed, in this case it did not show moral development in line with the stages indicated by the ethics of care. The first level of the orientation to individual survival was manifested in the company's and PNG government's decision not to build a tailing dam and use the riverine disposal of waste rock and mine tailings instead. The next level of transition from selfishness to responsibility was not developed, even though in August 1999 the company announced that the environmental impacts of the Ok Tedi Mine would be far greater and more damaging than predicted.

As Burton and Dunn (1996) interpreted the ethics of care principle to be 'Care enough for the least advantaged stakeholders that they not be harmed; insofar as they are not harmed, privilege those stakeholders with whom you have a close relationship', then the decision BHP Billiton took to pull out of the Ok Tedi Mine was an appropriate decision to

protect the surrounding community from the higher impact of the damaged environment, despite loss of employment opportunities (considered a lower impact). However, there must be an agreement with the PNG government to rehabilitate the site and provide adequate compensation for the people. There would be substantial costs, threatening profits with potential harm to shareholders in terms of dividends, but as the local community is the least advantaged stakeholder in this case, they should be prioritised.

As the ‘caring approach’ was not followed in this case, the landowners tried to find justice through legal action against BHP Billiton, which, unfortunately, was unsuccessful. The great impact the Ok Tedi Mine has had on contributing to the PNG national economy is negated by the damage to the environment. BHP Billiton has formally released itself from responsibility to return the area to its original state. The morality of non-violence is not reflected in this case and, hence, the stages of moral development failed to be applied by the Company. This is not to disregard the role played by the PNG government who was willing to accept the environmental impacts due to the benefits of foreign exchange, employment and regional development opportunities provided by the mine activities.

Case 2: Olympic Dam Mine, South Australia

The Olympic Dam uranium mine was first developed by the Western Mining Corporation in 1983, despite strong and sustained opposition from traditional owners and environmentalists. BHP Billiton purchased the underground mine in 2005 and then released a draft Environmental Impact Statement (EIS) in 2009 detailing plans to turn the mine into a massive open-pit mine. This new mine was intended to operate alongside the existing underground mine and to increase uranium production from 4000 to 19,000 tons per year and copper production from 200,000 to 750,000 tons a year (Noonan 2010).

BHP Billiton disclosed the expansion plan of the Olympic Dam mine in its 2006–2011 Reports. In 2011, it announced an approval for US\$1.2 billion in pre-commitment capital for the first phase of the project to develop an open-pit mine in South Australia. On 10 October, BHP Billiton received environmental approvals for the project from the Government of South Australia and the Commonwealth following assessment of its draft and supplementary EIS.

In preparing the draft EIS, BHP Billiton consulted with more than 8300 people, 38 government departments and service providers, 55 NGOs and 60 industry groups. This reflects the community and stakeholder consultation performed prior to the expansion. The company stated that it would commit to changes to processing and tailings management to increase recycling and water efficiency.

The resistance against this project was extensively covered in the media. The Australian Conservation Foundation (2009) described it as a dilemma faced by BHP Billiton to exacerbate nuclear risks by developing a uranium quarry or to trade as a copper mine. The Foundation held the position that BHP Billiton should use the mine expansion EIS to set out a path that avoids the risks associated with uranium exports and positions the mine to trade as a copper venture instead. The uranium quarry plan would make BHP Billiton and South Australia complicit in selling uranium to nations focused on nuclear weapons and in unresolved radioactive waste management problems overseas and at the mine site.

There was a concern that if the new open-pit mine went ahead as proposed, the majority of copper processing would occur in China rather than the current practice of processing all copper on site. BHP Billiton intended to export a uranium-infused copper concentrate, approximately 1.6 million tons a year containing a few thousand tons of uranium and some 400,000 tons of copper. China is the sole market for this radioactive concentrate. This plan would result in BHP Billiton dumping some 1.2 million tons of long-lived radioactive mine waste in China every year. It would also require an amendment to Australia's uranium export treaty with China to provide for the unprecedented sale of Australian uranium in concentrates (Noonan 2010).

BHP Billiton did recognise these concerns and provided several statements in regard to the project. These are presented in Table 5.10.

The update on the expansion was provided by the company in its 2012 Reports. The excerpts related to the Olympic Dam expansion are important inclusions in the analysis to enable a better understanding of the analysis of moral development in this case. In the 2012 Annual Report, the Company stated as follows:

Development projects

Olympic Dam

The proposed expansion of Olympic Dam would be a progressive development requiring construction activity to increase production up to 750 kt per annum (ktpa) of copper, 19 ktpa of uranium oxide and 800 kilo-ounces of gold. On 10 October 2011, the South Australian Government and Australian Commonwealth Government approved the Environmental Impact Statement for the Olympic Dam Project.

We announced on 22 August 2012 that we will not approve the open-pit expansion of our Olympic Dam mine in South Australia in time to meet the Roxby Downs (Indenture Ratification) (Amendment of Indenture) Amendment Act 2011 deadline of 15 December 2012. We will investigate a less capital intensive design of the Olympic Dam open-pit expansion, involving new technologies to substantially improve the economics of the project. (p. 27)

While in the 2012 Sustainability Report, the Company stated as follows:

Committed to broad-based community support

We require Greenfield or significant expansion projects to obtain support from stakeholders before proceeding with development. Such broad-based community support is distinct from achieving FPIC, which we seek when it is mandated and defined by law.

In the instance of the Olympic Dam expansion project, key State and Commonwealth Government approvals have been given for the project. An Indigenous Land Use Agreement (ILUA) relating to the expansion project was signed by all the parties following community meetings held in March 2012 at which the Traditional Owner groups voted in favour of it being executed. However, following a recent review of the business, it became clear that the right decision for the Company and its shareholders was to study an alternative, less capital-intensive design of the Olympic Dam open-pit expansion that involves new technologies. As a result, the Group is not in a position to approve the Olympic Dam expansion project at this time; nevertheless, we will continue to work with our stakeholders. (p. 25)

From the excerpts, it is clear that the company decided to delay the expansion and planned to investigate a less capital-intensive design involving new technologies to improve the economics of the project. The company

did not comment on sustainability explicitly as the reason for delaying the expansion, creating an impression that the company considered only the economic aspect of the project. Only when the decision was traced to the Roxby Downs (Indenture Ratification) (Amendment of Indenture) Amendment Act 2011 can we find the social responsibility aspect expected from the project. The excerpt of the indenture is presented below.

Roxby Downs (Indenture Ratification) (Amendment of Indenture) Amendment Act 2011—No 49 of 2011

Schedule 1—Variation Deed

Decisions relating to progressing the establishment of an open-pit mine and the particular configuration of the mine and supporting infrastructure will depend on factors including commercial considerations and other assessments undertaken by the Company.

W. The State agreed to amend the Indenture on the basis of the benefits which the State expects to accrue to the South Australian economy and the community from the proposed development of an open-pit mine at Olympic Dam, including royalty payments, work-force participation and development, local supplier participation, Aboriginal economic development and regional development.

X. Health, Safety, Environment and Community ('HSEC') issues are of high importance to the Company. The Company's aspiration is that its operations under this Indenture will cause zero harm to members of the public, its work-force and the communities in which it operates and that any environmental impact of those operations is minimised. The Company, in conjunction with the State, intends to continue to take adequate measures to safeguard the public, the work-force and the environment in relation to operations under this Indenture.

Considering the public concerns regarding the Olympic Dam expansion project and the way the company treated the concerns by providing full disclosure in its Reports, including the updated one in 2012, it can be concluded that the company's moral development is consistent with the stages predicted by the ethics of care.

The first level, orientation to individual survival, is reflected in the company's decision to continue running the mine operation after purchasing the rights from the Western Mining Corporation, despite public

Table 5.10 Several statements in reports regarding the Olympic Dam Mine and expansion

Reports	Problems and challenges	BHP Billiton's responses
2011 Sustainability Report	<p>If the operation is expanded, the operation's demand for water will also substantially increase. (p. 15)</p> <p>While our businesses actively engage with local landholders, there are some challenges for us as a resource company in relation to free prior and informed consent (FPIC). Some of these include:</p> <ul style="list-style-type: none"> • mineral rights are typically vested in the state and host governments may wish to retain the right to determine if and when resources are developed for the benefit of all citizens; • traditional decision making processes are highly variable and may not be deemed appropriate by all parties with an interest in the issue; • conflicting claims of ownership over Indigenous lands can be exacerbated by major resource developments; • there is a suggestion that (FPIC) could be applied at each stage of a resource development, which would create uncertainty for long-term investments; • FPIC could present ethical challenges as it may appear to confer a special set of rights on a group of people who have been born into a particular class. (p. 20) 	<p>Significant design effort has been undertaken to minimise the impact of this future demand, including the proposed construction of a seawater desalination plant to provide the site with high-quality water. (p. 15)</p> <p>We are working with the International Council on Mining and Metals (ICMM) to help develop guidelines for ICMM members that address some of the issues arising from the FPIC provisions in the International Finance Corporation standards. (p. 20)</p>

(continued)

Table 5.10 (continued)

Reports	Problems and challenges	BHP Billiton's responses
<p>Developing the Olympic Dam EIS</p> <p>2009 Sustainability Supplementary Information</p>	<p>The expansion involves developing a new open-pit mine, which will produce uranium, copper, gold and silver. The process to develop an EIS included holding face-to-face discussions with more than 8000 stakeholders, ranging from government to industry, community stakeholders and the general public. (p. 20)</p> <p>Development of the Draft EIS incorporated extensive consultation over a period of several years. Key issues raised through the consultation process to date include:</p> <ul style="list-style-type: none"> • water use, predominantly in respect of primary water supply from the seawater desalination plant, in particular brine discharge; • greenhouse gas emissions associated with the expanded operation; • the location of the proposed landing facility and impacts relating to traffic on roads; • mining activity, particularly in relation to tailings and operational impacts such as dust and exposure to radiation; • content and operation of the Schedule to the Roxby Downs (Indenture Ratification) Act 1982 (as amended). (p. 11) 	<p>As a result of the process, we have proposed a range of project changes including altering the installation method for the desalination plant outfall pipe; committing to using 100 per cent renewable energy in operating the desalination plant and associated pumping; and realigning the access corridor. (p. 20)</p> <p>BHP Billiton will be responding to all issues raised through a supplementary submission that will be publicly released once completed. (p. 11)</p>

2006 Sustainability Report	<p>With the acquisition of the WMC business in 2005, including the Olympic Dam copper and uranium mine, we recognise that we need to respond to stakeholder concerns regarding uranium management. (p. 6)</p> <p>In April 2006 BHP Billiton held a stakeholder dialogue at which over 30 participants from NGOs, SRIs, and academics, as well as company personnel, discussed a series of issues related to uranium. The forum expressed a strong expectation that BHP Billiton will take a responsible approach to our role in the uranium supply chain. Various views regarding the merit of uranium mining and BHP Billiton's role in the nuclear life cycle were expressed, such as our role in:</p> <ul style="list-style-type: none"> • advocating for stricter international safeguards and social acceptance of uranium; • waste management and disposal; • developing other energy alternatives; • taking a consortium approach to managing surplus uranium; • international uranium agreements and policy discussion; • the environmental management of the Olympic Dam copper and uranium mine. (p. 124) 	<p>While we acknowledge that some of our stakeholders don't welcome the addition of this commodity to our business, we have made a commitment to work with others involved in the nuclear power life cycle to ensure the safe production and secure distribution of this resource. (p. 6)</p> <p>We will continue to engage on this topic as we develop our strategy to responsible uranium stewardship and embed our role in the supply chain. (p. 124)</p>
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(continued)

Table 5.10 (continued)

Reports	Problems and challenges	BHP Billiton's responses
		<p>Radiation safety at Olympic Dam Mine</p> <p>The presence of uranium in the mining and processing at Olympic Dam introduces specific challenges associated with radiation safety. Radiation protection is an integral part of all stages of work and includes consideration during exploration, mining, processing, marketing, transport, long-term closure plans and disposal of wastes. Radiation exposure limits are set by international, Australian and State bodies, following the recommendations of the International Commission on Radiological Protection (ICRP) and the International Atomic Energy Agency (IAEA) Basic Safety Standards. Throughout the history of Olympic Dam, no employees or contractors have received a radiation dose above the regulatory limit for mine workers of 20 mSv/y.</p> <p>Our dose control performance is due to a number of major initiatives at Olympic Dam, such as a major upgrade to the ventilation in the smelter. Public doses to radiation at Olympic Dam are a small fraction of that received from natural sources and are over fifty times under the public dose limit of 1 mSv/y. (p. 125)</p>

disagreement. This level was then developed to the first transition period from selfishness to responsibility when the company proposed the plan for expanding the Olympic Dam Mine by conducting several stakeholder dialogues and intensive feasibility studies.

The second level where concern for others becomes the major concern was highlighted in the company's decision to delay the expansion despite approvals from government. It was further developed from goodness to truth, as the second transition, as the company applied the morality of care for others by planning to investigate new technologies and a less capital-intensive design for the expansion, which was expected to give economic and social benefits.

The third level, the morality of non-violence, should be manifested when the expansion is performed. If the company can prove that the expansion does not cause any dangerous radiation or increase the potential for more nuclear weapons, then the third level of moral development will be followed consistently. This is reflected in subsequent disclosures in 2013–2015 Reports, which mainly consisted of biodiversity, conservation initiatives, and support for the lives and communities of Aboriginal people at the Olympic Dam Asset in South Australia.

For this case, an assumption is made that providing the government and public approves and that there are tight controls along with new and advanced technology to reduce the negative uranium side effects, the company is predicted to have learned the lesson and will not repeat the mistakes made in the Ok Tedi Mine case.

5.2.5 Principle Number 5: Principle of Moral Responsibility is Reflected in the Voices of Women

The application of BHP Billiton's principles seems to have been influenced by the number of female executives and female staff, although the percentage remains small (less than 1%, while females comprise 15–16% on average of total employees for the period 2006–2015). This is depicted in Fig. 5.3.

Based on these data, the principle that 'moral responsibility is reflected in the voices of women' as one of the features of the ethics of care, seems

to be apparent at BHP Billiton. Inconsistency of the caring application in the previous principles might be due to the low numbers of female decision-makers, and also female employees, in the company. This is not in line with the literature which suggests that moral reasoning is not necessarily attributed to women alone (French and Weis 2000; Simola 2003). Brabeck (1993) also suggested that even though research results suggest that the care concepts may be less sex-specific than Gilligan (1982) had claimed, her major contribution rests in a redefinition of what constitutes an adequate description of the moral idea. In this notion, the ethics of care that Gilligan heard reflected in the voices of women and which exist in the stereotyped beliefs about women, expands our understanding of morality to include concern for interconnection, harmony and non-violence and supplements the obligation covered in the ethics of justice. As Gilligan (1982, pp. 173–174) argued, ‘The failure to see the different reality of women’s lives and to hear the differences in their voices stems in part from the assumption that there is a single mode of social experience and interpretation. By positing instead two different modes, we arrive at a more complex rendition of human experience.’

The small percentage of women in the workforce is acknowledged by the company in its Report:

The mining industry has always had a male-dominated workforce, with women generally making up only a small percentage of the total number of employees globally. (2006 Sustainability Report, p. 497)

5.2.6 Principle Number 6: Distinguished by an Emphasis on Attachments, Issues of Self-sacrifice and Selfishness and Consideration of Relationships as Primary

BHP Billiton, through its Sustainability and Annual Reports, has shown the mechanisms for stakeholder engagement and maintaining good relationships with them. Prior to making corporate decisions, the Company made substantial efforts to take into account the opinions of stakeholders in order to commit to broad-based community support.

The emphasis on attachments can also be found literally through the words ‘care’ or ‘caring’ and similar terms, which represent the feminist ethics of care principles. The terms are mentioned several times in the Sustainability Reports, as these excerpts illustrate:

To secure and maintain a licence to operate, BHP Billiton must be seen by host communities as a company that protects and cares for its people and one able to continue operating within increasingly stringent regulatory frameworks. (2006 Sustainability Report, p. 62)

Everyone’s behaviour contributes to an injury-free work-place. Leadership, in particular, can have a powerful impact on the transition to an interdependent safety culture. The journey towards Zero Harm requires strong leadership, the involvement of all employees and the need to develop a genuine and active approach to caring for all employees, contractors, communities and the environment. (2007 Sustainability Report, p. 175)

In some communities where we operate, for example, in South Africa and Mozambique, the incidence of HIV/AIDS is among the highest in the world. We accept a responsibility to help manage the impact of the disease

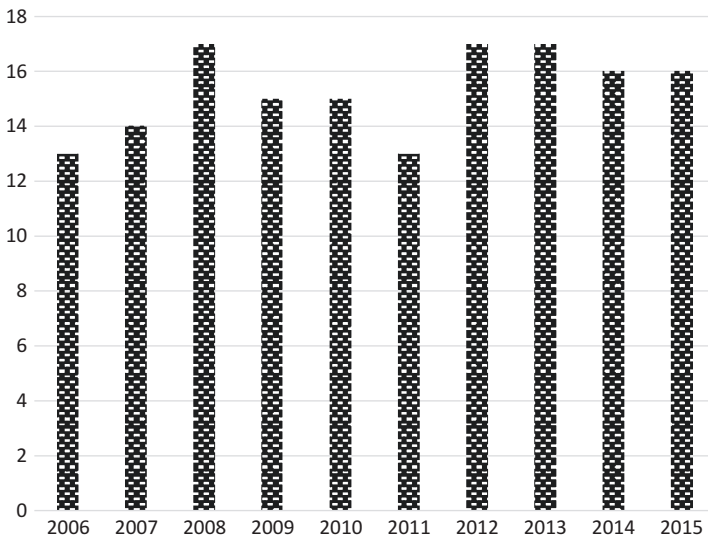


Fig. 5.3 Percentages of female employees 2006–2015

Source: Data processed from BHP Billiton’s Sustainability Reports.

and to care for our employees, support the wellbeing and development of our host communities and protect the viability of our operations. (2011 Sustainability Report, p. 7)

The issues of care, self-sacrifice and selfishness in the corporate setting can be inferred from the necessity to balance the diverse demands of communities and the imperative to protect the environment along with the need to make profit. The task to balance them all is even harder for mining companies as their business attitude seems to prioritise the profit motive only by operating in areas without social legitimacy, causing major destruction and then leaving after the exploitation. Cost–benefit consideration has often been applied to excuse the damage caused, for the overall financial benefits are seen to outweigh other considerations (Jenkins 2004).

BHP Billiton has tried to perform this difficult task by conducting CSR activities under the Sustainability Framework. Several selected cases have been analysed in previous sections to determine whether the company has been successful in managing the ‘self-sacrifice’ conflicts between the mining industry and CSR.

The cases of the Carooona Coal Project, labour strike, Cerrejon Coal and especially the Ok Tedi Mine, are not consistent with the care and self-sacrifice principle, particularly as they ended up in legal proceedings against the company. Compensation strategies were implemented in certain cases but were not adequate when dealing with the multiple and conflicting demands, let alone in trying to appease communities.

The lack of caring principles in those cases was identified after comparing what the company disclosed in its Reports and what the public said in external media. The notion of ‘everything is okay’, which was reflected in the Reports, is not consistent with the ethics of care theory and tends to be more in line with legitimacy theory. The latter theory highlights the social contract between company and community and that companies will adopt certain strategies, including disclosure strategies, to inform the community that they have attempted to comply with the communities’ expectations, created their own ‘social imagery’ and impression to increase their reputation, and effectively handled legitimacy threats (Deegan et al. 2002). A company can use several strategies to disclose the ‘reputation threat cases’, including informing stakeholders about intended improvements in performance,

seeking to change stakeholders' perceptions of the event, distracting attention away from the issue and changing external expectations about its performance (Jenkins 2004).

The decisions made by the various communities to take the cases to litigation is also contrary to the ethics of care as the dominant principle applied by BHP Billiton, as the parties tried to seek justice in accordance with law and universal rule. As several cases illustrated disharmony in the company's relationships with its stakeholders, another question remains as to the appropriateness of the strategy formulated by the company to achieve the corporate objective. As growth was mentioned as part of the strategy, there might be an unsynchronised problem between the strategy with its sustainable paradigm in terms of caring for natural assets and dealing with labour strikes.

In the Ok Tedi Mine case, the company took advantage of the weaker legislation in PNG, which resulted in devastation to the local people and the environment. The mere compliance with local laws cannot be considered ethical (especially in the 'ethics of care' perspective) if it harms some categories of company stakeholders.

5.2.7 Voluntary Nature of CSR Activities

As explained in Chap. 4, two more principles were added in this study to the ethics of care in the context of corporate governance. The first additional theme is that the nature of CSR activities should not only be mandatory or compulsory but also, more importantly, voluntary or discretionary (Carroll 1979). The second additional principle is about paying more attention to women's interests, which is discussed in Sect. 5.2.8.

BHP Billiton presented the feminist principles of sustainability/CSR, which tend to be voluntary rather than obligatory, as noted in the following excerpts:

As the world's leading diversified natural resources company, BHP Billiton has a significant opportunity to make a positive contribution to sustainability. We recognise the importance of ensuring our efforts go beyond legislative obligations, to include genuine input from stakeholders about their requirements and concerns through the full life cycle of our operations. (2010 Sustainability Report, p. 2)

We recognise that, in recent times, there has been an accelerating shift in societal values and expectations and a corresponding demand for greater corporate accountability. Stakeholders expect transparency in all activities and look to corporations to demonstrate how governance commitments translate into action. This challenge is aptly described by Simon Longstaff, Executive Director, St James Ethics Centre, Australia, and a member of the BHP Billiton Ethics Panel. 'Corporations are increasingly challenged to demonstrate how they can create societal confidence in their conduct. Regulatory compliance alone is ethically and financially problematic and corporations need to make it clear to society that the sole test for their business conduct approach is not a legalistic one, rather, that they are prepared to take responsibility for their actions without the need for highly regulated direction from government.' (2007 Sustainability Report, p. 97)

The 'genuine' statements provided in the Reports, however, contrast with BHP Billiton's actual activities. The Ok Tedi Mine case is a good example of how BHP Billiton used public-relations strategies rather than changing their practice to be genuinely socially responsible. Genuine attempts to prevent environmental impact might have proved too expensive so managing the relationship with the local people was the preferred option. This was designed to save the company's reputation rather than stemming from any moral reasons. BHP Billiton also learned through the process to ensure that the same mistakes would not occur in the future, so they created a detailed project approval process and closure protocol to be completed to the company's standards. Even though, in the Ok Tedi Mine case, BHP Billiton eventually worked out the best solution, which was less than the liability it could have been subject to, it committed to be 'genuine' in the future.

Several cases and disputes with particular stakeholder groups reflect the difficulties BHP Billiton faced in managing its relationships with stakeholders. The cases also showed that it is impossible to please all stakeholders at the same time; all the company can do is to prioritise the interests of certain group(s). The ethics of care offers a contextual and inductive solution for such dispute problems which, in certain cases, prioritise the least advantaged stakeholder (Burton and Dunn 1996). Although the Ok Tedi Mine case and several litigations derived from the dissatisfaction of

particular stakeholder groups, BHP Billiton has put considerable effort into voluntary CSR activities beyond the mandatory, as shown by several criteria:

- (a) BHP Billiton has integrated external engagement that includes a wide variety of activities. These are not just corporate philanthropy, community programmes and political lobbying but also aspects of product design, recruiting policy and project execution. What BHP Billiton should be aware of is the reliance on tools for external engagement in practice, such as a full-time CSR team in the head office without active participation from local management, some high-profile (but relatively cheap) initiatives and a glossy annual review of progress (Browne and Nuttall 2013). The goal, as BHP Billiton's former CEO Marius Kloppers said, is for 'every single employee, contractor, and supplier to take responsibility for social issues'. The stakeholder engagement method adopted in the company encourages those affected by the company's decisions to get involved in the decision process, as required by a feminist perspective.
- (b) BHP Billiton has provided opportunities for its employees to get involved in various CSR activities. In 2000, it offered an option for an employee-volunteer programme to acknowledge the contribution many employees were already making to the community. It also has a Matched Giving Programme to increase employees' personal community contributions by giving a matching dollar amount to the community organisation that employees support, either through volunteering, fund-raising or cash donations.
- (c) As part of the CSR policy, BHP Billiton has made a commitment to the UN Universal Declaration of Human Rights and the UN Global Compact. Along with several community services in education, health, environmental and social areas, BHP Billiton has been involved in many voluntary CSR activities. Whether the intention indicates genuine moral responsibility, or just a response to reputational threats, still needs more investigation.
- (d) BHP Billiton has supported and adhered to several voluntary initiatives and public commitments in various roles, as follows:

1. **International Council on Mining and Metals (ICMM)**
Founding member of ICMM and deputy chair in FY2011.
2. **United Nations Global Compact**
Signatory to the UN Global Compact since 2003 and is committed to its ten principles.
3. **Extractive Industries Transparency Initiative (EITI)**
Supporter of the EITI through membership of ICMM.
4. **World Business Council for Sustainable Development (WBCSD)**
Member of the WBCSD since 2000.
5. **The Carbon Disclosure Project**
Participant in the annual disclosure of climate change information.
6. **Global Reporting Initiative (GRI)**
Organisational stakeholder of the GRI.
7. **Voluntary Principles on Security and Human Rights (VPSHR)**
Participant and signatory of the VPSHR.
8. **Partnering Against Corruption Initiative (PACI)**
Signatory to the World Economic Forum's PACI Principles for Countering Bribery (PACI Principles). (2011 Sustainability Report)

5.2.8 Acknowledgement of Women's Interests in the Employee Group and Other Stakeholder Groups

As has been presented in Chap. 3, CSR as the further extension of the stakeholder model of corporate governance lies within the broader field of sustainability in which a company addresses social and environmental impacts in a variety of ways. The interests of women in the employee group and other stakeholder groups are also addressed in CSR programmes in the form of a gender equality agenda to respond to the growth in the participation of women in the workforce and the demand to empower women in the communities that are affected by BHP Billiton's operations. The gender equality agenda covers several issues including sexual discrimination in the workplace, work–life balance, equal participation

of women and men in decision-making processes, gender diversity policies and gender equality in access to goods and services (Grosser 2009).

Even though women are not explicitly mentioned as a stakeholder, BHP Billiton's employment policy reflects the work–life balance opportunities for all employees, which is in line with the nurturing and caring principles as suggested by the feminist ethics of care. The work–life balance policy is represented as follows:

1. Paid parental leave extension

In May 2009, we announced changes to our parental leave policy as a means of encouraging a more effective balance between family and work responsibilities following the birth or adoption of a child. We have extended the minimum paid parental leave period to 18 weeks for the primary caregiver in all of the countries in which we operate. (2009 Sustainability Summary Report, p. 8)

2. Flexible work arrangements

Work/Life Balance

The Company recognises that employees have a wide range of personal obligations that can have an impact on their ability to balance work and personal life demands. The global nature of our operations also poses specific challenges for some employees. We endeavour to implement policies and practices that help employees to balance these demands; and, wherever appropriate, businesses consider flexible work arrangements in the context of their requirements. (2008 Sustainability Report, p. 169)

3. Support for family commitment

Several options are available to assist employees in balancing the competing demands of their work and personal lives ...

BHP Billiton respects and supports employees' commitment to their families and recognises that employees have a wide range of personal obligations and that these obligations can have an impact on the ability to balance work and personal life demands. (2006 Sustainability Report, p. 469)

The application of 'genuine' CSR can also be evidenced in BHP Billiton's mandate that their suppliers' corporate responsibility management be consistent with BHP Billiton's Code of Business Conduct and HSEC

Management Standards. This includes zero tolerance of child labour and the inhumane treatment of employees, outlined as follows:

BHP Billiton segments its supplier sustainability requirements into global and local categories based on their risk. The Group's globally defined zero tolerance requirements cover:

- Child labour: children must not be hired to work before completing their compulsory education. The minimum age for entry into employment must not be younger than 15 years of age.
- Forced or compulsory labour: the supplier must ensure there is no forced, bonded or involuntary labour.
- Inhumane treatment of employees: the supplier must create and maintain an environment that treats all employees with dignity and respect with no threats of violence, sexual exploitation or abuse, verbal or psychological harassment or abuse.
- Living wage: wages and benefits must, as a minimum, meet whichever is higher: national legal standards or local industry benchmarks. Where no minimum wage legislation exists, the supplier must seek to establish a wage that ensures an adequate standard of living for all of its employees and their dependants. (2009 Sustainability Supplementary Report, p. 23)

... we specify that our suppliers align with our zero tolerance of a number of human rights infringements, including child labour, inhumane treatment of employees and forced or compulsory labour. (2013 Sustainability Report, p. 4)

Despite the small percentage of female executives and staff, BHP Billiton supported the gender diversity policy which is applied through encouraging new female graduates into the workforce and through the leadership programme to enhance female executives' capabilities, as follows:

We are striving to achieve diversity, in all its forms, at all levels of our organisation. Our Board of Directors, for example, is made up of 12 members, who represent seven nationalities. Two members are female, 10 are aged 50 and over and two are aged between 40 and 49 years. (2011 Sustainability Report, p. 9)

In FY2014, we progressed a number of diversity objectives to enhance our diversity profile. In our graduate recruitment program, we continued to implement targeted initiatives and use tailored marketing materials and

events to increase our intake of female graduates in specific disciplines. We used a range of online and printed marketing and communication tools within our recruitment campaigns to attract the best graduate candidates from a diverse graduate talent pool. In our Copper Business, we achieved 43 per cent female representation in the Chilean graduate program. Globally, our proportional intake of women into the graduate program has increased by three percentage points bringing the number of female graduates to 34 per cent. (2014 Sustainability Report, p. 23)

The gender diversity policy includes an emphasis on equal and fair treatment, including in the remuneration policy, as follows:

We believe that during the reporting period, our employees working in our wholly owned or controlled sites earned greater than the stipulated minimum wage in the countries where they worked. The Company's remuneration policy and practices do not differentiate based on gender. (2008 Sustainability Report, p. 176)

During the year, we also reviewed pay equity based on gender across our senior management* population, which revealed a female to male salary ratio of 1.005:1.000. We are satisfied that our process of remunerating employees in this grouping is based on skills, experience and size of role and is not tainted by structural bias on the basis of gender. Another focus area for us is ensuring that the right gender balance is struck in our graduate intake. (2011 Sustainability Report, p. 9)

BHP Billiton provides equal chances for women to achieve top positions and hence, remove the glass-ceiling phenomenon. The equality in employment is indicated in its employee policy, as stated in the 2006–2015 Sustainability Reports as follows:

1. All employees have the opportunity to realise their potential and contribute to the achievement of business objectives.
2. Provide a work environment in which everyone is treated fairly and with respect.
3. Employment must be offered and provided based on merit. While the Company hires locally where possible, all employees and applicants for employment should be treated and evaluated according to their job-related skills, qualifications, abilities and aptitudes only. Applicants

are treated in line with the Human Resources Standards, the Guide to Business Conduct and the Charter values. The right gender balance is ensured in the graduate intake.

4. Decisions based on attributes unrelated to job performance (for example, race, colour, sex, national origin, age, disability, personal associations, religion, political beliefs, union involvement, marital status, sexual orientation, pregnancy, family responsibilities) may constitute discrimination and are prohibited. Equality in employment issues is addressed in the BHP Billiton Guide to Business Conduct.
5. The Company continues to focus on increasing female participation in the Accelerated Leadership Development Program (ALDP).
6. Pay equity based on gender across the senior management population is reviewed. In 2011, the review revealed a female to male salary ratio of 1.005:1. The Company stated that it was satisfied that the process of remunerating employees is done based on skills, experience and size of role and is not tainted by structural bias on the basis of gender. Two cases are presented in BHP Billiton's Sustainability Reports that represent the employment equality practice, as follows:

Employment Equity in South Africa

To address historical issues of South Africa, which resulted in the majority of South Africans being excluded from participating in the mainstream economy, BHP Billiton South Africa adopted an empowerment strategy of change. This empowerment strategy covers transformation at the levels of ownership, management, sustainable socio-economic development, procurement and employment equity.

We have set targets to increase representation of those people who are included in what are classified as 'designated groups' by the South African Employment Equity Act. Designated groups include African, Coloured, Indian and disabled males and females and white females. (2006 Sustainability Report, p. 477)

Building the Profile of Women in the Mining Industry

The mining industry has always had a male-dominated work-force, with women generally making up only a small percentage of the total number of employees globally. Our Company is striving to increase the richness and diversity of our employee base. Over the last year, we have made significant

progress in building the profile of women in our work-force, with a number of significant appointments, some of which are 'firsts' for the Company.

Tina Markovic was appointed General Manager of a major mining operation in September 2005 ... This year, the Queensland Resources Council introduced its Resources Awards for Women to recognise high achievers in the minerals and energy sector. Tina was announced as the winner of the major prize. In accepting the award, she said, 'My career has been very rewarding and exciting, introducing me to different commodities, different roles, different continents and various challenges. This award demonstrates to other women that they can succeed at a senior level in the industry.' (2006 Sustainability Report, p. 497)

Besides acknowledging women's interests in the employee group, BHP Billiton also recognised them in the other stakeholder groups, as presented below.

(a) Women as stakeholders in the consumer group

The issue of women as consumers has not been captured at all in most CSR benchmarks (Grosser 2009). Even though company reporting does not represent company practices, such reporting reveals an interest in gender issues in the marketplace. For BHP Billiton, only the 2006 Sustainability Report presented the issue of women as consumers, even though it was not related to a direct product. On page 53 of the Report, the company presented a table titled 'Our Resources at Work' (Table 5.11). In the table, the company presented several products from further processes of direct products that were related to women, such as kitchen utensils from stainless steel material, cosmetics from titanium and jewellery from gold.

(b) Women as stakeholders in the community group

The CSR literature of community rarely addresses gender and diversity issues (Grosser 2009). Companies sometimes report community CSR initiatives relating to gender such as donations to breast cancer foundations, but usually such donations are in small amounts or are reported without mentioning the amount. BHP Billiton has presented its community engagement related to women's issues in its Sustainability Reports, as quoted below, although no information of the amounts was presented:

Helping the local crafters of Zululand create a route out of poverty

Despite the pressures of increasing westernisation, traditional crafts are being kept alive in South Africa, especially in rural communities of Zululand in northern KwaZulu-Natal, where our Bayside and Hillside aluminium operations are located.

The tourism market is encouraging young village women to learn crafting from their mothers, who are skilled in various age-old handicrafts, including beading and the weaving of uhashu (indigenous grass) into baskets, bowls and mats in distinctively African colours. Men and boys also produce items such as sculptures and woodcarvings. (2006 Sustainability Report, p. 513)

HIV Treatment and Management Programs in Southern Africa

Since mid-2005, the Company has been sponsoring the establishment of clinical trials to test a potential new vaccine for the treatment of HIV. The clinical trials, taking place over three years, are to be conducted in southern Africa. This initiative is an extension of our involvement in the HIV/AIDS issue, from the implementation of quality programs for our employees and their dependants to community-based activities that offer more widespread impact.

An estimated 140 HIV-infected men and women are targeted for enrolment in the trials, including some who are on anti-retroviral treatment (and will remain on treatment during the trials) and others who are not yet eligible to commence anti-retroviral treatment. (2007 Sustainability Report, p. 166)

Preventing malaria in children

A new anti-malarial medicine has been developed specifically for children across the globe.

BHP Billiton has supported Medicines for Malaria Venture (MMV), a unique partnership bringing together key players in the combat against malaria including major international pharmaceutical companies, the World Health Organization, NGOs and the private sector. (2008 Sustainability Report, p. 16)

As shown in several statements disclosed in the Sustainability Report, BHP Billiton has engaged in several community programmes that can be classified as health and education programmes for women and their families. This represents recognition of women's interests in the community group.

Table 5.11 Excerpt from BHP Billiton 2006 Sustainability Report regarding women as stakeholders in the consumer group

Customer sector group	Oil and natural gas	Aluminium	Copper	Gold	Silver
Energy	Fuel, heating, electricity generation	High-tension power lines, wires and cables	Wire and cables, electrical wiring in buildings		
Construction	Carpets, paints, plastics	Door and window frames, wall cladding, roofing, awnings	Plumbing pipes and tanks, roofing, electrical wiring	Gold heat for decoration	Solder
Industry	Electricity generation, transport, furnace fuel	Propellers, motor parts, wires, cables, packaging	Wires and cables, robotics, air conditioning and refrigeration units	Electronics for computers, industrial equipment, aerospace technology, tinted-glass windows	Photographic paper and film, medicines, super conductors
Household appliances	Plastic components, packaging	Components for TV sets, radios, refrigerators and air conditioners	Electrical appliances, telephone cables, microwave equipment, radio and TV sets	Electronic technology	
Personal use	Electricity, fuel for vehicles, fuel for cooking and heating, clothing fabric, plastic toys, pens	Beverage cans, foil wrap, furniture, bicycles, vehicles	Ornaments, telephones, cooking utensils, home heating systems, decorative applications	Jewellery, watches, currency, dentistry, decoration for dinnerware and ornaments	Jewellery, watches, dinnerware and ornaments, mirrors, cutlery, currency, medallions

Source: 2006 Sustainability Report, p. 53.

(c) Women as stakeholders in the suppliers group

Many companies now include equality or diversity criteria in contractual requirements with suppliers (Grosser 2009). The supplier diversity programmes are usually reported with reference to women and minority-owned suppliers together, which makes it impossible to analyse on specific gender. Some companies also report the issues of non-discrimination among workers in the supply chain, including sexual harassment, discrimination and maternity leave. BHP Billiton did not report the gender diversity issues of suppliers in its 2006–2015 Reports. It only disclosed the supplier policies that were in line with the feminist ethics of care without referring to the gender of the supplier business owners.

Suppliers

Our suppliers include businesses local to our operations, as well as large international suppliers. We seek to utilise local suppliers and support these suppliers in enhancing community development opportunities.

To engage with suppliers, we perform a supplier segmentation based on a Corporate Social Responsibility risk assessment. Based on this segmentation, we define the appropriate engagement throughout the supplier life cycle. We also require suppliers to identify potential HSEC risks associated with their operations and to minimise any adverse consequences of these risks. (2010 Sustainability Report, p. 4)

Supplier corporate social responsibility management

BHP Billiton's globally defined minimum sustainability requirements for suppliers cover:

- the provision of a safe and healthy work-place and adherence to all relevant legislation, regulations and directives in the country of operation;
- respect for freedom of association;
- adherence to the highest standard of moral and ethical conduct;
- compliance with laws;
- non-discrimination. (2010 Sustainability Report, p. 21)

Supply and human rights

In addition to incorporating human rights issues in its procedures and policies relating to supplier management, BHP Billiton is committed to the United Nations Universal Declaration of Human Rights. Our Company Charter, *Code of Business Conduct* and Sustainable Development

Policy support this commitment. BHP Billiton believes it has not violated the rights outlined in the United Nations Universal Declaration of Human Rights during the reporting period. (2010 Sustainability Report, p. 21)

The disclosures from BHP Billiton's supplier policies show that they include sustainability requirements and human rights policies that are in line with the feminist ethics of care principles to exercise a caring approach to other parties.

(d) Women as stakeholders in the investors group

Investors concerned with gender issues are not always adequately provided with such information, even though investors have acknowledged the importance of gender issues, particularly as part of human capital management (Grosser 2009). BHP Billiton seems to have recognised this issue and has presented information on gender diversity for investors. Besides that, the company has also included the Socially Responsible Investor as part of its investment community.

BHP Billiton's recognition of women as stakeholders is represented not only in the texts but also in photographs within the Reports. The breakdown of figures relating to pictures across 2006–2015 is presented in Table 5.12.

For the period under analysis, BHP Billiton presented 188 photographs that contained women in various activities and positions, classified as top managers or division managers and employees, in the community and with family, or involved in daily-life activities. The pictures of female employees were most common (49% in total), followed by pictures of women in the community (24%). The picture proportion comparison implicitly reveals the company's attitude to gender issues. By presenting more pictures of female employees compared to top managers and women in the community, BHP Billiton created the impression of a corporate 'professional' identity. Interpreted in another way, such pictures might become the language it uses to attract new employees and retain existing ones, creating the image of a 'company of choice' for future and current employees.

The number of pictures BHP Billiton presented decreased from 2006 to 2015 in line with the decline in the number of pages in its Reports. The comparison of pages is provided in Table 5.13.

From the number of pages comparison presented in Table 5.13, it is clear that the number of pages in the Sustainability Reports has declined sharply while for the Annual Reports the opposite has occurred. Information obtained from BHP Billiton revealed the reasons are that a large amount of content that is provided in previous Reports (e.g. Case Studies, Sustainability Framework and GRI Index) has now been placed on the company's website thus allowing the company to focus the report on the issues that are most material to the audience in a succinct and effective method. Furthermore, even though the number of pages is reduced, Sustainability Reports are prepared as per the Global Reporting Initiative (GRI) reporting framework and the company has achieved an A+ reporting status which indicates that it disclosed the maximum number of mandatory framework indicators.

Considering the unresolved community concerns in several BHP Billiton operations, it seems that the company still has to extend the Reports to disclose fully several issues or provide more extensive information on their website. For instance, the community updated information about Cerrejon Coal, Colombia was not disclosed in the 2011 Reports or on the website. This information is important to provide clear explanations of the company's commitment to several recommendations around building relationships with host communities, as disclosed in the 2010 Sustainability Report.

5.3 Summary of the Results

This chapter has presented the results and interpretation of the qualitative content analysis of BHP Billiton's Sustainability and Annual Reports for the period of 2006–2015 (ten years). The analysis was conducted based on the principles of the feminist ethics of care on corporate governance practices, as discussed in Chap. 3.

It can be concluded that BHP Billiton has not been fully consistent in applying the principles suggested by the ethics of care. The principle of one's self as connected to others has been manifested in intensive stakeholder engagement activities and various voluntary CSR programmes. BHP Billiton

Table 5.12 Gendered appearances in 2006–2015 Reports (in terms of number of pictures)

Year	Photos of top managers or division		Photos of employees		Photos of women in community		Photos of women in family and daily life		Total pictures (100%)	
2006	15	8%	15	8%	16	9%	11	6%	57	30%
2007	6	3%	8	4%	6	3%	0	0%	20	11%
2008	9	5%	1	0.5%	3	2%	3	2%	16	9%
2009	0	0%	1	0.5%	1	0.5%	0	0%	2	1%
2010	0	0%	2	1%	3	2%	0	0%	5	3%
2011	0	0%	6	3%	1	0.5%	0	0%	7	4%
2012	0	0%	4	2%	4	2%	1	0.5%	9	5%
2013	0	0%	10	5%	9	5%	0	0%	19	10%
2014	4	2%	31	16%	0	0%	0	0%	35	19%
2015	0	0%	14	7%	3	2%	1	0.5%	18	8%
Total	34	18%	92	49%	46	24%	16	9%	188	100%

Source: Summarised from BHP Billiton's 2006–2015 Sustainability Reports and Annual Reports.

has also substantially acknowledged women's interests in the employee group and other stakeholder groups by applying gender diversity and gender equality principles. However, the care approaches through communications, contextual and inductive problem solutions and sequential and hierarchical moral development have not been consistent with the ethics of care. The lack of care approaches raises a question mark about moral responsibility as the genuine motive for BHP Billiton engaging in various CSR activities under their Sustainability Framework. The lack of a genuine commitment may become a potential threat to the relationships it has tried to manage with its stakeholders. Considering these findings, maybe a quote from Mayes and Pini (2010) is still relevant: '*mining is a spatial context traditionally gendered as masculine*' (p. 233). It was '*masculine*' and unfortunately still is.

Another possible interpretation of the inconsistencies can be traced back to the number of female executives at BHP Billiton, which was less than 1% in the periods under investigation. As Schminke et al. (2005) stated that leader moral development has significant effect on an organisation's ethical climate, we can expect more consistent caring principles if the number of female executives increases, provided that they utilise cognitive moral development (i.e. capacity for ethical reasoning) to apply the caring ethics.

Table 5.13 Number of pages comparison

Year	Sustainability Report	Annual Report
2006	522	88
2007	316	88
2008	190	270
2009	106	280
2010	61	300
2011	48	268
2012	50	280
2013	54	308
2014	62	348
2015	74	325

Source: Processed from BHP Billiton's 2006–2015 Sustainability Reports and Annual Reports.

This interpretation is somewhat different to meta-analyses conducted by Walker (1991) or (Thoma 1986) which showed that education is 250 times more powerful in predicting moral reasoning than sex differences or differences in care and justice. At BHP Billiton (and also normally found in other companies), since all executives at top level management have higher education, this factor is not the determinant for differences in ethics and moral reasoning.

5.4 Reliability and Validity of the Results

As has been explained in Chap. 4, four criteria in line with the concepts of validity and reliability have been developed in qualitative content analysis to assess the quality of the coding and analysis process. The reliability and validity of the content analysis process and results in this research can be described as follows:

1. Credibility

Credibility is the equivalent of internal validity where all important factors in the research question have been identified. The ways these factors are reflected in the data gathered then are described accurately and completely. All important factors in the first research question of 'What are the corporate governance practices applied in a sample

company from the feminist ethics of care perspective?’ have been considered and translated into the content analysis protocol which guided the data collection process in accordance with concepts of credibility.

2. Transferability

Transferability or external validity is an evaluation of the applicability of findings from one context to another. This study involves intensive study of a single setting (case study) where representativeness and external validity are not the main objective. Justification from Seale (2012) is more appropriate for this research for the reduced importance of the external validity because the originality and discovery might be seen as indicators of the quality of qualitative research. It can be said that this research has provided a theoretical generalisation instead of an empirical generalisation, with the findings being applicable within the relevant context.

3. Dependability

Dependability is the replicability and stability in findings after considering the rational and logical changes during repetitions of the study. Interpretations and thematic assignments to ensure dependability were done using the input of one additional coder to verify the researcher’s judgements.

4. Confirmability

Confirmability or reliability in qualitative research findings is evaluated by looking at the data instead of the researcher(s) to determine if the conclusions are supported by the data. The conclusions generated from the content analysis have been supported by the data collected in this research.

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6

Quantitative Optimisation Model, Results and Discussion

Ethics of care principles have been discussed in Chap. 2 and further explored in Chap. 3. The principles are largely based on Gilligan's (1982) theory, which is further explored for the corporate setting. The principles are as follows:

- (a) Care is achieved through perception of one's self as connected to others.

This principle is translated into the stakeholder concept from the feminist perspective (Wicks et al. 1994), which contains the following interpretations:

1. Corporations are webs of relationships among stakeholders.
2. Corporations should thrive on chaos and environmental change.
3. Replace conflict and competition with communication and collective action.
4. Strategy as solidarity.
5. Replace hierarchy with radical decentralisation and empowerment.
6. Moral dilemmas are contextual.

- (b) Dilemmas are solved through inductive thinking.
- (c) Development through stages is sequential and hierarchical.
- (d) Principle of moral responsibility is reflected in the voices of women.
- (e) Distinguished by an emphasis on attachments, issues of self-sacrifice and selflessness and consideration of relationships as primary.
- (f) The nature of the CSR activities should be voluntary or discretionary responsibilities.
- (g) Women's interests in the employee group and other stakeholder groups are acknowledged.

These principles became the guidelines in investigating the corporate governance practices of BHP Billiton from the ethics of care perspective, as presented in Chap. 5. The same principles were also used in developing the optimisation model to project the financial condition of the company, which is presented in this chapter. The financial condition projection model also serves as a proposed model that can be used by corporate management to establish company goals or objectives and strategies to meet these goals. It becomes the framework to determine optimal corporate financial management strategies, which may include dividend policies, debt structure, capital structure, risk management and liquidity management (Ho and Lee 2004).

The findings and results presented in Chap. 5 were also used in developing the financial planning model to identify necessary variables to be included in the model. This includes the discussion of principles that cannot be translated into the optimisation model and hence are better analysed using qualitative analysis.

This chapter is intended to provide an example of how a company can accommodate the environmental and social costs, in line with the sustainable development vision under the feminist ethics of care, through financial planning strategies. This can be described as an effort to make the feminist ethics of care more workable by presenting the possible application in business context. This effort is also an answer to calls from academics such as Folbre (1995) who claimed that 'feminist theorists are increasingly fond of the term "care", but have yet to systematically explore its economic implications' (p. 74).

The strategies are illustrated in an optimisation model that describes the strategies a company can apply while maintaining the achievement of corporate objective(s). In one sense, the model development resembles the budgeting development stages. However, the optimisation approach was chosen in this study as it addresses the allocation of scarce resources among possible alternative uses in order to achieve the maximisation or minimisation of an objective function. It was also used to provide variety in the accounting research methodology.

Upon completion of the linear programming modelling and solution of the optimisation problem, the pro-forma financial data were generated to project the financial conditions of the company to determine the implications of applying the ethics of care at the company level.

The discussion of the proposed model and the interpretation is presented based on the elements of the optimisation or linear programming model, which was discussed in Chap. 4. The properties incorporate objective functions, constraints and decision variables.

In addition, as presented in Chap. 3, the limitations of traditional financial accounting, as identified by Deegan (2010), were addressed and accommodated as much as possible in the developed model. These limitations are that financial accounting:

- tends to focus on the information needs of stakeholders with a financial interest
- applies the concept of ‘materiality’
- adopts the practice of discounting liabilities
- applies the ‘entity assumption’
- excludes from expenses the impacts on resources not controlled by the entity
- applies the recognition criteria of ‘measurability’ and probability.

The first limitation, which states that conventional financial accounting tends to focus on the stakeholders with a financial interest, has been responded to by many companies by voluntarily providing social and environmental information. Specifically, companies in the extractive industries

have been under public scrutiny for their poor social performance, such as disregarding the interests of indigenous people. Companies in this industry also receive a great deal of criticism about the environmental impact of their activities (Deegan 2010). The high demand for information about the social and environmental performance of mining companies has been addressed by providing social and environmental reports, the analysis of which has been presented in Chap. 5 as relates to the sample company, BHP Billiton.

6.1 Objective Function of the Linear Programming (Optimisation) Model

The objective function reflects the multi-period objectives a company wants to achieve. The function can be different from one firm to another. The objective function of the proposed optimisation model was developed based on the first principle of the feminist ethics of care: achieved through perception of one's self as connected to others, which is translated into the stakeholder concept from the feminist perspective (Wicks et al. 1994). In the proposed model, the objective is to maximise stakeholder interests.

To define operationally the maximisation of the stakeholders' interests, this study used the direct economic value retained as the proxy. The direct economic value is an indicator used in the G4 GRI (Global Reporting Initiative) Sustainability Reporting to report the economic dimension of sustainability. This concerns the organisation's impact on the economic conditions of its stakeholders and on economic systems at local, national and global levels (Global Reporting Initiative 2013). The economic category indicator illustrates the flow of capital among different stakeholders and the main economic impacts of the organisation throughout society. Even though the economic value retained was used in this study, it was not designed to limit other measurements that could be used in developing certain models. Other researchers can use other variables for the operational definition.

Based on the GRI guidelines, the direct economic value generated and distributed (EVG&D) was reported on an accruals basis, including the basic components for the organisation's global operations as listed below:

Direct economic value generated: Revenues.

- (a) Economic value distributed:
 payment to suppliers and contractors;
 employee wages and benefits;
 payments to providers of capital;
 payments to government (by country); and
 community investments.
- (b) Economic value retained is then calculated as 'Direct economic value generated' less 'Economic value distributed'.
 Hence, the objective function of the proposed model is:

$$\text{Maximise } \sum_{t=1}^T \text{economic value retained}_t$$

As explained in Chap. 4, the data for the period of six years (2006–2011) were used to project the financial condition of the next five years (2012–2016). This six-year period was determined arbitrarily to match the period used to investigate the qualitative content analysis as presented in Chap. 5.

Environmental contributions were also added in this study to include the environment as one of the stakeholders, as explained in Chap. 3. The derivation of the objective function is provided below.

$$= \text{Max } \sum_{t=1}^T \text{economic value generated and distributed}_t$$

In BHP Billiton's Sustainability Report, the economic value generated and distributed is further broken down into detail as follows.

$$= \text{Max } \sum_{t=1}^T (\text{Revenues and other income}_t \\
- \text{Payments to suppliers and contractors}_t \\
- \text{Wages and benefits to employees}_t - \text{Shareholder dividends}_t \\
- \text{Interest payments}_t - \text{Gross taxes and royalties}_t \\
- \text{Voluntary contributions of funds in the broader community}_t \\
- \text{Total environmental expenditure}_t)$$

From the detailed definition above, it was acknowledged that the economic value for regional economies is generated through revenues, operating costs, employee compensation, donations and other community investments, retained earnings and payments to capital providers and to governments. The explanation for several items was provided in the 2011 Sustainability Report (p. 22) as follows:

1. Revenues include other income amounts. Amounts include revenues and costs attributable to jointly controlled entities and are consistent with the Group's financial reporting of elements comprising Underlying EBITDA. Underlying EBITDA is earnings before net finance costs and taxation, jointly controlled entities' net finance costs and taxation, exceptional items and Group and jointly controlled entities' depreciation, impairments and amortisation. The amounts are determined on an accruals basis and extracted from the audited financial statements.
2. Operating costs relate to expenses recognised in the financial statements. It includes expenditure paid to suppliers and contractors for materials and services and excludes community investment expenditure.
3. The interest payments are interest expense on debt for BHP Billiton controlled entities and jointly controlled entities, determined on an accruals basis.
4. Gross taxes and royalties comprise income tax and royalty-related taxes paid, royalties paid in kind and production-based royalties accrued which approximate cash payments.

6.2 Decision Variables

Decision variables are those in the objective function that will be computed and become the outputs of the linear programming model. The decision variables in this model were defined as follows:

- (a) The amount of payment to suppliers and contractors (PSC_i);
- (b) The amount of employee wages and benefits in a particular year (EWB_i);
- (c) Dividend amount in a particular year (Div_i);

- (d) Long-term debt amount in a particular year (LTD_t);
- (e) The amount to pay to government in a particular year (PG_t);
- (f) The amount of the contributions to community in a particular year (CC_t); and
- (g) The total environmental expenditure in a particular year, comprising the following variables:
 1. Environmental research expenditure (ERE_t)
 2. Environmental costs (EC_t)
 3. Environmental programme expenditure (EPE_t)
 4. Biodiversity and land management (BLE_t)

In addition to the decision variables in the objective function, the proposed model also contains decision variables in the constraint functions (see Sect. 6.3 for the definition and description of the constraint functions). This is because the variables are not directly related to the objective function but are related to the financial policies under the ethics of care.

The decision variables in the constraint functions are as follows:

- (a) After-tax profit (ATP_t)
- (b) Investments in financial assets ($InvFA_t$)
- (c) Investments in capital assets ($InvCA_t$)
- (d) Total environmental fines amount (TEF_t)
- (e) Provision amounts related to sustainable activities ($Prov_t$)
- (f) Health, safety, environmental and community expenditure ($HSEC_t$)
- (g) Communication expenses ($Comm. Exp_t$)
- (h) Litigation proceeding amount ($LitExp_t$)
- (i) Female recruitment expenses (FRE_t)
- (j) Female leadership programme expenses (FLP_t)
- (k) Research development expenses ($R\&D_t$)
- (l) Work–life balance policy amount (WLB_t)
- (m) Costs of employee turnover (CTO_t)
- (n) Women empowerment programme expenses (WEP_t)

In this proposed model, the amounts of the decision variables are to be decided by a company to achieve the objective function with scarce

or limited resources named constraints. Since the amount of decision variables as the results of the model are computed using a mathematical technique, namely linear programming, managerial discretion and judgement still has to be used in applying the model to complement the mathematical results.

6.3 Constraints Functions of the Linear Programming (Optimisation) Model

In achieving the objective function, a company faces many constraints due to the limited amount of resources or because of the regulatory environment, external restrictions from the accounting equation and internal restrictions reflected in company policies, such as liquidity and leverage policy.

There are three sets of constraints in the proposed model as listed below:

1. Accounting definitional constraints
2. Investment constraints
3. Policy constraints derived from the corporate governance practices from the feminist ethics of care perspective.

6.3.1 Accounting Definitional Constraints

Accounting definitional constraints come from the relationships between accounts in the Statements of Financial Position, Statements of Comprehensive Income and Statements of Changes in Equity. The constraints have nothing to do with the ethics of care principles but represent the relationships between accounts in current accounting practice and standards. Hence, it is implicitly stated that the application of the ethics of care is not intended to replace the current and existing accounting practice as a whole.

In this proposed model, the accounting definitional constraints are as follows:

1. Payments to government

$$\text{Payments to government}_t = \text{Gross taxes}_t + \text{Other Payments}_t$$

$$PG_t = (\text{tax rate} \times \text{Profit before tax}_t) + \text{Other Payments}_t$$

$$PG_t = \text{tax rate} \% (\text{EBIT}_t - i_t \text{LTD}_t) + \text{Other Payments}_t$$

where:

i is the interest rate applicable to the long-term debt (or interest-bearing liabilities),

EBIT is the Earnings before Interest and Taxes,

LTD is the Long-Term Debt.

2. After-tax profit definition

$$\text{After-tax Profit}_t = (1 - \text{tax rate}) \left(\text{EBIT}_t - \sum_{t=1}^5 i \times \text{Long Term Debt}_t \right)$$

6.3.2 Investment Constraints

The investment constraints represent the use of a company's funds to invest in certain projects. A company can make investment decisions in financial assets (purchasing shares in other companies) and in capital assets (such as in property, plant and equipment).

For investment in shares, the socially responsible investment (SRI) concept is in line with the ethics of care perspective. As an ethical investment concept, the SRI guides investors to select securities by considering the social, environmental and institutional ethics aspects in financial decision-making and allocate financial resources based on the societal impacts of the funded entities. This is consistent with the ethics of care principle, giving attention to stakeholders' interests, including the community and the environment.

For investments in capital assets, since the feminist ethics of care perspective was used in this study, it was necessary to select the investment or capital budgeting criteria for a company's decision-making as this represents the sustainability strategy a company adopts in line with the ethics of care. Current trends in the sustainability agenda show that the measuring and communicating of the returns of an organisation's sustainability strategy can be performed using the social rate of return (SROI—Social Return on Investment) (Ernst and Young 2013). Hence, SROI is used to determine the amount of investments rather than the

usual ones, such as the internal rate of return (IRR), return on assets (ROA) or return on investment (ROI).

The SROI represents the social benefits and costs of a company’s operations in dollar terms, relative to the investment or financial costs required (Lingane and Olsen 2004). This approach was developed by the Roberts Enterprise Development Fund (REDF) and was tested by the New Economics Foundation (NEF 2004) (Rotheroe and Richards 2007). The technique is based on the cost–benefit analysis and is used to measure the value of social benefits created by an organisation, relative to the cost of achieving the benefits. In the proposed model, the accounting definitional constraints are as follows:

1. Payments to government

$$\text{Payments to government}_t = \text{Gross taxes}_t + \text{Other Payments}_t$$

$$PG_t = (\text{tax rate} \times \text{Profit before tax}_t) + \text{Other Payments}_t$$

$$PG_t = \text{tax rate}\%(\text{EBIT}_t - i_t \text{LTD}_t) + \text{Other Payments}_t$$

where:

i is the interest rate applicable to the long-term debt (or interest-bearing liabilities),

EBIT is the Earnings before Interest and Taxes,

LTD is the Long-Term Debt.

2. After-tax profit definition

$$\text{After – tax Profit}_t = (1 - \text{tax rate})(\text{EBIT}_t - \sum_{t=1}^5 i \times \text{Long Term Debt}_t)$$

The steps used in calculating SROI were provided by Lingane and Olsen (2004) and were used for a fictional example company that employs formerly homeless people and provides health-care to its employees, resulting in a reduction of visits to emergency rooms per year. The company produces polyurethane (PUR) foam recycling technology that enables PUR foam makers to purchase fewer chemicals per year, resulting in fewer emissions in the production of those chemicals, among other benefits. For the purposes of a simplified example, it is assumed that there are no negative social cash flows. The steps used were as follows:

1. Quantify non-financial impact of operations per unit.
For example, 10% reduction in emergency room visits = 150 fewer visits per year; 6% reduction in CO₂ emissions per year = reduction of 12,000 tons CO₂.
2. Translate the impact into dollar terms per unit to achieve 'social cash flows'.
Cost per visit is \$250. Cost savings from 150 fewer visits per year = \$37,500/year;
Cost per ton CO₂ is \$1.25 based on regional emissions trading markets. Cost savings from reduction of 12,000 tons CO₂ per year = \$15,000.
3. Sum all social cash flows for the horizon or periods.
In this example, the annual social cash flow is \$37,500 + \$15,000 = \$52,500. A five-year period is usually used for projections to proceed to step 4.
4. Discount the social cash flows to present value using an appropriate discount rate (20% in this example).

Year 1	Year 2 ...	Present value of social cash flows Years 1-5
$52,500/(1+0.20) +$	$52,500/(1+0.20)^2 +$	$= \$157,007$

5. Calculate the SROI by dividing the sum of present value by the initial investment.
For instance, if the investment is \$100,000 then the SROI is 1.57 (157%).

The net present value is tracked or forecast using a range of discount rates over a given time period to determine the SROI. Rather than attempting to quantify and capture all the benefits, the SROI analysis just estimates the cost savings or revenue contributions from successful programme(s) run by a company. The tracking and quantifying of the positive and negative social and environmental impacts or externalities require transparent and comprehensive accounting systems to enable the measurement of social value a company has created. Whenever possible, this requirement

should be conducted by extracting the available data in financial statements. Otherwise, reasonable estimates should be used, especially if the impacts cannot be accurately monetised. It should be noted, however, that as with ROI, SROI cannot be used in a vacuum; it only provides a benchmark figure to be considered in decision-making (Lingane and Olsen 2004). This implies that in final investment decision-making, a company can use and compare the ROI, SROI and other measurement tools as the capital budgeting criteria. The use of SROI in the proposed model does not limit the use of other measures in decision-making.

The investment constraints for the proposed model are as follows:

1. Investments in financial assets

It is assumed that investments in financial assets should be at least the same as in the previous year and allocated to companies with sound social and environmental track records that pay attention to certain issues such as human rights, labour standards, equal opportunities, environmental protection, consumer safety, community concerns and stakeholder relations.

$$\text{Investments in financial assets}_t \geq \text{Investments in financial assets}_{t-1}$$

2. Investments in capital assets

The investments in capital assets are targeted to grow at a certain rate of investment in those assets since the previous year.

$$\text{Investments in capital assets}_t - \rho \text{ Investments in capital assets}_{t-1} \geq 0$$

where ρ is $1 + \text{SROI}$ projected from previous period. It represents the rate of investment growth.

6.3.3 Company's Policy Constraints Derived from the Corporate Governance Practices from the Feminist Ethics of Care Perspective

The policy constraints were mostly derived from the interpretation of corporate governance practices from the feminist ethics of care perspective as explained in Chap. 3.

Under the ethics of care, corporations are viewed as webs of relationships among stakeholders. As the optimisation model uses the accounting data, the application of the caring principle of the feminist ethics of care to the stakeholders' interests, including the environment, may face the second limitation of financial accounting identified by Deegan (2010): the concept of materiality. Given the difficulty of quantifying the social and environmental costs (even if they can be measured, the amounts are often small), this tends to preclude the reporting of social and environmental information because, individually, the expenditure is not considered to be material. Several examples of the 'immaterial' amounts include environmental fines and the difficulty of accurately measuring the direct financial impact caused by an oil spill. The policy constraints in the proposed model do not follow the materiality concept; hence, they include several relevant constraints, even though they are not material. In this notion, the nature of the transaction is more important than the amount. Because the nature of the account is relevant for social and environmental reporting, the amount should be reported even though it is not material in amount. This also represents the fairness principle of accounting, that materiality also involves a nature test.

The materiality concept which is addressed in the model also implies that the externalities caused by the reporting entity are not ignored, which contradicts the entity assumption (the fourth limitation identified by Deegan 2010). In this assumption, financial performance and position are measured for each entity, independently of all other entities. This implies that a transaction or event, including the externalities that do not directly affect the entity, can be ignored for accounting purposes, making performance measures (such as profitability) incomplete from a broader societal point of view (as opposed to a 'discrete entity' perspective) (Deegan 2010). The recognition of externalities in financial statements also represents the inclusion of social and environmental costs of any impact on resources not controlled by the entity (the fifth limitation identified by Deegan 2010).

The limitation of discounting liabilities in traditional financial accounting is also addressed in the model, as it is not in line with the sustainability agenda suggested by the ethics of care. The discounting practice tends to make future expenditure less significant in the present

period. Gray et al. (1996) argue that this practice tends to downplay the future environmental expenditure of a remedial nature (future clean-up) and shifts social and environmental problems on to future generations. This is not consistent with the sustainability agenda. This limitation is accommodated in the proposed model even though, generally, there is no accounting standard that relates specifically to environment-related liabilities in Australia. However, general guidance was provided in the conceptual framework and Accounting Standard AASB 137 Provisions, Contingent Liabilities and Contingent Assets are used to recognise the obligations relating to environmental performance as either provisions or contingent liabilities, depending upon the circumstances (Deegan 2010). Such remediation costs and liability should be accounted for throughout the life of an operation and be recognised not only when there is a legal requirement of site remediation, but also based on usual prudent business practices that suggest that remediation should be conducted.

Measurement of the carrying amount of a provision is provided for in AASB 137, stating that the provision must be the present value at the end of the reporting period of the expected cash flows. Paragraph 47 of AASB 137 states that the discount rate should be a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. Professional judgement is definitely needed in determining the discount rate applicable to the company, as measurement still becomes the criterion to recognise any liabilities and expenses (the last limitation of the traditional financial accounting identified by Deegan 2010). The statement made by Lambertson (2000) that accounting for sustainable development is still in the exploration stage resonates with this condition, as what should be measured is the focus rather than the precision of measurement.

The constraints then become as follows:

1. Payments to suppliers and contractors (PSC_t)

$$\text{Payments to suppliers and contractors}_t - \delta \text{ Payment to suppliers and contractors}_{t-1} \geq 0$$

The payments to suppliers and contractors for goods and services acquisition are expected to increase at least at a rate projected by δ

which is defined as 1 + the average ratio of the payments to revenue in the previous periods.

2. Employee wages and benefits amount (EWB_{*t*})

Employee wages and benefits_{*t*} - γ Employee wages and benefits_{*t-1*} ≥ 0
 γ is defined as 1 + the average ratio of the employee wages and benefits/revenue in the previous periods.

It is projected that the employee wages and benefits will increase at least at a rate of γ compared to the previous year.

3. Dividends policy (Div_{*t*})

Dividends are expected to grow at a constant annual rate, which should be at least stable at a certain minimum dividend growth rate.

$$\text{Div}_t - \theta \text{Div}_{t-1} \geq 0$$

where θ is 1 + the dividend growth rate at the last periods.

4. Total environmental fines amounts

The ratio of total fines for breaching environmental regulation to the amount of environmental programme expenditure should be less than or equal to the minimum ratio in the previous years (represent here as X).

$$\frac{\text{Total environmental fines}_t}{\text{Environmental programme expenditure}_t} \leq X$$

5. Provision amounts

Provision amounts related to sustainable activities in the balance sheet (such as the closure, rehabilitation and restoration costs) should be growing at least at the average of provision growth in the previous years (represented by ε).

$$\text{Provision}_t - \varepsilon \text{Provision}_{t-1} \geq 0$$

where ε is 1 + the average of provision growth rate in the previous periods. Beside the constraints to accommodate the limitations identified by Deegan (2010), the policy constraints also comprise the risk management aspect that reflects the principle that corporations should thrive on chaos and environmental change. The risk management constraints relate to the amount of long-term liabilities that a company should maintain in order to ensure liquidity, its interest and debt-paying capacity. The other risk management constraints represent the applica-

tion of the ethics of care to the risk management aspect of corporate governance in the form of social and environmental risk management. Constraints of several expenditure amounts that reflect the social and environmental risk management in monetary terms are therefore provided. The constraints in the risk management area are as follows:

6. The interest coverage

The interest coverage should be at least equal to the minimum interest coverage multiplier in the last periods (represented by Y).

$$\frac{EBIT_t}{i \times LTD_t} \geq Y$$

7. Current ratio

Current ratio is maintained at a minimum of the average ratio in the last periods.

$$\frac{CA_t}{CL_t} \geq \text{Average} \sum_{t=1}^T \frac{CA}{CL}$$

8. Environmental research expenditure (ERE_t)

Expenditure related to participation in research and policy development on reducing the climate change impacts, reducing energy and greenhouse gas emissions, water reporting and accounting, product and by-product impacts to nature and other efforts in collaboration with government or other institutions should be at least the same as in the previous year.

$$ERE_t \geq ERE_{t-1}$$

9. Environmental costs (EC_t)

The costs of energy, greenhouse gas emissions, water use and other climate change costs are expected to decrease across the average rate of changes in the previous periods. The decrease is symbolised as ϕ which is defined as 1 – average rate of change.

$$\text{Environmental costs}_t - \phi \text{ Environmental costs}_{t-1} = 0$$

10. Biodiversity and land management expenditure (BLE_t)

Biodiversity and land management expenditure is expected to be enhanced and, hence, the expenses and costs related to them are expected to be higher than in the previous period or at least the same.

$$BLE_t \geq BLE_{t-1}$$

where BLE is biodiversity and land management expenditure.

11. HSEC risk management programme expenditure

The expenditure of risk management programmes to mitigate HSEC incidents or accidents are assumed to be higher than, or the same as, the certain percentage of operating expenses in 2012 and increase at certain percentage rates afterwards.

$$\text{HSEC risk program}_t \geq \text{HSEC risk program}_{t-1}$$

The proposed model also has other constraints that reflect the caring principle of the feminist ethics of care, replacing conflict and competition with communication and collective action to discuss and solve certain problems with any stakeholders. Informal dispute resolution, through extensive communications, can produce flexible outcomes, retention of confidentiality, time and cost savings and reputational enhancement rather than disputes which tend to be unnecessary and counter-productive (Francis and Armstrong 2003). Having said that, formal resolution through legal proceedings is still needed, representing the application of the ethics of justice as complementary to the ethics of care. However, the extensive communication with stakeholders is encouraged under the ethics of care, and hence, it is expected that the litigation costs could be reduced.

The methodology used in this study did not involve direct interviews with management of the sample company or questionnaires; therefore a set of assumptions was used to estimate the amount needed to solve the model. The constraints are as follows:

12. Communication expenses

The communication expenses required to discuss and solve problems with any stakeholders should increase at least to the average of communication expenses to total operating expenses ratio in the previous years.

$$\text{Communication expenses}_t \geq \left(\text{Average} \sum_{t=1}^T \frac{\text{Communication expenses}}{\text{Total expenses}} \right) \times \text{Total expenses}_{t-1}$$

13. Litigation proceedings amounts

The litigation proceedings amounts to solve problems with stakeholders should be less than or at least the same as the lowest amount in the previous periods.

$$\text{Litigation expenses}_t \leq \text{Lowest litigation expenses}_{t=1}^T$$

The ethics of care also suggests that the principle of moral responsibility tends to be reflected in the voices of women. This principle is evident in gender diversity policies that ensure the participation of women in a company's workforce. In the optimisation model, this can be translated into various programmes, including recruitment of female employees, supporting the education of female students to become future employees, conducting leadership and mentoring programmes for future female leaders in the executive and senior management levels. The policies can further be translated into monetary amounts in particular constraints as follows:

14. Female recruitment expenditure

It is expected that a company will increase the recruitment expenditure to recruit female employees (including any education programme for graduates) compared to the previous year at least at a rate equal to the average ratio of such expenditures to operating expenses. The increase in expenses is not only due to the inflation factor but mainly due to a company's commitment towards gender diversity in its workforce.

$$\text{Female recruitment expenses}_t \geq \left(\text{Average} \sum_{t=1}^T \frac{\text{Female recruitment expenses}}{\text{Total expenses}} \right) \times \text{Total expenses}_{t-1}$$

15. Expenditure for leadership and mentoring programmes for future female leaders

It is targeted that the expenditure for the leadership and mentoring programmes be higher or at least the same as in the previous year.

$$\begin{aligned} & \text{Female leadership programme expenses}_t \\ & \geq \text{Female leadership programme expenses}_{t-1} \end{aligned}$$

The other principle of corporate governance practice from the ethics of care perspective is the voluntary or discretionary nature of CSR activities. This is translated into the model as the amounts a company spent on its CSR activities. The constraints that represent this principle are as follows:

16. Research and development expenses

Research and development expenses for CSR activities should be stable at least as an average proportion of R&D expenses/Operating expenses in previous periods (represented by ϵ).

$$R\&D\ expenses_t \geq \epsilon \text{Total expenses}_{t-1}$$

17. Community contributions and environmental programme expenditure (CC_t and EPE_t)

Community contributions and environmental expenditure should be at least a certain percentage of pre-tax profit (represent here as Z).

$$\text{Community contribution}_t \geq Z\% \text{Pre-tax profit}_t$$

$$\text{Environmental programme expenditure}_t \geq Z\% \text{Pre-tax profit}_t$$

The environmental programme expenditure is different from the environmental costs to tackle the climate change impact in constraint 11, as the former is the contribution towards environmental programmes as part of a voluntary CSR programme, while the latter is attributed to social and environmental risk management.

The last principle which is related to women's interests is also included in the model constraints. The gender equality agenda can be translated into several financial policies such as equal pay for women and work-life balance policies through paid parental leave, child-care facilities or

arrangements provided by a company, and child benefits. The constraints also include the benefit of such policies in terms of the cost savings from a decrease in labour turnover. The constraints are as follows:

18. Equal pay for women employees

$$\text{Female employees wages rate}_t - \text{Male employees wages rate}_t = 0$$

19. Work–life balance policy

$$\text{Work – life balance policy expenses}_t \geq \text{Work – life balance policy expenses}_{t-1}$$

The work–life balance policy expenses comprise paid parental or maternity leave expenses, child-care facilities expenses (including the salary of the child-care workers, facilities maintenance expenses and purchase expenses of the supplies and tools), child benefits and/or other work–life balance policy expenses in accordance with the company's policy.

In this model, the pertinent expenses related to work–life balance are budgeted to be at least the same as in the previous year. Such expenses will depend on the number of employees who will utilise the policy.

20. Cost savings from a decrease in employee turnover

According to Cascio (1991), costs of turnover consist of separation costs, replacement costs and training costs. Separation costs include the exit processing expenses and separation pay. Replacement costs are related to the recruitment of new employees, which consist of job advertisement expenses, selection interviews and pre-employment administration expenses. Training costs include the training material expenses, equipment, trainer salary and other related expenses to develop the employees in certain specific skills.

If a company can manage the employee turnover, there will be cost savings created and it is targeted that the turnover costs should be less than or at least the same as in the previous period. Hence, the constraint becomes:

$$\text{Costs of employee turnover}_t \leq \text{Costs of employee turnover}_{t-1}$$

Since the training and development expenses are intended to develop all employees, not only the ones who left the company, the constraint should be broken down into detail to reflect the expenses which are related to employee turnover. The constraint is further detailed as follows:

$$\frac{\overline{SC}}{E} + \frac{\overline{RC}}{NE} + \frac{\overline{TC}}{E} \times \overline{ETR} \times E_t \leq \left(\frac{SC}{E} + \frac{RC}{NE} + \frac{TC}{E} \right) \times ETR \times E_{t-1}$$

where:

$\frac{\overline{SC}}{E}$ is the average amount of separation costs per number of employees in the previous periods

$\frac{\overline{RC}}{NE}$ is the average amount of replacement costs per number of new employees in the previous periods

$\frac{\overline{TC}}{E}$ is the average amount of training costs per number of employees in the previous periods

\overline{ETR} is the average employee turnover rate in the previous periods
 E_t and E_{t-1} are the numbers of employees at year t and previous year $t-1$
 Besides paying attention to women in the employee stakeholder group, other programmes and policies can also be arranged for women's interests in the community group. For instance, certain policies to support and encourage women's empowerment in the community in the form of education programmes, leadership support and health services can be provided by a company. To run such programmes and services, a company needs adequate funds and this can be translated into a constraint as follows:

21. Expenses for women's empowerment programme in the community group

It is targeted that the women's empowerment programme expenditure be higher or at least the same as the average amounts of expenditure in the previous periods.

$$\overline{\text{Women empowerment program}}_t \geq \overline{\text{Women empowerment program}} \times \overline{\text{Community Contributions}}_t$$

where $\overline{\text{Women empowerment program}}$ represents the average portion of the empowerment programme expenditure to community contributions amount in the previous period.

A summary of the proposed model is provided in Table 6.1.

The derivation of the concepts and principles of corporate governance from the ethics of care perspective to the optimisation model is presented in Table 6.2. This serves as a validation tool of the model, to determine whether the model represents the underpinning theory. The derivation also takes into account the limitations of financial accounting identified by Deegan (2010).

As illustrated in Table 6.2, there are several principles that have not translated and are not included in the optimisation model. In contrast, the accounting definitional constraints have no principles associated with them as these constraints represent the relationships between accounts in the financial statements and are not specifically related to the ethics of care. The fact that some principles are not included in the optimisation model implies that they cannot be translated into financial amounts and are better investigated using the qualitative analysis, as discussed in Chap. 5. This is in line with recommendations made by Wicks et al. (1994), as the feminist reading of the stakeholder concept, that strategy does not have to be objective or decision-making dictated by numbers; it is better to be complemented by experiences, perceptions and interpretations of the languages used.

The data and results from the qualitative approach were also used to inform the quantitative model. For instance, the qualitative data for the 'Corporations should thrive on chaos and environmental change' principle

Table 6.1 Quantitative optimisation model for financial planning based on the ethics of care principles of corporate governance

I.	Objective function Maximise $\sum_{t=1}^T$ economic value retained _t
II.	Decision variables
II.a	Decision variables in the objective function
	a. The amount of payment to suppliers and contractors (PSC _t);
	b. The amount of employee wages and benefits in particular year (EWB _t);
	c. Dividend amount in particular year (Div _t);
	d. Long-term debt amount in particular year (LTD _t);
	e. The amount to pay to government in particular year (PG _t);
	f. The amount of the contributions to community in particular year (CC _t); and
	g. The total environmental expenditure in particular year which comprises:
	1. Environmental research expenditure (ERE _t)
	2. Environmental costs (EC _t)
	3. Environmental programme expenditure (EPE _t)
	4. Biodiversity and land management (BLE _t)
II.b	Decision variables in the constraint functions
	a. After-tax profit (ATP _t)
	b. Investments in financial assets (InvFA _t)
	c. Investments in capital assets (InvCA _t)
	d. Total environmental fines amount (TEF _t)
	e. Provision amounts related to sustainable activities (Prov _t)
	f. Health, safety, environmental and community expenditure (HSEC _t)
	g. Communication expenses (Comm. Exp _t)
	h. Litigation proceeding amount (LitExp _t)
	i. Female recruitment expenses (FRE _t)
	j. Female leadership programme expenses (FLP _t)
	k. Research development expenses (R&D _t)
	l. Work-life balance policy amount (WLB _t)
	m. Costs of employee turnover (CTO _t)
	n. Women empowerment programme expenses (WEP _t)
III.	Constraints
A.	Accounting definitional constraints
	1. Payments to government Payments to government _t = Gross taxes _t + Other payments _t
	2. After-tax profit definition

$$\text{After-tax Profit}_t = (1 - \text{tax rate})(\text{EBIT}_t - \sum_{i=1}^5 i \times \text{Long Term Debt}_t)$$

(continued)

Table 6.1 (continued)

-
- B. Investment constraints**
 - 1. Investments in financial assets
Investments in financial assets_t ≥ Investments in financial assets_{t-1}
 - 2. Investments in capital assets
Investments in capital assets_t - ρ Investments in capital assets_{t-1} ≥ 0
 - C. Company's policy constraints derived from the corporate governance practices from feminist ethics of care perspective**
 - C1. Corporations are webs of relations among stakeholders**
 - 1. Payments to suppliers and contractors (PSC_t)
Payments to suppliers and contractors_t - δ Payments to suppliers and contractors_{t-1} ≥ 0
 - 2. Employee wages and benefits amount
Employee wages and benefits_t - γ Employee wages and benefits_{t-1} ≥ 0
 - 3. Dividends policy
Div_t - θ Div_{t-1} ≥ 0
 - 4. Total environmental fines amounts
$$\frac{\text{Total environmental fines}_t}{\text{Environmental programme expenditure}_t} \geq X$$
 - 5. Provision amounts
Provision_t = (1 + ε) Provision_{t-1}
 - C2. Corporations should thrive on chaos and environmental change (Social and environmental risk management)**
 - 6. The interest coverage
$$\frac{\text{EBIT}_T}{\left(\sum_{i=1}^5 i \times \text{Existing LTD} + \sum_{i=1}^5 i' \times \Delta \text{LTD} \right)} \geq Y$$
 - 7. Current ratio
$$\frac{CA_t}{CL_t} \geq \text{Average} \sum_{i=1}^T \frac{CA}{CL}$$
 - 8. Environmental research expenditure
ERE_t ≥ ERE_{t-1}
 - 9. Environmental costs
Environmental costs_t - ϕ Environmental costs_{t-1} = 0
 - 10. The biodiversity and land management expenditures
BLE_t ≥ BLE_{t-1}
 - 11. HSEC risk management programme expenditures
HSEC risk programme_t ≥ HSEC risk programme_{t-1}

Table 6.1 (continued)

C3. Replace conflict and competition with communication and collective action

12. The communication expenses

13. The litigation proceedings amounts

$$\text{Litigation expenses}_t \leq \text{Lowest litigation expenses}_{t=1}^T$$

C4. Principle of moral responsibility is reflected in the voices of women

14. The female recruitment expenditure

$$\text{Female recruitment expenses}_t \geq \left(\text{Average} \sum_{t=1}^T \frac{\text{Female recruitment expenses}}{\text{Total expenses}} \right) \times \text{Total expenses}_{t-1}$$

15. Expenditures for the leadership and mentoring programme for future women leader

Female leadership program expense_t ≥Female leadership program expense_{t-1}**C5. The voluntary or discretionary nature of the CSR activities**

16. Research and development expenses

$$\text{R \& D expenses}_t = \epsilon \text{Total expenses}_{t-1}$$

17. Community contribution and environmental programme expenditure

$$\text{Community contribution}_t \geq Z \% \text{ Pre-tax profit}_t$$

$$\text{Environmental programme expenditure}_t \geq Z \% \text{ Pre-tax profit}_t$$

C6. Women's interests in the employee group and other stakeholder groups are acknowledged

16. Research and development expenses

$$\text{R \& D expenses}_t = \epsilon \text{Total expenses}_{t-1}$$

17. Community contribution and environmental programme expenditure

$$\text{Community contribution}_t \geq Z \% \text{ Pre-tax profit}_t$$

$$\text{Environmental programme expenditure}_t \geq Z \% \text{ Pre-tax profit}_t$$

18. Equal pay for women employees

$$\text{Female employees wages rate}_t - \text{Male employees wages rate}_t = 0$$

19. Work-life balance policy

$$\text{Work-life balance policy expenses}_t \geq \text{Work-life balance policy expenses}_{t-1}$$

20. Cost savings from decrease in employee turnover

$$\text{Costs of employee turnover}_t \geq \text{Costs of employee turnover}_{t-1}$$

21. Women empowerment programme expenses in community group

$$\text{Women empowerment program}_t \geq \text{Women empowerment program} \times$$

$$\text{Community contributions}_t$$

Table 6.2 The derivation from the ethics of care principles and accounting limitations to the optimisation model

<p>Corporate governance principles under the ethics of care</p> <p>(a) Achieved through perception of one's self as connected to others</p>	<p>The limitations of financial accounting identified by Deegan (2010)</p> <p>The proposed optimisation model</p>
<p>1. Corporations are webs of relationships among stakeholders</p>	<p>Objective Function:</p> <p>Maximise $\sum_{t=1}^T$ economic value retained,</p> <p>Constraints:</p> <p>Accounting definitional constraints</p> <ol style="list-style-type: none"> 1. Payments to government 2. After-tax profit definition <ol style="list-style-type: none"> 1. Payments to suppliers and contractors 2. Employee wages and benefits amount 3. Dividends policy 4. Total environmental fines amounts 5. Provision amounts 6. Investment in financial and capital assets
<p>2. Corporations should thrive on chaos and environmental change</p>	<ol style="list-style-type: none"> 1. Tends to focus on the information needs of stakeholders with a financial interest 2. Applies the concept of 'materiality' 3. Adopts the practice of discounting liabilities 4. Applies the 'entity assumption' 5. Excludes from expenses the impacts on resources not controlled by the entity 6. Applies the recognition criteria of 'measurability' and probability <ol style="list-style-type: none"> 1. The interest coverage 2. Current ratio 3. Environmental research expenditure 4. Environmental costs 5. Biodiversity and land management expenditure 6. HSEC risk management programme expenditure
<p>3. Replace conflict and competition with communication and collective action</p> <p>4. Strategy as solidarity</p> <p>5. Replace hierarchy with radical decentralisation and empowerment</p>	<ol style="list-style-type: none"> 1. Communication expenses 2. Litigation proceedings amounts

- (b) Moral dilemmas are contextual
- (c) Dilemmas solved through inductive thinking
- (d) Development through stages is sequential and hierarchical
- (e) Principle of moral responsibility is reflected in the voices of women
- (f) Distinguished by an emphasis on attachments, issues of self-sacrifice and selflessness, and consideration of relationships as primary
- (g) The nature of the CSR activities should not only be mandatory or compulsory but also more importantly, **voluntary or discretionary**
1. Female recruitment expenditure
2. Expenditures for the leadership and mentoring programme for future women leaders
1. Research and development expenses
2. Community contribution and environmental expenditure
3. Women's interests in the employee group and other stakeholder groups are acknowledged
1. Equal pay for women employees
2. Work-life balance policy
3. Cost savings from decrease in employee turnover
4. Women's empowerment programme expenses in community group
-

has provided information on the various business risks, including social and environmental risks, identified by BHP Billiton. The risks were then translated into the financial expenditure needed to mitigate the risks in the financial planning model.

6.4 Data Inputs

BHP Billiton’s data for the six-year period (2006–2011) were gathered to project the financial condition in 2012–2016. Several key data inputs are presented in Tables 6.3 and 6.4.

6.5 Using the Data Inputs in the Linear Programming (Optimisation) Model

6.5.1 The Objective Function Development

The objective function in the proposed model is:

$$\begin{aligned}
 = \text{Maximise } & \sum_{t=1}^5 (\text{Revenues and other income}_t - \text{Payments to suppliers,} \\
 & \text{contractors, etc}_t - \text{Wages and benefits to employees}_t \\
 & - \text{Shareholder dividends}_t - \text{Interest payments}_t \\
 & - \text{Gross taxes and royalties}_t - \text{Voluntary contributions} \\
 & \text{of funds in the broader community}_t - \\
 & \text{Total environmental expenditure}_t
 \end{aligned}$$

Using the revenue growth data and revenues for the period of 2006–2011 (six years), the revenue projections for the next five years (2012–2016) are provided in Table 6.5. The average revenue growth of

Table 6.3 Key data inputs of BHP Billiton (consolidated), for the years 2006–2011 (in US\$ million, otherwise stated)

Key data inputs	2006	2007	2008	2009	2010	2011
Revenues (net sales revenue plus other income)	39,886	47,962	59,991	50,762	53,212	72,229
Sales revenue	32,153	39,498	59,473	50,211	52,798	71,739
Operating expenses (expenses excluding finance costs)	24,612	28,370	35,976	38,640	33,295	40,454
Payments to suppliers, contractors, etc.)	17,988	19,936	26,358	23,877	22,306	26,997
Employee wages and benefits (expenditure on wages and benefits of the employee workforce and not future commitments)	2982	3311	4360	4345	4830	5457
Payments to providers of capital: shareholder dividends	1936	2271	3135	4563	4618	5054
Payments to providers of capital: interest payments made to providers of loans	626	601	722	589	496	497
Payments to government (gross taxes and royalties)	5341	6061	8121	7940	6892	9943
Community investments (voluntary contributions of funds in the broader community)	81.3	103	141	198	200	195.5
Environmental programme expenditure (including environmental programme in certain sites, site rehabilitation, environmental monitoring, and other environment expenditure such as environmental impact assessment and training)	309	288				

The company's focus on integrating environmental responsibility into activities means that it is not possible to accurately extract expenditure spent on the environment and, for that reason, it is no longer reported in the Annual Report and Sustainability Report

Table 6.3 (continued)

Key data inputs	2006	2007	2008	2009	2010	2011
EBIT (earnings before interest and taxes)	14,671	18,401	24,145	12,160	20,031	31,980
Long-term debt (non-current interest bearing liabilities)	7648	9291	9234	15,325	13,573	12,388
After-tax profit	10,534	13,496	15,962	6338	13,009	23,946
Preferred dividends (\$ per share)	0	0	0	0	0	0
Property, plant and equipment (net book value)	30,985	36,705	47,332	49,032	55,576	68,468
Earnings before tax	15,116	19,212	22,483	11,617	19,572	31,255
Deferred tax expense	(612)	(719)	418	(799)	1168	(1536)
Assets	48,516	58,168	75,889	78,770	88,852	102,891
Current assets	8776	13,756	21,561	22,486	25,134	25,280
Current liabilities	8861	11,307	16,359	11,850	13,042	19,733
Financial assets (shares and other available for sale investments)		486	535	449	762	742
Sustainable activities in current and non-current provision account (composed of the closure, rehabilitation, and restoration costs)	4112	5101	5360	6156	6642	7993
Research and development expenses	76	169	244	156	65	74
Total fines for breaching environmental regulation	0.48	0.04	0.12	0	0.04	0.002

Table 6.4 Selected ratios

	2006	2007	2008	2009	2010	2011	Rate applied in computation
Revenues growth (%)	20.25	25.08	-15.38	4.83	35.74	14.10	(average)
Sales revenue growth (%)	23.15	50.57	-15.57	5.15	35.87	12.15	(average for four years excluding the highest amount in year 2008)
Ratio of property, plant and equipment/sales revenue	0.63	0.63	0.62	0.63	0.67	0.64	(average)
Ratio of operating expenses/revenue	0.59	0.60	0.76	0.63	0.56	0.63	(average)
Growth of payments to suppliers and contractors	0.11	0.32	-0.09	-0.06	0.21	0.098	(average)
Ratio of employee wages and benefits/revenues	0.07	0.07	0.09	0.09	0.08	0.078	(average)
EBIT/long-term debt ratio	1.98	2.61	0.79	1.48	2.58	2.58	(average)
EBIT/sales ratio	0.46	0.41	0.24	0.38	0.45	0.4	(average)
Interest coverage ratio	28x	33x	21x	41x	65x	21x	(minimum)
Current ratio	0.99	1.08	1.32	1.90	1.93	1.28	1.42
Ratio of current assets/total assets	0.18	0.24	0.28	0.29	0.28	0.25	(average)
							(average)

(continued)

Table 6.4 (continued)

	2006	2007	2008	2009	2010	2011	Rate applied in computation
Dividend growth (%)		17.30	38.04	45.55	1.21	9.44	22.31 (average)
Growth in sustainable activities in provision amount (%)		24.05	5.08	14.85	7.89	20.34	14.44 (average)
Ratio of R&D/operating expenses	0.0034	0.0064	0.0068	0.004	0.002	0.0018	0.0041 (average)
Ratio of interest on loans/ long-term debt	0.08	0.07	0.08	0.04	0.04	0.04	0.06 (average)
Ratio of assets/sales	1.51	1.47	1.28	1.57	1.68	1.43	1.49 (average)
Ratio of financial assets/ assets		0.008	0.007	0.006	0.009	0.007	0.07 (average)
Ratio of total environmental fines/environmental programme expenditure	0.002	0.0001					0.0001 (minimum)

Environmental expenditure data are not available as the company's focus on integrating environmental responsibility into activities means that it is not possible to accurately extract expenditure spent on the environment and, for that reason, it is no longer reported in the Annual Report and Sustainability Report

Table 6.5 Revenues (net sales revenue plus other income) projection (in US\$ million)

	2012	2013	2014	2015	2016	Total
Revenues (net sales revenue plus other income)	82,413	94,034	107,292	122,421	139,682	545,842

14.10% (Table 6.4) in 2006–2011 was used to calculate the revenue projections for 2012–2016.

Since the other variables are the decision variables which will become the output of the model, only revenue projections are included in the objective function. Given that the estimation of total revenues for 2012–2016 is US\$545,842 million, the objective function is:

$$\begin{aligned}
 = & \text{Maximise } 545,842 - \sum_{t=1}^5 (\text{Payments to suppliers, contractors, etc.} \\
 & - \text{Wages and benefits to employees}_t \\
 & - \text{Shareholder dividends}_t - (\text{Interest rate} \times LTD_t) \\
 & - \text{Gross taxes and royalties}_t \\
 & - \text{Voluntary contributions of funds in the broader community}_t \\
 & - \text{Total environmental expenditure}_t
 \end{aligned}$$

It is assumed that the interest rate is predicted using the average of the ratio of interest on loans/long-term debt from 2006–2011, which is 0.06 (6%, see Table 6.4). The objective function becomes as follows:

$$\begin{aligned}
 = & \text{Maximise } 545,842 - \sum_{t=1}^5 (\text{Payments to suppliers, contractors, etc.} \\
 & - \text{Wages and benefits to employees}_t - \text{Shareholder dividends}_t \\
 & - (6\% \times LTD_t) - \text{Gross taxes and royalties}_t \\
 & - \text{Voluntary contributions of funds in the broader community}_t \\
 & - \text{Total environmental expenditure}_t
 \end{aligned}$$

6.5.2 Data Input for Accounting Definitional Constraints

1. Payments to government (PG_{*t*})

$$\text{Payments to government}_t = \text{tax rate}\%(\text{EBIT}_t - i_t \text{LTD}_t) + \text{Other Payments}_t,$$

where:

i is the interest rate applicable to the existing long-term debt,

EBIT is the earnings before interest and taxes,

LTD is the long-term debt.

For simplicity, the tax rate used is the standard rate for corporations (30%) and the interest rate was assumed to be at 6%. The prediction of sales revenue and EBIT in the future five years (2012–2016) was performed using the average sales growth (12.15, see Table 6.4) and average ratio of EBIT/sales in 2006–2011 (0.4, see Table 6.4). Sales revenue was used here instead of the revenues (net sales revenue plus other income) as the former represents the operational activities of a company which tends to be more stable without the other income.

For computation purposes, it was assumed that there were no other payments so that the payments to government constraint for 2012–2016 is as follows:

$$\text{Payments to government}_{2012} = 30\%(32,182 - 6\%\text{LTD}_{2012})$$

$$\text{Payments to government}_{2013} = 30\%(36,092 - 6\%\text{LTD}_{2013})$$

$$\text{Payments to government}_{2014} = 30\%(40,477 - 6\%\text{LTD}_{2014})$$

$$\text{Payments to government}_{2015} = 30\%(45,395 - 6\%\text{LTD}_{2015})$$

$$\text{Payments to government}_{2016} = 30\%(50,911 - 6\%\text{LTD}_{2016})$$

2. After-tax profit definition

$$\text{After-tax Profit}_t = (1 - \text{tax rate}) (\text{EBIT}_t - \sum_{i=1}^5 i \times \text{Long Term Debt}_t)$$

Using the standard tax rate of 30%, the equation for the after-tax profit becomes:

$$\text{After-tax profit}_{2012} = 70\% (32,182 - 6\% \text{LTD}_{2012})$$

$$\text{After-tax profit}_{2013} = 70\% (36,092 - 6\% \text{LTD}_{2013})$$

$$\text{After-tax profit}_{2014} = 70\% (40,477 - 6\% \text{LTD}_{2014})$$

$$\text{After-tax profit}_{2015} = 70\% (45,395 - 6\% \text{LTD}_{2015})$$

$$\text{After-tax profit}_{2016} = 70\% (50,911 - 6\% \text{LTD}_{2016})$$

6.5.3 Data Input for Investment Constraints

1. Investments in financial assets

Investments in financial assets_{*t*} ≥ Investments in financial assets_{*t-1*}

Investments in financial assets constraints are formed after predicting the amount of assets using the average ratio of assets/sales of 1.49 (Table 6.6) and ratio of financial assets/assets of 0.07 (Table 6.4).

The constraint can be further formed as:

$$\text{Investments in financial assets}_{2012} \geq 0.007 \times \text{Assets}_{2012}$$

$$\text{Investments in financial assets}_{2013} \geq 0.007 \times \text{Assets}_{2013}$$

$$\text{Investments in financial assets}_{2014} \geq 0.007 \times \text{Assets}_{2014}$$

$$\text{Investments in financial assets}_{2015} \geq 0.007 \times \text{Assets}_{2015}$$

$$\text{Investments in financial assets}_{2016} \geq 0.007 \times \text{Assets}_{2016}$$

In line with the ethics of care principle, the investments in financial assets are allocated in companies with sound social and environmental track records; companies that pay attention to certain issues such as human rights, labour standards, equal opportunities, environmental protection, consumer safety, community concerns and stakeholder relations. The allocation process and the selection of the investee are decided by managers and are not discussed here as they are beyond the scope of this study.

2. Investments in capital assets

Investments in capital assets_{*t*} - ρ Investments in capital assets_{*t-1*} ≥ 0
where ρ is 1 + SROI projected from the previous period.

Table 6.6 EBIT projection (in US\$ million)

	2012	2013	2014	2015	2016
Sales revenue (at 12.15% growth)	80,455	90,230	101,193	113,488	127,277
EBIT (0.4 × sales revenue)	32,182	36,092	40,477	45,395	50,911

Table 6.7 Assets projection (in US\$ million)

	2012	2013	2014	2015	2016
Sales revenue	80,455	90,230	101,193	113,488	127,277
Assets (1.49 × sales revenue)	119,878	134,443	150,778	169,097	189,643

To determine the SROI, several excerpts from the 2011 Annual Report, which reflect the benefits of investments in capital assets (property, plant and equipment), were randomly selected. Whenever possible, the benefits were quantified to estimate the social benefits from the investments. These excerpts are presented in Table 6.7.

The total social benefits for excerpts 1–5 were US\$710.44 million for a total initial investment of US\$15.44 billion. Assuming a discount rate of 5% based on the average Australian interest rates (Trading Economics 2013), the present value of the social cash flow for the five-year period (2012–2016) at a discount rate of 5% is US\$3,075,833,406. The SROI is calculated as:

$$\text{SROI} = \frac{\text{Net Present Value of Benefits}}{\text{Initial Investment}}$$

$$\text{SROI} = \frac{3,075,833,406}{15,440,000,000} = 20\%$$

Using this calculated SROI, the constraints for the company’s investment in capital assets (property, plant and equipment) are formed as follows. From the 2011 amount of investments in capital assets of US\$ 68,468 million, it is projected that the amount of investment will be growing at a rate of 20% (the SROI):

$$\text{Investments in capital assets}_{2012} - (1 + 20\%) \text{ Investments in capital assets}_{2011} \geq 0$$

$$\text{Investments in capital assets}_{2013} - (1 + 20\%) \text{ Investments in capital assets}_{2012} \geq 0$$

$$\text{Investments in capital assets}_{2014} - (1 + 20\%) \text{ Investments in capital assets}_{2013} \geq 0$$

$$\text{Investments in capital assets}_{2015} - (1 + 20\%) \text{ Investments in capital assets}_{2014} \geq 0$$

$$\text{Investments in capital assets}_{2016} - (1 + 20\%) \text{ Investments in capital assets}_{2015} \geq 0$$

In BHP Billiton's capital management strategy (2011 Annual Report, p. 217), it was stated that:

Capital management

The Group's strategy is focused on owning and operating large, long-life, low-cost, expandable, upstream assets and the Group continually reviews its portfolio to identify assets which do not fit this strategy. The Group will invest capital in assets where they fit our strategy. The Group's priorities for cash flow are:

- reinvestment in projects that carry attractive rates of return regardless of the economic climate
- commitment to a solid 'A' credit rating
- returning excess capital to shareholders firstly with its progressive dividends policy and thereafter via dividends and capital management (for example, share buy-backs)

The group's capital management strategy does not explicitly mention the social benefits to the community and environment from certain investments. However, in the Sustainability Section the company does state that:

We have actively engaged with the Australian Government as it develops its climate change policy response. In addition to recommending a policy approach that is consistent with our principles, we propose that an effective strategy for minimising Australia's exposure to a future global carbon price includes avoiding the construction of new long-life, carbon emissions intensive assets where affordable low-carbon alternatives are available, especially in the power and building sectors. (p. 47)

In Table 6.7, it can be seen that several investments do not mention the social benefits and, hence, the estimation of SROI cannot be done using the capital investments data stated in the Annual Report.

The fact that the estimation cannot be accurately performed using the publicly available data has to be recognised as one of the research limitations of this study. In future it may be possible to use the reasonable estimation, provided that the researcher has access to the accounting system of the sample and/or conducts a survey using interviews or questionnaires targeted to the responsible person in certain companies. While measuring

costs and benefits can be subjective and certain benefits and costs might not be recorded in the accounting system if they do not qualify to meet the transaction definition according to accounting principles, direct access to the sample company could at least reduce the level of subjectivity.

6.5.4 Data Input for the Company's Policy Constraints Derived from the Corporate Governance Practices from the Feminist Ethics of Care Perspective

1. Payments to suppliers and contractors (PSC_t)

$$PSC_t - \delta PSC_{t-1} \geq 0$$

Payments to suppliers and contractors for goods and services acquisition are expected to increase at least at a growth rate projected by δ which is defined as $1 +$ the average growth of 0.098 (Table 6.4).

Since the amount of payments to suppliers and contractors is one of the decision variables, it cannot be projected directly using the average growth. A series of constraint was created as follows to solve the problem using the optimisation method:

$$\begin{aligned} PSC_{2012} - 1.098 PSC_{2011} &\geq 0 \\ PSC_{2012} &\geq 1.098 \times \text{US\$}26,997 \text{ million} \\ PSC_{2012} &\geq 29,643 \text{ (US\$ million)} \\ PSC_{2013} - 1.098 PSC_{2012} &\geq 0 \\ PSC_{2014} - 1.098 PSC_{2013} &\geq 0 \\ PSC_{2015} - 1.098 PSC_{2014} &\geq 0 \\ PSC_{2016} - 1.098 PSC_{2015} &\geq 0 \end{aligned}$$

2. Employee wages and benefits amount (EWB_t)

$$EWB_t - \gamma EWB_{t-1} \geq 0$$

It is projected that employee wages and benefits will increase in γ compared to the previous year. γ is defined as $1 +$ the average ratio of employee wages and benefits/revenue in the previous periods (in Table 6.4, the average ratio is 0.078).

A series of constraints was created as follows to solve the problem using the optimisation method:

Employee wages and benefits₂₀₁₂ – 1.084 Employee wages and benefits₂₀₁₁ ≥ 0

$$\text{EWB}_{2012} \geq 1.078 \times \text{US\$}5457 \text{ million}$$

$$\text{EWB}_{2012} \geq 5915 \text{ (US\$ million)}$$

$$\text{EWB}_{2013} - 1.078 \text{ EWB}_{2012} \geq 0$$

$$\text{EWB}_{2014} - 1.078 \text{ EWB}_{2013} \geq 0$$

$$\text{EWB}_{2015} - 1.078 \text{ EWB}_{2014} \geq 0$$

$$\text{EWB}_{2016} - 1.078 \text{ EWB}_{2015} \geq 0$$

3. Dividends policy (Div_t)

Dividends are expected to grow at a constant annual rate that should be at least stable at a certain minimum dividend growth rate.

$$\text{Div}_t - \theta \text{ Div}_{t-1} \geq 0$$

where θ is 1 + the dividend growth rate (Table 6.4: 22.31%) in the last periods.

Total dividends paid in 2011 were US\$5054 million, which is included in a series of constraints below:

$$\text{Div}_{2012} - 1.223 \text{ Div}_{2011} \geq 0$$

$$\text{Div}_{2012} - 1.223 \times \text{US\$}5,054 \text{ million} \geq 0$$

$$\text{Div}_{2012} \geq 6181 \text{ (US\$ million)}$$

$$\text{Div}_{2013} - 1.223 \text{ Div}_{2012} \geq 0$$

$$\text{Div}_{2014} - 1.223 \text{ Div}_{2013} \geq 0$$

$$\text{Div}_{2015} - 1.223 \text{ Div}_{2014} \geq 0$$

$$\text{Div}_{2016} - 1.223 \text{ Div}_{2015} \geq 0$$

4. Total environmental fines amounts

The ratio of total fines for breaching environmental regulations to the amount of environmental programme expenditure in 2012 should be less than the minimum ratio in the previous years (represent here as X, which is 0.0001 in Table 6.4).

$$\frac{\text{Total environmental fines}_t}{\text{Environmental programme expenditure}_t} \leq X$$

$$\frac{\text{Total environmental fines}_{2012-2016}}{\text{Environmental programme expenditure}_{2012-2016}} \leq 0.0001$$

Total environmental fines₂₀₁₂ ≤ 0.0001 × Environmental programme expenditure₂₀₁₂

Total environmental fines₂₀₁₃ ≤ 0.0001 × Environmental programme expenditure₂₀₁₃

Total environmental fines₂₀₁₄ ≤ 0.0001 × Environmental programme expenditure₂₀₁₄

Total environmental fines₂₀₁₅ ≤ 0.0001 × Environmental programme expenditure₂₀₁₅

Total environmental fines₂₀₁₆ ≤ 0.0001 × Environmental programme expenditure₂₀₁₆

5. Provision amounts

Provision amounts related to sustainable activities in the balance sheet (such as closure, rehabilitation and restoration costs) should be growing at the average of provision growth in the previous years (represented by ε).

$$\text{Provision}_t - \varepsilon \text{Provision}_{t-1} \geq 0$$

where ε is 1 + the average of provision growth rate in the previous periods (which is 14.44% in Table 6.4).

The constraints are as follows:

$$\text{Provision}_{2012} - 1 + 14.44\% \text{Provision}_{2011} \geq 0$$

$$\text{Provision}_{2013} - 1 + 14.44\% \text{Provision}_{2012} \geq 0$$

$$\text{Provision}_{2014} - 1 + 14.44\% \text{Provision}_{2013} \geq 0$$

$$\text{Provision}_{2015} - 1 + 14.44\% \text{Provision}_{2014} \geq 0$$

$$\text{Provision}_{2016} - 1 + 14.44\% \text{Provision}_{2015} \geq 0$$

6. The interest coverage

The interest coverage should be at least equal to the minimum interest coverage multiplier in the last periods (represented by Y, which is 21× in Table 6.4).

$$\frac{\text{EBIT}_t}{i \times \text{LTD}_t} \geq Y$$

Based on data from the EBIT projection in Table 6.8 and an interest rate of 6%, the series of constraints below were created:

$$\frac{\text{EBIT}_{2012-2016}}{6\% \times \text{LTD}_{2012,2013,2014,2015,2016}} \geq 21$$

Table 6.8 Selected excerpts to determine the SROI

Excerpts from 2011 Annual Report	Quantification to determine the SROI
<p>1. <i>Macedon</i></p> <p>Macedon is a domestic gas development in Western Australia. The project will consist of a 200 MMcf/d of stand-alone gas plant, four subsea production wells, a 90 kilometre, 20 inch wet gas pipeline and a 67 kilometre, two inch sales gas pipeline. In August 2010, the project was approved at an investment level of US\$1050 million (net BHP Billiton share). Execution phase work, including award of principal Engineering Procurement and Construction Management (EPCM) onshore and offshore installation contracts, has commenced.</p> <p>We are the operator, with a 71.43 per cent interest and Apache PVG Pty Ltd holds the remaining 28.57 per cent interest. First gas is expected in CY2013. (p. 21)</p>	<p>The benefits to social and environment are not mentioned in the excerpt. Assume that the social benefits of this project include but are not limited to the following items:</p> <ol style="list-style-type: none"> 1. A better and safe work place which will reduce casualties (injury) costs or the workers' visit to doctor or hospital. <p>The appropriate indicator to be used is the Total recordable injuries frequency (TRIF) which is defined as:</p> <p>The sum of (fatalities + lost-time cases + restricted work cases + medical treatment cases) x 1,000,000 ÷ actual hours worked.</p> <p>TRIF is stated in units per million hours worked. In 2011, the TRIF was 5. Assume that the costs per recordable injury are US\$2 million based on calculated cost per casualty and fatalities for proposed Olympic Dam expansion (2011, p. 679). Benefits in form of cost savings then become US\$10 million.</p> <ol style="list-style-type: none"> 2. A better gas processing which will control and reduce the greenhouse gas (GHG) emissions. As no sufficient data are available, assumption is used to measure the benefits of GHG emissions reduction. Assume that the benefits amount to 5% of US\$1050 million investment level (US\$ 52.5 million). <p>Total social benefits are US\$10 million + US\$ 52.5 million = US\$ 62.5 million</p> <p>The investment level is US\$1050 million</p> <p>Assume that the social benefits of this project include but are not limited to the following items:</p> <ol style="list-style-type: none"> 1. A more environment friendly tailing system which will save the costs of cleaning the water and land resources. Assume that the avoided costs of cleaning should a leak occurs amount to \$40 per ton. The cost savings become US5.2 million. 2. An improvement in power transmission line, flotation circuit and port capacity. Assume that the benefits amount to 5% of US\$434.7 million investment level (US\$21.74 million). <p>Total social benefits are US\$5.2 million + US\$21.74 million = US\$26.94 million</p> <p>The investment level is US\$434.7 million</p>
<p>2. We own 33.75 per cent of Antamina, a large, low-cost, long-life copper/zinc mine in Peru.</p> <p>In FY2011, Antamina continued execution of the expansion project. With a total investment of US\$1.3 billion (US\$434.7 million our share), the project will expand milling capacity by 38 per cent to 130,000 tonnes per day (tpd). The expansion project includes a new SAG mill, a new 55 kilometre power transmission line, an expanded truck shop facility and upgrades to the crushing and tailing systems, flotation circuit and port capacity. Commissioning of the project is scheduled to start at the end of CY2011. Our share of the capital expenditures in the project totalled US\$147 million in FY2011. In addition, Antamina announced an increase to its estimated Ore Reserves during the second half of FY2011. (p. 28)</p>	<p>Total social benefits are US\$5.2 million + US\$21.74 million = US\$26.94 million</p> <p>The investment level is US\$434.7 million</p>

(continued)

Table 6.8 (continued)

Excerpts from 2011 Annual Report	Quantification to determine the SROI
<p>3. Western Australia Iron Ore</p> <p>Construction of Rapid Growth Project 5 (RGP5) is ongoing. Our share of project expenditure to 30 June 2011 amounted to US\$4.8 billion. This project, which was announced in November 2008, will substantially double track the Newman main rail line, construct two new shipping berths on the Finucane Island side of the Port Hedland harbour and add crushing, screening and stockpiling facilities at Yandi.</p> <p>In March 2011, we announced approval of an additional US\$7.4 billion (BHP Billiton share US\$6.6 billion) of capital expenditure to continue production growth in our WAIO operations. This investment is the final approval of projects initiated in 2010, with pre-commitment funding of US\$2.3 billion (BHP Billiton share US\$2.1 billion).</p> <p>It will deliver an integrated operation with a minimum capacity of 220 mtpa (100 per cent basis), with first production expected from Jimblebar early in CY2014. This additional investment includes:</p> <ul style="list-style-type: none"> • US\$3.4 billion (BHP Billiton share US\$3.3 billion) to develop the Jimblebar mine and rail links, and procure mining equipment and rolling stock to deliver an initial capacity of 35 mtpa, expandable to 55 mtpa; • US\$2.3 billion (BHP Billiton share US\$1.9 billion) to further develop Port Hedland, including two additional berths and ship loaders, a car dumper, connecting conveyor routes and associated rail works and rolling stock; • US\$1.7 billion (BHP Billiton share US\$1.4 billion) for port blending facilities and rail yards to enable ore blending, expand resource life and prepare for the future growth of the business beyond the inner harbour. (p. 34) 	<p>Assume that the social benefits of this project include but are not limited to the following items:</p> <ul style="list-style-type: none"> • The additional crushing, screening and stock piling facilities will improve the dust management which will have a good impact to the health, safety and productivity of the workers and people who live in surrounding areas. Assume that it will save the costs of hospital visit amount to 5% of the construction costs (US\$4.8 billion). The cost savings are US\$240 million. • The investment of port blending facilities can expand resource life and contribute to the future growth of the iron ore business beyond the inner harbour. This investment will need many workers and, hence, create job opportunities for local people. Assume that the job opportunities will bring welfare for the workers in an amount equals to 1% of the Total investment ((US\$ 4.8 billion + US\$6.6 billion = US\$11.4 billion). The estimated welfare created is US\$114 million. <p>Total social benefits are US\$240 million + US\$114 million = US\$354 million</p> <p>Total investment level is US\$11.4 billion</p>

4. Metalloids

The High Carbon Ferro Manganese (HCFeMn) furnace M14 at the Metalloids

West Plant was approved for execution in November 2010 with a total

approved investment of US\$91 million (US\$54.6 million BHP Billiton share).

This furnace would add an additional 130 kilotonnes per annum (ktpa)

capacity (100 per cent or about 78 ktpa BHP Billiton share) of HCFeMn and

replace smaller, less efficient furnaces from the South Plant with a current

capacity of 55 ktpa. The M14 furnace will contribute to power efficiency at

Metalloids site as it will add to the site's own generation capacity utilising the

furnace off-gases. (p. 36)

Assume that the social benefits of this project include but not limited to the following items:

- A rise in the energy sufficiency across the production facility which results in a reduction in CO₂ footprint. According to a report by The Climate Institute (The Climate Institute 2009) BHP Billiton estimated an emission reduction of around 741,000 tonnes a year. Assuming the carbon prices identified in the Treasury's modelling of \$23 per tonne, the potential savings that can be used for social benefits (such as for the community investment, local worker recruitment, etc.) are US\$17 million for total investment level of US\$54.6 million.

Total social benefits are US\$17 million.

Total investment level is US\$54.6 million

Assume that the social benefits of the expansion include but not limited to:

- employment opportunities especially for the people in the surrounding areas;
- population growth and diversification in communities;
- increased financial supports and education in the towns;
- improvements in infrastructure such as roads, communications and access to water pipelines.

Due to the unavailability of public data on the detail of the benefits, an assumption of 10% of shared total investments is used to represent the social benefits. The amount is 10% of US42.5 billion which is US\$250 million.

Total social benefits are US\$250 million

Total investment level is US\$2.5 billion

5. Bowen Basin Expansions

In March 2011, approval was given for three key metallurgical coal projects

located in the Bowen Basin in Central Queensland, Australia. The projects

are expected to add 4.9 Mt of annual mine capacity (100 per cent basis)

through development of the Daunia operation and a new mining area at

Broadmeadow. In addition, 11 Mt of annual port capacity (100 per cent

basis) will be developed at the Hay Point Coal terminal. The total investment

is expected to be US\$5 billion, of which BHP Billiton's share is US\$2.5 billion.

(p. 38)

$$\begin{aligned}
 32,182 &\geq 21 \text{ (6 \% LTD}_{2012}\text{)} \\
 32,182 &\geq 1.26 \text{ LTD}_{2012} \\
 36,092 &\geq 1.26 \text{ LTD}_{2013} \\
 40,477 &\geq 1.26 \text{ LTD}_{2014} \\
 45,395 &\geq 1.26 \text{ LTD}_{2015} \\
 50,911 &\geq 1.26 \text{ LTD}_{2016}
 \end{aligned}$$

7. Current ratio

The current ratio is maintained at a minimum of the average ratio in the last periods, which was 1.42 in Table 6.4.

$$\frac{CA_t}{CL_t} \geq \text{Average} \sum_{t=1}^T \frac{CA}{CL}$$

Using the current ratio of 1.42 and the ratio of current assets/total assets, which is 0.25, the amounts of current assets and current liabilities are calculated as shown in Table 6.9.

8. Environmental research expenditure (ERE_t)

Expenditure related to participation in research and policy development on reducing climate change impacts, reducing energy and greenhouse gas emissions, water reporting and accounting, product and by-product impacts on nature and other efforts in collaboration with government or other institutions, should be at least the same as in the previous year.

$$\text{ERE}_t \geq \text{ERE}_{t-1}$$

BHP Billiton does not provide details of such expenditure in its financial statements. However, several statements are disclosed in the Sustainability and Annual Reports which can be used as an indication of how much the company spent to participate in environmental research and policy development. These statements are:

We will spend US\$300 million over the period 2008 to 2012 to:

- *support industry research, development and demonstration of low emissions technologies, including collaborative research dedicated to accelerating the commercial uptake of promising technologies;*
- *provide capital funding for internal energy projects with a GHG emissions reduction component that might not otherwise be competitive within our normal capital allocation processes;*

Table 6.9 Current assets and current liabilities projection (in US\$ million)

	2012	2013	2014	2015	2016
Total assets (1.49 × sales revenue)	119,878	134,443	150,778	169,097	189,643
Current assets (0.25 × total assets)	29,970	33,611	37,695	42,274	47,411
Current liabilities (current assets/1.42)	21,106	23,670	26,546	29,770	33,388

- *support the efforts of our employees and our local communities to reduce their emissions.* (2011 Sustainability Report, p.43)

We recognise that the need to control carbon dioxide emissions has substantial implications for the use of thermal coal as an energy source. We have committed to invest US\$300 million over five years from June 2007 to support the research, development and demonstration of low-emissions technologies, including ‘clean coal’ and carbon sequestration technologies. (2010 Annual Report, p. 49)

From those statements, it is apparent that BHP Billiton spent US\$300 million to support research on low-emissions technologies. For simplicity, just assume that BHP Billiton spent the other US\$200 million for research on other matters, such as water reporting and accounting and product and by-product impact on nature. Such simplified assumptions would definitely be used if the company’s accounting system could be accessed and the figure could be efficiently extracted from the accounting system. Total expenditure of at least US\$500 million is expected to occur in the period of 2012–2016, calculated as follows:

$$\begin{aligned}
 &ERE_{2012, 2013, 2014, 2015, 2016} \geq ERE_{2011} \\
 &ERE_{2012} \geq 500 \\
 &ERE_{2013} - ERE_{2012} \geq 0 \\
 &ERE_{2014} - ERE_{2013} \geq 0 \\
 &ERE_{2015} - ERE_{2014} \geq 0 \\
 &ERE_{2016} - ERE_{2015} \geq 0
 \end{aligned}$$

9. Environmental costs (EC_t)

The costs of energy, greenhouse gas emissions, water use and other climate change factors are expected to decrease at the average rate of

Table 6.10 Estimation of BHP Billiton’s environmental costs

	2006	2007	2008	2009	2010	2011
Energy use (petajoules)	302	296	306	309	284	286
Costs of energy use per petajoules (US\$) ^a	17	20	23	18	15	15
Total costs of energy use (US\$ million)	0.005	0.006	0.007	0.006	0.004	0.004
Greenhouse gas emission (kilotonnes CO _{2-e})	52,000	50,000	51,000	49,000	47,000	40,800
Costs of greenhouse gas emission per kilotonnes CO _{2-e} (US\$) ^b	10,000	10,000	10,000	10,000	10,000	10,000
Total costs of greenhouse gas emission (US\$ million)	520	500	510	490	470	408
Water use (Megalitres-ML)	161,670	161,000	163,000	162,000	147,000	147,000
Costs of water use per Megalitres-ML (US\$) ^c	1500	1500	1500	1500	1500	1500
Total costs of water use (US\$ million)	243	242	245	243	221	221
Total Costs (US\$ million)	763	742	755	733	691	629
Changes (increase/decrease)		-0.027	0.018	-0.029	0.057	-0.089

Notes: Various external sources were used as the information was not provided in BHP Billiton’s reports:

^aWood and Carter (2013)

^bThe Climate Institute (2009)

^cCollins (2009)

changes in the previous periods. The decrease is symbolised as ϕ which is defined as $1 - \text{average rate of change}$.

$$\text{Environmental costs}_t - \phi \text{Environmental costs}_{t-1} = 0$$

To estimate the environmental costs, several indicators were collected from the Annual and Sustainability Reports. These are presented in Table 6.10.

The average change of energy costs is 0.014. It is predicted that the amount of the environmental costs will decrease at this rate. The constraints are as follows:

$$\text{Environmental costs}_t - \phi \text{Environmental costs}_{t-1} = 0$$

$$EC_{2012} - (1 - 0.014) \text{Environmental costs}_{2011} = 0$$

$$EC_{2012} - 0.986 \times 629 = 0$$

$$\begin{aligned}
 EC_{2012} &= 620 \\
 EC_{2013} - 0.986 EC_{2012} &= 0 \\
 EC_{2014} - 0.986 EC_{2013} &= 0 \\
 EC_{2015} - 0.986 EC_{2014} &= 0 \\
 EC_{2016} - 0.986 EC_{2015} &= 0
 \end{aligned}$$

10. Biodiversity and land management expenditure (BLE_t)

Biodiversity and land management expenditure is expected to be enhanced and, hence, the expenses and costs related to them are expected to be higher than the previous period, or at least the same.

$$BLE_t \geq BLE_{t-1}$$

where BLE is the biodiversity and land management expenditures.

In its 2011 Annual Report, BHP Billiton disclosed several activities in biodiversity and land management that follow a holistic approach, as follows:

- (a) Assessing and managing the potential impacts of the operations throughout their life cycle, across social, environmental and economic spheres.
- (b) Adhering to a formal hierarchy process that begins with avoiding disturbance, followed by mitigating negative impacts, rehabilitating the environment and undertaking compensatory actions.
- (c) Conducting effective land management by optimising all land uses within a given region, whether they are for the provision of mining, industrial, agricultural or environmental services.
- (d) Obtaining community support when there is strong competition for the use of the land, such as a competition between resource development and agriculture.
- (e) Making a number of commitments with regard to protected areas and threatened species.
- (f) Having a land management plan that includes base-line and impact assessments, implementation of controls to mitigate impacts on biodiversity and other ecosystem services and monitoring programmes to ensure the controls are effective.

- (g) Contributing to conservation to deliver significant and lasting benefits to the environment by preserving land of high conservation value in key regions where BHP Billiton operates.

Unfortunately, not many details are provided on these matters in either the Annual or Sustainability Reports, except for a few excerpts, as follows:

Since late 2007, BHP Billiton has implemented an extensive engagement process with conservation Non-Government Organisations (NGOs) aimed at protecting the biodiversity of the region. This led to the formation of a biodiversity strategy to help manage biodiversity in the project area. In 2008, following a series of workshops with leading NGOs, BHP Billiton and Fauna and Flora International (FFI) commenced a joint project ... In February 2010, BHP Billiton signed a \$1.9 million agreement with FFI for an additional program of conservation measures in addition to the \$2.5 million already spent in the area. This project will build on outcomes from previous work and ensure the findings are used in developing a regional conservation strategy. (2010 Sustainability Report, p. 18)

We continue to support biodiversity research, with a US\$3.5 million expenditure in research and development. We had no significant environmental incidents and received four environmental fines totalling US\$37,387 in 2006/07. (2007 Sustainability Report, p. 61)

Our Sustainable Development Policy states that we will 'enhance biodiversity protection by assessing and considering ecological values and land-use aspects in investment, operational and closure activities'. Over the reporting period:

- Eighteen sites reported having biodiversity plans in place ...
- Thirty-one sites contributed to biodiversity-related research and development with expenditure totalling US\$2.68 million. (2006 Sustainability Report, p. 335)

The amount spent in 2010 (\$4.4 million comprising the \$1.9 million and \$2.5 million highlighted in the excerpts above) is the previous period expenditure to be included in the constraint as follows:

$$\begin{aligned} \text{BLE}_t &\geq \text{BLE}_{t-1} \text{ or } \text{BLE}_t - \text{BLE}_{t-1} \geq 0 \\ \text{BLE}_{2012} &\geq \text{BLE}_{2011} \\ \text{BLE}_{2012} &\geq 4.4 \end{aligned}$$

$$\begin{aligned} \text{BLE}_{2013} - \text{BLE}_{2012} &\geq 0 \\ \text{BLE}_{2014} - \text{BLE}_{2013} &\geq 0 \\ \text{BLE}_{2015} - \text{BLE}_{2014} &\geq 0 \\ \text{BLE}_{2016} - \text{BLE}_{2015} &\geq 0 \end{aligned}$$

11. HSEC risk management programme expenditure

Expenditures on risk management programmes for HSEC are predicted to be higher than or at least the same as in the previous year.

HSEC risk programme_t ≥ HSEC risk programme_{t-1}

In its 2011 Annual Report, BHP Billiton discloses the following indicators of the HSEC programme:

- (a) total recordable injury frequency (TRIF);
- (b) fatalities/significant environmental incidents;
- (c) HSE risk management;
- (d) human rights impact assessment; and
- (e) environment and occupational health.

It is expected that the number of injuries or incidents will decrease. However, the overall costs for the HSEC programme are expected to be higher than or at least the same as in the previous year.

Unfortunately, no data are provided in regards to the amount spent on HSEC activities to support each programme indicator. The lack of data could be because the amount is not material and therefore cannot be disclosed. For simplicity, it is assumed that the programme consumed 0.1% of operating expenses in the period of 2012 and then subsequently increased 10%. To form the constraints, the operating expenses were projected as the balance remaining after subtracting EBIT from revenues (Table 6.11).

Table 6.11 Operating expenses projection (in US\$ million)

	2012	2013	2014	2015	2016
Revenues (net sales revenue plus other income)	82,413	94,034	107,292	122,421	139,682
Less: EBIT	32,182	36,092	40,477	45,395	50,911
Operating expenses	50,231	57,942	66,815	77,026	88,771

The constraints are as follows:

$$\text{HSEC risk programme}_{2012} \geq 0.1 \% \times \text{Operating expenses}_{2012}$$

$$\text{HSEC risk programme}_{2013} - (1 + 10\%) \text{HSEC risk programme}_{2012} \geq 0$$

$$\text{HSEC risk programme}_{2014} - (1 + 10\%) \text{HSEC risk programme}_{2013} \geq 0$$

$$\text{HSEC risk programme}_{2015} - (1 + 10\%) \text{HSEC risk programme}_{2014} \geq 0$$

$$\text{HSEC risk programme}_{2016} - (1 + 10\%) \text{HSEC risk programme}_{2015} \geq 0$$

12. Communication expenses

Communication expenses reflect the stakeholder engagement methods. In line with the ethics of care principles, the engagement through communication appears to be extensive. In this model, the communication expenditure allocated to discussing and solving problems with any stakeholders should increase at least to the average of communication expenses to operating expenses ratio in the previous years.

$$\text{Communication expenses}_t \geq \left(\text{Average} \sum_{t=1}^T \frac{\text{Communication expenses}}{\text{Operating expenses}} \right) \times \text{Operating expenses}_{t-1}$$

The communication process can take many forms, from meetings, printed and telephone communication to e-mails. While the transaction might seem to be meticulously reported, it can be made possible through the design of accounting systems to support such reporting. Since no data are available in regards to the detail of stakeholder communication expenses in the company's Annual and Sustainability Reports, an assumption is made for the average ratio of communication expenses to operating expenses in the previous years to be 0.005. The constraints of communication expenses are as follows:

$$\text{Communication expenses}_{2012} \geq 0.005 \times \text{Operating expenses}_{2011}$$

$$\text{Communication expenses}_{2013} \geq 0.005 \times \text{Operating expenses}_{2012}$$

$$\text{Communication expenses}_{2014} \geq 0.005 \times \text{Operating expenses}_{2013}$$

$$\text{Communication expenses}_{2015} \geq 0.005 \times \text{Operating expenses}_{2014}$$

$$\text{Communication expenses}_{2016} \geq 0.0005 \times \text{Operating expenses}_{2015}$$

Table 6.12 The amount of actual or potential litigation (in US\$ million)

	2006	2007	2008	2009	2010	2011
Actual or potential litigation amount	–	712	862	941	1333	2077

13. Litigation proceedings amounts

The litigation proceedings amounts allocated to solve problems with stakeholders should be less than or at least the same as the lowest amount in the previous periods.

Litigation expenses_{*t*} ≤ Lowest litigation expenses_{*t=1*}^{*T*}

In the Contingent Liabilities section of the Notes to Financial Statements in the Annual Report, the actual or potential litigation amount was stated as presented in Table 6.12. The amount is related to a number of actions against the Company's Group, none of which were individually significant.

The lowest amount from the previous period was US\$712 million, which is expected to become the maximum amount of litigation expenses in the period 2012–2016. The constraints for the litigation amount were formed as follows:

$$\text{Litigation expenses}_{2012} \leq 712$$

$$\text{Litigation expenses}_{2013} \leq 712$$

$$\text{Litigation expenses}_{2014} \leq 712$$

$$\text{Litigation expenses}_{2015} \leq 712$$

14. Female recruitment expenditure

It is expected that the company will increase the expenditure to recruit female employees (including any education programmes for graduates) beyond the previous year at a rate amounting to the average ratio of such expenditures to operating expenses. The increase in expenses will not only be due to the inflation factor but mainly because of the company's commitment to gender diversity in its workforce.

$$\text{Female recruitment expenses}_t \geq \left(\text{Average} \sum_{t=1}^T \frac{\text{Female recruitment expenses}}{\text{Total expenses}} \right) \times \text{Operating expenses}_{t-1}$$

Due to the unavailability of data, an assumption was used to arbitrarily set the average ratio of the female recruitment expenditure at 0.00025 of total operating expenses. The constraints for female recruitment expenditure are as follows:

$$\text{Female recruitment expenses}_{2012} \geq 0.00025 \times \text{Operating expenses}_{2011}$$

$$\text{Female recruitment expenses}_{2013} \geq 0.00025 \times \text{Operating expenses}_{2012}$$

$$\text{Female recruitment expenses}_{2014} \geq 0.00025 \times \text{Operating expenses}_{2013}$$

$$\text{Female recruitment expenses}_{2015} \geq 0.00025 \times \text{Operating expenses}_{2014}$$

$$\text{Female recruitment expenses}_{2016} \geq 0.00025 \times \text{Operating expenses}_{2015}$$

15. Expenditure for leadership and mentoring programmes for future female leaders

It is expected that the expenditure for leadership and mentoring programmes will be higher or at least the same as in the previous year. In BHP Billiton, through the ALDP, female participation was expected to increase to 40% by the end of 2012.

$$\text{Female leadership programme expenses}_t \geq \text{Female leadership programme expenses}_{t-1}$$

For simplicity, it is assumed that the expenditure of the programme will be 0.000125 of the operating expenses since no data are available in the financial statement. The constraints then become as follows:

$$\text{Female leadership programme expenses}_{2012} \geq \text{Female leadership programme expenses}_{2011}$$

Since the amount of operating expenses is predicted to increase, the constraints were rewritten as follows:

$$\text{Female leadership programme expenses}_{2012} \geq 0.000125 \times \text{Operating expenses}_{2011}$$

$$\text{Female leadership programme expenses}_{2013} \geq 0.000125 \times \text{Operating expenses}_{2012}$$

$$\text{Female leadership programme expenses}_{2014} \geq 0.000125 \times \text{Operating expenses}_{2013}$$

Female leadership programme expenses₂₀₁₅ ≥ 0.000125 × Operating expenses₂₀₁₄

Female leadership programme expenses₂₀₁₆ ≥ 0.000125 × Operating expenses₂₀₁₅

16. Research and development expenses

It is expected that research and development expenses for CSR activities will be stable at least in the average proportion of R&D expenses/operating expenses in previous periods (represented by ϵ , which is 0.0041 in Table 6.4).

$$R \ \& \ D \ expenses_t \geq \epsilon \text{ Operating expenses}_{t-1}$$

$$R \ \& \ D \ expenses_{2012} \geq 0.0041 \text{ Operating expenses}_{2011}$$

$$R \ \& \ D \ expenses_{2013} \geq 0.0041 \text{ Operating expenses}_{2012}$$

$$R \ \& \ D \ expenses_{2014} \geq 0.0041 \text{ Operating expenses}_{2013}$$

$$R \ \& \ D \ expenses_{2015} \geq 0.0041 \text{ Operating expenses}_{2014}$$

$$R \ \& \ D \ expenses_{2016} \geq 0.0041 \text{ Operating expenses}_{2015}$$

17. Community contribution and environmental programme expenditure (CC_{*t*} and EPE_{*t*})

Community contribution and environmental expenditure should be at least a certain percentage of pre-tax profit (represented here as Z):

$$\text{Community contribution}_t \geq Z\% \text{ Pre-tax profit}_t$$

$$\text{Environmental programme expenditure}_t \geq Z\% \text{ Pre-tax profit}_t$$

BHP Billiton has a policy that commits contributions to support the communities in which it operates. Community investments comprise cash, in-kind support and administrative costs. The targeted level of contribution is 1% of pre-tax profit.

$$\text{Community contribution}_t \geq Z\% \text{ Pre-tax profit}_t$$

$$\text{Community contribution}_t \geq 1\%(\text{EBIT}_t - i_t \text{LTD}_t)$$

Using the interest rate of 6% and EBIT projection, as presented in Table 6.8, the constraint was rearranged as follows to determine the amount of contributions to the community as one of the decision variables:

$$\text{Community contribution}_{2012} \geq 1\%(\text{EBIT}_{2012} - 6\% \text{LTD}_{2012})$$

$$CC_{2012} \geq 1\%(32,182 - 6\% \text{LTD}_{2012})$$

$$CC_{2013} \geq 1\%(36,092 - 6\% \text{LTD}_{2013})$$

$$CC_{2014} \geq 1\%(40,477 - 6\% \text{LTD}_{2014})$$

$$CC_{2015} \geq 1\%(45,395 - 6\% \text{LTD}_{2015})$$

$$CC_{2016} \geq 1\%(50,911 - 6\% \text{LTD}_{2016})$$

For environmental programme spending (including environmental programmes in certain sites, site rehabilitation, environmental monitoring and other environment expenditure, such as environmental impact assessment and training), the data are only available for the years 2006 and 2007. This is because the company's focus shifted to integrating environmental responsibility into all activities, meaning that it is not possible to extract accurate expenditure data relating to the environment and, for that reason, this was no longer reported in the Annual and Sustainability Reports after 2007. The amounts for 2006 and 2007 were US\$309 million and US\$288 million, respectively, which accounted for 2% and 1.6% of pre-tax profit. By assuming that the targeted level of contribution is 2% and the interest rate is 6%, the constraints for the environmental spending were constructed as follows:

$$\text{Environmental programme expenditure}_t \geq Z\% \text{Pre-tax profit}_t$$

$$EPE_t \geq 2\%(\text{EBIT}_t - 6\% \text{LTD}_t)$$

$$EPE_{2012} \geq 2\%(32,182 - 6\% \text{LTD}_{2012})$$

$$EPE_{2013} \geq 2\%(36,092 - 6\% \text{LTD}_{2013})$$

$$EPE_{2014} \geq 2\% (40,477 - 6\% LTD_{2014})$$

$$EPE_{2015} \geq 2\% (45,395 - 6\% LTD_{2015})$$

$$EPE_{2016} \geq 2\% (50,911 - 6\% LTD_{2016})$$

18. Equal pay for women employees

$$\text{Female employees wages rate}_t - \text{Male employees wages rate}_t = 0$$

As discussed in Chap. 5, in the 2011 Sustainability Report, the company mentioned that during the year it had reviewed pay equity based on gender across the senior management population, which revealed a female to male salary ratio of 1.005:1.000. It is stated that BHP Billiton was satisfied that the process of remunerating employees in this grouping was based on skills, experience and size of role and was not tainted by structural bias on the basis of gender.

Unfortunately, BHP Billiton did not disclose the review results of pay equity for all employees. The amount of employee wages as one of the decision variables is constrained by the equal pay for women employee constraint. The data on pay equity for all employees are needed and, since they are not available, it is assumed that they are equal (which means that the ratio of female to male salary is 1:1).

19. Work–life balance policy

$$\text{Work – life balance policy expenses}_t \geq \text{Work – life balance policy expenses}_{t-1}$$

The work–life balance policy expenses comprise parental or maternity leave expenses, child-care facilities expenses (including the salaries of the child-care workers, facilities maintenance expenses and purchase expenses of the supplies and tools; or the company's subsidy for the outside child-care expenses if such facilities are not provided), child benefits and/or other work–life balance policy expenses in accordance with the company's policy.

In this model, the pertinent expenses related to the work–life balance policy were budgeted to be at least the same as in the previous year. Such expenses will depend on the number of employees who are eligible.

Since the amounts spent for the work–life balance policy were not provided in the Annual and Sustainability Reports, an assumption was made

to predict the expenditure at the targeted level of 1% of total employee wages and benefits. The constraints then were arranged as follows:

$$\text{Work – life balance policy expenses}_{2012} \geq \text{Work – life balance policy expenses}_{2011}$$

As the amount of employee wages and benefits is projected to increase, the constraints of the work–life balance policy expenses were expressed as follows:

$$\text{Work – life balance policy expenses}_{2012} \geq 1\% \times \text{Employee wages and benefits}_{2012}$$

$$\text{Work – life balance policy expenses}_{2013} \geq 1\% \times \text{Employee wages and benefits}_{2013}$$

$$\text{Work – life balance policy expenses}_{2014} \geq 1\% \times \text{Employee wages and benefits}_{2014}$$

$$\text{Work – life balance policy expenses}_{2015} \geq 1\% \times \text{Employee wages and benefits}_{2015}$$

$$\text{Work – life balance policy expenses}_{2016} \geq 1\% \times \text{Employee wages and benefits}_{2016}$$

20. Cost savings from decrease in employee turnover

As discussed earlier, according to Cascio (1991), costs of turnover consist of separation costs, replacement costs and training costs. If a company can manage the employee turnover, there will be cost savings created and it is expected that turnover costs should be less than, or at least the same as, the previous period. Hence, the constraint becomes:

$$\text{Costs of employee turnover}_t \leq \text{Costs of employee turnover}_{t-1}$$

Since there are no data available for the amount of separation costs, replacement costs and training costs in the Annual and Sustainability Reports, a statistic on the average total costs of turnover from Mercer (Mercer 2013) was used. It was predicted that the costs could be as high as 150% of employees’ annual salaries. Assuming that the average annual salary is \$50,000 per employee, the employee turnover and number of employees is estimated as follows (Table 6.13).

The constraints for the costs of employee turnover were arranged as follows:

Table 6.13 The estimation of the costs of turnover

	2006	2007	2008	2009	2010	2011
Actual number of:*						
1. employeest (percent increase)	37,762	39,947 (5.79)	41,732 (4.47)	40,990 (-1.78)	39,570 (-3.46)	40,757 (2.99)
2. turnover (%) (percent increase)	7.3	12 (64.4)	14 (16.7)	15.5 (10.7)	8.94 (-42.3)	8.83 (-1.2)
		2012	2013	2014	2015	2016
The estimation of:						
3. employees (based on the average of percent increase 1.6%)		41,409	42,072	42,745	43,429	44,124
4. turnover (%) (based on assumed targeted level of turnover 9% in 2012 and decrease of 0.5% each year after)		3727	3576	3420	3257	3089

Source: 2006–2011 Annual Reports.

$$\text{Costs of employee turnover}_{2012} \leq 3727 \times US\$50,000 \times 150\%$$

$$\text{Costs of employee turnover}_{2013} \leq 3576 \times US\$50,000 \times 150\%$$

$$\text{Costs of employee turnover}_{2014} \leq 3420 \times US\$50,000 \times 150\%$$

$$\text{Costs of employee turnover}_{2015} \leq 3257 \times US\$50,000 \times 150\%$$

$$\text{Costs of employee turnover}_{2016} \leq 3089 \times US\$50,000 \times 150\%$$

21. Expenses for women's empowerment programmes in the community group

It is expected that the women's empowerment programme expenditure will be higher or at least the same as the average amounts of expenditure in the previous periods.

$$\text{Women empowerment program}_i \geq \text{Women empowerment program} \times \text{Community contributions}_i$$

Table 6.14 The expenditures for women empowerment programme in community group (US\$)

	2006	2007	2008
Support for women's capacity building projects for NGOs to address gender issues (non-health related)	596,000	148,100	
Support for women in leadership Awards/recognition especially for women	4000	16,300 3900	
Promote gender equality and empower women			546,294
Total amount spent	600,000	168,300	546,294
Community contributions (million)	81.3	103.4	141
Portion of total amount spent for women's empowerment programmes to community contribution (%)	0.74	0.16	0.39
Average portion		0.43%	

where Women's empowerment program represents the average portion of the empowerment programme expenditure to the community contributions amount in the previous periods.

BHP Billiton disclosed the amount it spent for the programme in its 2006, 2007 and 2008 Sustainability Report as presented in Table 6.14.

As depicted in Table 6.14, the average portion is 0.43%, which was entered into the constraints as follow:

$$\text{Women empowerment programme}_{2012} \geq 0.43\% \times \text{Community contributions}_{2012}$$

$$\text{Women empowerment programme}_{2013} \geq 0.43\% \times \text{Community contributions}_{2013}$$

$$\text{Women empowerment programme}_{2014} \geq 0.43\% \times \text{Community contributions}_{2014}$$

$$\text{Women empowerment programme}_{2015} \geq 0.43\% \times \text{Community contributions}_{2015}$$

$$\text{Women empowerment programme}_{2016} \geq 0.43\% \times \text{Community contributions}_{2016}$$

6.6 Analysis of Results

The optimal output generated by the simplex algorithm using the Premium Solver application in Microsoft Excel consists of values for each decision variables for a five-year future period ($t = 2012\text{--}2016$). The output is provided in the Answer Report generated by the Solver application. For constraints, the Answer Report contained 5 (columns) as follows.

1. The name column indicates the required used of each constraint.
2. The cell value column shows the final (optimal) value assumed by each constraint cell. These values correspond to the final value assumed by the left hand side formula of each constraint.
3. The formula column indicates the upper or lower bounds that apply to each constraint cell.
4. The status column indicates which constraints are binding and which are non-binding. A constraint is binding if all sources are used up so it is satisfied as a strict equality in the optimal solution; otherwise, it is non-binding.
5. The values in the slack column indicate the difference between the left hand side and right-hand side of each equation or inequality constraints. By definition, binding constraints have zero slack and non-binding constraints have some positive level of slack.

Based on these optimal solutions and other projections already carried out in the previous section, the pro-forma financial data and key financial ratios of BHP Billiton for the period of 2012–2016 were constructed. These are presented in Table 6.15.

As shown in Table 6.15, it is predicted that in the years 2015 and 2016, the company will have a negative economic value retained (US\$ -505.4 million and US\$ -25,605.4 million respectively) despite the positive after-tax profit projected in those years. This implies that to maintain a positive economic value retained, the company should increase its revenues and/or decrease certain expenses. By doing so, the company will also maintain its business sustainability by distributing economic value to its stakeholders without sacrificing its revenues and profit-generating ability.

Table 6.15 BHP Billiton's pro-forma financial data (in US\$ million) for Scenario 1: increase the revenues

	2012	2013	2014	2015	2016
Economic value generated (revenues: net sales revenue plus other income)	82,413	94,034	107,292	122,421	139,682
Economic value distributed:					
1. Payments to suppliers, contractors, etc.	29,643	42,389	60,617	86,682	123,956
2. Employee wages and benefits	5915	6376	6874	7410	7988
3. Payments to providers of capital: shareholder dividends	6181	7559	9,245	11,307	13,828
4. Payments to providers of capital: interest payments (6% of long-term debt)	1532	1719	1927	2162	2424
5. Payments to government: gross taxes and royalties	9,195	10,312	11,565	12,970	14,546
6. Community contribution	307	344	386	432	485
7. Environmental expenditure:					
a. Environmental research expenditure	500	500	500	500	500
b. Environmental costs	620	611	603	594	586
c. Environmental programme expenditure	613	688	771	865	970
d. Biodiversity and land management expenditure	4.4	4.4	4.4	4.4	4.4
Total economic value distributed	54,510.4	70,502.4	92,492.4	122,926.4	165,287.4
Economic value retained	27,902.6	23,531.6	14,799.6	-505.4	-25,605.4
Total economic value retained	40,122				

A.								
Sales revenue	80,455	90,230	113,488	127,277	144,293			
Operating expenses	50,231	57,942	66,815	77,026	88,771			
Total environmental fines	0.06	0.07	0.08	0.09	0.10			
HSEC expenditures	50	55	61	67	73			
Communication expenses	251	290	334	385	444			
Litigation expenses	712	712	712	712	712			
Female staff recruitment expenditure	10	13	14	17	19			
Female leadership programme expenses	5.06	6.28	8.19	9.83	11.79			
Research and development expenses	166	206	238	274	316			
Work-life balance policy expenses	59	64	70	75	82			
Costs of employee turnover	280	268	257	244	232			
Women empowerment programme expenses	1.32	1.48	1.66	1.86	2.08			
Profit from operations (EBIT)	32,182	36,092	40,477	45,395	50,911			
After-tax profit	21,454	24,061	26,985	30,264	33,941			
B.								
Current assets	29,970	33,611	37,695	42,274	47,411			
Assets	119,878	134,443	150,778	169,097	189,643			
Investments in financial assets	839	941	1,055	1,184	1,328			
Investments in capital assets (property, plant and equipment)	82,162	98,594	118,313	141,976	170,371			
Current liabilities	21,106	23,670	28,621	29,770	33,388			
Provisions	9,079	10,350	11,799	13,451	15,334			
Long-term debt (interest bearing liabilities)	25,541	28,644	32,125	36,028	40,406			
Key ratios								
Interest coverage ratio	21x	21x	21x	21x	21x			
Current ratio	1.42	1.42	1.42	1.42	1.42			
Ratio of female to male salary	1:1	1:1	1:1	1:1	1:1			

6.7 Sensitivity Analysis

Formulating and solving an optimisation or linear programming model does not necessarily mean that the decision problem has been solved. Since it is formed as a projection, no relevant factors are known with certainty. Sensitivity analysis can assist managerial decisions in this area by providing a better description of how the solution to a problem may change if different factors in the model change.

The Solver application in MS Excel also provides sensitivity information after solving an optimisation problem. The information is generated in a Sensitivity Report. The allowable increases and decreases column in the decision variables cells section refer to the allowable increases and decreases in the values of the original objective function coefficients associated with the variable cells without changing the optimal solution, assuming all other coefficients remain constant. In the constraint section, there is a shadow price column, which indicates the amount by which the objective function value changes given a unit increase in the right hand side value of the equation or inequality constraints, assuming all other coefficients remain constant. If the shadow price is positive, a unit increase in the right hand side value of the associated constraint will result in an increase in the optimal objective function value and vice versa.

In regard to the negative economic value retained as projected for 2015 and 2016, the company can prepare several alternative plans and analyse the impact in the financial condition. In other words, the company can exercise some action plans assuming that it intends to maintain a positive economic value retained in the years to come. These plans are also part of the sensitivity analysis, to gain an understanding of the impact that the changes in projections may have on the original result. This will assist in the decision making process to determine the appropriate strategic actions to achieve the company's objective. Some alternatives or scenarios are discussed below.

6.7.1 Scenario 1: Increase the Revenue

Assume that the company plans to have revenue and sales revenue growth of 20% and 15%, respectively. These are an increase from the original pro-

jections of 14.10% growth in revenue and 12.15% growth in sales revenue based on the average of growth in 2006–2011, as presented in Table 6.4.

After calculating the changes to the other accounts due to the changes in growth projection, the financial data were calculated, as presented in Table 6.16.

As shown in Table 6.16, the economic value retained is increased and positive for the period 2012–2016, if the company can reach an increase in revenues of 20%. Following this, the company can prepare a strategy to increase revenues (especially through sales and marketing strategies) to allow for contributions to the stakeholders through the distribution of economic value without ignoring bottom-line profitability.

6.7.2 Scenario 2: Decrease Certain Expenses

Suppose that the company chooses another alternative or scenario to decrease certain expenses rather than increasing revenues. The expenses to be cut were selected using a Sensitivity Analysis report generated by Solver. The expenses with significant amounts and shadow prices were chosen as the price indicates the amount by which the objective function value changes given a unit increase in the right-hand side value of the equation or inequality constraints. If a shadow price is positive, a unit increase in the right-hand side value of the constraint will result in an increase in the optimal objective function value. If the shadow price is negative, a unit increase in the right-hand side value of the constraint will result in a decrease in the optimal objective function value. The shadow price values will apply if the increase or decrease in the right-hand side value falls within the allowable increase or allowable decrease limits for each constraint, as depicted in the Sensitivity Report.

The selected expenses were as follows:

(a) Payments to suppliers and contractors

In the original model, the payments to suppliers and contractors for goods and services acquisition were expected to increase at least at 0.098

Table 6.16 BHP Billiton's pro-forma financial data (in US\$ million) for Scenario 1: increase the revenues

	2012	2013	2014	2015	2016
Economic value generated (revenues: net sales revenue plus other income)	86,675	104,010	124,812	149,774	179,729
Economic value distributed:					
1. Payments to suppliers, contractors, etc.	29,643	42,389	60,617	86,682	123,956
2. Employee wages and benefits	5915	6376	6874	7410	7988
3. Payments to providers of capital: shareholder dividends	6181	7559	9245	11,307	13,828
4. Payments to providers of capital: interest payments (6% of long-term debt)	1532	1719	1927	2162	2424
5. Payments to government: gross taxes and royalties	9440	10,869	12,515	19,428	22,360
6. Community contribution	315	363	417	480	553
7. Environmental expenditure:					
a. Environmental research expenditure	500	500	500	500	500
b. Environmental costs	620	611	603	594	586
c. Environmental programme expenditure	629	725	834	961	1106
d. Biodiversity and land management expenditure	4.4	4.4	4.4	4.4	4.4
Total economic value distributed	54,779.4	71,115.4	93,536.4	129,528.4	173,305.4
Economic value retained	31,895.6	32,894.6	31,275.6	20,245.6	6,423.6
Total economic value retained	122,735				

A.									
Sales revenue	82,500	94,875	109,106	125,472	144,293				
Operating expenses	54,605	65,526	78,632	94,358	113,229				
Total environmental fines	0.06	0.07	0.08	0.10	0.11				
HSEC expenditures	55	61	67	73	81				
Communication expenses	202	273	328	393	472				
Litigation expenses	712	712	712	712	712				
Female staff recruitment expenditure	10	14	16	20	24				
Female leadership programme expenses	5.06	6.83	8.19	9.83	11.79				
Research and development expenses	166	224	269	322	387				
Work-life balance policy expenses	59	64	69	74	80				
Costs of employee turnover	280	268	257	244	232				
Women empowerment programme expenses	1.35	1.56	1.79	2.07	2.38				
Profit from operations (EBIT)	33,000	37,950	43,642	50,189	57,717				
After-tax profit	21,454	24,061	26,985	30,264	33,941				
B.									
Current assets	30,731	35,341	40,642	46,738	53,749				
Assets	122,925	141,364	162,568	189,953	214,997				
Investments in financial assets	860	990	1138	1309	1505				
Investments in capital assets (property, plant and equipment)	82,162	98,594	118,313	141,976	170,371				
Current liabilities	21,642	24,888	28,621	32,914	37,851				
Provisions	9079	10,350	11,799	13,451	15,334				
Long-term debt (interest bearing liabilities)	25,541	28,644	32,125	36,028	40,406				
Key ratios									
Interest coverage ratio	21x	21x	21x	21x	21x				
Current ratio	1.42	1.42	1.42	1.42	1.42				
Ratio of female to male salary	1:1	1:1	1:1	1:1	1:1				

growth rate. Suppose that the company wants to cut the growth to 0.05 through several strategies, including finding new suppliers who can provide the goods and services at cheaper prices without sacrificing the quality, and involving local contractors with cheaper rates.

(b) Employee wages and benefits

Assume that the company has a plan to decrease wages and benefits without causing major disadvantage to employees. Strategies may include, but are not limited to, employing local employees on a contract basis rather than on a full-time basis, increasing the skills of current employees to handle multiple tasks to avoid high recruitment of new employees, or offering the benefits in terms of share ownership.

Strategies could go even further, to a review of the importance of 'stay-survive' under the equal pay and equal employment opportunity policy. In a condition to stay-survive there is a possibility that a company may be tempted or even forced to have an unequal pay policy towards female employees for cost saving purposes. A study carried out by the Workplace Gender Equality Agency (WGEA) in 2013 found that the pay gap between men and women is now larger compared to 20 years ago. While this is not in line with the ethics of care principle, the unequal pay policy could be justified only in an emergency condition when a company is trying to stay-survive.

Suppose that the stay-survive condition does not happen in the BHP Billiton case, so the company prepares some strategies to decrease employee wages and benefits while still maintaining the equal pay and equal opportunity policy. In the original model, the amount was predicted to increase to a rate of 0.078. Assume that in Scenario 2, the company intends to decrease expenses to a 0.04 growth rate.

After entering the changes to the selected expenses, the output from Premium Solver Excel was produced and presented as in Table 6.17.

From Table 6.17, it can be seen that after reducing two expenditure amounts, the total economic value retained increased from the original result even though it was predicted to be negative in 2016. The company can choose to decrease other expenses or mix the decision to simultaneously increase revenues and decrease certain expenses to achieve the proposed

objective of maximising stakeholder interests through the economic value retained based on the ethics of care principle. Besides using the Sensitivity Report, the decisions made for the sensitivity analysis can also be guided by the company's strategies on prioritising certain types of revenues or expenses. The Sensitivity Report should be viewed as providing assistance for such decision-making process instead of as primary guidance.

6.8 Comparison of Projected and Actual Data for the Years 2012–2015

The comparison of forecast results with the actual data is presented in Table 6.18.

Based on the comparison presented in Table 6.18, it can be seen that there are several items that cannot be compared due to the unavailability of the data in the published reports (Sustainability Report and Annual Report). These data might be available in the company's accounting system but are not disclosed because of any number of reasons, including immateriality or the fact that the cost of extracting the data is deemed to outweigh the benefits of presenting it in published statements.

Most of the comparisons are negative which means that the projected data are larger compared to the actual figures. This is normal in the estimation process, signifying the importance of managerial judgement accompanying the results provided by the forecast. Managers or planners could effectively use the model in a simulation scheme to exercise 'what if' questions, as has been demonstrated in the sensitivity analysis section.

The sharp drop of profitability in 2015 revealed the backdrop of a volatile global economy and lower commodity prices. The company comforted shareholders by stating that despite the bad impact of market conditions on financial performance, continued improvements in operational performance, productivity and higher production were still achieved. The full-year dividend has also been increased by 2% to 124 US cents per share (2015 BHP Billiton Annual Report). Despite the decrease in profitability, the company still distribute economic value to other stakeholders, including the contribution to community. We hope this effort can still continue in the future regardless of the global economic condition and company's profitability level.

Table 6.17 BHP Billiton's pro-forma financial data (in US\$ million) for Scenario 2: decrease certain expenses

	2012	2013	2014	2015	2016
Economic value generated (revenues: net sales revenue plus other income)	82,413	94,034	107,292	122,421	139,682
Economic value distributed:					
1. Payments to suppliers, contractors, etc.	28,347.00	40,536.21	57,966.78	82,892.50	118,536.27
2. Employee wages and benefits	5675.00	5902.00	6138.08	6383.60	6638.95
3. Payments to providers of capital: shareholder dividends	6181	7559	9245	11,307	13,828
4. Payments to providers of capital: interest payments (6% of long-term debt)	1532	1719	1927	2162	2424
5. Payments to government: gross taxes and royalties	9195	10,312	11,565	12,970	14,546
6. Community contribution	307	344	386	432	485
7. Environmental expenditure:					
a. Environmental research expenditure	500	500	500	500	500
b. Environmental costs	620	611	603	594	586
c. Environmental programme expenditure	613	688	771	865	970
d. Biodiversity and land management expenditure	4.4	4.4	4.4	4.4	4.4
Total economic value distributed	52,974.4	68,175.61	89,106.26	118,110.5	158,518.62
Economic value retained	29,438.6	25,858.39	18,185.74	4310.5	-18,836.32
Total economic value retained	58,956				
Sales revenue	80,455	90,230	101,193	113,488	127,277
Operating expenses	50,231	57,942	66,815	77,026	88,771
Total environmental fines	0.06	0.07	0.08	0.09	0.10
HSEC expenditures	50	55	61	67	73
Communication expenses	251	290	334	385	444
Litigation expenses	712	712	712	712	712
Female staff recruitment expenditure	10	13	14	17	19
Female leadership programme expenses	5.06	6.28	7.24	8.35	9.63
Research and development expenses	166	206	238	274	316
Work-life balance policy expenses	57	59	61	64	66
Costs of employee turnover	280	268	257	244	232

Women empowerment programme expenses	1.32	1.48	1.66	1.86	2.08
Profit from operations (EBIT)	32,182	36,092	40,477	45,395	50,911
After-tax profit	21,454	24,061	26,985	30,264	33,941
Current assets	29,970	33,611	37,695	42,274	47,411
Assets	119,878	134,443	150,778	169,097	189,643
Investments in financial assets	839	941	1055	1184	1328
Investments in capital assets (property, plant and equipment)	82,162	98,594	118,313	141,976	170,371
Current liabilities	21,106	23,670	26,546	29,770	33,388
Provisions	9079	10,350	11,799	13,451	15,334
Long-term debt (interest bearing liabilities)	25,541	28,644	32,125	36,028	40,406
Key ratios					
Interest coverage ratio	21x	21x	21x	21x	21x
Current ratio	1.42	1.42	1.42	1.42	1.42
Ratio of female to male salary	1:1	1:1	1:1	1:1	1:1

Several things are noteworthy in the results. In 2012–2014, the actual litigation expenses were significantly higher than expected and also increased from 2011 (which were US\$2077 million). However, in 2015 the litigation expenses, predominantly relating to a number of actions against the Group, were 0 (zero) as none of them are individually significant and where the liability is not probable and therefore the amount has not been provided. Additionally, there are a number of legal claims or potential claims against the company, the outcome of which cannot be foreseen at present, and for which no amounts have been presented.

Unfortunately, accurate communication expenses data were not available so it cannot be precisely determined which approach the company has used in solving its problem with stakeholders: is it through legal action, as predicted by the ethics of justice, or has it moved to a more communicative approach, as suggested by the ethics of care? This is an interesting question as the company also faced Samarco tragedy ‘when millions of cubic metres of mining waste burst from a dam at BHP’s joint-venture iron ore mine in Brazil, 19 people died, livelihoods were destroyed, and an environmental disaster was created that will cost billions of dollars to repair’ (Knight et al. 2015). Samarco, the company joint-owned by Australia’s BHP Billiton and Brazilian mining giant Vale SA, was deemed to exhibit ‘repeated, continual negligence’.

The long history of problems at the BHP-owned dam can be dated back to the beginnings of its construction in 2007. Independent testing of water samples from the river system showed levels of arsenic and lead 10 to 20 times higher than Brazilian regulations allow.

The dam collapse is an environmental disaster in Brazil’s mining history. The resolution to this case is still continuing in 2016 which is beyond the scope of this book. However, it strengthens the analysis provided in Chap. 5 regarding the ‘caring level’ and moral reasoning BHP Billiton has in running its business

The last interesting fact is that the ratios of female and male salaries in 2012–2014 were unfavourable to female employees, as the ratios were increased, meaning that a pay equity gap exists. The true reason behind this was not disclosed, but hopefully the gap does not represent a negative financial condition that has forced the Company to pay its female employees less.

6.9 Summary

This chapter has presented the quantitative optimisation model, its results and an interpretative discussion. In line with the feminist ethics of care, the model was developed using the economic value retained as the objective function and three sets of constraints: the accounting definitional constraint, the investment constraint and the corporate governance policy from the feminist perspective constraint. Based on the financial data of 2006–2011, the projection was performed for the five-year period 2012–2016. The results suggest that the company could achieve an overall positive economic value retained in the projected period. However, the economic value retained for 2015 and 2016 showed a negative result. Sensitivity analyses were conducted to discover the impact on the projected financial condition, especially on the economic value retained. The sensitivity analysis represents an example of the managerial discretion and judgement that should be used to complement the analysis provided by the mathematical estimation.

Further analyses, comparing the projected versus the actual data for 2012–2015, revealed that the projected data values increased, which is typical in the projection process. Several items could not be compared because the data were not publicly available. For instance, it could not be determined how BHP Billiton solved identified problems with its stakeholders, as no data on communication expenses as the proxy of the ethics of care were disclosed. Pay equity gaps existed in 2012–2014; however, again, the justifications for these were not disclosed by BHP Billiton.

Table 6.18 Comparison of projected and actual data of BHP Billiton for the years 2012–2015 (in US\$ million)

	2012 prediction	2012 actual	Difference (%)	2013 prediction	2013 actual
Economic value generated (revenues: net sales revenue plus other income)	82,413	73,016	-13	94,034	66,732
Economic value distributed:					
1. Payments to suppliers, contractors, etc.	29,643	29,243	-1	42,389	28,036
2. Employee wages and benefits	5,915	6,915	14	6,376	7,618
3. Payments to providers of capital: shareholder dividends	6,181	5,877	-5	7,559	6,167
4. Payments to providers of capital: interest payments (6% of long-term debt)	1,532	755	-103	1,719	1,031
5. Payments to government: gross taxes and royalties	9,195	11,862	22	10,312	11,597
6. Community contribution	307	214	-43	344	246
7. Environmental expenditure:					
a. Environmental research expenditure	500	Data not available		500	Data not available
b. Environmental costs	620	Data not available		611	Data not available
c. Environmental programme expenditure	613	Data not available		688	Data not available
d. Biodiversity and land management expenditure	4.4	Data not available		4.4	Data not available
Total economic value distributed	54,510			70,502	
Economic value retained	27,903			23,532	
Sales revenue	80,455	72,226	-11	90,230	65,968
Operating expenses	50,231	49,380	-2	57,942	50,873
Total environmental fines	0.06	0.027	-122	0.07	0.20
HSEC expenditure	50	Data not available		55	Data not available
Communication expenses	251	Data not available		290	Data not available
Litigation expenses	712	2096	66	712	2700
Female staff recruitment expenditure	10	Data not available		13	Data not available
Female leadership programme expenses	5.06	Data not available		6.28	Data not available
Research and development expenses	166	75	-121	206	64

Difference (%)	2014 prediction	2014 actual	Difference (%)	2015 prediction	2015 actual	Difference (%)
-41	107,292	68,083	-58	122,421	45,123	-171
-51	57,967	27,217	-113	82,893	17,020	-387
16	6,138	7,038	13	6,384	5,100	-25
-23	9,245	6,387	-45	11,307	6,596	-71
-67	1,927	777	-148	2,162	551	-292
11	11,565	9,580	-21	12,970	6,462	-101
-40	386	242	-60	432	225	-92
	500	Data not available		500	Data not available	
	603	Data not available		594	Data not available	
	771	Data not available		865	Data not available	
	4.4	Data not available		4.4	Data not available	
	89,107	50,999		118,111	35,729	-231
	18,186	17,084		4,311	9394	54
-37	101,193	67,206	-51	113,488	44,636	-154
-14	66,815	46,513	-44	77,026	36,523	-111
65	0.08	0.13	38	0.09	0.03	-200
	61	Data not available		67	Data not available	
	334	Data not available		385	Data not available	
74	712	3253	80	712	0	
	14	Data not available		17	Data not available	
	7.24	Data not available		8.35	Data not available	
-222	238	43	-453	274	13	-2,008

	2012 prediction	2012 actual	Difference (%)	2013 prediction	2013 actual
Work-life balance policy expenses	59	Data not available		64	Data not available
Costs of employee turnover	280	Data not available		268	Data not available
Women empowerment programme expenses	1.32	Data not available		1.48	Data not available
Profit from operations (EBIT)	32,182	23,752	-35	36,092	19,225
After-tax profit	21,454	15,532	-38	24,061	11,075
Current assets	29,970	20,451	-47	33,611	19,786
Assets	119,878	129,273	7	134,443	138,109
Investments in financial assets	839	2,163	61	941	1,857
Investments in capital assets (property, plant and equipment)	82,162	95,247	14	98,594	102,927
Current liabilities	21,106	22,034	4	23,670	20,372
Provisions	9,079	11,698	22	10,350	8,864
Long-term debt (interest bearing liabilities)	25,541	24,799	-3	28,644	35,165
Key ratios					
Interest coverage ratio	21×	33×		21×	19×
Current ratio	1.42	0.93		1.42	0.97
Ratio of female to male salary	1:1	1:1.034		1:1	1:1.066

Despite the limitations in accessing the unpublished data, the model presented in this chapter provides an example of how the feminist ethics of care theory can be systematically built into a practical model to explore its economic implications, as indicated by Folbre (1995), whose quotation is presented at the beginning of this chapter. With data accessibility and/or the availability of the accounting system specifically designed under the ethics of care principles, these limitations could be overcome to provide better estimations and analysis in the future.

Difference (%)	2014 prediction	2014 actual	Difference (%)	2015 prediction	2015 actual	Difference (%)
	61	Data not available		64	Data not available	
	257	Data not available		244	Data not available	
	1.66	Data not available		1.86	Data not available	
-88	40,477	23,412	-73	45,395	8,670	-424
-117	26,985	15,224	-77	30,264	2878	-952
-70	37,695	22,296	-69	42,274	16,369	
3	150,778	151,413	0.41	169,097	124,580	
49	1,055	3750	72	1,184	3,795	
4	118,313	108,787	-9	141,976	94,072	
-16	26,546	18,064	-47	29,770	12,853	
-17	11,799	12,395	5	13,451	8,982	
19	32,125	30,327	-6	36,028	27,969	
	21×	30×		21×	16×	
	1.42	1.23		1.42	1.27	
	1:1	1:1.03		1:1	1:0.99	

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7

Conclusion

7.1 Introduction

The issue of unethical business conduct, including financial fraud, is usually attributed to flaws in corporate governance that fails to protect stakeholders. Banks (2004) identified several flaws, such as failure within the board of directors or top management, ineffective internal controls, corporate policies and inadequate regulations. This study has offered a feminist ethics perspective to help remedy certain flaws in corporate governance resulting from the failure to set and to exercise ethical conduct from the top. Although it only works partially and cannot eliminate all flaws in governance, the feminist ethics of care can provide a complementary approach to rules and laws associated with the ethics of justice.

The different concerns of the ethics of care and the ‘masculinist’ ethics of justice have been discussed in Chap. 2. The main difference lies in the emphasis of the ethics of care on responsibility, relationships and connection between individuals in stakeholder groups compared to the emphasis of the ethics of justice on rules and separation of self from others.

The main difference brings about a distinct approach in several aspects, including in finding solutions to problems with stakeholders. According to the ethics of care, 'dialogue' and effective communication are prioritised over rules or legal proceedings. The main difference also results in an additional risk management approach as part of effective corporate governance. Social and environmental risk management is also included, based on the interpretation of the ethics of care to complement financial and operational risk management.

Considering the potential benefit of care theory to strengthen corporate governance theory, this study aimed at analysing current corporate governance practices from the feminist ethics of care perspective. As unethical business conduct also has financial consequences, this study also endeavoured to demonstrate the application of 'caring' corporate governance to the financial planning strategies of a company. This represents this study's contribution at the practical level to complement the analysis at the theoretical level.

Two issues or research questions and two propositions have been answered in this research, as follows:

1. *Research question:* What are the existing corporate governance practices applied in a sample company from the feminist ethics of care perspective?

Proposition: The interpretation of the feminist ethics of care will result in a stakeholder model of corporate governance that places more emphasis on women's interests and maintaining good relationships with stakeholders.

2. *Research question:* After examining the existing corporate governance practices, how will the financial condition of the company be affected if the feminist ethics of care is applied?

Proposition: It is projected that the financial condition will be stable, as the company will put more effort into balancing stakeholder interests while addressing social and environmental risk.

Mixed methods were used to answer the research questions. For the first question, the analysis of corporate governance practices from the

feminist ethics of care perspective was performed using qualitative content analysis of annual reports and sustainability reports of BHP Billiton (as the case study company). Following the analysis, the financial planning model was designed using a quantitative optimisation method to answer the second question.

The following sections present the summary of the principles and interpretation of the corporate governance practice from the feminist ethics perspective, major findings and results, implications and research limitations.

7.2 Corporate Governance Practices from the Ethics of Care Perspective

The ‘original’ principles of the ethics of care, as developed by Gilligan (1982) are as follows:

1. The care approach is achieved through perception of one’s self as connected to others.
2. Moral dilemmas are contextual.
3. Dilemmas are solved through inductive thinking.
4. The moral development through stages is sequential and hierarchical.
5. Principle of moral responsibility is reflected in the voices of women.
6. Distinguished by an emphasis on attachments, issues of self-sacrifice and selflessness and consideration of relationships as primary.

This study added two more principles to this list, based on the interpretation of the application of the ethics of care to the corporate governance practices as explained in Chap. 3. These additional principles are:

7. The nature of CSR activities should not only be mandatory or compulsory but also, more importantly, voluntary or discretionary.
8. More attention is placed on women’s interests.

The seventh principle was added based on the ethics of care's emphasis on maintaining good relationships with other parties. This is translated into a stakeholder model of corporate governance. However, distinct from stakeholder theory, the feminist approach suggests caring not only for the contractual stakeholder group, but also for the non-contractual ones, like the environment. The care theory also suggests that interdependence in the network of relationships occurs between and among the individuals who comprise those groups instead of interdependence simply between groups, as suggested by stakeholder theory. A translation of the caring approach to the stakeholder groups is performed through several CSR activities.

The last principle regarding more attention being placed on women's interests was added based on the interpretation that when the feminist ethics of care is applied in corporate governance practices it should acknowledge women as a part of the stakeholder groups and recognise their interests accordingly. This is rooted in women's nature and experiences that is the foundation of the feminist ethics of care. The interpretation of paying more attention to women's interests represents one of the contributions of this research in the area of stakeholder aspects of corporate governance from the feminist ethics of care perspective.

The feminist stakeholder theory is also represented in the first basic principle: that the caring approach is achieved through perceptions of one's self as connected to others. This principle is further divided into feminist stakeholder sub-principles as follows (Wicks et al. 1994):

- (a) Corporations are webs of relationships among stakeholders.
- (b) Corporations should thrive on chaos and environmental change.
- (c) Replace conflict and competition with communication and collective action.
- (d) Strategy as solidarity.
- (e) Replace hierarchy with radical decentralisation and empowerment.

These principles and sub-principles informed the analysis of corporate governance practices from the ethics of care perspective, using the qualitative content analysis, and the development of the financial planning model, using the quantitative optimisation method. Major findings are summarised in the following section.

7.3 Major Findings and Results from the Qualitative Content Analysis

The first research question: ‘What are the corporate governance practices applied in a sample company from the feminist ethics of care perspective?’ was answered using the qualitative content analysis based on the principles and sub-principles explained above.

BHP Billiton was chosen as the sample company for this research. The qualitative content analysis was performed using its Annual Reports and Sustainability Reports for the years 2006–2015. As indicated, the content analysis protocol was designed based on the principles and sub-principles of corporate governance practices from the feminist ethics perspective. The findings and results are as follows:

1. The care approach was achieved through perception of one’s self as connected to others.

(a) Corporations are webs of relationships among stakeholders.

The notion of a corporation as a web of relationships among stakeholders was explicitly mentioned in BHP Billiton’s reports. Relationships were maintained through the stakeholder engagement programme, supported by the organisational structure and were reflected in the Zero Harm goal to minimise harm to people, host communities and the environment.

(b) Corporations should thrive on chaos and environmental change.

The harmonious relationship with the dynamic business environment was upheld through sustainability and risk management programmes, designed to handle business, social and environmental risks.

(c) Replace conflict and competition with communication and collective action.

Two cases (Caroona Coal Project in New South Wales, Australia and a labour strike in South Africa), which were disclosed in the Sustainability Reports, were studied to gain an understanding of how BHP Billiton handled conflict of interest among stakehold-

ers. Both cases showed that the approach taken by BHP Billiton to solve problems was not consistent with the ethics of care, as legal proceedings were prioritised over extensive communication and collective action.

(d) Strategy as solidarity.

Statements in the company's reports relating to general corporate strategy and several specific strategies showed that strategy formulation at BHP Billiton has been performed using the solidarity concept with various stakeholders.

(e) Replace hierarchy with radical decentralisation and empowerment.

The decentralised authority at BHP Billiton was reflected in the responsibility of day-to-day business operations within nine Customer Sector Groups.

2. Moral reasoning is contextual.

Two cases were studied to analyse whether the Company applied the contextual resolution to solve moral dilemmas. These cases are Cerrejon Coal in Columbia and the IndoMet Coal Project in Indonesia. The contextual approach was not consistently applied in the first case because the relocation problem for the local communities is still unresolved, after almost 30 years, and the solutions offered were not contextually applied to solve the moral dilemma. This means that, overall, the approach to moral dilemmas was not fully consistent with the ethics of care.

3. Dilemmas are solved through inductive thinking.

The inductive approach was also not fully consistent with the ethics of care. This conclusion was drawn after analysing two cases, one involving bribery of the Cambodian government and the other relating to land compensation for semi-nomadic communities. The inductive mode was followed in the land compensation case but not in the bribery case.

4. The moral development through stages is sequential and hierarchical.

Two cases were analysed to gain understanding of moral development at BHP Billiton. These are the Ok Tedi Mine in Papua New Guinea and Olympic Dam Mine in South Australia. Sequential and hierarchical moral development was not consistent with the ethics of care in the first case, but seemed to improve in the second case.

5. Principle of moral responsibility is reflected in the voices of women.
This principle was not supported at BHP Billiton probably because the percentage of female executives and staff remained stable at less than 20% during the period studied.
6. Distinguished by an emphasis on attachments, issues of self-sacrifice and selflessness and consideration of relationships as primary.
A lack of care approach was evident in several of the analysed cases (the Carooona Coal project, the labour strike, Cerrejon Coal, and the Ok Tedi Mine), which suggests that corporate governance practices in this aspect were not consistent with the ethics of care.
7. The nature of CSR activities should not only be mandatory or compulsory but also, more importantly, voluntary or discretionary.
The company has put considerable effort into performing various voluntary CSR activities which were disclosed in its Reports.
8. Women's interests in various stakeholder groups are acknowledged.
BHP Billiton has acknowledged women's interests in the employee group and other stakeholder groups, even though women were not explicitly mentioned as stakeholders.

Overall, the findings and results suggest that the corporate governance practices at BHP Billiton have not been fully consistent with the ethics of care principles. Hence, the first proposition was not fully supported by the research findings and results.

7.4 Major Findings and Results from the Quantitative Optimisation Model

The second research question: 'How will the financial condition of the company be affected if the feminist ethics of care is applied in its corporate governance practices?' was answered using the quantitative optimisation model.

The ethics of care principles and sub-principles again were used to develop the optimisation model, which consists of objective functions,

decision variables and constraint functions. The model was designed as an example of financial management strategies a company might take to finance activities necessary to follow the principles suggested by the ethics of care, while still maintaining the bottom-line profit.

In line with the ethics of care, the objective function in the model is the maximisation of the stakeholders' interests, which are proxied by the economic value retained in this research. The constraint functions consist of three sets of constraints, namely, the accounting definitional constraints, investments constraints, and policy constraints derived from the interpretation of corporate governance practices from the feminist ethics perspective.

The projection of the financial condition for the five-year period 2012–2016 was conducted based on the financial data of 2006–2011. The results suggest that BHP Billiton could achieve an overall positive economic value retained in the projected period even though negative results exist for 2015 and 2016. Sensitivity analysis was performed by providing two scenarios (increase revenues or decrease certain expenses). These represent options that BHP Billiton could take to show an impact on the projected financial condition. Based on the findings and results, it was predicted that the financial condition would be stable in the future, which supports the second proposition.

Further analysis was done by comparing the projected and actual data for 2012–2015, as the data for these years were available at the completion stage of this study. Unfortunately, several data could not be compared since the actual data were not available or not disclosed in the published Sustainability and Annual Reports. Comparisons of the available data showed that the projected data values are greater than the actual ones, resulting in negative differences in percentages. This is normal in the estimation process and reflects the fact that the projection conducted in this study was somewhat pessimistic. It also highlights the importance of managerial judgements when using and interpreting the forecast results.

Comparison between the projected and actual data for 2012–2014 also revealed that a pay equity gap existed. While the true reason behind this is not disclosed, the facts reduce the impact of the results relating to the principle of acknowledging women's interests as part of BHP Billiton's stakeholder groups, as identified using the qualitative approach.

7.5 Implications

The implications of this research are as follows:

1. The application of the ethics of care in corporate governance practices requires substantial effort to maintain harmonious relationships with stakeholders, including finding solutions to problems with various stakeholders and solving moral dilemmas. However, despite the required effort, the ethics of care principles are worthy of applying in a company's corporate governance practices to complement problem-solving based on rules and laws. The contextual and caring approach can assist as a framework for a company to design a more suitable stakeholder engagement programme to maintain relationships with stakeholders that will become one source of business success in the future.
2. A sophisticated financial planning model can be developed to inform financial management strategies for the future, to perform sustainability activities without sacrificing the profit objective. However, as the model requires accurate accounting and financial data, a company accounting system should be designed to capture and record the required data input, such as the externalities amount, the extensive communication with stakeholders amount and the expenses amount related to women's interests in the employee group and other stakeholder groups.
3. If the ethics of care is to become more popular in the future, for investors, academics and other stakeholders to analyse the corporate governance practices of a company through the disclosures in the publicly available report, an accurate accounting system should also be designed to assist the company in producing and disclosing necessary items and amounts in line with the ethics of care principles.
4. Despite the attention given to the ethics of care in this study, it does not mean that the rights, fairness and rules as suggested by the ethics of justice should be disregarded. Gilligan herself believed that rights are an essential, although not a dominant, component of caring (Liedtka 2009). Without rights, 'the injunction to care is paralyzing, rights allow us to appropriately value self-interest ... to act responsively towards self *and* others and thus to sustain connection' (Gilligan

- 1982, p. 149). The ethics of care and ethics of justice are complementary; they are incomplete without each other. The justice approach is still needed to determine which needs and interests should be met given limited capacity and resources. As Anwar (2009) puts it, the ethics of care should be applied in conjunction with the strengthening of regulation because regulatory failure has brought about corporate fraud, insider trading and other unethical business conduct.
5. As found by Dawson (2002) there is a linear relationship between educational attainment and moral development, which implies that the ethics of care and its principles need to be adopted in the business education curriculum to enhance the caring traits in business decision-making and business environment.
 6. This research found only partial support of the application of the ethics of care in corporate governance practices at BHP Billiton. One of the reasons might be traced back to the number of women at the decision-making level which was only around 20% that might contribute to the lack of 'women's voices'. For future research, there is an opportunity to examine the application of the ethics of care by male executives; as indicated by Hawk (2011), the ethics of care has moved beyond a 'women only' ethical framework. Men have the same potential to adopt the ethics of care perspective even though 'the socialization process into male stereotypes may make it more problematic for them' (Hawk 2011, p. 14). Another opportunity also stems from work on intersectionality which explains the relations among social identities and draws attention to the fact that gender is often not the most salient aspect of human personality (Crenshaw 1989; Shields 2008; Cole 2009). Other factors such as culture, race, sexual orientation and identity can be considered for future research as they are often far more influential aspects in determining how people are perceived, treated, and subsequently develop.

7.6 Research Limitations

The analysis of corporate governance practices from the feminist ethics of care perspective in this study was conducted based on the publicly available information in BHP Billiton's Annual and Sustainability Reports

and other information provided in the popular press. The reliance on secondary sources was deemed sufficient in this exploratory study to investigate the corporate governance practices from information disclosed by a large company with global operations. Further research to extend this study would include primary data from in-depth interviews, questionnaires or direct observations of sample companies to complement the content analysis method undertaken for this project. Future research can also consider the use of the Listening Guide method of psychological inquiry (Gilligan 2015) to analyse 'text or transcript that contains a first-person voice or where a first-person voice might be expected' (p. 71). This can be done to analyse in-depth interviews (which is not done in this research), or to analyse Management Discussion and Analysis Sections in Annual Reports which contain the 'I voice' (which is not selected in this study because a wider scope of texts was chosen for analysis).

The financial planning model developed in this study using the linear programming optimisation method followed a deterministic approach assuming that the future financial condition can be predicted with a certain degree of accuracy. In reality, the dynamics of the business processes and operations contain a degree of uncertainty that might not be captured in the proposed model. A more dynamic model is required to reflect that reality with more accuracy.

It should also be noted that the financial planning model developed in this study was designed as a starting point to prompt further discussion and contemplation. There is still much work to do to translate the principles of the ethics of care into the financial management strategies of a company.

The analysis performed in this study was based on an in-depth case study of BHP Billiton. This was appropriate for this study, because the optimisation model could be applied with data extracted from reports across different years. The main focus was on exploring the application of the linear programming method. Moreover, focusing on one company provided a deep and thorough understanding of how the ethics of care affects company operations. Although generalisability is not the main purpose of this research, its application to other companies could be done in future research to gain an understanding of corporate governance practices from the feminist ethics of care perspective. The value and significance of this research will be greatly enhanced when further research is

undertaken to test its applicability to other organisations and to make any necessary further modifications.

Further research could also apply the same kind of analysis in a second sample company, publicly known for its ethics of justice rather than ethics of care application. This analysis would create some basis for comparison of different corporate governance practices, as well as the impact of various financial management strategies.

The results of the analysis of corporate governance practices suggest that several inconsistencies with the ethics of care principles might be due to the large organisational size of BHP Billiton. With multinational operations, a large corporation might not be suitable as a caring organisation. According to Iannello (1992), the organisation must remain small enough for the collective, as a group, to participate together in strategic decision-making. Taylor (1998) stated this as a large-scale institutions effect: 'a larger population makes a care-giver's search for the most needy individual more difficult ... thus, one would expect the care approach to be less relevant to large populations than to small ones'. A future study with an interdisciplinary approach that spans the field of ethics, organisational theory, accounting and finance would be worth undertaking to answer questions relating to organisational size.

Last but not least, the complementarity of the ethics of care and the ethics of justice has been stated several times in this study. However, the issue of how we set the boundaries of care has not been discussed and needs a more in-depth analysis in future research. Without the effort to make this clear, it will be difficult to make an operationally meaningful translation of the ethics of care to the competitive business environment. Several questions need to be answered. For instance, do we need to care about competitors? Do all customers or employees have an equal claim on a company's care-giving resources? One suggestion from Liedtka (2009) still needs thorough thought and empirical research. The author writes: 'the business organization, conceived of as a "community of mutual care", would have a responsibility to care for those in proximity to them who have needs that they are especially well-suited, by their capability base, to fulfil, where giving such care does not act against their own needs. Such care should be growth-enhancing for its recipients' (p. 196).

Despite the research limitations identified above, this study provides important and significant academic and practical contributions. In the academic field, this study contributes to knowledge by showing the possibility of using feminist ethics of care as a different perspective to analyse the corporate governance practices, which have only been explored in a small amount of previous research.

The different perspective using the ethics of care is expected to contribute solutions to corporate governance failure, which has been at the core of many problems during financial crises and several corporate scandals and collapses. Louder calls for increased regulation have emanated from many governments as a result. The caring and stakeholder-driven approach to governance, as suggested by the ethics of care, can complement the legislative approach by providing an ethical and principles-based approach. This would promote a more values-based rather than just a compliance culture to improve governance and risk management throughout the organisation.

This study also contributes to filling the knowledge gap in the financial planning model literature by providing financial management strategies and a financial planning model using the feminist ethics of care principles. At the practical level, the model developed in this study can serve as a basis for use by corporations in devising their financial management strategies and inserting ethical considerations in developing those strategies.

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Glossary

Business ethics: A form of applied ethics or professional ethics that examines ethical principles and moral or ethical problems that arise in a business environment. It applies to all aspects of business conduct and is relevant to the conduct of individuals and entire organisations.

Constraints in optimisation problem: Equality (equation) or inequality functions that represent limited resources, such as time and funds.

Content analysis: A research method used to systematically evaluate the symbolic contents of all forms of recorded communication. It can be used to analyse texts (or other meaningful matter) in the contexts of their uses with the purpose of providing knowledge, new insights, a representation of facts and a practical guide to action.

Corporate governance: The system of rules, practices and processes by which a company is managed, monitored and held accountable. Corporate governance essentially involves balancing the interests of the many stakeholders in a company—these include its shareholders, management, customers, suppliers, financiers, government, environment and the community.

Corporate social responsibility (CSR): Corporate initiatives to assess and take responsibility for the company's effects on the environment and impact on social welfare. The term generally applies to company efforts that go beyond what may be required by regulators or environmental protection groups.

Corporate sustainability activities: Activities performed in companies that enable decisions to be made in order to simultaneously improve the economy, the community and the environment. A form of sustainability activities in a company is known as the CSR.

Decisions or variables in optimisation problem: A set of decisions or variables to be made or achieved. The decisions are often represented by the symbols X_1, X_2, \dots, X_n .

Ethics of care: A normative ethical theory about what makes actions morally right or wrong. It is one of a cluster of normative ethical theories that were developed by feminists in the twentieth century (including Gilligan in 1982). It emphasises the self as connected to others and is represented as a web of relationships and responsibilities.

Ethics of justice: Moral choices through a measure of rights of the people involved. It defines the self as separate and uses rights to protect boundaries between the self and other.

Feminist research: Research that is connected primarily in relation to the feminist struggle by documenting women's lives, experiences and concerns. No single method, methodology or epistemology informs feminist research as various perspectives, a wide range of methods and methodologies and multiple lenses can be applied to the research question(s) and objective(s).

Financial modelling: The process by which a firm constructs a financial representation of some, or all, aspects of the firm or given security. The model is usually characterised by performing calculations, and makes recommendations based on that information.

Legitimacy theory: A theory that posits that businesses are bound by the social contract in which the firms agree to perform various socially desired actions in return for approval of firms' objectives and other rewards, and this ultimately guarantees their continued existence.

Linear programming: One type of optimisation model where the general form is formulated in a linear manner.

Mixed-methods: A research method that focuses on collecting, analysing and mixing both quantitative and qualitative data in a single study or series of studies to provide a better understanding of research problems than a single approach alone.

Objective(s) in optimisation problem: Goal(s) to be considered by the decision-maker to decide which course of action is the best.

Optimisation method: Mathematical programming approach to find the best possible solution (the optimal or most efficient way) of using limited resources to achieve certain defined objectives.

Pro-forma financial statement: Projected or estimated financial statement that attempts to present a reasonably accurate idea of what a firm's financial situation would be if the present trends continue or certain assumptions hold true.

Qualitative analysis: Research techniques that emphasise the processes and meanings that are not examined or measured in terms of quantity, amount, intensity or frequency.

Sensitivity analysis: The study of how the uncertainty in the output of a mathematical model or system (numerical or otherwise) can be apportioned to different sources of uncertainty in its inputs.

Stakeholder engagement: A key part of CSR and achieving the triple-bottom-line. Companies engage their stakeholders in dialogues to find out what social and environmental issues matter most to them in order to improve decision-making and accountability.

Stakeholder theory: A theory that suggests that the purpose of a business is to create as much value as possible for stakeholders. In order to succeed and be sustainable over time, management must keep the interests of customers, suppliers, employees, communities and shareholders aligned and balanced.

Sustainability accounting and reporting: An accounting tool to communicate a company's social and environmental performance to its internal and external stakeholders.

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