

ESG RISKS INTEGRATION, MANAGEMENT, REPORTING AND COMPETITIVE OPPORTUNITIES IN COMMERCIAL BANKS – A SYSTEMATIC LITERATURE REVIEW

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Abstract. The purpose and main objective of the study was to carry out a systematic review of literature on ESG risks integration, management and reporting and its associated challenges and opportunities in the banking sector due to inadequacy in literature related to the aspects of strategy, governance, assessment, measurement, management, monitoring, reporting, culture and data and technology in emerging markets and some developed countries. Five steps in the systematic mapping process were employed and findings revealed the need for further investigation on ESG issues and policy action to focus on the scope, scale and magnitude of the associated challenges and opportunities.

Keywords: ESG risks integration, management, reporting.

JEL Classification: L21, M14, M140.

Introduction

ESG risks integration, management and reporting is a key component in the sustainable finance agenda and has become a key indicator of how banks deal with associated risks and seize opportunities related to their investment decisions (OECD, 2019; UNEP Finance Initiative, 2019; BlackRock Investment Institute, 2018, 2020a, 2020b). ESG integration refers to the methodical and clear inclusion of ESG risks and opportunities in investment analysis and investment decisions (CFA Institute, 2015, 2018a, 2018b, 2019). According to Deloitte Regulatory Risk Team (2020), ESG risks management involves the process of identification, assessment, risk response and monitoring and control of ESG risks in risk management frameworks. In another perspective Japan and Tokyo Exchange Network (2020) stated that ESG risks disclosure involves understanding ESG issues and their related investments, connecting of ESG issues to strategy, oversight and implementation and information disclosure and engagement.

It is evident that the understanding of the key aspects that relate to ESG risks integration, management, and reporting and how they can create value and influence strategic decision making in investment choices within

the banking sector is essential. The goal of ESG risks integration, management and reporting within the banking sector is to mitigate risks and act on opportunities in investment decisions. However, there are several challenges that deter this goal. A key problem exists because there are challenges and opportunities that need to be studied and addressed in relation to ESG risks strategy, governance, assessment and measurement, management and monitoring, reporting, risk culture and risk related data and technology (Amel-Zadeh & Serafeim, 2017; Ballou & Heitger, 2005; Bender et al., 2020; COSO & WBCSD, 2018; Eccles et al., 2017; Feridun & Güngör, 2020; Inderst & Stewart, 2018; Irwin & Bonnet, 2019; Khan, 2005; OECD, 2020, 2021; PwC, 2020; Novethic, 2014; Reg Tech Associates, 2020; COSO & WBCSD, 2018).

Firstly, one of the key challenges is convincing the banks to fast track the adoption and implementation of ESG risks integration, management and reporting systems and best practices because there is absence of robust empirically based business cases that will eradicate the notion of perceived competitive disadvantages that ESG risks integration, management and reporting will create (Galbreath, 2013; Worldwide Fund for Nature [WWF], 2014, 2019). This is a problem faced by many emerging market banks which accept the notion that sound ESG

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risks integration, management and reporting can reduce risks and create competitive advantages (Schramade & Schoenmaker, 2018; Schoenmaker & Schramade, 2019). However, it has been difficult to link the reduction in risks to financial benefits, which are one of the central interests of banks and their shareholders (Porter et al., 2019).

Secondly, there is a perception that ESG risks integration, management and reporting is time consuming and could cost the commercial banks lucrative clients and customers. However, this sentiment is not universal and varies by region (OECD, 2020; WWF, 2014, 2019). A recent global survey by Carbon Tracker Initiative and PRI (2021) reported that many companies do not use Paris-aligned assumptions and estimates that are aimed at meeting the goals of the Paris Agreement/COP 26/27 Agenda.

Thirdly, further evidence from literature suggested that existing studies on ESG risks integration, management and reporting and its associated challenges and opportunities are limited especially in some developed countries and emerging markets (Aldowaisi et al., 2022; Daugaard, 2020; Galbreath, 2013, 2018; Widyawati, 2019). Therefore, in a pursuit to address inadequacy in literature on associated challenges and opportunities the study's objectives were fivefold and most importantly the study sought to firstly, identify what research topics have been addressed in relation to ESG risks integration, management and reporting and its associated challenges and opportunities. Secondly, to identify challenges and limitations in ESG risks integration, management, and reporting. Thirdly, to identify the current research gaps, and, Fourthly, to identify future directions for research. To address these questions, a systematic mapping study process is adopted to identify the relevant studies. In this perspective a well -designed research protocol is used to search for the relevant studies in scientific databases and industry literature. Consequently, a map of current research on ESG risks integration, management and reporting will help other researchers and practitioners in identifying possible research areas and questions for future research. To the best of our knowledge this is the first study to present a systematic literature review on ESG risks integration, management and reporting and its associated challenges and opportunities. The rest of the paper is organized as follows: Section 2 presents a brief overview of literature on systematic mapping. Section 3 describes the research methodology and the steps undertaken in collecting the relevant papers. Section 4 presents the results of the relevant papers and study answers to the research questions and section 5 provides the conclusion of the paper.

1. Literature review

Ongoing debates on systematic reviews question whether identifying and including low quality or grey literature studies changes the estimate of effect (Schmucker et al., 2017; Hartling et al., 2018; Van Driel et al., 2009). Massaro et al. (2016) earlier questioned whether time was better invested in updating systematic reviews rather than

searching for unpublished studies, or rather mapping studies for review as opposed to aiming for high sensitivity in literature searching (Buchberger et al., 2016). Massaro et al. (2016) observed a lack of consensus on reporting search methods in systematic reviews and this remains the case as of 2017, as evidenced in the guidance documents, and despite the publication of the PRISMA guidelines in 2009 (Toews, 2017).

The above debates on systematic literature reviews have majorly been conducted in the social sciences and medical field, however, there are very few systematic reviews which have been conducted on ESG topics such as ESG Integration into the Business Model by Aldowaisi et al. (2022); Emerging new themes in ESG investing by Daugaard (2020); Global Drivers for ESG Performance: The Body of Knowledge by Daugaard and Ding (2022); Socially Responsible Investment and Environmental Social and Governance Metrics by Widyawati (2019). The authors advocated for more systematic reviews research to be conducted on ESG topics due to paucity in literature. Therefore, the study sought to fill the gap in literature by providing a systematic mapping of ongoing literature, to identify and understand the status of research on ESG risks integration, management, and reporting and its associated challenges and opportunities. It was important to gather all relevant research associated with the challenges and opportunities and evaluate what questions have been addressed, and which areas of ESG risks integration, management and reporting present the most challenges and opportunities now and the gaps for further study.

2. Research methodology

The research methodology adopted for this study is systematic mapping as shown in Figure 1.

The aim was to provide an overview of which research topics have been addressed on ESG risks integration, management, and reporting and its associated challenges and opportunities, to establish the research gaps that exists in the area and provide future directions and present the evidence that exists. The research follows the guidelines of systematic mapping process as described by Daugaard (2020), Massaro et al. (2016), Petticrew and

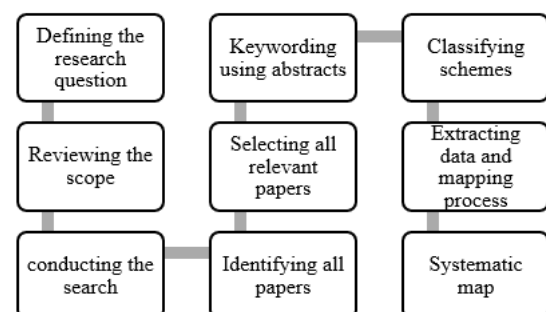


Figure 1. Systematic mapping process (source: adopted from Daugaard, 2020; Massaro et al., 2016; Petticrew & Roberts, 2006; Yli-Huumo et al., 2016)

Roberts (2006). Yli-Huumo et al. (2016) to search for the relevant studies. The results of the systematic mapping process would enable us to identify possible research gaps related to ESG risks integration, management, and reporting. The systematic mapping process is presented in five steps as highlighted in Figure 1 that include, firstly, defining the research questions. Secondly, conducting the search for papers. Thirdly, screening of the relevant papers. Fourthly, developing keywords based on the abstract, and fifthly, data extraction and mapping process, and their end results are highlighted (Daugaard, 2020; Massaro, Dumay & Guthrie, 2016; Petticrew & Roberts, 2006; Yli-Huumo et al., 2016).

2.1. Defining the research questions

This is the first step of the systematic mapping process. The aim was to provide an overview of the current research on ESG risks integration, management, and reporting as previously adopted by Aldowaiash et al. (2022), Daugaard (2020) and Widyawati (2019). The questions are as follows:

Research question 1:

What are the current research topics addressed in ESG risks integration, management, and reporting and its associated challenges and opportunities?

Research question 2:

What are the identified challenges and limitations in ESG risks integration, management, and reporting?

Research question 3:

What are the current research gaps in ESG risks integration, management, and reporting and its associated challenges and opportunities?

Research question 4:

What are the future research directions for ESG risks integration, management, and reporting and its associated challenges and opportunities?

2.2. Conducting the search for papers

This is the second stage of systematic mapping, and it involved searching for all the relevant scientific papers and industry literature on the research topic. A search protocol was defined to show the methods that were used in undertaking the specific systematic literature review. The main advantage is that it reduces the possibility of researcher bias (Kitchenham & Charters, 2007). The search protocol involved gathering all the relevant papers through use of keywords such as ESG risks integration, management, and reporting. Consequently, this revealed all papers that have the word ESG. To be able to refine the search, scientific databases were chosen that focused on papers from conferences, workshops, symposiums, book chapters and journals and some grey literature was also considered that focused on the research topic because much of the agenda for ESG risks integration, management and reporting is driven by professional financial institutions within industry. The chosen databases were Emerald, Sage, Wiley Online Library, SpringerLink and Taylor & Francis Online Library.

2.3. Screening of the relevant papers

This is the third stage and involved screening the papers from the databases based on their titles and this enabled excluding papers that are not related to the research topic. However, in some cases it was difficult to determine the relevancy of the papers based on their titles. Therefore, the next step involved reading the abstracts of the papers and this was done by taking into consideration an exclusion -criteria based on (1) papers without full text availability. (2). Papers which were not written in English. (3). Papers that were duplicates. (4). Papers that were posters. When a paper passed the exclusion criteria it was then included in the next section.

2.4. Developing keywords based on the abstract

This stage involved two steps as described by Petersen et al. (2008) see Figure 2. First, reading the abstract, identifying keywords and concepts that reflected the contribution of the paper. The second step involved developing an understanding based on the keywords, further grouping when new keywords were identified and resulted in creating further grouping when new keywords were identified, and a systematic map was created from all the relevant papers.

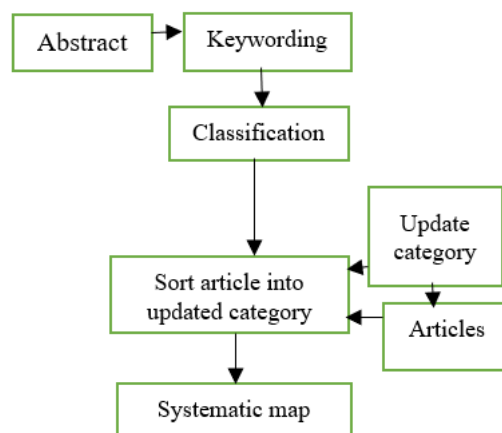


Figure 2. Developing keywords based on abstract (source: compiled by author)

2.4.1. Basic information of the papers

In this section, the search and selection results of the systematic mapping are presented. Out of the extracted data items (Table 1), this section reports on data items DI0-DI6. These items included, e.g., the title of the paper, the name(s) of the author(s), the country of the author(s), and publication type/place. These data items included, e.g., the aim and major findings of each paper. The extracted data items were transferred to excel which helped organize and analyze the data.

2.4.2. Data extraction and mapping process

A data extraction form (Table 1) was drafted to collect the information needed to address the research questions

Table 1. Data extraction items (source: adopted from Yli-Huumo et al., 2016)

Data item no. (DI)	Data item	Description
DI0	Study identifier	Study id (e.g., ID01)
DI1	Title	Title of the paper
DI2	Authors	Name of the author(s)
DI3	Country	Country of authors
DI4	Publication info	Name of the publication place
DI5	Publication type	Type of publication (e.g., conference, Journal, research report, book chapter)
DI6	Publication source	Academia/Industry
DI7	Abstract	Abstract of the paper
DI8	Study aim	Aim of the paper
DI9	Research question/goal	Research questions or goals defined for the paper
DI10	Study findings	Findings of the study

of this mapping study (Kitchenham & Charters, 2007). Data items DI0 to DI6 gathered the basic information of the papers.

2.4.3. Search and selection of results

The search and selection of results are presented in Figure 3.

A total of 1047 papers were initially retrieved when the designed search protocol was applied to the selected scientific databases which was then followed by a refined

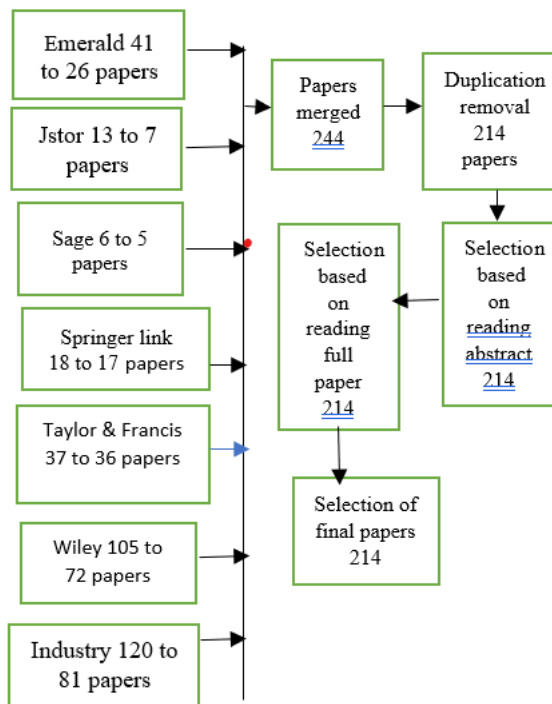


Figure 3. Search and selection process of the papers (source: compiled by author)

search that yielded 214 articles. The inclusion and exclusion criteria were based on the titles of the retrieved papers.

All the paper titles were examined by the authors, which led to the selection of 157 journal papers and 57 industry literature. The reason for the high number of excluded papers (829) was that some articles only contained the key words of ESG in their abstracts or text, while others were not related to the research topic. After the selection of 214 papers, we ensured that there was no duplication of the articles by reading the abstracts and full papers and finally the papers were recorded.

The next step involved categorizing the papers according to (1). Publication year, (2) publication source, (3) geographic distribution, (4) publication type and channel.

2.4.4. Publication year

Figure 4 shows the geographic distribution of selected primary papers. Interestingly, they were published between the years of (2010–2021).

This shows that ESG risks integration, management and reporting as a research area has been in the research arena for the last ten years. A scrutiny of the selected papers shows that 27% of the papers were published in the year 2020, 16% were published in the year 2021, 19% were published in the year 2019 and 11% were published between 2018–2010.

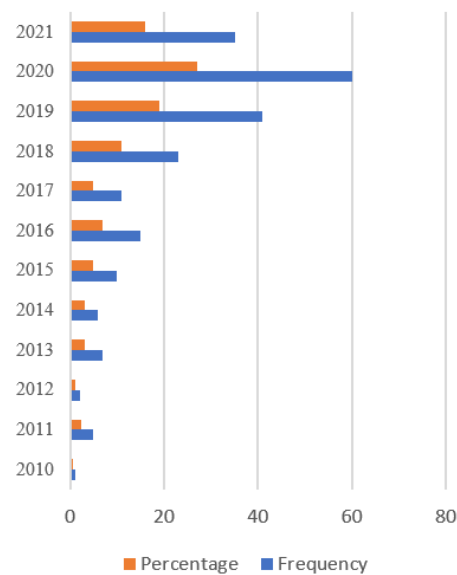


Figure 4. Publication year of the selected papers (source: compiled by author)

2.4.5. Publication year

Figure 5 shows the source of each selected primary paper.

The possible sources for the papers are the academia, or industry. The results show that 157 (74%) of the papers were published by academia while 57 (26%) of the papers were published by industry sources. The publication channels in academia included journals 147 (69%), research reports 2 (1%), and book chapters 8 (4%). Most of the papers published by industry are not included in

the scientific databases. Others are found as white papers and are often not published in peer-reviewed conferences or journals.

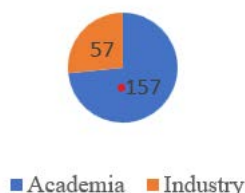


Figure 5. Source of the selected primary papers (source: compiled by author)

2.4.6. Geographic distribution

The geographic distribution of the selected papers is shown in Figure 6. The largest number of papers (7%) were published in Europe. Consequently, the two common publication countries were Europe (11) and Australia with (5) papers totaling 10% followed by US, Asia, and Italy with 4 papers each (7.5%). Malaysia, India, and UK had 3 papers each (5.6%) while the rest of the countries had one paper published. This result shows that ESG risks integration, management and reporting has gained momentum as a research area in countries around the world and this calls for the need to highlight challenges and opportunities and comparison of best practices.

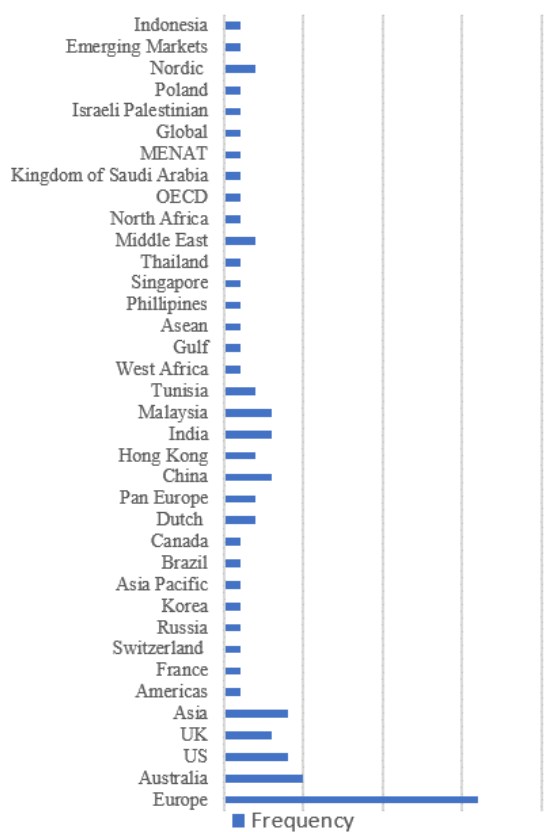


Figure 6. Geographic distribution of selected primary papers (source: compiled by author)

Table 2 shows the number of articles from each publication channel. In addition, most of the papers published were in diverse channels interested in the research area. The number of articles (appears in brackets) while the journals which have the articles in each publication channel are within the table.

Table 2. Number of articles from each publication channel (source: compiled by author)

Publication channel	(1)	(2)	(3)	(5)	(6)	(13)	(16)	(17–19)	Total
Wiley Online library	7	2	1	1	–	1	1	1	63
Book chapters	3	–	–	–	–	–	–	–	3
Taylor and Francis	13	2	–	–	–	–	–	1	36
Springer-Link	5	2	1	1	–	–	–	–	17
Sage Journals	5	–	–	–	–	–	–	–	5
JSTOR	2	–	1	–	–	–	–	–	5
Research reports	2	–	–	–	–	–	–	–	2
Emerald	13	4	–	–	–	–	–	–	21
Book chapters	2	–	1	–	–	–	–	–	5
Grey Industry literature	19	9	3	1	1	–	–	–	57

To interpret, in Wiley online library 7 journals have 1 article each, and so on. For instance, $63 = (7 \times 1) + (2 \times 2) + (1 \times 3) + (1 \times 5) + (1 \times 13) + (1 \times 16) + (1 \times 19)$.

4. Classification of the relevant papers

In this section, the classification of the selected primary papers is presented, including extracted data items DI7-DI10.

After reading the selected papers and creating classifications based on the findings, we identified that many of the papers were related to ESG and performance (35) while those related to challenges, guidelines, and Practices in ESG risks integration, management and Reporting were only found in industry reports. However, other new topics such as ESG and religion (Islamic finance), ESG and gender, ESG and real estate, ESG and Artificial intelligences were discovered. The categorization of topics is shown in Table 3.

Table 3. Categorization of topics (source: compiled by author)

No. of Articles	Topics
Between 1 to 5 articles	ESG and Religion, ESG and Auditors Perceptions, Assurance and Consulting, ESG and Managers perceptions, ESG and Ethics, ESG and Reputation, ESG and Environmental Finance, ESG and Artificial Intelligence, ESG and Real Estate, ESG and Socially Responsible Investment, ESG and Data, ESG and Alignment to Paris Climate Goals, ESG and Alignment to Enterprise Framework, ESG and Institutional Environment, ESG and Covid 19, ESG and Business Strategy, ESG and Materiality, ESG, Origins and Evolution
Between 6 to 10 articles	ESG and Sustainability, ESG and Corporate Social Responsibility, ESG and Sustainable Development, ESG Practices and Guidelines, ESG and Disclosure, ESG and Board Composition; Gender Diversity, ESG and Investment Allocation Decisions, ESG Issues, ESG opportunities
Between 11 to 15 articles	ESG and Investing, ESG and Investor Communication, ESG and Investor Perception, ESG and Factors, Criteria, Drivers, Ratings, Scores and Methods, ESG and Integrated Reporting, ESG and Risk Management
Between 16 to 20 articles	ESG challenges
Above 21 articles	ESG and Performance

4.1. Summary of identified challenges in ESG risks integration, management, and reporting

Despite a majority of papers being published from the scientific channels, the following ESG risks integration, management and reporting challenges were identified from industry literature (Amel-Zadeh & Serafeim, 2017; Ballou & Heitger, 2005; Bender et al., 2020; COSO & WBCSD, 2018; Eccles et al., 2017; Feridun & Güngör, 2020; Inderst & Stewart, 2018; Irwin & Bonnet, 2019; Khan, 2005; OECD, 2020, 2021; PwC, 2020; Novethic, 2014; Reg Tech Associates, 2020; COSO & WBCSD, 2018) as shown on Table 4 below. A further categorization is given on whether the solution for the challenge has been defined or not defined in industry or academic literature and these could present gaps for future study.

Table 4. ESG risks integration, management, and reporting challenges (source: compiled by author)

Challenges	√ / x
ESG risks strategy challenges	
Implementation challenges due to ESG risks (COSO & WBCSD, 2018)	x
Lack of resources (OECD, 2020)	

Challenges	√ / x
Limitations in embedding ESG in existing risk policies (PwC, 2020b)	√
Limitations in translating the ESG strategy into the organization's ecosystem (PwC, 2020b)	
Lack of coherence between ESG in internal decision-making and external reporting (Irwin & Bonnet, 2019)	x
Lack of comparability due to different reporting standards (Amel-Zadeh & Serafeim, 2017)	
Pressure to balance short term financial success with broad based long-term value creation (Irwin & Bonnet, 2019)	
non-financial risks becoming financial (Irwin & Bonnet, 2019)	
ESG risks governance challenges	
Lack of internal knowledge, lack of guidance from policy makers on how to take ESG considerations into account (OECD, 2020)	x
Increasing regulation (Irwin & Bonnet, 2019)	
Scarcity of ESG data from emerging markets especially where it is an indicator of good corporate governance (Irwin & Bonnet, 2019)	
Lack of formal standards from regulatory agencies as to what ESG data is material (Bender et al., 2020)	
ESG risks culture challenges	
Lack of internal knowledge (OECD, 2020)	√
Limitations in adopting stakeholder management and spreading ESG knowledge in house (PwC, 2020)	
Many and various stakeholder groups with differing and competing needs for disclosure (Irwin & Bonnet, 2019)	x
Pressure to contribute to societal goals (Irwin & Bonnet, 2019)	
Many investors unfamiliar with complex systemic interactions of environmental and social megatrends and potential impacts on investments (Irwin & Bonnet, 2019)	
ESG risks assessment and measurement challenges	
Measurement of ESG remains a big challenge and a common taxonomy is needed (Feridun & Güngör, 2020)	x
Discrepancies between ESG ratings (Irwin & Bonnet, 2019)	
Difficulty in risk measuring (Inderst & Stewart, 2018)	
lack of common standards for measuring ESG performance (Eccles et al., 2017)	
lack of standardization leading to different definitions of materiality, different aggregates, and weight scores (Irwin & Bonnet, 2019; Novethic, 2014)	
Variations in ESG data collection and aggregation methods across providers leading to quite different ratings for the same company (Bender et al., 2017)	
ESG risks management challenges	
Limitations on how to identify, prioritize, manage, and disclose ESG risks into risk management frameworks (COSO & WBCSD, 2018; Inderst & Stewart, 2018)	√
non-financial risks becoming financial (Irwin & Bonnet, 2019)	x

End of Table 4

Challenges	√ / x
ESG risks information, communication, and reporting challenges	
Limitations in delivering and communicating on ESG commitments (PwC, 2020a)	√
Lack of infrastructure needed for ESG data and reporting (Reg Tech Associates, 2020)	
Fragmented reporting landscape (Irwin & Bonnet, 2019)	x
limited resources related to human and financial to deliver reporting (Ballou & Heitger, 2005; Irwin & Bonnet, 2019)	
Bewildering array of reporting frameworks and approaches (Irwin & Bonnet, 2019)	
Not enough sectoral information on differences in material ESG issues between industries (Irwin & Bonnet, 2019)	
ESG risks data and technology challenges	
Lack of formal standards from regulatory agencies as to what ESG data is material (Bender et al., 2020)	x
Combination of data from companies using traditional sourcing techniques (Novethic, 2014)	
Limitations in collecting, managing, and using ESG data for risk modelling (PwC, 2020a)	
Lack of infrastructure for the collection of relevant and comparable ESG data that would inform decision making and disclosure (Reg Tech Associates, 2020)	
Incomplete ESG data (Irwin & Bonnet, 2019)	
inconsistent data and metrics leading to lack of comparability between companies, sectors, and geographies (Irwin & Bonnet, 2019)	
lack of ESG data with materiality to near-term investment horizons (Irwin & Bonnet, 2019)	
high cost of gathering and analyzing ESG data (Irwin & Bonnet, 2019; Inderst & Stewart, 2018)	

Note: *Solution addressed (√)/Not addressed (x).

5. Presentation of results and limitations

In this section we present the results, answer the five main research questions, and highlight the limitations of the systematic mapping process.

Research question 1:

What are the current research topics addressed in ESG risk integration, management, and reporting and its associated challenges and opportunities?

The current research topics for ESG risks integration, management and reporting are diverse and grouped into different categories. Majority of papers are found within the category of ESG and performance while other topics have only one paper each such as ESG and ethics, ESG and managers perceptions, ESG and reputational risk, ESG and environmental finance, ESG and artificial intelligence, ESG and auditors' perceptions, assurance, and consulting, ESG and religion. Other topics have two papers such as ESG and alignment to Paris Climate Goals, ESG and Real Estate while other topics have three

papers such as ESG and institutional environment and ESG and alignment to enterprise framework. It can be concluded that these topics still present viable areas for more research.

Research question 2:

What are the identified challenges, limitations, and opportunities in ESG risks integration, management, and reporting?

The identified challenges and opportunities are grouped into ESG risks strategy, ESG risks data and technology, ESG risks information, communication, and reporting, ESG risks assessment and measurement, ESG risks culture, and ESG risks governance. Under each category the different challenges are highlighted by different authors.

Research question 3:

What are the current research gaps in ESG risk integration, management, and reporting and its associated challenges and opportunities?

The gaps identified were related to finding solutions to address challenges and opportunities in ESG risks integration, management, and reporting. These are evident in both academic literature and industry literature. There is still inadequacy (very few papers to none that have been published) in the areas related to ESG and compensation and theoretical models for ESG risks integration, management, and reporting.

Research question 4:

What are the future research directions for ESG risk integration, management, and reporting and its associated challenges and opportunities?

There are still gaps in literature that can be explored in relation to theoretical models for ESG risks integration, management and reporting, and challenges and opportunities related to ESG risks strategy, ESG risks data and technology, ESG risks information, communication, and reporting, ESG risks assessment and measurement, ESG risks culture, and ESG risks governance.

5.1. Limitations of the study

The principal limitations of a systematic mapping study are related to inaccuracy in data extraction, and misclassification, selection bias, publication bias (Daugaard, 2020; Massaro et al., 2016; Petticrew & Roberts, 2006; Yli-Huumo et al., 2016). Inaccuracy in data extraction and misclassification refers to the possibility that information is extracted differently by different reviewers (Petticrew & Roberts, 2006; Yli-Huumo et al., 2016). We addressed this issue by using three authors in the paper retrieval process. All the three authors went through the abstracts of the selected papers and gave their opinion on including or excluding criteria of the paper. In situations where the opinion did not match, we had a discussion to address whether that specific paper should be included or excluded from the final selection. This was done in several meetings held either via telephone or zoom meeting calls to discuss the systematic mapping process to be used in the study. Selection bias refers to the distortion

of statistical analysis owing to the criteria used to select the publications (Petticrew & Roberts, 2006; Yli-Huumo et al., 2016). This bias was addressed by designing the search protocol carefully, by conducting a pilot search with ESG Risks Integration, Management and Reporting as the key words to ensure that as many papers as possible were included in the mapping study.

A rigorous inclusion and exclusion criteria were defined to ensure that all the selected papers were part of the research topic and answered the research questions. However, the main limitation that needed to be addressed was that the titles of the articles in the scientific databases had to include the term ESG while the grey literature had to have a section in the literature which included the term ESG and referred to either the challenges, limitations, practices, or guidelines. Another limitation could be that not all the research related to ESG risks integration, management and reporting and its associated challenges and opportunities was found due to the search protocol for paper retrieval. Much of the research retrieved related to ESG and financial performance. Nevertheless, the goal of the study was to find out about ESG risks integration, management and reporting and its associated challenges and opportunities. Using the search protocol, we believe we were able to achieve this goal and to retrieve most relevant papers.

Publication bias refers to the problem that positive results are more likely to be published than negative ones, since negative results take longer to be published or are cited in other publications to a lesser extent (Daugaard, 2020; Kitchenham & Charters, 2007; Massaro et al., 2016). To address this issue, several well-known scientific databases were used in the search protocol to find as many papers as possible. This resulted in increased number of papers for the mapping study, which to some extent also increased the number of papers with negative results. However, since research on ESG risks integration, management and reporting is an evolving area within the banking industry and academia, it is possible that research has been conducted within the industry and has been published as white papers or used internally within companies. Therefore, all research conducted on the challenges and opportunities related to ESG risks integration, management and reporting might not be included in this mapping study. However, since the study used the scientific databases as a search protocol it was able to collect papers that were of higher quality.

Conclusions

The goal of this systematic mapping process was to examine the status and research topics related to ESG risks integration, management and reporting and its associated challenges and opportunities due to inadequacy in literature on systematic reviews on ESG topics. It focused on areas related to ESG risks strategy, governance, culture, risk assessment and measurement, information, communication and reporting and data and technology.

157 papers from scientific databases and 57 from grey literature were extracted and analyzed.

Recommended policy actions and future research directions on ESG risks integration, management and reporting and its associated challenges and opportunities are as follows: firstly, continuing with research on ESG risks integration, management and reporting and its associated challenges and opportunities. This will continue to fuel interest on these issues and come up with policy solutions. Thus, the number of papers will increase drastically, and new major themes will arise in relation to the challenges and opportunities. Secondly, conducting more studies on the scope, scale, and magnitude of ESG risks integration, management and reporting and its associated challenges and opportunities to formulate policies to deal with issues such as climate change, resource degradation, carbonization measures amongst others. Thirdly, filling the gap by developing strong empirical and theoretical business cases for ESG risks integration, management and reporting in emerging markets and the achievement of competitive opportunities (or link between risks and opportunities). Fourthly, formulating policies for evaluating the effectiveness of proposed solutions to mitigating challenges and acting on opportunities related to ESG risks integration, management, and reporting. This should be a consideration for the emerging markets which are still having structural impediments in their capital and financial markets and lack finance and expertise to tackle implementation challenges.

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Author contributions

Author 1: conception, design, acquisition of data, analyses, drafting and revising. Author 2: conception, design, revising. Author 3: conception, design, revising.

Disclosure statement

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