

Edith Cowan University
Research Online

ECU Publications Post 2013

2021

The impact of board and hotel characteristics on biodiversity reporting: Market diversification as a moderator

Edzuwyn F. B. H. Mahyuddin

Mohammad Iranmanesh
Edith Cowan University

Azlan Amran

Behzad Foroughi

Follow this and additional works at: <https://ro.ecu.edu.au/ecuworkspost2013>



Part of the [Business Administration, Management, and Operations Commons](#)

10.1108/SRJ-02-2019-0072

Mahyuddin, E. F. B. H., Iranmanesh, M., Amran, A., & Foroughi, B. (2021). The impact of board and hotel characteristics on biodiversity reporting: Market diversification as a moderator. *Social Responsibility Journal*. Advance online publication. <https://doi.org/10.1108/SRJ-02-2019-0072>

This Journal Article is posted at Research Online.
<https://ro.ecu.edu.au/ecuworkspost2013/10063>

This author accepted manuscript is deposited under a Creative Commons Attribution Non-commercial 4.0 International (CC BY-NC) licence. This means that anyone may distribute, adapt, and build upon the work for non-commercial purposes, subject to full attribution. If you wish to use this manuscript for commercial purposes, please contact *permissions@emerald.com*



The Impact of Board and Hotel Characteristics on Biodiversity Reporting: Market Diversification as a Moderator

Journal:	<i>Social Responsibility Journal</i>
Manuscript ID	SRJ-02-2019-0072.R1
Manuscript Type:	Research Paper
Keywords:	Board Characteristics, Hotel Characteristics, Biodiversity Reporting, Market Diversification

SCHOLARONE™
Manuscripts

The Impact of Board and Hotel Characteristics on Biodiversity Reporting: Market Diversification as a Moderator

Abstract

Purpose – The aim of this study is to explain how board and hotel characteristics affect biodiversity reporting and to test the moderating effect of market diversification.

Design/methodology/approach – The annual reports of 105 hotels were examined for the period between 2016 and 2017 to analyse these hotels' biodiversity reporting using content analysis. The partial least squares technique was used to test the proposed relationships.

Findings – The results show that the number of board members who are also on the corporate social responsibility committee, number of board members who are in environmental organizations, the star rating of the hotel, hotel size, and hotel location have significant positive effects on the extent of biodiversity reporting. In addition, market diversification moderates positively the effects of number of board members with environmental experience and number of board members from environmental organizations on the extent of biodiversity reporting.

Practical implications – The results of the study will be useful in enabling hotel manager and investors to become knowledgeable about these aspects of boards, which lead to higher biodiversity reporting. This study can also inform policy-makers about the types of hotels that are less likely to disclose biodiversity reports and to develop effective enforcement of regulations.

Originality/value – These findings extend the literature on biodiversity reporting by exploring the importance of board and hotel characteristics on the extent of biodiversity reporting and testing the moderating effect of market diversification.

Keywords: Board Characteristics, Hotel Characteristics, Biodiversity Reporting, Market Diversification

Introduction

Biodiversity deterioration is considered as one of the most genuine existing threats to human life and economic development (Gaia and Jones, 2019; Skouloudis et al., 2019). Data from the World Economic Forum (2015) identifies the current accelerated rate of ecosystem breakdown and biodiversity destruction as one of the ten major factors of global risk. For that reason, stakeholders put pressure on companies to reduce their impact on biodiversity (Bhattacharyya and Yang, 2019; Shwairef et al., 2019). Stakeholders increasingly expect companies to

1
2
3 recognize their responsibilities towards the ecosystem and adjust their practices to mitigate the
4 negative impacts of their operations and positively contribute to biodiversity (Ali et al., 2019;
5 Chang et al., 2019). According to a review by Pricewaterhouse Coopers (PwC, 2010), although
6 89 of the 100 largest companies in the world disclosed sustainability reports in 2008, only 24
7 of these reports displayed the activities undertaken in accordance with diminishing the negative
8 impact on biodiversity. Although the companies' annual reports demonstrated an increase of
9 environmental reporting, information regarding biodiversity effects was not extensively
10 disclosed. As such, biodiversity reporting has received increasing attention from academicians
11 in the last few years (e.g., Adler et al., 2018; Han et al., 2020; Skouloudis et al., 2019).

12
13 A number of studies on environmental reporting include biodiversity (e.g., Bebbington
14 et al., 2008; Gallego-Álvarez and Ortas, 2017; Guenther et al., 2007). In these studies,
15 biodiversity was considered as one category of environmental reporting and the focus was
16 rarely on biodiversity disclosure. The limited studies on biodiversity disclosure have been
17 focused on the extent of biodiversity reporting (van Liempd and Busch, 2013; Rimmel and
18 Jonäll, 2013), developing tools for biodiversity reporting (Samkin et al., 2014), and exploring
19 the strategies that companies adopt to validate their accountability for biodiversity (Boiral,
20 2016). Research on drivers of biodiversity reporting is limited in the literature. As such, the
21 main aim of this study is to investigate the drivers of biodiversity reporting. The focus of this
22 study is limited to the hotel industry, as although this industry is one of the world's fastest
23 growing sectors (Jeaheng et al., 2019) and imposes numerous impacts on biodiversity loss
24 (Chung and Parker, 2010; Malik et al., 2016), it has received less attention than the mining,
25 chemical, or manufacturing industries. Tourists threaten biodiversity by generating negative
26 environmental externalities, ranging from greenhouse gas emissions to water pollution (Milder
27 et al., 2016). The drivers of non-financial reporting can be categorized into two broad types,
28 namely board characteristics (e.g., Rao and Tilt, 2016; Shwairef et al., 2019) and corporate
29 characteristics (e.g., Chang et al., 2019; Ong and Djajadikerta, 2020). To develop a more
30 comprehensive model, the impacts of both board and hotel characteristics on the extent of
31 biodiversity reporting in the hotel industry were investigated in this study. The findings will
32 enhance our understanding of the drivers of biodiversity reporting in the hotel industry and will
33 be useful for policymakers who are concerned with the impact of the hotel industry on the
34 erosion of biodiversity.

35
36 Research on drivers of non-financial reporting provides inconsistent results. For
37 example, Giannarakis (2014) and El-Bassiouny and El-Bassiouny (2019) investigated the
38 relationships between corporate characteristics and corporate social responsibility (CSR)
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 disclosure and found positive relationships between firm size and the CSR disclosure index.
4 On the other hand, [Dienes and Vetter \(2016\)](#) found a negative relationship between firm size
5 and CSR reporting. Furthermore, [Mukherjee et al. \(2010\)](#) and [Skouloudis et al. \(2019\)](#) found a
6 non-significant relationship between company size and the extent of CSR disclosure. Conflicts
7 in previous studies might be due to the differences in the samples from which they collected
8 data. Consequently, testing the potential factors that may moderate the relationships between
9 drivers and CSR reporting will extend the literature by explaining the potential reason for
10 previous conflicts and resolve the inconsistent findings. However, there is a lack of research in
11 the literature which tests potential moderators.

12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Market diversification is one of the factors that may moderate the relationships between drivers and CSR reporting. Market diversification is the ratio of international revenue to the total revenue of the company ([Amran et al., 2015](#)). Many studies have shown that a company's degree of internationalization (the number of countries in which it operates) has a positive effect on its social responsibility and CSR reporting ([Matuszak and Róžańska, 2019](#); [Wanderley et al., 2008](#)). However, to date, no research has tested the moderating impact of market diversification in non-financial reporting studies. [Hotels that operate internationally should meet the expectations of various customers and are more exposed to customer pressure to protect biodiversity. As such, the impacts of board and hotel characteristics on their decisions to disclose biodiversity practices are expected to be greater. For instance, the impacts of hotel brand on the extent of biodiversity is expected to be greater among hotels that operate internationally and have high market diversification, as neglecting to report biodiversity publicly may put the reputation of high equity brands at risk. Accordingly, a moderating effect of market diversification is proposed. This study aims to address the following research objectives.](#)

1. [To test the impacts of board and hotel characteristics on the extent of biodiversity reporting in the hotel industry.](#)
2. [To examine the moderating effect of market diversification on the impacts of board and hotel characteristics on the extent of biodiversity reporting.](#)

The rest of this paper is organised as follows. Section 2 presents a literature review and Section 3 develops the conceptual framework and hypotheses of the study. Section 4 presents the details of the methods used in the study. The main results are discussed in Section 5, and we provide a summary of our results and conclusions in Section 6.

Literature Review

Biodiversity Reporting

Biodiversity is defined in various ways. For example, [Waldman and Shevah \(2000, p. 299\)](#) proposed a comprehensive definition that delineates biodiversity as “the variety among living organisms, their habitats and their biological ecosystems, comprising of the ecological and evolutionary processes in the natural environment”. Biodiversity commonly consists of species diversity and genetic diversity; it also encompasses the interactions between species and ecosystems (EEA, 2010). Biodiversity has been suggested as a fundamental element for the protection of the planet and particularly of the human beings that survive there (Jones and Solomon, 2013). Biodiversity directly benefits human beings in that it improves the quality and quantity of food and water. Biodiversity may also contribute to medical advancements by maintaining animal species and various forms of plant life that could have medicinal value (Jones & Solomon, 2013). Biodiversity may also indirectly contribute to humans’ well-being by supplying natural rather than artificial pollination and by maintaining a conduit that leads to climate balance (Jones & Solomon, 2013). Keeping in mind these advantages, the business sector is beginning to notice the opportunities and risks that are associated with loss of biodiversity (WBCSD et al., 2006; PWC, 2011). Cost-saving and investment opportunities, new markets and products, as well as new business, are amongst the opportunities that could be obtained from ecosystem and biodiversity services; while loss of these services leads to regulatory, reputational, operational, financial, legal, and product risks (F&C Asset Management, 2004; TEEB, 2010). However, referring to the scientific analysis published by the World Wild Fund for Nature (WWF), the extinction rate of current species is between 1,000 and 10,000 times greater than the rate of natural extinction (Adler et al., 2017). The main factors behind today’s loss of species are uncontrolled pollution, unfeasible utilization of resources – namely soil, wild flora and fauna, and water – the introduction of unusual and invasive species, transformation of natural areas to urban development, and farming (Atkins and Gräbsch, 2014). A total of 79,837 assessed species are now included in the IUCN Red List. It has been demonstrated that more than 80% of the evaluated species are enduring habitat degradation or loss and approximately 30% of them are exposed to extinction risk (Bebbington et al., 2008).

Biodiversity protection should thus be a major concern for businesses, particularly in the tourism industry, which to a certain extent is reliant on the uniqueness of the environment’s natural beauty. If companies and their stakeholders are concerned about biodiversity, according

1
2
3 to legitimacy theory (Deegan, 2002), accountability theory (Gray, Owen, & Dams, 1996; Rob
4 Gray, Kouhy, & Lavers, 1995) and risk management theory (Bebbington et al., 2008), they
5 should report biodiversity issues to their stakeholders. In spite of the tourism industry's high
6 dependency on biodiversity, there is a dearth of scholarly studies on biodiversity reporting in
7 this industry, while prior research has focused on the biodiversity reporting practices of
8 companies in other industries (Rimmel and Jonäll, 2013; Boiral, 2016; Alder et al., 2018).
9

15 **Biodiversity Reporting in the Hotel Industry**

16
17 The hotel industry is considered as one of the fastest growing businesses in the world and plays
18 a significant role in tourism, as large numbers of tourists are undertaking travel to distant
19 locations. Furthermore, it is generally considered as a provider of economic and social
20 advantages, as it provides a basis for job creation, experiences and knowledge-sharing, and
21 business and leisure travel support. However, the key issues associated with the hotel industry
22 are its abundant adverse impacts on the social, economic, and natural environments.
23 Biodiversity loss, noise and air pollution, waste generation, change in climate, and eventually
24 economic and social issues are examples of these negative effects (Grosbois, 2012). Large
25 numbers of hotels are located close to natural and cultural heritage spots. For that reason, hotels
26 draw the attention of many travellers, and this imposes a rising ecological footprint (Chung
27 and Parker, 2010). Data from the study by Chung and Parker (2010) revealed that disregarding
28 their operating size, resorts and hotels are large consumers of food, linen, energy, water, paper,
29 cleaning materials, laundry, and other resources that generate water, noise, soil, and air
30 pollution. Food packaging and food waste, heating and air-conditioning emissions, and grey
31 water are additional impacts of these operations (Gray and Bebbington, 2001). As such, hotels
32 have an impact on a wide range of different animal and plant species, and on the ecosystem,
33 through the destruction of forest areas, environmental pollution, and utilization of natural
34 resources (Malik et al., 2016).
35
36
37
38
39
40
41
42
43
44
45
46
47

48 Traditionally, the chemical, manufacturing, and mining industries have been widely
49 regarded as heavy polluters, but lately the public and even consumers are expressing more
50 concern about the negative impacts resulting from the hotel industry and are increasingly
51 curious about knowing the strategies that hotels have undertaken to mitigate these issues
52 (Mihalič et al., 2012). In response, biodiversity conservation has become an imperative action
53 by various stakeholders and therefore has caused many hotels to react more transparently by
54 revealing biodiversity information and being more accountable for their actions (Grosbois,
55 2012; Legrand et al., 2013). Like other businesses, the hotel industry is displaying progress in
56
57
58
59
60

1
2
3 the volume of its biodiversity reporting. Research has demonstrated that increasing numbers of
4 hotels contribute to activities that are associated with biodiversity issues and increasingly
5 communicate their achievements both to the general public and to customers. However, there
6 is still very little biodiversity reporting in the hotel industry and much less attention has been
7 devoted in the literature to the factors influencing such reporting: this issue is addressed in the
8 present study.
9
10
11
12

13 14 **Conceptualization and Development of Hypotheses**

15
16 Based on the literature, the potential drivers of non-financial reporting can be categorized into
17 two main types, namely board characteristics (e.g., Liao et al., 2015; Rao and Tilt, 2016) and
18 corporate characteristics (e.g., Rahman et al., 2011; Ong and Djajadikerta, 2020). Drawing on
19 agency theory, resource dependency theory and signalling theory, the impacts of both board
20 and hotel characteristics on the extent of biodiversity reporting were investigated in this study.
21 The previous studies on the impacts of board characteristics and corporate governance on non-
22 financial reporting were reviewed and the most common significant factors were selected.
23 Based on the reviewed literature, three board characteristics, namely the number of members
24 of the board of directors (BOD) with environmental experience (Walls and Hoffman, 2013;
25 Mertens et al., 2016), on CSR committees (Shaukat et al., 2016; Shwairef et al., 2019), and in
26 environmental organizations (Carpenter and Westphal, 2001; Walls and Hoffman, 2013); and
27 four hotel characteristics, including hotels' brand name (Haddock-Fraser and Fraser, 2008;
28 Amran et al., 2015), star rating (Tang et al., 2014), size (Aggarwal and Singh, 2019; Dias et
29 al., 2019), and location (Vellecco and Mancino, 2010; Halkos and Skouloudis, 2017), were
30 identified as potential determinants of biodiversity reporting. Accordingly, the impacts of these
31 seven board and hotel characteristics on the extent of biodiversity reporting were investigated in
32 this study.
33
34
35
36
37
38
39
40
41
42
43
44

45 According to agency theory, managements choose to voluntarily disclose information
46 to reduce agency costs (Jensen and Meckling, 1976). Providing information is one way to
47 reduce agency costs (Broberg et al., 2010). Resource dependency theory indicates that the BOD
48 is a strategic resource for a firm and enables managers to make effective decisions by providing
49 guidance and resources (Pfeffer and Salancik, 1978). BOD members can provide a set of
50 knowledge and skills derived from their experience (Kor and Sundaramurthy, 2009; Sánchez
51 et al., 2017). BOD members with environmental experience and who are on the CSR committee
52 or involved with an environmental organization have a better understanding of the importance
53 of environmental practices and consequently integrate the environmental responsibilities into
54
55
56
57
58
59
60

1
2
3 decision-making (Shwairef et al., 2019; Tuggle et al., 2010). According to these two theories,
4 BOD members with environmental knowledge provide guidance for managers and enable them
5 to understand the importance of disclosing biodiversity practices in order to reduce agency
6 costs. Signalling theory can explain the impacts of brand name, star rating, size, and location
7 on the extent of biodiversity reporting. Signalling theory addresses the information asymmetry
8 issue and “shows how asymmetry can be reduced by the party with more information signalling
9 it to others” (Samaha and Khlif, 2016, p. 37). Reputed, high star-rated and large hotels signal
10 their responsibility towards the environment to customers by communicating their biodiversity
11 practices. This type of signalling can be effective, as it can be easily copied by hotels that do
12 not have sufficient resources to implement biodiversity practices.

13
14 Furthermore, we also proposed that market diversification moderates the impacts of the BOD
15 and hotel characteristics on the extent of biodiversity reporting (Figure 1). Lack of
16 accountability and transparency towards the impacts of operations on biodiversity have
17 negative effects on the reputation and brand equity of hotels (Qoura and Khalifa, 2016). This
18 effect is more prominent in hotels with high levels of internationalization, due to their
19 proximity to the public eye (Subramaniam et al., 2020). Accordingly, it is expected that market
20 diversification moderates the impacts of BOD and hotel characteristics on biodiversity
21 reporting. The following sub-sections provide a brief review of the literature pertaining to each
22 of these characteristics and market diversification. In addition, research propositions suggested
23 by the literature are offered.

24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Please Insert Figure 1 here

Number of BOD Members with Environmental Experience

Hambrick (2007) notes that past experiences are fundamental cognitive elements through which information is processed and perceived. In reviewing the literature, it is found that board members filter information before communicating with the remaining employees. Thus, these manipulated data will lead to limited rationality and will unquestionably affect the way organizations interpret and respond to institutional pressures. Tuggle et al. (2010) highlighted the significant role of an experienced BOD, as their know-how and wisdom will pave the way to an understanding of the situation and to finding solutions for any problems related to the organization. Efficient decision-making and positive contributions to the organization are the

1
2
3 absolute advantages of a knowledgeable and experienced BOD. Battilana (2006) showed that
4 a BOD that has vast knowledge and experience helps an organization to deviate from the usual
5 norms. [Balta et al. \(2010\)](#) found the functional background of the BOD to be an important
6 [factor in their strategic decision-making process](#). Walls and Hoffman (2013) found that the past
7 environmental experience of board members plays a critical role in allowing organizations to
8 deviate positively in their environmental practices. As such, the greater the collective
9 experience of the BOD on environmental issues, the more biodiversity-friendly decisions are
10 expected. Hence, a positive relationship between the number of BOD members with
11 environmental experience and the extent of biodiversity reporting is proposed in this study and
12 the following hypothesis is developed:

21 H1. The number of BOD members of a hotel with environmental experience has a positive
22 impact on the extent of biodiversity reporting.

26 **Number of BOD Members on CSR Committee**

28 Apart from supervision and making reports on CSR performance, the Conference Board of
29 Canada (2008) draws our attention to the ability of the Board to instil CSR values in
30 communicating the board's commitment and development of the firm's mission either
31 externally or internally. It is thought that Board members with CSR committee experience play
32 a prominent role in instilling CSR prospects into the company's operations and strategic
33 direction (Amran and Ooi, 2014). In the same vein, [Shaukat et al. \(2016\)](#) and [Shwairef et al.](#)
34 [\(2019\)](#) argue that firms establish more comprehensive and proactive board CSR strategies
35 when they engage with more CSR-oriented boards. According to [Shwairef et al. \(2019\)](#), the
36 [presence on the BOD of members with CSR committee experience leads to the integration of](#)
37 [environmental responsibilities into decision making](#). As such, the extent of CSR reporting is
38 affected by the presence of board members on the CSR committee. Therefore, appointing board
39 members to CSR committees in organizations will lead companies to incline towards carrying
40 out sustainability and biodiversity practices and eventually biodiversity reporting. Therefore,
41 the following hypothesis is developed:

52 H2. The number of BOD members of the hotel on the CSR committee has a positive impact on
53 the extent of biodiversity reporting.

57 **Number of BOD Members in Environmental Organization**

1
2
3 Networking is considered as a critical factor in organizational fields, as it connects the
4 company's external and internal environment (Owen-Smith and Powell, 2004). It is thought
5 that networks play a prominent role in accumulating information that will link different parts
6 of the organization together (Salman and Saives, 2005) and disseminate the organizational
7 practices across boundaries (Haunschild and Beckman, 1998). Previous studies have reported
8 that in addition to connecting powerful stakeholders and maintaining their integrity and
9 legitimacy in business, a board network creates a ground for organizations to benefit from
10 expertise and guidance (Carpenter and Westphal, 2001; Westphal, 1999). Thus, as stated by
11 Hillman et al. (2007), such a network creates a stream for sharing social environments where
12 organizations pass on the importance of traditions among their network members. Westphal et
13 al. (2001) found that networks also have a primary role in expressing organizational behaviour
14 messages inside an organization, which lead to mirroring of each other's processes and
15 practices (Westphal et al., 2001). From the perspective of environmental issues, numerous
16 groups with special interests, including activists, consumers, and non-governmental
17 organizations, urge companies to adopt environmental practices voluntarily rather than
18 following the mandatory legal regulations. Thus, organizations with board directors who have
19 broad networks on environmental sustainability or biodiversity in particular are more likely to
20 deviate positively towards disclosing voluntarily in biodiversity reporting. As such, the
21 following hypothesis is developed:

22
23
24
25
26
27
28
29
30
31
32
33
34
35
36 H3. The number of BOD members of hotels in environmental organizations has a positive
37 impact on the extent of biodiversity reporting.
38
39
40

41 **Brand Name**

42
43 It is unquestionable that brand is an essential factor in companies' marketing of their offered
44 services and products. According to Balmer (2010), brand is an aspect of corporate strategy.
45 Previous research has shown that a brand name acts as assurance of the consistency, quality,
46 and security of products and services (Werther and Chandler, 2005). The significance of this
47 matter is its impact on consumers' loyalty, which will translate into enduring support. In such
48 a way, the company will benefit from an increased profit in the long term. As a result,
49 companies make efforts to illustrate their brand image and preserve a favourable brand name
50 in order to achieve competitive advantage over their rivals. In contrast to the advantageous
51 impact of a good brand name, a damaged name will lead to customers' loss of trust and interest
52 towards the company. Therefore, companies seek to maintain an acceptable reputation and will
53 defend their brand name to keep their legitimacy in the market. Previous research findings have
54
55
56
57
58
59
60

1
2
3 indicated that sharing precise information regarding companies' operation and their
4 management with customers will assist companies to achieve a satisfactory brand name (Mark-
5 Herbert and Schantz, 2007). A positive relationship between voluntary disclosure and brand
6 name has been reported in the past literature (Haddock-Fraser and Fraser, 2008). Therefore, a
7 positive relationship is expected between the range of biodiversity reporting and the brand
8 name. Hence, it could conceivably be hypothesized that:
9

10
11
12
13
14 H4. The brand name of a hotel has a positive impact on the extent of its biodiversity reporting.
15
16

17 18 **Star Rating**

19
20 In the hospitality literature, the quantity and quality of the facilities and services offered have
21 the determinative role in hotel segmentation, which is generally expressed as star ratings (Ye
22 et al., 2014). The star-rating classification is the most universally recognized hotel rating
23 system (Martin-Fuentes, 2016). Berezan et al. (2014) found that hotel rating systems influence
24 hotels to enhance the quality of their services and impact their environmental performance.
25 Tang et al. (2014) found that the level to which environmental issues and practices are
26 addressed is greater among hotels with higher star ratings. Narangajavana and Hu (2008)
27 justified the relationship between environmental issues and hotels' star rating through higher
28 customers' expectations that highly rated hotels will implement environmentally friendly
29 practices and particularly conserve biodiversity. Therefore, the customers of higher star-rated
30 hotels have higher expectations from hotels to adhere to biodiversity compliance and
31 accountability in disclosures. As such, the following hypothesis is developed:
32
33
34
35
36
37
38
39

40
41 H5. The star rating of a hotel has a positive impact on the extent of its biodiversity reporting.
42
43

44 45 **Hotel Size**

46
47 There is a large body of literature concentrated on organization size, with special attention to
48 environmental practices, assuming that there is a link between the size of the organization and
49 environmental management, specifically biodiversity protection (Henriques and Sadorsky,
50 1999). Tagesson et al. (2009) argued that larger organizations have greater influence on the
51 environment due to their visibility; the reasoning behind this notion is that larger organizations
52 are thoroughly checked by stakeholders and are forced to provide more information, as due to
53 scale economics, the costs related to publication and generation of corporate information are
54 low. In addition, compared to small companies, larger ones are believed to require more
55 external capital, which increases the likelihood of conflicts among debt holders, managers, and
56
57
58
59
60

1
2
3 shareholders; hence, they adopt disclosure policy to cut down monitoring costs and reduce
4 information asymmetry (Dias et al., 2019; Alvarez et al., 2008). Besides, larger firms are
5 recognized as industry leaders, hence making them ideal examples for smaller ones. In addition
6 to applying formal management on biodiversity practices, larger companies are capable of
7 investing in biodiversity protection due to the availability of vast resources (Dias et al., 2019).
8 Consequently, larger companies are likely to step into biodiversity preservation practices,
9 disclosure of their activities, and revealing their influence on the environment. Aggarwal and
10 Singh (2019) found that larger companies tend to release more reports on environmental
11 practices than smaller companies. According to the findings of previous studies, it is concluded
12 that the larger the organization, the greater the extent of biodiversity reporting. Hence, the
13 following hypothesis is developed:
14
15
16
17
18
19
20
21
22

23 H6. Hotel size has a positive impact on the extent of biodiversity reporting.
24
25

26 **Hotel Location**

27
28 Hotels' geographical location is an important factor, as most hotels are located near natural
29 conservation areas, including coastal and marine zones or forests, which have their own
30 attractions (Shieh et al., 2012). Furthermore, some of the attractive locations for tourists are
31 near protected zones that are hosts to great biological diversity (UNWTO, 2014). The
32 degradation and pollution of natural resources caused by tourism activities are serious problems
33 for these tourist destinations. According to the Convention on Biological Diversity (2004), the
34 ecosystem is severely affected by the tourism industry's waste disposal. This industry's
35 excessive consumption of local resources, use of non-durable goods, energy and water, and
36 release of waste emissions into the air, water and soil cause natural resource depletion and the
37 degradation of the environment, which affects tourism-rich areas (Vellecco and Mancino,
38 2010). The societies surrounding these areas are also affected by such environmental issues.
39 As a consequence, hotels are forced by the stakeholders' demands to be accountable for their
40 activities, which have a negative impact on the environment and biodiversity. As such, a
41 relationship is expected between hotel location and the extent of biodiversity reporting, and the
42 following hypothesis is developed:
43
44
45
46
47
48
49
50
51
52
53

54 H7. The extent of biodiversity reporting is higher among hotels that are located in
55 environmentally sensitive areas in comparison to non-environmentally-sensitive areas.
56
57
58
59
60

Market Diversification

Diversification broadly refers to the business strategy of allocating investments into different markets in order to reduce risk and to gain a bigger market share (Markides, 1995). The extent to which companies focus on international operations has a massive influence on the implementation and establishment of sustainable practices (Strike et al., 2006; Tulder & Kolk, 2001), as numerous studies have shown that internationalization (the number of countries in which one company operates) is positively related to companies' engagement in practices associated with sustainability (Matuszak and Róžańska, 2019; Wanderley et al., 2008). There are various explanations for this relationship that are mostly established on the grounds of international companies' need to preserve their reputation regardless of the pressure that foreign market stakeholders exert on them (Delmas, 2003; Kolk and Perego, 2010; Zyglidopoulos, 2002). There is a consensus among scholars that besides keeping up a good image, companies are bound to the pressure that comes from stakeholders in foreign markets (Delmas, 2003; Kostova and Zaheer, 1999; Zyglidopoulos, 2002). Therefore, by having a broad range of activities across the world and achieving more market diversification, companies are obliged to bear in mind their exposure to vast numbers of customers with different cultures and backgrounds. Therefore, stakeholders' demands and expectations are two principal factors that companies should consider while delivering and managing data transparency and disclosure. As such, it is expected that market diversification moderates the impacts of board characteristics and hotel characteristics on the extent of biodiversity reporting and the following hypotheses are developed:

H8. Market diversification moderates positively the effects of number of BOD members of a hotel (a) with environmental experience, (b) on the CSR committee, and (c) in environmental organizations on the extent of biodiversity reporting.

H9. Market diversification moderates positively the effects of a hotel's (a) brand name, (b) type, (c) size, and (d) location on the extent of biodiversity reporting.

Methods

Measurement of Constructs

The study was focused on hotels in Malaysia, where the hotel industry is growing rapidly (Kasa et al., 2020), and as highlighted above, has a significant effect on biodiversity (Malik et al., 2016). Secondary data were used to measure the study variables. The secondary data were obtained from the annual reports of hotels listed in the Global Reporting Initiative (GRI) for

1
2
3 the period between 2016 and 2017. The current paper used content analysis by implementing
4 a framework of biodiversity (14 items) developed by Samkin et al. (2014) and GRI guidelines
5 (5 items) (GRI, 2011) to measure the extent of biodiversity reporting. Krippendorff (2004, p.
6 18) defined content analysis as a “research technique for making replicable and valid inferences
7 from texts (or other meaningful matter) to the context of their use”. It involves “codifying
8 qualitative and quantitative information into pre-defined categories in order to derive patterns
9 in the presentation and reporting of information” (Eisenberg et al., 2004, p. 287). Content
10 analysis has been used frequently to examine non-financial disclosures (e.g., Chang et al.,
11 2019; Shwairef et al., 2019). By adding all the indicators, the Biodiversity Reporting Index
12 (BRI) was determined. A score of one or zero is given to a hotel if respectively it reveals the
13 information on its website, corporate social responsibility reporting or annual report or if it
14 refuses to disclose an information item. The scoring system is based on the discovered
15 evidence. A point will be given for any observed evidence for each item. For conversion of
16 total scores into continuous data, the sum of all the scores is divided by 19 (the total number
17 of items). The criteria used to measure biodiversity reporting are depicted in Table 1.
18
19
20
21
22
23
24
25
26
27
28
29
30

31 -----
32 **Please Insert Table 1 here**
33 -----
34
35

36 Walls and Hoffman (2012) provide in-depth analysis to evaluate the number of BOD
37 with environmental experience; in their study, data consisting of biographical information on
38 BOD members, specifically those related to their education background, professional
39 achievement, and employment history, were assessed. By taking advantage of the board
40 biodata, the existence of knowledgeable, experienced, and intelligent CSR committee members
41 in a company’s BOD was determined (Amran et al., 2014). BOD members who were also
42 members of environmental organizations or Non-Government Organizations (NGOs) were
43 identified through other positions in the present or the past (Walls & Hoffman, 2012). Data
44 from several studies have identified that brand name is regarded as brand status: the hotel has
45 a brand name that is identifiable to the end-consumers, which is measured as an indicator of
46 the identifiable presence of the hotel and its services among consumers (Haddock-Fraser and
47 Fraser, 2008; Haddock-Fraser and Tourelle, 2010). Following Awang et al. (2008), the hotel
48 star rating is determined based on whether it is 5-star, 4-star, 3-star and so on. It is also
49 important to understand that the number of employees will change from normal to peak season;
50
51
52
53
54
55
56
57
58
59
60

1
2
3 hence, instead of employee numbers, the number of rooms is used to determine hotel size
4 (Awang et al., 2008). The recent study by Tang et al. (2014) showed that a hotel's location can
5 be classified by learning whether it is established in an environmentally sensitive district (e.g.
6 highlands or coastal areas) or a non-environmentally sensitive zone (towns or cities).
7 Subsequently, the ratio of international revenue to the hotel's total revenue was adopted as an
8 index for determining market diversification (Amran et al., 2013).
9
10
11
12
13

14 **Procedures and Data Collection**

15
16 The present research considered all hotels around the world as the study population, with
17 reference to Green Hotel Associations and Global Reporting Initiative (GRI) data and the
18 hotels' websites (Statista, 2017). This study conducted comprehensive research on data that
19 were derived from the annual reports of 105 hotels. Content analysis was used to categorize
20 texts according to the presence of previously defined words or groups of subjects that form
21 meaningful categories. Referring to earlier studies, content analysis has been used as an
22 empirically valid method to describe the stages of biodiversity disclosure that are presented by
23 the companies (Nijkamp et al., 2008; Samkin et al., 2014). Information can be examined in a
24 systematic, objective and trustworthy way by using content analysis, as this method arranges
25 both quantitative and qualitative data into a systematic code of pre-defined classifications. In
26 this study, certain keywords, such as "conservation", "environmental", "corporate social
27 responsibility", "flora and fauna", and "biodiversity", were investigated to uncover
28 biodiversity information in CSR and annual reports. Moreover, information was categorized
29 by implementing scores of 1 and 0: the former represents the existence of information related
30 to biodiversity and the latter indicates an absence of such information. Apart from the strategy
31 stated earlier, the current study employed a keyword search to find biodiversity reporting across
32 an extensive range of resources, including formal documents of accountability, including
33 environmental, annual, and sustainability reports. The findings of past studies suggest that the
34 annual report is a valuable and appropriate intermediary in evaluating accountability discharge
35 (Samkin and Schneider, 2010). Furthermore, this paper examined hotels' websites to identify
36 any previously developed reports on biodiversity, any publications among hotels concerning
37 the biodiversity issue, and any formulated plans, strategies, or policies related to biodiversity
38 management and the development of biodiversity reports. [In this study, following Shwairef et
39 al. \(2019\), two coders rated the reports and no significant differences were found between their
40 ratings.](#)
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Analysis

To test the research model, the partial least squares (PLS) technique of structural equation modelling using SmartPLS Version 3.0 was used, which is considered the most appropriate approach due to the exploratory nature of the study (Hair et al., 2011). This technique involves a two-step approach to data analysis, whereby the first step analyses the measurement model and the second step assesses the structural relationships among the latent constructs (e.g., Iranmanesh et al., 2017; Zailani et al., 2019). As the model is formed with observed variables, validity and reliability tests are not required. Thus, as suggested by Ghozali and Latan (2012), the structural modelling is carried out directly.

Results

Descriptive Analysis

The latest annual reports of 105 hotels or hotel groups, between 2015 and 2016, were examined in this study. The Global Reporting Index website was the resource where many of the annual reports were listed. Moreover, hotels' own websites also presented some of these reports. A descriptive analysis of the discrete variables of the study is provided in Table 2. The descriptive analysis of the continuous variables is provided in Table 3, which indicates that the extent of biodiversity reporting in the hotel industry is still low.

Please Insert Table 2 here

Please Insert Table 3 here

Assessment of Structural Model

The proportion of the variance explained determined the accuracy of the model's predictions, where the R^2 value of the extent of biodiversity reporting was 0.328. To test the hypotheses, non-parametric bootstrapping was applied (Wetzels et al., 2009). The results indicated that number of board members on the CSR committee ($\beta = 0.113$, $p < 0.05$), number of board members in environmental organizations ($\beta = 0.261$, $p < 0.01$), star rating of hotel ($\beta = 0.127$, $p < 0.05$), hotel size ($\beta = 0.119$, $p < 0.01$) and location of hotel ($\beta = 0.415$, $p < 0.001$) have

1
2
3 significant positive effects on the extent of biodiversity reporting. The impacts of the number
4 of board members with environmental experience ($\beta = 0.039$, $p > 0.05$) and the brand name of
5 the hotel ($\beta = -0.060$, $p > 0.05$) are not significant. Thus, H2, H3, H5, H6, and H7 are supported,
6
7 whereas H1 and H4 are not supported. With respect to moderating effects, the results showed
8
9 that marketing diversity moderates the impact of the number of board members with
10 environmental experience ($\beta = 0.163$, $p < 0.05$) and the number of board members in
11 environmental organizations ($\beta = 0.194$, $p < 0.01$) on the extent of biodiversity reporting. As
12
13 such, H8a and H8c were supported, whereas H8b, H9a, H9b, H9c, and H9d were not.
14
15
16
17
18
19

20
21 -----
22 **Please Insert Table 4 here**
23 -----
24

25 Figure 2 illustrates that the number of board members with environmental experience
26 has a negative effect on the extent of biodiversity reporting among hotels with low market
27 diversification and a positive effect among those with high market diversification.
28 Furthermore, although the number of board members in environmental organizations has a
29 positive effect on the extent of biodiversity among hotels with high market diversification, it
30 mostly has no effect among hotels with low market diversification.
31
32
33
34
35
36
37

38 -----
39 **Please Insert Figure 2 here**
40 -----
41
42
43

44 **Discussion**

45 In this study, the impacts of board and hotel characteristics on the extent of biodiversity
46 reporting were investigated. Furthermore, the moderating effect of market diversification was
47 tested. The results show that the number of board members on the CSR committee, the number
48 of board members in environmental organizations, the star rating of the hotel, hotel size, and
49 location of the hotel have significant positive effects on the extent of biodiversity reporting.
50 Furthermore, market diversification has a positive moderating effect on the impacts of number
51 of board members with environmental experience and number of board members in
52 environmental organizations on the extent of biodiversity reporting.
53
54
55
56
57
58
59
60

1
2
3 The impact of the number of board members with environmental experience on the
4 extent of biodiversity reporting was not supported. This is somewhat surprising, as the results
5 of many studies have shown that the board's past experience has a substantial impact on the
6 organizational interpretation towards institutional pressures, which will eventually encourage
7 them to be more responsive towards reporting (Tuggle et al., 2010; Balta et al., 2010). A
8 potential reason for the non-significant relationship might be that in comparison to other
9 industries, including the mining, chemical, and manufacturing industries, the hotel industry is
10 considered to be less polluting. Therefore, consumers still demonstrate fewer concerns about
11 the hotel industry's negative impacts on the environment, which lead to less customer pressure.
12 Therefore, board members' past environmental experience, as a driver of organizational
13 interpretation towards institutional pressures, shows no significant effect on the extent of
14 biodiversity reporting. According to Skouloudis et al. (2019), the determinants of biodiversity
15 reporting are dependent on situational factors within the sector of operation. As such, the less
16 polluting nature of the hotel industry and consequently the lower level of pressure from
17 customers cause a non-significant relationship between the number of board members with
18 environmental experience and the extent of biodiversity reporting. In this case, improving
19 customers' knowledge and awareness towards numerous impacts of the hotel industry on
20 biodiversity loss may lead to higher customer pressure, and consequently board members with
21 environmental experience will play a more active role and will advise hotels' top management
22 to be responsive toward biodiversity reporting.

23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38 The impacts of both the number of board members on the CSR committee and the
39 number of board members in environmental organizations on the extent of biodiversity
40 reporting were significant, which is consistent with the findings of Amran et al. (2014) and
41 Carpenter and Westphal (2001), who found that board members with experience of CSR
42 committees and environmental organizations play a vital role in ensuring that the CSR
43 perspective is instilled in an organization's strategic direction and operations. This means that
44 hotels with more board members who are oriented toward CSR and environmental issues
45 develop a more proactive strategy towards biodiversity. However, our findings show that the
46 mean value for the number of board members on CSR committees and environmental
47 organizations was less than one person. Considering the important roles of number of board
48 members on CSR committees and environmental organizations in enhancing biodiversity
49 reporting and the low numbers of such members on hotels' boards, forming a board with more
50 members from CSR committees and environmental organizations is beneficial to hotels, since
51
52
53
54
55
56
57
58
59
60

1
2
3 it indicates the importance of biodiversity issues to the top managers and provides a base to
4 integrate biodiversity with the overall management of operations.
5

6 The findings show a non-significant relationship between brand name and the extent of
7 biodiversity reporting, which is not consistent with the findings of Haddock-Fraser and Fraser
8 (2008), who found brand image to be a positive driver of voluntary disclosure. The potential
9 justification of this non-significant relationship is that brand name was measured based on
10 customers' ratings of hotel service. As the hotels' environmental practice is not part of this
11 evaluation, a one-star hotel can also achieve a strong brand image due to the value for money
12 of its provided service. Therefore, brand name cannot be a significant predictor of biodiversity
13 reporting. To address this issue, hotel booking websites should consider hotels' environmental
14 practices as a part of their service evaluation, which will push hotels to consider the impacts of
15 their activities on the environment and use biodiversity reporting as a tool to demonstrate their
16 accountability for biodiversity.
17
18
19
20
21
22
23
24
25

26 The results confirm the positive relationship between star ratings and the extent of
27 biodiversity reporting, which is consistent with the findings of Tang et al. (2014), who reported
28 a positive relationship between hotels' star ratings and the extent to which they addressed
29 environmental issues and practices. As the customers of hotels with high star ratings have
30 higher expectations regarding the implementation of environmentally friendly practices, hotels
31 report biodiversity to show customers that they conserve biodiversity in their practices. *As
32 such, hotels with high star ratings should go beyond the financial frame and provide
33 information on the impacts of their activities on animal and plant species to depict their
34 responsibility toward biodiversity (Tommasetti et al., 2020).*
35
36
37
38
39
40

41 The study illustrates that hotel size has a positive explanatory power regarding the
42 extent of biodiversity reporting, suggesting that larger hotels provide more biodiversity
43 information in their disclosures. This result is in line with the findings of *Aggarwal and Singh
44 (2019)*, who found positive relationships between firm size and environmental reporting. As
45 larger hotels are under pressure from stakeholders (Tagesson et al., 2009) and need more
46 external funds than smaller ones (Álvarez et al., 2008), they develop biodiversity disclosure to
47 avoid regulation and absorb more funds. *Furthermore, the larger hotels have more financial
48 and non-financial resources and consequently are able to invest in biodiversity protection
49 practices (Dias et al., 2019).* As such, the policymakers should play an important role and
50 motivate small and medium hotels, which have fewer resources and encounter less pressure
51 from customers, to invest in biodiversity protection and publicly disclose biodiversity practices
52 by using both incentive and punishment approaches.
53
54
55
56
57
58
59
60

Hotels' geographical location is the factor that has the strongest effect on the extent of biodiversity reporting. This means that hotels located close to natural conservation areas are more likely to report on biodiversity in comparison to those in urban areas. Tourist activities in coastal and marine zones or forestry areas cause serious problems for the environment (Vellecco and Mancino, 2010). As such, customers expect more environmental accountability from hotels in environmentally sensitive areas, and these hotels have more reason to signal good environmental performance through biodiversity reporting. Accordingly, the extent of biodiversity reporting is higher among hotels located close to natural conservation areas in comparison to those in urban areas.

According to the results of this study, market diversification moderates positively the impacts of the number of board members with environmental experience and number of board members in environmental organizations on the extent of biodiversity reporting. Board members with broad past environmental experience, based on their knowledge on the benefits and loss of environmental reporting, decide not to publicly disclose biodiversity practices when the hotel allocates investments into one or a few markets due to the reduced legal, regulatory, operational, reputational, market, product and financial risks. As such, the number of board members with environmental experience has a negative effect on the extent of biodiversity reporting. On the other hand, board members with environmental experience understand the importance of biodiversity reporting for hotels that operate internationally due to the need to maintain their reputation (Kolk and Perego, 2010) and the fact that they are facing higher pressure from customers from different cultures and backgrounds. Halkos and Skouloudis (2017) stated that people from different national terrains have different cultures and emphasis on various CSR aspects. Therefore, managers of hotels with high levels of internationalization should enhance their awareness of cross-country differences (Halkos and Skouloudis, 2016) and report biodiversity practices publicly to meet the expectations of their customers in countries whose cultures place emphasis on mitigating the negative effects of operations on biodiversity. Board members in environmental organizations also better understand the importance of biodiversity reporting for hotels that operate internationally, which leads to positive relationships between the number of board members in environmental organizations and the extent of biodiversity reporting among hotels with high market diversification.

Conclusion

The loss of biodiversity as the result of human activities is one of the greatest threats to the global environment (Skouloudis et al., 2019; Syarifuddin and Damayanti, 2019). The hotel

1
2
3 industry is one of the fast-growing industries that negatively affect a wide range of animal and
4 plant species (Malik et al., 2016). This has led to growing pressure from stakeholders on hotels
5 to disclose the impacts of their operations on biodiversity. Accordingly, this study aimed to
6 investigate the drivers of hotels' biodiversity reporting. The findings of the study revealed that
7 the extent of biodiversity reporting was affected by the number of board members who were
8 on the CSR committee and were members of environmental organizations, and by the hotels'
9 star rating, size, and location. Furthermore, the impacts of number of board members with
10 environmental experience and in environmental organizations on biodiversity reporting were
11 positively moderated by market diversity.

12
13 Understanding the impacts of board and hotel characteristics on the extent of
14 biodiversity reporting has important theoretical and practical implications. From a theoretical
15 perspective, this study contributes to the biodiversity literature by testing the factors that may
16 affect the extent of hotels' biodiversity reporting. The results revealed that the number of
17 board members on the CSR committee and in environmental organizations, and hotels' star
18 rating, size and location, positively influenced the extent of hotels' biodiversity reporting. The
19 inconsistency between these results and the findings of studies in other industries confirms that
20 determinants of biodiversity reporting are dependent on the environmental situation of the
21 sectors in which firms operate and consequently that the proposed conceptual framework of
22 this study should be tested in various industries. Furthermore, the study extends the literature
23 on drivers of non-financial reporting by testing the moderating effect of market diversification.
24 The results show that market diversification moderates positively the impact of number of
25 board members with environmental experience and number of board members in
26 environmental organizations on the extent of biodiversity reporting. It suggests market
27 diversity as a factor that can explain the variety of results in the studies on drivers of non-
28 financial reporting.

29
30 From the practical perspective, the results of this study will help hotel managers to
31 understand those board and hotel characteristics that have effects on the extent of biodiversity
32 reporting. We offer some clues as to when such actions are substantive rather than symbolic:
33 appointing directors who have environmental experience and are members of environmental
34 organizations is necessary if a hotel has high market diversification. Furthermore, appointing
35 directors who are on CSR committees is essential for hotels regardless of market
36 diversification. The findings also have implications for policymakers, suggesting that they
37 should develop strict regulations on biodiversity reporting and monitor the biodiversity
38 disclosure of hotels which are small, have low star ratings, and are located in less

1
2
3 environmentally sensitive areas, as they are least likely to disclose adequately the impact of
4 their business operations on biodiversity. Large and high-star hotels and those located close to
5 natural conservation areas are under pressure from their customers to protect biodiversity and
6 publicly disclose their biodiversity practices. Accordingly, the government should play a
7 critical role and expose pressure on those hotels that receive less pressure from customers.
8
9

10
11 The aim of the present study is considered to have been successfully achieved.
12 Nevertheless, limitations should be raised, which can be addressed in future studies. First, the
13 results of this study show a non-significant relationship between the number of board members
14 with environmental experience and the extent of biodiversity reporting, which is inconsistent
15 with previous studies. Future studies could compare the impact of this factor between the hotel
16 industry and the manufacturing industry to illuminate the importance of the extent of the
17 particular industry's effect on the environment on board members' decisions to report
18 biodiversity. Second, content analysis has its limitations. Driving keywords for the content
19 analysis from Samkin et al.'s (2014) framework of biodiversity and GRI guidelines is not free
20 of risk, as the guidelines might not capture all of the relevant biodiversity aspects. Third, the
21 sample for this study was limited to the hotel industry: future studies should test the model
22 from this study in other industries. Skouloudis et al. (2019) showed that the extent of
23 biodiversity reporting is dependent on the sector of operation.
24
25
26
27
28
29
30
31
32
33
34

35 References

- 36
37
38 Adler, R., Mansi, M. and Pandey, R. (2018), "Biodiversity and threatened species reporting by
39 the top Fortune Global companies", *Accounting, Auditing & Accountability Journal*, Vol.
40 31 No. 3, pp. 787–825.
41
42 Aggarwal, P. and Singh, A.K. (2019), "CSR and sustainability reporting practices in India: an
43 in-depth content analysis of top-listed companies", *Social Responsibility Journal* (In
44 press).
45
46 Ali, M.H., Zailani, S., Iranmanesh, M. and Foroughi, B. (2019), "Impacts of Environmental
47 Factors on Waste, Energy, and Resource Management and Sustainable Performance",
48 *Sustainability*, Vol. 11 No. 8, p. 2443.
49
50 Amran, A. and Keat Ooi, S. (2014), "Sustainability reporting: meeting stakeholder demands",
51 *Strategic Direction*, Vol. 30 No. 7, pp. 38–41.
52
53 Amran, A., Ooi, S.K., Mydin, R.T. and Devi, S.S. (2015), "The impact of business strategies
54 on online sustainability disclosures", *Business Strategy and the Environment*, Vol. 24 No.
55 6, pp. 551–564.
56
57 Atkins, J. and Gräbsch, C. (2014), "Biodiversity Reporting: Exploring its Anthropocentric
58 Nature" chapter in Jones (eds.) *Accounting for Biodiversity*, Routledge, UK.
59
60

- 1
2
3 Balmer, J.M.T. (2010), "The BP Deepwater Horizon débâcle and corporate brand exuberance",
4 *Journal of Brand Management*, Vol. 18, pp. 97–104.
5
- 6 Balta, M.E., Woods, A. and Dickson, K. (2010), "The influence of boards of directors
7 characteristics on strategic decision-making: Evidence from Greek companies", *Journal*
8 *of Applied Business Research (JABR)*, Vol. 26 No. 3, pp. 57–68.
9
- 10 Battilana, J. (2006), "Agency and institutions: The enabling role of individuals' social
11 position", *Organization*, Vol. 13 No. 5, pp. 653–676.
12
- 13 Bebbington, J., Larrinaga, C. and Moneva, J.M. (2008), "Corporate social reporting and
14 reputation risk management", *Accounting, Auditing & Accountability Journal*, Vol. 21
15 No. 3, pp. 337–361.
16
- 17 Berezan, O., Millar, M. and Raab, C. (2014), "Sustainable hotel practices and guest satisfaction
18 levels", *International Journal of Hospitality & Tourism Administration*, Vol. 15 No. 1,
19 pp. 1–18.
20
- 21 Bhattacharyya, A. and Yang, H. (2019), "Biodiversity disclosure in Australia: effect of GRI
22 and institutional factors", *Australasian Journal of Environmental Management*, Vol. 26
23 No. 4, pp. 347–369.
24
- 25 Boiral, O. (2016), "Accounting for the unaccountable: Biodiversity reporting and impression
26 management", *Journal of Business Ethics*, Vol. 135 No. 4, pp. 751–768.
27
- 28 Broberg, P., Tagesson, T. and Collin, S.-O. (2010), "What explains variation in voluntary
29 disclosure? A study of the annual reports of corporations listed on the Stockholm Stock
30 Exchange", *Journal of Management & Governance*, Vol. 14 No. 4, pp. 351–377.
31
- 32 Carpenter, M.A. and Westphal, J.D. (2001), "The strategic context of external network ties:
33 Examining the impact of director appointments on board involvement in strategic decision
34 making", *Academy of Management Journal*, Vol. 44 No. 4, pp. 639–660.
35
- 36 Chang, W.F., Amran, A., Iranmanesh, M. and Foroughi, B. (2019), "Drivers of sustainability
37 reporting quality: financial institution perspective", *International Journal of Ethics and*
38 *Systems*, Vol. 35 No. 4, pp. 632–650.
39
- 40 Chung, L.H. and Parker, L.D. (2010), "Managing social and environmental action and
41 accountability in the hospitality industry: A Singapore perspective", *Accounting Forum*,
42 Vol. 34, pp. 46–53.
43
- 44 Deegan, C. (2002), "Introduction: The legitimising effect of social and environmental
45 disclosures—a theoretical foundation", *Accounting, Auditing & Accountability Journal*,
46 Vol. 15 No. 3, pp. 282–311.
47
- 48 Delmas, M. (2003), "In search of ISO: An institutional perspective on the adoption of
49 international management standards" Working Paper 1784. Stanford Graduate School of
50 Business: Stanford, CA.
51
- 52
53
54
55
- 56 Dias, A., Rodrigues, L.L., Craig, R. and Neves, M.E. (2019), "Corporate social responsibility
57 disclosure in small and medium-sized entities and large companies", *Social Responsibility*
58 *Journal*, Vol. 15 No. 2, pp. 137–154.
59
- 60 Dienes, D. and Velte, P. (2016), "The impact of supervisory board composition on CSR

1
2
3 reporting. Evidence from the German two-tier system”, *Sustainability*, Vol. 8 No. 1, p.
4 63.
5

6 Eisenberg, N., Spinrad, T.L., Fabes, R.A., Reiser, M., Cumberland, A., Shepard, S.A., Valiente,
7 C., et al. (2004), “The relations of effortful control and impulsivity to children’s resiliency
8 and adjustment”, *Child Development*, Vol. 75 No. 1, pp. 25–46.
9

10 El-Bassiouny, D. and El-Bassiouny, N. (2019), “Diversity, corporate governance and CSR
11 reporting”, *Management of Environmental Quality: An International Journal*, Vol. 30 No.
12 1, pp. 116–136.
13

14 Gaia, S. and Jones, M.J. (2019), “Biodiversity reporting for governmental organisations”,
15 *Accounting, Auditing & Accountability Journal*, Vol. 33 No. 1, pp. 1–31.
16

17 Gallego-Álvarez, I. and Ortas, E. (2017), “Corporate environmental sustainability reporting in
18 the context of national cultures: A quantile regression approach”, *International Business
19 Review*, Vol. 26 No. 2, pp. 337–353.
20

21 Gallego Alvarez, I., María García Sánchez, I. and Rodríguez Domínguez, L. (2008),
22 “Voluntary and compulsory information disclosed online: the effect of industry
23 concentration and other explanatory factors”, *Online Information Review*, Vol. 32 No. 5,
24 pp. 596–622.
25

26 Ghozali, I. and Latan, H. (2012), “Partial Least Square: Konsep, Teknik dan Aplikasi Smart
27 PLS 2.0 M3”, *Semarang: Badan Penerbit Universitas Diponegoro*.
28

29 Giannarakis, G. (2014), “Corporate governance and financial characteristic effects on the
30 extent of corporate social responsibility disclosure”, *Social Responsibility Journal*, Vol.
31 10 No. 4, pp. 569–590.
32

33 Gray, R. and Bebbington, J. (2001), *Accounting for the Environment*, Sage, London, UK.
34

35 Gray, R., Kouhy, R. and Lavers, S. (1995), “Corporate social and environmental reporting: a
36 review of the literature and a longitudinal study of UK disclosure”, *Accounting, Auditing
37 & Accountability Journal*, Vol. 8 No. 2, pp. 47–77.
38

39 Gray, R., Owen, D. and Dams, C. (1996), *Accounting and Accountability: Changes and
40 Challenges in Corporate Social and Environmental Reporting*, Prentice Hall, Hemel
41 Hempstead.
42

43 De Grosbois, D. (2012), “Corporate social responsibility reporting by the global hotel industry:
44 Commitment, initiatives and performance”, *International Journal of Hospitality
45 Management*, Vol. 31 No. 3, pp. 896–905.
46

47 Guenther, E., Hoppe, H. and Poser, C. (2007), “Environmental Corporate Social Responsibility
48 of Firms in the Mining and Oil and Gas Industries: Current Status Quo of Reporting
49 Following GRI Guidelines.”, *Greener Management International*, No. 53, pp. 7–25.
50

51 Haddock-Fraser, J. and Fraser, I. (2008), “Assessing corporate environmental reporting
52 motivations: differences between ‘close-to-market’ and ‘business-to-business’
53 companies”, *Corporate Social Responsibility and Environmental Management*, Vol. 15
54 No. 3, pp. 140–155.
55

56 Haddock-Fraser, J.E. and Tourelle, M. (2010), “Corporate motivations for environmental
57 sustainable development: exploring the role of consumers in stakeholder engagement”,
58
59
60

- 1
2
3 *Business Strategy and the Environment*, Vol. 19 No. 8, pp. 527–542.
- 4 Halkos, G. and Skouloudis, A. (2016), “National CSR and institutional conditions: An
5 exploratory study”, *Journal of Cleaner Production*, Vol. 139, pp. 1150–1156.
- 6
7 Halkos, G. and Skouloudis, A. (2017), “Revisiting the relationship between corporate social
8 responsibility and national culture”, *Management Decision*, Vol. 55 No. 3, pp. 595–613.
- 9
10 Hambrick, D.C. (2007), “Upper echelons theory: An update”, *Academy of Management
11 Review*, Vol. 32 No. 2, pp. 334–343.
- 12
13 Han, X., Gill, M.J., Hamilton, H., Vergara, S.G. and Young, B.E. (2020), “Progress on national
14 biodiversity indicator reporting and prospects for filling indicator gaps in Southeast Asia”,
15 *Environmental and Sustainability Indicators*, Vol. 5, p. 100017.
- 16
17 Haunschild, P.R. and Beckman, C.M. (1998), “When do interlocks matter?: Alternate sources
18 of information and interlock influence”, *Administrative Science Quarterly*, Vol. 43 No. 4,
19 pp. 815–844.
- 20
21 Henriques, I. and Sadosky, P. (1999), “The relationship between environmental commitment
22 and managerial perceptions of stakeholder importance”, *Academy of Management
23 Journal*, Vol. 42 No. 1, pp. 87–99.
- 24
25 Hillman, A.J., Shropshire, C. and Cannella Jr, A.A. (2007), “Organizational predictors of
26 women on corporate boards”, *Academy of Management Journal*, Vol. 50 No. 4, pp. 941–
27 952.
- 28
29 Iranmanesh, M., Zailani, S. and Nikbin, D. (2017), “RFID continuance usage intention in
30 health care industry”, *Quality Management in Health Care*, Vol. 26 No. 2, pp. 116–123.
- 31
32 Jeaheng, Y., Al-Ansi, A. and Han, H. (2019), “Halal-friendly hotels: Impact of halal-friendly
33 attributes on guest purchase behaviors in the Thailand hotel industry”, *Journal of Travel
34 & Tourism Marketing*, Vol. 36 No. 6, pp. 729–746.
- 35
36 Jensen, M.C. and Meckling, W.H. (1976), “Theory of the firm: Managerial behavior, agency
37 costs, and ownership structure”, *Journal of Financial Economics*, Vol. 3 No. 4, pp. 305–
38 360.
- 39
40 Jones, M.J. and Solomon, J.F. (2013), “Problematising accounting for biodiversity”,
41 *Accounting, Auditing & Accountability Journal*, Vol. 26 No. 5, pp. 668–687.
- 42
43 Kasa, M., Kho, J., Yong, D., Hussain, K. and Lau, P. (2020), “Competently skilled human
44 capital through education for the hospitality and tourism industry”, *Worldwide Hospitality
45 and Tourism Themes*, (In Press).
- 46
47 Kathy Rao, K., Tilt, C.A. and Lester, L.H. (2012), “Corporate governance and environmental
48 reporting: an Australian study”, *Corporate Governance: The International Journal of
49 Business in Society*, Vol. 12 No. 2, pp. 143–163.
- 50
51 Kolk, A. and Perego, P. (2010), “Determinants of the adoption of sustainability assurance
52 statements: an international investigation”, *Business Strategy and the Environment*, Vol.
53 19 No. 3, pp. 182–198.
- 54
55 Kor, Y.Y. and Sundaramurthy, C. (2009), “Experience-based human capital and social capital
56 of outside directors”, *Journal of Management*, Vol. 35 No. 4, pp. 981–1006.
- 57
58 Kostova, T. and Zaheer, S. (1999), “Organizational legitimacy under conditions of complexity:
59
60

1
2
3 The case of the multinational enterprise”, *Academy of Management Review*, Vol. 24 No.
4 1, pp. 64–81.

6 Krippendorff, K. (2004), *Content Analysis: An Introduction to Its Methodology Thousand*
7 *Oaks*, 2nd ed., Sage Publication, London.

9 Legrand, W., Huegel, E.B. and Sloan, P. (2013), “Learning from best practices: Sustainability
10 reporting in international Hotel Chains”, in Chen, J. (Ed.), *Advances in Hospitality and*
11 *Leisure*, Emerald Group Publishing, pp. 119–134.

13 Liao, L., Luo, L. and Tang, Q. (2015), “Gender diversity, board independence, environmental
14 committee and greenhouse gas disclosure”, *The British Accounting Review*, Vol. 47 No.
15 4, pp. 409–424.

17 van Liempd, D. and Busch, J. (2013), “Biodiversity reporting in Denmark”, *Accounting,*
18 *Auditing & Accountability Journal*, Vol. 26 No. 5, pp. 833–872.

20 Malik, A., Lan, J. and Lenzen, M. (2016), “Trends in global greenhouse gas emissions from
21 1990 to 2010”, *Environmental Science & Technology*, Vol. 50 No. 9, pp. 4722–4730.

23 Mark-Herbert, C. and Von Schantz, C. (2007), “Communicating corporate social
24 responsibility–brand management”, *EJBO-Electronic Journal of Business Ethics and*
25 *Organization Studies*, Vol. 12 No. 2, pp. 4–11.

27 Markides, C.C. (1995), *Diversification, Refocusing, and Economic Performance*, Cambridge,
28 MA: MIT Press.

30 Martin-Fuentes, E. (2016), “Are guests of the same opinion as the hotel star-rate classification
31 system?”, *Journal of Hospitality and Tourism Management*, Vol. 29, pp. 126–134.

33 Matuszak, Ł. and Róžańska, E. (2019), “Online corporate social responsibility (CSR)
34 disclosure in the banking industry: evidence from Poland”, *Social Responsibility Journal*,
35 pp. 1–19.

37 Mihalič, T., Žabkar, V. and Cvelbar, L.K. (2012), “A hotel sustainability business model:
38 evidence from Slovenia”, *Journal of Sustainable Tourism*, Vol. 20 No. 5, pp. 701–719.

40 Milder, J.C., Newsom, D., Sierra, C. and Bahn, V. (2016), “Reducing tourism’s threats to
41 biodiversity: effects of a voluntary sustainability standard and training program on 106
42 Latin American hotels, lodges and guesthouses”, *Journal of Sustainable Tourism*, Vol. 24
43 No. 12, pp. 1727–1740.

45 Mukherjee, K., Sen, M. and Pattanayak, J.K. (2010), “Firm characteristics and corporate
46 environmental disclosure practices in India”, *IUP Journal of Accounting Research &*
47 *Audit Practices*, Vol. 9 No. 4, pp. 24–41.

49 Narangajavana, Y. and Hu, B. (2008), “The relationship between the hotel rating system,
50 service quality improvement, and hotel performance changes: A canonical analysis of
51 hotels in Thailand”, *Journal of Quality Assurance in Hospitality & Tourism*, Vol. 9 No.
52 1, pp. 34–56.

54 Nijkamp, P., Vindigni, G. and Nunes, P.A.L.D. (2008), “Economic valuation of biodiversity:
55 A comparative study”, *Ecological Economics*, Vol. 67 No. 2, pp. 217–231.

57 Ong, T. and Djajadikerta, H.G. (2020), “Corporate governance and sustainability reporting in
58 the Australian resources industry: An empirical analysis”, *Social Responsibility Journal*,
59

1
2
3 Vol. 16 No. 1, pp. 1–14.

- 4 Owen-Smith, J. and Powell, W.W. (2004), “Knowledge networks as channels and conduits:
5 The effects of spillovers in the Boston biotechnology community”, *Organization Science*,
6 Vol. 15 No. 1, pp. 5–21.
- 7
8 Pfeffer, J. and Salancik, G.R. (1978), *The External Control of Organizations: A Resource
9 Dependence Perspective*, Harper and Row, New York.
- 10
11 Qoura, O. and Khalifa, G.S. (2016), “The Impact of Reputation Management on Hotel Image
12 among Internal Customers: The Case of Egyptian Hotels”, *International Journal of
13 Heritage, Tourism, and Hospitality*, Vol. 7 No. 2, pp. 261–274.
- 14
15 Rao, K. and Tilt, C. (2016), “Board composition and corporate social responsibility: The role
16 of diversity, gender, strategy and decision making”, *Journal of Business Ethics*, Vol. 138
17 No. 2, pp. 327–347.
- 18
19 Rimmel, G. and Jonäll, K. (2013), “Biodiversity reporting in Sweden: corporate disclosure and
20 preparers’ views”, *Accounting, Auditing & Accountability Journal*, Vol. 26 No. 5, pp.
21 746–778.
- 22
23 Salman, N. and Saives, A. (2005), “Indirect networks: an intangible resource for biotechnology
24 innovation”, *R&d Management*, Vol. 35 No. 2, pp. 203–215.
- 25
26 Samaha, K. and Khlif, H. (2016), “Adoption of and compliance with IFRS in developing
27 countries: A synthesis of theories and directions for future research”, *Journal of
28 Accounting in Emerging Economies*, Vol. 6 No. 1, pp. 33–49.
- 29
30 Samkin, G. and Schneider, A. (2010), “Accountability, narrative reporting and legitimation”,
31 *Accounting, Auditing & Accountability Journal*, Vol. 23 No. 2, pp. 256–289.
- 32
33 Samkin, G., Schneider, A. and Tappin, D. (2014), “Developing a reporting and evaluation
34 framework for biodiversity”, *Accounting, Auditing & Accountability Journal*, Vol. 27 No.
35 3, pp. 527–562.
- 36
37 Sánchez, L.P.-C., Guerrero-Villegas, J. and González, J.M.H. (2017), “The influence of
38 organizational factors on board roles”, *Management Decision*, Vol. 55 No. 5, pp. 842–
39 871.
- 40
41 Shaukat, A., Qiu, Y. and Trojanowski, G. (2016), “Board attributes, corporate social
42 responsibility strategy, and corporate environmental and social performance”, *Journal of
43 Business Ethics*, Vol. 135 No. 3, pp. 569–585.
- 44
45 Shieh, H.-S., Hu, J.-L. and Shen, H.-J. (2012), “Going green: developing a conceptual
46 framework for the Green Hotel Rating System”, *Actual Problems of Economics*, No. 134,
47 pp. 521–530.
- 48
49 Shwairef, A., Amran, A., Iranmanesh, M. and Ahmad, N.H. (2019), “The mediating effect of
50 strategic posture on corporate governance and environmental reporting”, *Review of
51 Managerial Science*, pp. 1–30.
- 52
53 Skouloudis, A., Malesios, C. and Dimitrakopoulos, P.G. (2019), “Corporate biodiversity
54 accounting and reporting in mega-diverse countries: An examination of indicators
55 disclosed in sustainability reports”, *Ecological Indicators*, Vol. 98, pp. 888–901.
- 56
57 Strike, V.M., Gao, J. and Bansal, P. (2006), “Being good while being bad: Social responsibility
58
59
60

1
2
3 and the international diversification of US firms”, *Journal of International Business*
4 *Studies*, Vol. 37 No. 6, pp. 850–862.

5
6 Subramaniam, P.L., Iranmanesh, M., Kumar, K.M. and Foroughi, B. (2020), “The impact of
7 multinational corporations’ socially responsible supplier development practices on their
8 corporate reputation and financial performance”, *International Journal of Physical*
9 *Distribution & Logistics Management*, Vol. 50 No. 1, pp. 3–25.

10
11 Syarifuddin, S. and Damayanti, R.A. (2019), “Biodiversity accounting: uncover environmental
12 destruction in Indonesia”, *Social Responsibility Journal*, pp. 1–21.

13
14 Tagesson, T., Blank, V., Broberg, P. and Collin, S. (2009), “What explains the extent and
15 content of social and environmental disclosures on corporate websites: a study of social
16 and environmental reporting in Swedish listed corporations”, *Corporate Social*
17 *Responsibility and Environmental Management*, Vol. 16 No. 6, pp. 352–364.

18
19 Tang, Y.H., Amran, A. and Goh, Y.N. (2014), “Environmental management practices of hotels
20 in Malaysia: stakeholder perspective”, *International Journal of Tourism Research*, Vol.
21 16 No. 6, pp. 586–595.

22
23 Tommasetti, A., Mussari, R., Maione, G. and Sorrentino, D. (2020), “Sustainability
24 Accounting and Reporting in the Public Sector: Towards Public Value Co-Creation?”,
25 *Sustainability*, Vol. 12 No. 5, p. 1909.

26
27 Tuggle, C.S., Schnatterly, K. and Johnson, R.A. (2010), “Attention patterns in the boardroom:
28 How board composition and processes affect discussion of entrepreneurial issues”,
29 *Academy of Management Journal*, Vol. 53 No. 3, pp. 550–571.

30
31 Van Tulder, R. and Kolk, A. (2001), “Multinationality and corporate ethics: Codes of conduct
32 in the sporting goods industry”, *Journal of International Business Studies*, Vol. 32 No. 2,
33 pp. 267–283.

34
35 Vellecco, I. and Mancino, A. (2010), “Sustainability and tourism development in three Italian
36 destinations: stakeholders’ opinions and behaviours”, *The Service Industries Journal*,
37 Vol. 30 No. 13, pp. 2201–2223.

38
39 Waldman, M. and Shevah, Y. (2000), “Biological Diversity — An Overview”, in Belkin, S.
40 (Ed.), *Environmental Challenges*, Springer Netherlands, Dordrecht, pp. 299–310.

41
42 Walls, J.L. and Hoffman, A.J. (2013), “Exceptional boards: Environmental experience and
43 positive deviance from institutional norms”, *Journal of Organizational Behavior*, Vol. 34
44 No. 2, pp. 253–271.

45
46 Wanderley, L.S.O., Lucian, R., Farache, F. and de Sousa Filho, J.M. (2008), “CSR information
47 disclosure on the web: a context-based approach analysing the influence of country of
48 origin and industry sector”, *Journal of Business Ethics*, Vol. 82 No. 2, pp. 369–378.

49
50 Werther Jr, W.B. and Chandler, D. (2005), “Strategic corporate social responsibility as global
51 brand insurance”, *Business Horizons*, Vol. 48 No. 4, pp. 317–324.

52
53 Westphal, J.D. (1999), “Collaboration in the boardroom: The consequences of social ties in the
54 CEO/board relationship”, *Academy of Management Journal*, Vol. 42 No. 1, pp. 7–24.

55
56 Westphal, J.D. and Fredrickson, J.W. (2001), “Who directs strategic change? Director
57 experience, the selection of new CEOs, and change in corporate strategy”, *Strategic*
58
59
60

1
2
3 *Management Journal*, Vol. 22 No. 12, pp. 1113–1137.

4
5 Wetzels, M., Odekerken-Schroder, G. and Van Oppen, C. (2009), “Using PLS path modeling
6 for assessing hierarchical construct models: guidelines and empirical illustration”, *Mis*
7 *Quarterly*, Vol. 33 No. 1, pp. 177–195.

8
9 Ye, Q., Li, H., Wang, Z. and Law, R. (2014), “The influence of hotel price on perceived service
10 quality and value in e-tourism: An empirical investigation based on online traveler
11 reviews”, *Journal of Hospitality & Tourism Research*, Vol. 38 No. 1, pp. 23–39.

12
13 Zailani, S., Iranmanesh, M., Foroughi, B., Kim, K. and Hyun, S.S. (2019), “Effects of supply
14 chain practices, integration and closed-loop supply chain activities on cost-containment
15 of biodiesel”, *Review of Managerial Science*, pp. 1–21.

16
17 Zyglidopoulos, S.C. (2002), “The social and environmental responsibilities of multinationals:
18 Evidence from the Brent Spar case”, *Journal of Business Ethics*, Vol. 36 No. 1–2, pp.
19 141–151.
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

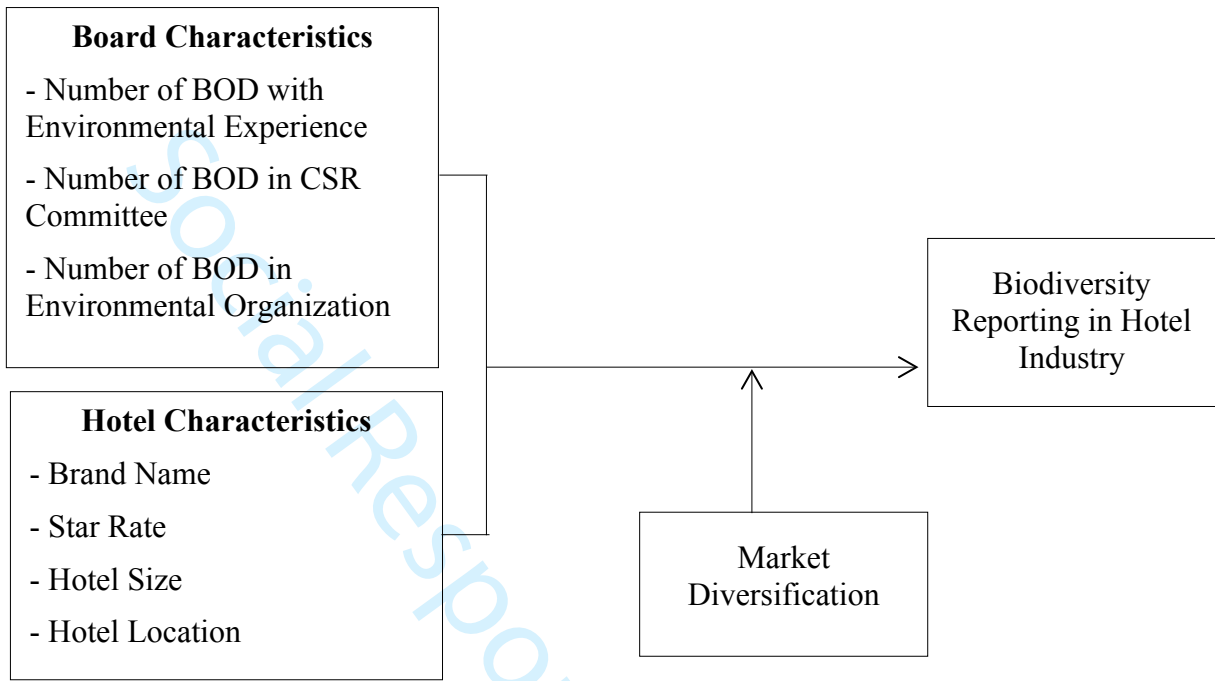
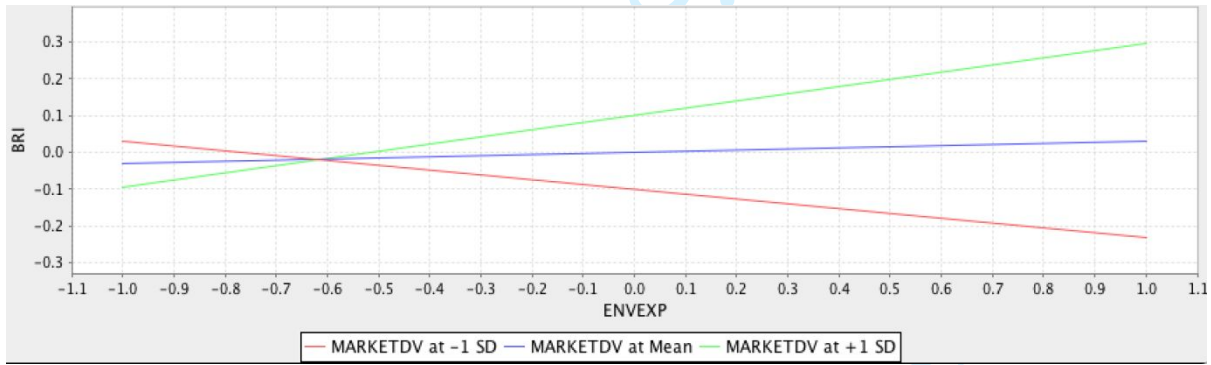


Figure 1. Conceptual Framework

(a)



(b)

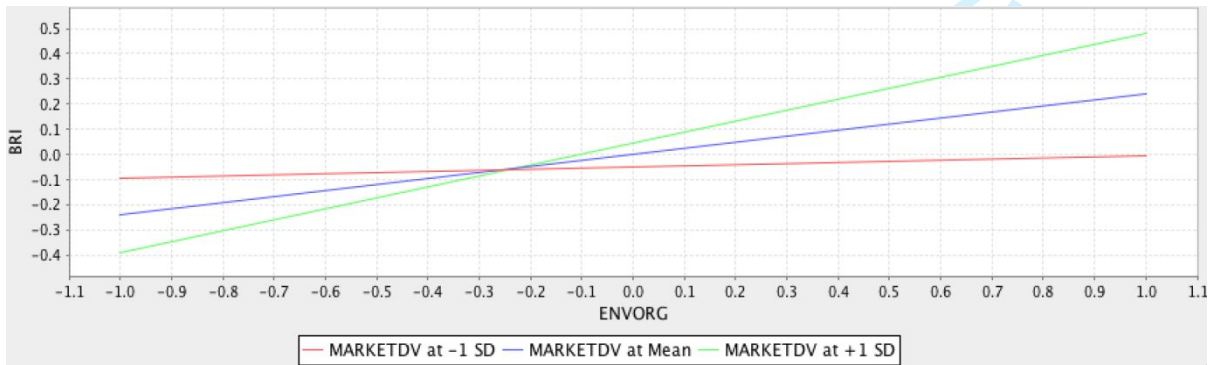


Figure 2. Moderating Effect of Market Diversification

Table 1. Index assessing the extent of biodiversity reporting

No.	Items
1	The role that the organization plays in restoring national or international biodiversity, including vision, mission and strategy statements.
2	Description of the current status of biodiversity and/or issues affecting biodiversity
3	Description of the value and importance of biodiversity, including reasons why biodiversity should be restored or maintained
4	Identification of any targets/ objectives/ outcomes/ aims the organization has in relation to planned biodiversity-related actions, projects and research
5	Reference to how the organization plans to fund any biodiversity actions, plans, research or projects including details of funds available
6	Biodiversity background reports, fact sheets on regional biodiversity, information brochures on topic such as pest and weed management, information on species and other general biodiversity-related information
7	Reference to any frameworks, databases or methods of measuring the status of biodiversity or the numbers of species
8	Discussion of any actions, projects and programmes that the organization has conducted or overseen, including the purpose or objective(s) of the actions, projects or programmes
9	Description of any community programmes or business partnerships that the organization has entered into for the purpose of raising awareness of, or restoring or maintaining biodiversity
10	Description of any contribution the organization has made at national and/ or international conventions, conferences, and forums including contributions to reports, legislation, and national procedures
11	General information concerning biodiversity
12	Evaluation of any actions taken by the organization in the interest of restoring or maintaining biodiversity, including discussion on specific outputs/ outcomes achieved
13	Reference to the cost of any actions, projects and research or the identification of how the action, project or research was funded
14	Discussion of any potential projects, actions or plans to be carried out in the future as a result of past performance
15	Location and size of land owned, leased, managed in or adjacent to, protected areas and areas of high biodiversity value outside protected areas.
16	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.
17	Habitats protected or restored
18	Strategies, current actions, and future plans for managing impacts on biodiversity
19	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.

Table 2. Descriptive Analysis of the Discrete Variables

Variables		Frequency	Percentage (%)
Star Rate	1-2	8	7.6
	3-4	31	29.5
	5	66	62.9
Brand	Not Established	18	17.1
	Established	87	82.9
Hotel Size	Less than 200 rooms	16	15.2
	More than 200 rooms	89	84.8
Hotel Location	Environmentally Sensitive Area	33	31.4
	Non-Environmentally Sensitive Area	72	68.6
Market Diversification	No	50	47.6
	Yes	55	52.4

Table 3. Descriptive Analysis of the Continuous Variables

Variables	Minimum	Maximum	Mean	Std. Deviation
Number of BOD with Environmental Experience	0.00	3.00	0.820	0.565
Number of BOD in CSR Committee	0.00	9.00	0.910	1.623
Number of BOD in Environmental Organization	0.00	3.00	0.780	0.475
Biodiversity Reporting Index	0.00	1.00	0.185	0.280

Table 4. Path Coefficients and Hypothesis Testing

Hypotheses	Relationships	Path Coefficients	Decision
Main Model			
H1	ENVEXP → BRI	0.039	Not Supported
H2	CSRCOM → BRI	0.113*	Supported
H3	ENVORG → BRI	0.261**	Supported
H4	BRAND → BRI	-0.060	Not Supported
H5	STAR → BRI	0.127*	Supported
H6	SIZE → BRI	0.119**	Supported
H7	LOCATION → BRI	0.415***	Supported
Moderating Effect of Market Diversification			
-	MARKETDV → BRI	0.085	-
H8a	MARKETDV*ENVEXP → BRI	0.163*	Supported
H8b	MARKETDV*CSRCOM → BRI	0.046	Not Supported
H8c	MARKETDV*ENVORG → BRI	0.194**	Supported
H9a	MARKETDV*BRAND → BRI	-0.037	Not Supported
H9b	MARKETDV*STAR → BRI	-0.063	Not Supported
H9c	MARKETDV*SIZE → BRI	0.073	Not Supported
H9d	MARKETDV*LOCATION → BRI	0.009	Not Supported

Note. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Responses to Reviewers' Comments (SRJ-02-2019-0072.R1)

Dear Prof. Hasan Fauzi,

We thank the reviewers for their constructive criticism and positive review. We also thank you for giving us the opportunity to strengthen our paper and resubmit it. We have included the responses to the reviewers' comments below. Also, we have highlighted the changes to the manuscript in blue.

Kind regards,
Mohammad

Reviewer(s)' Comments to Author:

Reviewer: 1

Recommendation: Major Revision

Comments:

The manuscript is up-to-date, makes an interesting contribution and feels as something to build on.

Thanks.

However, there is room for improvement of the manuscript and here are some changes which must be made before publication:

Thank you very much for taking your valuable time to provide constructive comments on our manuscript. We have addressed your comments as follows:

The structure of the paper needs attention and the usual rule (introduction-rationale-need for the work/research questions, background-literature review, approach-methods-research performed, results, discussion and then conclusions/concluding remarks) should be followed more closely to facilitate the flow of the paper.

Thanks.

The highlighted structured more closely followed in the revised version.

In introduction section, the research questions of the study were added as follows:

This study aims to address the following research objectives.

1. To test the impacts of board and hotel characteristics on the extent of biodiversity reporting in the hotel industry.
2. To examine the moderating effect of market diversification on the impacts of board and hotel characteristics on the extent of biodiversity reporting.

Conclusion section was added in the revised version.

1
2
3 Please develop further/expand your discussion of findings perhaps by drawing on relevant
4 studies and in relation with prior MDPI's-Sustainability SRJ literature - develop further and
5 expand your final section of concluding remarks;

6 The discussion and conclusion sections were improved using recent and relevant studies
7 specially the ones that published in Sustainability (MDPI) and Social Responsibility Journal.
8
9

10 Incorporate research and policy recommendations in the final conclusion section. Cite
11 (primarily) in these final-most critical sections of your manuscript relevant papers published
12 in the Journal you submitted your work to (in order to provide some sort of continuity of the
13 specific research string).

14 Thanks. The conclusion section was added and research and policy contributions of the study
15 were discussed. We incorporate research and policy recommendations as follows:
16
17

18 Understanding the impacts of board and hotel characteristics on the extent of
19 biodiversity reporting has important theoretical and practical implications. From a theoretical
20 perspective, this study contributes to the biodiversity literature by testing the factors that may
21 affect the extent of hotels' biodiversity reporting. The results revealed that the number of
22 board members on the CSR committee and in environmental organizations, and hotels' star
23 rating, size and location, positively influenced the extent of hotels' biodiversity reporting. The
24 inconsistency between these results and the findings of studies in other industries confirms that
25 determinants of biodiversity reporting are dependent on the environmental situation of the
26 sectors in which firms operate and consequently that the proposed conceptual framework of
27 this study should be tested in various industries. Furthermore, the study extends the literature
28 on drivers of non-financial reporting by testing the moderating effect of market diversification.
29 The results show that market diversification moderates positively the impact of number of
30 board members with environmental experience and number of board members in
31 environmental organizations on the extent of biodiversity reporting. It suggests market
32 diversity as a factor that can explain the variety of results in the studies on drivers of non-
33 financial reporting.
34
35

36 From the practical perspective, the results of this study will help hotel managers to
37 understand those board and hotel characteristics that have effects on the extent of biodiversity
38 reporting. We offer some clues as to when such actions are substantive rather than symbolic:
39 appointing directors who have environmental experience and are members of environmental
40 organizations is necessary if a hotel has high market diversification. Furthermore, appointing
41 directors who are on CSR committees is essential for hotels regardless of market
42 diversification. The findings also have implications for policymakers, suggesting that they
43 should develop strict regulations on biodiversity reporting and monitor the biodiversity
44 disclosure of hotels which are small, have low star ratings, and are located in less
45 environmentally sensitive areas, as they are least likely to disclose adequately the impact of
46 their business operations on biodiversity. Large and high-star hotels and those located close to
47 natural conservation areas are under pressure from their customers to protect biodiversity and
48 publicly disclose their biodiversity practices. Accordingly, the government should play a
49 critical role and expose pressure on those hotels that receive less pressure from customers.
50
51
52
53

54 We reviewed and cited the related articles that published in "Social Responsibility Journal".
55
56

57 More references to recent & relevant literature/empirical studies could increase the quality of
58 the research paper and provide a much clearer message to the reader - these may help you
59
60

1
2
3 building your explanatory arguments/further discussion of the findings which need to be
4 extended.

5 Thanks. Recent and relevant literature were reviewed and used in entire manuscript. The
6 discussion was improved using the recent literature.
7

8
9 You may draw critical insights related to your findings from the cultural/institutional terrains
10 in relation to sustainability management and nonfinancial (biodiversity) accounting and
11 reporting. In this respect, consider the following as useful in gaining additional insights, in
12 refining your concluding remarks/discussion points, & to be included in your reference
13 material:

14
15 Skouloudis, A., Malesios, C., & Dimitrakopoulos, P. G. (2019). Corporate biodiversity
16 accounting and reporting in mega-diverse countries: An examination of indicators disclosed in
17 sustainability reports. *Ecological Indicators*, 98, 888-901.
18 Balta, M. E., Woods, A., & Dickson, K. (2010). The influence of boards of directors'
19 characteristics on strategic decision-making: Evidence from Greek companies. *Journal of*
20 *applied business research*, 26(3), 57-68.
21 Rao, K., & Tilt, C. (2016). Board composition and corporate social responsibility: The role of
22 diversity, gender, strategy and decision making. *Journal of Business Ethics*, 138(2), 327-347.
23 Halkos, G. (2017). Revisiting the relationship between corporate social responsibility and
24 national culture: A quantitative assessment. *Management decision*, 55(3), 595-613.
25 Halkos, G., & Skouloudis, A. (2016). National CSR and institutional conditions: An
26 exploratory study. *Journal of Cleaner Production*, 139, 1150-1156.
27
28

29 Thanks for recommending the above articles. We went through the articles and used them in
30 entire article.
31

32
33 The introductory/opening section should communicate a little clearer the literature gaps, as
34 well as the study's aims & objectives in order to facilitate the flow of the study.
35

36 Thanks. In the revised version the literature gaps were discussed in a clearer way. Furthermore,
37 the objectives of the study were added as follows:
38

39 This study aims to address the following research objectives.
40

- 41 3. To test the impacts of board and hotel characteristics on the extent of biodiversity
42 reporting in the hotel industry.
- 43 4. To examine the moderating effect of market diversification on the impacts of board and
44 hotel characteristics on the extent of biodiversity reporting.
45

46 The references in introduction section were updated.
47
48

49
50 Concluding remarks – authors must elaborate much more on what is their contribution to the
51 literature as well as on opportunities for future research. Questions that need to be answered:
52 Why your study is important? and how it extend so existing knowledge on the issue/topic?
53 Conclusions need to be written in a clear and coherent manner and draw the main lessons from
54 the paper. I suggest you to concentrate on the description of the implications of the work, the
55 main findings and its potential replicability - empirical investigation. Furthermore, limitations
56 of the study need to be outlined to a greater extent, and so are any potential connections
57 between your study and specific aspects of the Journal's scope.
58
59
60

1
2
3 Thanks. According the highlighted comments, the implications and limitations of the study
4 were extended as follows:
5

6
7 Understanding the impacts of board and hotel characteristics on the extent of
8 biodiversity reporting has important theoretical and practical implications. From a theoretical
9 perspective, this study contributes to the biodiversity literature by testing the factors that may
10 affect the extent of hotels' biodiversity reporting. The results revealed that the number of
11 board members on the CSR committee and in environmental organizations, and hotels' star
12 rating, size and location, positively influenced the extent of hotels' biodiversity reporting. The
13 inconsistency between these results and the findings of studies in other industries confirms that
14 determinants of biodiversity reporting are dependent on the environmental situation of the
15 sectors in which firms operate and consequently that the proposed conceptual framework of
16 this study should be tested in various industries. Furthermore, the study extends the literature
17 on drivers of non-financial reporting by testing the moderating effect of market diversification.
18 The results show that market diversification moderates positively the impact of number of
19 board members with environmental experience and number of board members in
20 environmental organizations on the extent of biodiversity reporting. It suggests market
21 diversity as a factor that can explain the variety of results in the studies on drivers of non-
22 financial reporting.
23

24
25 From the practical perspective, the results of this study will help hotel managers to
26 understand those board and hotel characteristics that have effects on the extent of biodiversity
27 reporting. We offer some clues as to when such actions are substantive rather than symbolic:
28 appointing directors who have environmental experience and are members of environmental
29 organizations is necessary if a hotel has high market diversification. Furthermore, appointing
30 directors who are on CSR committees is essential for hotels regardless of market
31 diversification. The findings also have implications for policymakers, suggesting that they
32 should develop strict regulations on biodiversity reporting and monitor the biodiversity
33 disclosure of hotels which are small, have low star ratings, and are located in less
34 environmentally sensitive areas, as they are least likely to disclose adequately the impact of
35 their business operations on biodiversity. Large and high-star hotels and those located close to
36 natural conservation areas are under pressure from their customers to protect biodiversity and
37 publicly disclose their biodiversity practices. Accordingly, the government should play a
38 critical role and expose pressure on those hotels that receive less pressure from customers.
39

40
41 The aim of the present study is considered to have been successfully achieved.
42 Nevertheless, limitations should be raised, which can be addressed in future studies. First, the
43 results of this study show a non-significant relationship between the number of board members
44 with environmental experience and the extent of biodiversity reporting, which is inconsistent
45 with previous studies. Future studies could compare the impact of this factor between the hotel
46 industry and the manufacturing industry to illuminate the importance of the extent of the
47 particular industry's effect on the environment on board members' decisions to report
48 biodiversity. Second, content analysis has its limitations. Driving keywords for the content
49 analysis from Samkin et al.'s (2014) framework of biodiversity and GRI guidelines is not free
50 of risk, as the guidelines might not capture all of the relevant biodiversity aspects. Third, the
51 sample for this study was limited to the hotel industry: future studies should test the model
52 from this study in other industries. Skouloudis et al. (2019) showed that the extent of
53 biodiversity reporting is dependent on the sector of operation.
54
55

56
57
58 Carefully check the references, so as to make sure they are all complete and follow the
59 Guidelines to Authors.
60

1
2
3 The references were checked and followed journal guideline.
4

5
6 Finally, when you submit the corrected version, please do check thoroughly, in order to avoid
7 grammar, syntax or structure/presentation flaws. Make sure you retain a formal/academic-
8 specific style of presenting your work throughout the text - (if necessary) please seek for
9 professional English proofreading services or ask a native English-speaking colleague of
10 yours in order to refine and improve the English in your paper.

11 Thanks. The revised version of the article was edited by a native speaker.
12

13
14 Additional Questions:

15 1. Originality: Does it add to the subject area/body of knowledge in any way?: Yes

16 Thanks.
17

18 2. Analytical rigour: Does the article demonstrate soundness in the way it has been
19 researched and/or argued?: Yes

20 Thanks.
21

22
23 3. Clarity and readability: Is attention paid to clarity of expression and readability? Points to
24 note: sentence structure, jargon, acronyms.: Yes

25 Thanks.
26

27 4. Research applications: Does the article suggest areas for further research? Or practical
28 implications - are implications for practitioners clearly drawn out?: Yes

29 Thanks.
30

31
32 5. Internationality: Will the article be of interest to an international audience?: Yes

33 Thanks.
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Reviewer: 2

Recommendation: Major Revision

Comments:

Please check comment number1 and attachment.

Thank you very much for taking your valuable time to provide constructive comments on our manuscript. We have addressed your comments as follows:

Additional Questions:

1. Originality: Does it add to the subject area/body of knowledge in any way?: Ok. Needs improving the arguments of why the hotel sector is used, the board and hotel characteristics are determinants of biodiversity reporting and the diversification market can moderate the relationship? strong arguments are needed to justify that moderating is needed in the current study (solution)

Thanks. The arguments on selecting hotel sector was improved as follows:

Furthermore the arguments on selecting board and hotel characteristics as drivers of biodiversity reporting and moderating effect of diversification were strengthen in introduction as follows:

A number of studies on environmental reporting include biodiversity (e.g., Bebbington et al., 2008; Gallego-Álvarez and Ortas, 2017; Guenther et al., 2007). In these studies, biodiversity was considered as one category of environmental reporting and the focus was rarely on biodiversity disclosure. The limited studies on biodiversity disclosure have been focused on the extent of biodiversity reporting (van Liempd and Busch, 2013; Rimmel and Jonäll, 2013), developing tools for biodiversity reporting (Samkin et al., 2014), and exploring the strategies that companies adopt to validate their accountability for biodiversity (Boiral, 2016). Research on drivers of biodiversity reporting is limited in the literature. As such, the main aim of this study is to investigate the drivers of biodiversity reporting. The focus of this study is limited to the hotel industry, as although this industry is one of the world's fastest growing sectors (Jeaheng et al., 2019) and imposes numerous impacts on biodiversity loss (Chung and Parker, 2010; Malik et al., 2016), it has received less attention than the mining, chemical, or manufacturing industries. Tourists threaten biodiversity by generating negative environmental externalities, ranging from greenhouse gas emissions to water pollution (Milder et al., 2016). The drivers of non-financial reporting can be categorized into two broad types, namely board characteristics (e.g., Rao and Tilt, 2016; Shwairef et al., 2019) and corporate characteristics (e.g., Chang et al., 2019; Ong and Djajadikerta, 2020). To develop a more comprehensive model, the impacts of both board and hotel characteristics on the extent of biodiversity reporting in the hotel industry were investigated in this study. The findings will enhance our understanding of the drivers of biodiversity reporting in the hotel industry and will be useful for policymakers who are concerned with the impact of the hotel industry on the erosion of biodiversity.

Market diversification is one of the factors that may moderate the relationships between drivers and CSR reporting. Market diversification is the ratio of international revenue to the total revenue of the company (Amran et al., 2015). Many studies have shown that a company's degree of internationalization (the number of countries in which it operates) has a positive effect on its social responsibility and CSR reporting (Matuszak and Różańska, 2019;

Wanderley et al., 2008). However, to date, no research has tested the moderating impact of market diversification in non-financial reporting studies. Hotels that operate internationally should meet the expectations of various customers and are more exposed to customer pressure to protect biodiversity. As such, the impacts of board and hotel characteristics on their decisions to disclose biodiversity practices are expected to be greater. For instance, the impacts of hotel brand on the extent of biodiversity is expected to be greater among hotels that operate internationally and have high market diversification, as neglecting to report biodiversity publicly may put the reputation of high equity brands at risk. Accordingly, a moderating effect of market diversification is proposed

There are three main reasons for selecting hotel industry:

1. This industry has substantial negative effect on biodiversity.
2. The industry is fast growing and consequently its effect on biodiversity will be more in future.
3. The study on non-financial (e.g., biodiversity) reporting is limited in the literature and most of the studies have focused on mining, chemical, or manufacturing industries.

To support the moderating effect of market diversification. Initially, we explained its logic and later provide an example (hotel brand) to clarify it.

2. Analytical rigour: Does the article demonstrate soundness in the way it has been researched and/or argued?: In the literature review section:

In the literature review, every underpinning theory you are using, you need to explain thoroughly the logic underlying the study. This section and Method section should be the detail of what you briefly explain in the Occupying a niche (solution).

⇒ I don't see your discussion in the Literature Review section on how your proposed theoretical foundation (undermining theory):

⇒ You should thoroughly discuss the underpinning theories using the following flow: Check the attachment.

Thanks. You referred to an attachment. However, we didn't receive any attachment with the comments. We try our best to enrich the discussion on the proposed framework. I hope it will be in satisfactory level. We explained the way that conceptual framework was developed and constructs were selected. Furthermore, the proposed relationships were supported based on agency theory, resource dependency theory and signalling theory as follows:

Based on the literature, the potential drivers of non-financial reporting can be categorized into two main types, namely board characteristics (e.g., Liao et al., 2015; Rao and Tilt, 2016) and corporate characteristics (e.g., Rahman et al., 2011; Ong and Djajadikerta, 2020). Drawing on agency theory, resource dependency theory and signalling theory, the impacts of both board and hotel characteristics on the extent of biodiversity reporting were investigated in this study. The previous studies on the impacts of board characteristics and corporate governance on non-financial reporting were reviewed and the most common significant factors were selected. Based on the reviewed literature, three board characteristics, namely the number of members of the board of directors (BOD) with environmental experience (Walls and Hoffman, 2013; Mertens et al., 2016), on CSR committees (Shaukat et al., 2016; Shwairef et al., 2019), and in environmental organizations (Carpenter and Westphal, 2001; Walls and Hoffman, 2013); and four hotel characteristics, including hotels' brand name (Haddock-Fraser and Fraser, 2008; Amran et al., 2015), star rating (Tang et al., 2014), size (Aggarwal and Singh, 2019; Dias et

1
2
3 al., 2019), and location (Vellecco and Mancino, 2010; Halkos and Skouloudis, 2017), were
4 identified as potential determinants of biodiversity reporting. Accordingly, the impacts of these
5 seven board and hotel characteristics on the extent of biodiversity reporting were investigated in
6 this study.
7

8 According to agency theory, managements choose to voluntarily disclose information
9 to reduce agency costs (Jensen and Meckling, 1976). Providing information is one way to
10 reduce agency costs (Broberg et al., 2010). Resource dependency theory indicates that the BOD
11 is a strategic resource for a firm and enables managers to make effective decisions by providing
12 guidance and resources (Pfeffer and Salancik, 1978). BOD members can provide a set of
13 knowledge and skills derived from their experience (Kor and Sundaramurthy, 2009; Sánchez
14 et al., 2017). BOD members with environmental experience and who are on the CSR committee
15 or involved with an environmental organization have a better understanding of the importance
16 of environmental practices and consequently integrate the environmental responsibilities into
17 decision-making (Shwairef et al., 2019; Tuggle et al., 2010). According to these two theories,
18 BOD members with environmental knowledge provide guidance for managers and enable them
19 to understand the importance of disclosing biodiversity practices in order to reduce agency
20 costs. Signalling theory can explain the impacts of brand name, star rating, size, and location
21 on the extent of biodiversity reporting. Signalling theory addresses the information asymmetry
22 issue and “shows how asymmetry can be reduced by the party with more information signalling
23 it to others” (Samaha and Khlif, 2016, p. 37). Reputed, high star-rated and large hotels signal
24 their responsibility towards the environment to customers by communicating their biodiversity
25 practices. This type of signalling can be effective, as it can be easily copied by hotels that do
26 not have sufficient resources to implement biodiversity practices.
27

28 Furthermore, we also proposed that market diversification moderates the impacts of the BOD
29 and hotel characteristics on the extent of biodiversity reporting (Figure 1). Lack of
30 accountability and transparency towards the impacts of operations on biodiversity have
31 negative effects on the reputation and brand equity of hotels (Qoura and Khalifa, 2016). This
32 effect is more prominent in hotels with high levels of internationalization, due to their
33 proximity to the public eye (Subramaniam et al., 2020). Accordingly, it is expected that market
34 diversification moderates the impacts of BOD and hotel characteristics on biodiversity
35 reporting.
36
37
38

39
40
41 The methodology section was extended as follows:
42

43 The study was focused on hotels in Malaysia, where the hotel industry is growing rapidly (Kasa
44 et al., 2020), and as highlighted above, has a significant effect on biodiversity (Malik et al.,
45 2016). Secondary data were used to measure the study variables. The secondary data were
46 obtained from the annual reports of hotels listed in the Global Reporting Initiative (GRI) for
47 the period between 2016 and 2017. The current paper used content analysis by implementing
48 a framework of biodiversity (14 items) developed by Samkin et al. (2014) and GRI guidelines
49 (5 items) (GRI, 2011) to measure the extent of biodiversity reporting. Krippendorff (2004, p.
50 18) defined content analysis as a “research technique for making replicable and valid inferences
51 from texts (or other meaningful matter) to the context of their use”. It involves “codifying
52 qualitative and quantitative information into pre-defined categories in order to derive patterns
53 in the presentation and reporting of information” (Eisenberg et al., 2004, p. 287). Content
54 analysis has been used frequently to examine non-financial disclosures (e.g., Chang et al.,
55 2019; Shwairef et al., 2019). By adding all the indicators, the Biodiversity Reporting Index
56 (BRI) was determined. A score of one or zero is given to a hotel if respectively it reveals the
57 information on its website, corporate social responsibility reporting or annual report or if it
58
59
60

1
2
3 refuses to disclose an information item. The scoring system is based on the discovered
4 evidence. A point will be given for any observed evidence for each item. For conversion of
5 total scores into continuous data, the sum of all the scores is divided by 19 (the total number
6 of items). The criteria used to measure biodiversity reporting are depicted in Table 1.
7
8
9

10
11 3. Clarity and readability: Is attention paid to clarity of expression and readability? Points to
12 note: sentence structure, jargon, acronyms.: Ok, Still needs improving in some part.
13 Thanks. The revised version of the article was edited by a native speaker.
14

15
16
17 4. Research applications: Does the article suggest areas for further research? Or practical
18 implications - are implications for practitioners clearly drawn out?: Improve. .
19 The practical implications and future studies section were improved in the revised version of
20 the article as follows:
21

22
23 From the practical perspective, the results of this study will help hotel managers to
24 understand those board and hotel characteristics that have effects on the extent of biodiversity
25 reporting. We offer some clues as to when such actions are substantive rather than symbolic:
26 appointing directors who have environmental experience and are members of environmental
27 organizations is necessary if a hotel has high market diversification. Furthermore, appointing
28 directors who are on CSR committees is essential for hotels regardless of market
29 diversification. The findings also have implications for policymakers, suggesting that they
30 should develop strict regulations on biodiversity reporting and monitor the biodiversity
31 disclosure of hotels which are small, have low star ratings, and are located in less
32 environmentally sensitive areas, as they are least likely to disclose adequately the impact of
33 their business operations on biodiversity. Large and high-star hotels and those located close to
34 natural conservation areas are under pressure from their customers to protect biodiversity and
35 publicly disclose their biodiversity practices. Accordingly, the government should play a
36 critical role and expose pressure on those hotels that receive less pressure from customers.
37

38
39 The aim of the present study is considered to have been successfully achieved.
40 Nevertheless, limitations should be raised, which can be addressed in future studies. First, the
41 results of this study show a non-significant relationship between the number of board members
42 with environmental experience and the extent of biodiversity reporting, which is inconsistent
43 with previous studies. Future studies could compare the impact of this factor between the hotel
44 industry and the manufacturing industry to illuminate the importance of the extent of the
45 particular industry's effect on the environment on board members' decisions to report
46 biodiversity. Second, content analysis has its limitations. Driving keywords for the content
47 analysis from Samkin et al.'s (2014) framework of biodiversity and GRI guidelines is not free
48 of risk, as the guidelines might not capture all of the relevant biodiversity aspects. Third, the
49 sample for this study was limited to the hotel industry: future studies should test the model
50 from this study in other industries. Skouloudis et al. (2019) showed that the extent of
51 biodiversity reporting is dependent on the sector of operation.
52
53

54
55 Furthermore, the implications of the results for practitioners were discussed in more details in
56 discussion section as follows:
57

58
59 The results confirm the positive relationship between star ratings and the extent of
60 biodiversity reporting, which is consistent with the findings of Tang et al. (2014), who reported

1
2
3 a positive relationship between hotels' star ratings and the extent to which they addressed
4 environmental issues and practices. As the customers of hotels with high star ratings have
5 higher expectations regarding the implementation of environmentally friendly practices, hotels
6 report biodiversity to show customers that they conserve biodiversity in their practices. As
7 such, hotels with high star ratings should go beyond the financial frame and provide
8 information on the impacts of their activities on animal and plant species to depict their
9 responsibility toward biodiversity (Tommasetti et al., 2020).
10

11 The study illustrates that hotel size has a positive explanatory power regarding the
12 extent of biodiversity reporting, suggesting that larger hotels provide more biodiversity
13 information in their disclosures. This result is in line with the findings of Aggarwal and Singh
14 (2019), who found positive relationships between firm size and environmental reporting. As
15 larger hotels are under pressure from stakeholders (Tagesson et al., 2009) and need more
16 external funds than smaller ones (Álvarez et al., 2008), they develop biodiversity disclosure to
17 avoid regulation and absorb more funds. Furthermore, the larger hotels have more financial
18 and non-financial resources and consequently are able to invest in biodiversity protection
19 practices (Dias et al., 2019). As such, the policymakers should play an important role and
20 motivate small and medium hotels, which have fewer resources and encounter less pressure
21 from customers, to invest in biodiversity protection and publicly disclose biodiversity practices
22 by using both incentive and punishment approaches.
23
24
25
26
27

28 5. Internationality: Will the article be of interest to an international audience?: Not yet.
29 Emerald has partnered with Peerwith to provide authors with expert editorial support, including
30 language editing and translation, visuals, and consulting. If your article was rejected, or had
31 major revisions requested on the basis of the language or clarity of communication, you might
32 benefit from a Peerwith expert's input. For a full list of Peerwith services, visit:
33 <https://authorservices.emeraldpublishing.com/>
34 Please note that there is no obligation to use Peerwith and using this service does not guarantee
35 publication.
36
37

38
39 Thanks. The revised version of the article was edited by a native speaker.
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60