Judgment and decision making research on CSR reporting in the COVID-19 pandemic environment

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Abstract

Judgment and decision making (JDM) research in accounting focuses on the judgments and decisions of preparers, users and auditors/assurance providers of financial and non-financial information, including sustainability information. However, the environment in which these judgments are made and how groups interact has changed substantially during the COVID-19 pandemic, and likely post-pandemic. We focus on the impact of these changes for corporate social responsibility (CSR) reporting, including managers’ decisions on the preparation and use of CSR information, demand for CSR assurance, and the effect of CSR reports and assurance on investors’ judgments. We then outline implications for the research questions addressed and experimental designs used.

Key words: JDM accounting research; CSR reporting; Sustainability assurance; COVID-19 pandemic

JEL classification: M14, M41, M42

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1. Introduction

An important focus of accounting research over the last 50 years is judgment and decision making (JDM) research using experimental methods, which examines the judgments of preparers and users of accounting information (both financial and managerial), sustainability information (including corporate

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social responsibility (CSR) reports\(^1\), and the judgments made by auditors and assurance providers in relation to this information (Libby and Luft, 1993). These judgments have been found to be affected by a vast array of environmental and motivational factors (Libby, 1981; Libby and Luft, 1993; Trotman et al., 2011; Cohen and Simnett, 2015), and a range of interpersonal factors including group interactions (Nelson and Tan, 2005; Trotman et al., 2015). However, the environment in which professional judgments are made and the way groups interact has changed dramatically during the novel coronavirus disease (COVID-19) pandemic. Predicted long-term effects on health, economic conditions and the work environment (Brammer et al., 2020) have resulted in the need for accountants and auditors to make new judgments, and judgments are made in an environment of far greater uncertainty. Also, changes to the work environment have resulted in far greater use of online group interactions than face-to-face interactions. Accounting and assurance standard setters (e.g., AASB/AUASB, 2020; IAASB, 2020a, 2020b, 2020c; IESBA, 2020) and professional accounting bodies (CA ANZ, 2020; CPA Australia, 2020) have issued frequent communiques outlining the nature, extent and complexity of these changes.

The above changes need to be recognised by JDM researchers, as it is important to consider the changes currently impacting businesses in the pandemic environment, so that researchers are addressing important questions relating to these changes (Bapuji et al., 2020). It is also important to consider the post-pandemic environment, so that research conducted now is beneficial for organisations, accountants and auditors adjusting to the changing environment post-pandemic. A key benefit of experiments is they allow issues that do not yet exist in the business world to be examined.

The basic aims of JDM research for both financial and non-financial reporting are to: evaluate the quality of judgments by preparers, users and auditors; test which factors impact these judgments and under what circumstances; and determine the underlying cognitive processes by which these judgments are made (Libby, 1981; Trotman et al., 2011). In an environment where audit and assurance standard setters are seeking evidence-based standards (AUASB, 2019) and preparers and auditors of both financial and non-financial information are facing new challenges, it is important that JDM researchers adjust their research designs and case materials to address these changes. This research is part of a call for research in response to the COVID-19 pandemic to draw on ‘every sphere of academic insight across the

\(^1\)Consistent with Cohen and Simnett (2015) we use the term CSR reports. These reports are variously referred to as sustainability reports, environmental, social and governance (ESG) reports, triple bottom line (TBL) reports and similar titles. Sometimes these reports examine a single non-financial issue, such as greenhouse gas emissions (IAASB, 2012). These reports can be presented as part of the annual report, a separate sustainability report and, more recently, incorporated as part of integrated reporting.
humanities, social and natural sciences . . . [to] lay the foundations for shaping a better future’ (Abrams, 2020; Smith and Gibson, 2020). Accounting information is even more important in times of great uncertainty and auditing takes on greater importance in providing trust to capital markets. In addition, given the widespread effects of the pandemic on the environment and stakeholders including employees and suppliers, it is suggested that the need for reliable CSR reporting remains critical, as does the need for research investigating these issues.

This paper addresses three key areas of JDM research. First, how does the COVID-19 environment affect management’s decisions on the preparation and use of CSR information, management’s decisions on whether the CSR reports should be assured and the level of assurance (reasonable versus limited), and how investors use this information. Second, how do COVID-19 related changes in the environment faced by auditors (including changes in how an audit is conducted) affect the research questions addressed and the design of audit JDM studies. Third, how do changes in the COVID-19 environment affect tasks completed by management accountants (including judgments on what to include in management accounting reports), managers’ use of management accounting reports and, in turn, the design of management accounting JDM studies. While our emphasis is on the first area, our discussion of auditing and management accounting judgments has implications for both financial and non-financial reporting.

First, with respect to CSR reporting, we consider the impacts of COVID-19 on the judgments of preparers of CSR reports, as well as the JDM implications for managers and investors using CSR information. We also consider management’s judgments related to obtaining sustainability assurance and the type of assurance needed. The changed economic environment including high levels of unemployment, company failures becoming more common, executive bonuses negatively impacted, and increased difficulty of forecasting and achieving targets, can potentially affect the demand for and use of non-financial assurance particularly as it relates to CSR assurance. For example, Cohen and Simnett (2015) point out that experimental studies on CSR assurance have focused on environments where favourable economic circumstances exist and that ‘it is left to future research to investigate whether assurance on CSR will, or will not, be considered a frivolous luxury if a company is in retrenchment mode’ (Cohen and Simnett, 2015, p. 70).

Second, we consider JDM financial statements audit research during the pandemic. Prior to COVID-19, it was documented that companies were operating on an increasingly diverse and global scale with changing business models and that financial statements were requiring greater professional judgment and intuition under conditions of uncertainty. It was also well documented that auditing future estimates is challenging, particularly when underlying assumptions or conditions change (Parliamentary Inquiry, 2020, p. 50). It was further suggested the need to take into account the subjective nature
of some of the professional judgments made by both auditors and inspectors in explaining the results of audit inspection reports (Parliamentary Inquiry, 2020). The complexity of the above estimates has increased considerably in the current and foreseeable future, because of the increased difficulties in predicting future cash flows during the pandemic. These uncertainties also vary considerably between industries and organisations, and a challenge faced by JDM researchers is how internal and external validity are affected by the appropriateness of case materials used in prior studies where the content no longer holds in the pandemic environment. In addition, audits are now being conducted under very different conditions given the shift to remote working by both the audit team and by client staff. Travel restrictions are also affecting how audits are conducted. For example, some forms of evidence are no longer available or are difficult to access (e.g., inspections of assets and original documents, stocktakes). Also, interpersonal interactions (Nelson and Tan, 2005; Trotman et al., 2015) have changed with different forms and different audit team interactions, including the review process, fraud brainstorming sessions and consultation processes. There are different interactions with the audit committee and also different forms of audit-client negotiations.

Third, we consider the impact of significant business uncertainties resulting from the economic instability created by COVID-19 on the preparation of financial and non-financial information by management accountants, and JDM research examining managers’ use of this information. With border closures and national lockdowns, managers have focused on the solvency and liquidity of their organisations and, beyond that, the sustainability of their business models. As organisations seek to respond and re-establish their business positions, the ways in which business performance is managed, evaluated and controlled are being materially impacted, providing opportunities to consider the generalisability of JDM research findings in this area. In seeking opportunities for long-term value creation, managers need to make decisions that capture not only strategic performance, but combine this with risk and CSR information. With changes in external factors combining with strategic and operational shifts within the organisation, budget and forecast information is being significantly revised. The budget development and negotiation processes are being impacted with key players now contributing from remote work settings and often developing forecasts within virtual teams. While some businesses, particularly those with multi-national operations and supply chains, were already conducting some business online prior to the pandemic, the significant shift to this operating mode that has occurred globally changes the processes through which judgments and decisions are made, including management and business team interactions. With many organisations already undertaking strategic cost management and seeking to understand the cost impacts from sustainability initiatives prior to the pandemic, COVID-19 has now significantly compressed decision making time frames in this regard. We reflect on research opportunities to examine the ways in which management
accounting information is presented and used for these decisions, and changes to the way these decisions are being made during the COVID-19 pandemic. We also consider the impacts of COVID-19 related changes on prior JDM research relating to these decisions, including their effects on internal and external validity, and the appropriateness of case materials.

2. CSR reporting

While there is extensive research examining corporate sustainability (see Grewal and Serafeim, 2020 for a review) and environment, social and governance (ESG) investing (see Capelle-Blancard and Monjon, 2012; Friede et al., 2015; Daugaard, 2020; for reviews), much of this research adopts an archival method to examine the financial performance and capital market impacts from publicly available CSR reports. There are a relatively small number of experimental papers examining individual decision makers’ use of CSR information. These papers examine the impact of CSR information disclosures and presentation formats on investors’ judgments in the absence CSR assurance (e.g., Martin and Moser, 2016; Elliott et al., 2017; Bucaro et al., 2020), or the effect of CSR assurance on investors’ judgments (e.g., Brown-Liburd and Zamora, 2015; Elliott et al., 2020; Hoang and Trotman, 2021). Only recently has JDM research in accounting examined the use of CSR information for managerial decision making (e.g., Church et al., 2019). This is somewhat surprising given CSR information is generally prepared by management accountants and is used by a range of stakeholders in addition to investors, including managers, customers and suppliers, in making business decisions. Most management accounting textbooks used in Australasian universities include chapters on the preparation and use – both internally and externally – of CSR information (e.g., Langfield-Smith et al., 2018; Mowen et al., 2019; Eldenburg et al., 2020).

In this section, we examine the potential impacts from the COVID-19 pandemic on the preparation, assurance and use of CSR information for JDM purposes. We consider both the implications of COVID-19 on extant JDM research in this area, and opportunities for future JDM research to inform our understanding of the role of CSR performance information during this period and in a post-pandemic environment. The latter is important, given the natural advantage that experimental research has in allowing us to investigate conditions that do not yet exist in practice.

2.1. Preparation and use of CSR reporting in managerial decision making

Corporate sustainability has evolved from reporting on environmental and social impacts at the periphery of an organisation to managers now seeking to embed sustainability within their core business strategy (Grewal and Serafeim, 2020). Sustainable business management creates opportunities for business
model innovations, new product markets, and value creation through supply chain management (Joshi and Li, 2016). This fundamental link to the strategy of the organisation means that sustainability strategies need to be translated into performance measures and decision criteria, which for some organisations include sustainability balanced scorecards and strategy maps (Joshi and Li, 2016; Hansen and Schaltegger, 2018). Yet we know very little about the control mechanisms developed by organisations to manage their sustainability strategies and initiatives (Ditillo and Lisi, 2016).

Some of the opportunities for future research examining managers’ preparation and use of CSR information include examining what motivates managers to pursue different sustainability strategies, how managers implement management control systems to manage sustainably and how managers decide where and when to disclose CSR information, including relating to either profitable or unprofitable CSR investments (Hale et al., 2016; Joshi and Li, 2016; Grewal and Serafeim, 2020). As Moser and Martin (2012) highlight, different aspects of CSR performance are likely to be the result of different managerial motivations, with the effects of different types of CSR on financial performance then likely to also vary. To better understand the effects of these differences, controlled experimental settings can be informative.

A recent JDM management accounting study informs our understanding of the effect of behavioural factors on managers’ decisions to invest in CSR-related activities. Church et al. (2019) examine the effect of presenting a CSR investment decision denominated in financial or non-financial measures on managers’ decisions to invest discretionary resources in CSR initiatives. They find that non-financial measures make salient the social impact of CSR investments and, in so doing, activate pre-existing, pro-CSR social norms for both the organisation and manager. Consequently, CSR investment is higher under a non-financial measurement basis than under a financial measurement basis, but this is only the case when the manager is personally supportive of CSR. This interaction effect highlights the importance of employing managers with similar organisational values. Organisations can seek to attract and hire or promote managers who share the organisation’s pro-CSR norms, as well as promoting a pro-CSR tone from the top (Church et al., 2019). During the pandemic, it is important to consider potential CSR decision making impacts from employee layoffs and furloughs, as well as managers working from home where personal norms may deviate from organisational norms. For new managers unfamiliar with their organisation’s pro-CSR norms and organisations financially constrained due to COVID-19, adverse impacts on decisions to invest discretionary resources in CSR initiatives are more likely, even in the presence of non-financial measures.

In the context of COVID-19, research aimed at understanding managers’ CSR-related motivations is particularly important, with the pandemic described as ‘putting CSR to the test’ (Kramer, 2020). There are a range of potential, positive financial impacts from sustainability efforts, including new
product and service opportunities, shared value creation, product differentiation giving access to environmentally conscious markets, and preferential access to scarce resources (Joshi and Li, 2016; PwC, 2019). At the same time, however, Joshi and Li (2016) highlight arguments that sustainability efforts can have negative financial impacts, including diverting managers’ attention and resources from productive activities and investments, and encouraging charitable expenditure at the expense of shareholder value creation. While research has not yet reconciled this tension between sustainability performance and shareholder value creation (Moser and Martin, 2012; Joshi and Li, 2016; Grewal and Serafeim, 2020), organisations have long espoused their values and social purpose (Kramer, 2020). During the pandemic, visible commitments (including financial commitments) to these are now required. Examples include support of employees once government aid packages are no longer available, and maintaining or reducing supplier payment terms during and beyond the pandemic. JDM research can inform our understanding of the factors that motivate managers to pursue alternate sustainability initiatives in the pandemic environment, and the relationship between these initiatives and financial performance.

The COVID-19 pandemic also highlights tensions in delivering positive CSR outcomes across multiple performance areas: with many organisations experiencing negative economic and financial performance as lockdown conditions restrict revenue, and travel restrictions limit supply chain movements; yet environmental outcomes are favourable with reduced use of workplace resources and fewer cars on roads, as many employees continue to work from home; and social outcomes are mixed, as governments seek to support high quality healthcare provision through the pandemic, while those who have been made redundant and the casualised workforce experience significant challenges in terms of mental health and wellbeing. While JDM research often focuses on particular CSR dimensions (e.g., charitable giving in Balakrishnan et al., 2011; green investing in Martin and Moser, 2016), extending this research to examine CSR performance trade-offs and interdependencies across these dimensions, and their impact on managers’ and investors’ decision making can offer valuable insights.

CSR information is prepared for multiple stakeholders (including managers, investors, customers, suppliers, employees, regulators), each with distinctly different needs. In a big data environment, the set of performance measures available expands exponentially, and changes in performance measures selected for presentation will have different decision making consequences for each

2For example, in March 2020, Woolworths temporarily changed its payment policy, such that small trade suppliers to all parts of the Woolworths Group are paid within 14 days (Woolworths, 2020).
stakeholder group. In 2020, both CSR reporting standard setters and the Big 4 accounting firms announced efforts to establish more consistent CSR reporting guidance, which expands the CSR information presentation options already available to organisations. Specifically, CSR reporting standard setters are developing joint guidance on how their respective frameworks and standards can be applied in complementary and additive ways (Cohn, 2020). At the same time, the Big 4 accounting firms (in collaboration with the World Economic Forum and Bank of America), are proposing a new form of CSR reporting with the release of a set of 21 core and 34 expanded stakeholder capitalism metrics (SCM). The SCM cover four categories, being people, planet, prosperity, and principles of governance; with the aim of defining common metrics for organisations to measure and demonstrate their contributions to sustainable value creation (World Economic Forum, 2020). The range of reporting formats now available for managers to disclose CSR information to investors and other key stakeholders further highlights the need for JDM research examining the decision making implications of these reporting formats — what motivates managers to choose particular disclosure formats, and how these are perceived by key decision makers, including managers themselves, investors, customers, employees and suppliers.

In a COVID-19 environment, where many organisations face financial difficulties, the need to demonstrate tangible outcomes from sustainability-focused programs and initiatives is becoming increasingly important (Kramer, 2020). Future research can examine the design and decision making impacts of CSR reports and decision data (e.g., objective versus subjective measures, leading versus lagging measures, and short-term versus long-term measures) to extend the work of Church et al., 2019 investigating the effects of financial versus non-financial presentation formats on CSR investment decisions. Similarly, during the pandemic, the need for long-term management of social and environmental risks has become salient with significant impacts on people due to the economic and health issues faced and heightened awareness of the scale of behavioural change required to improve environmental performance (e.g., lockdowns impacting local and international travel). Future research investigating how to present CSR-related risk information to manage risks over a longer-term time horizon and facilitate longer-term CSR investment decision making is important.

In sum, while there is limited JDM research examining the preparation of CSR information and its use for managerial decision making, significant opportunities for future research have been identified (Moser and Martin, 2012; Hale et al., 2016; Joshi and Li, 2016; Grewal and Serafeim, 2020). The

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3This group of CSR reporting standard setters comprises the Carbon Disclosure Project (CDP), the Climate Disclosure Standards Board (CDSB), the Global Reporting Initiative (GRI), the International Integrated Reporting Council (IIRC) and the Sustainability Accounting Standards Board (SASB).
COVID-19 pandemic can inform this research agenda to address the set of challenges faced and behavioural shifts experienced by managers during this period, and likely continuing post-pandemic.

2.2. Investor decision making using CSR information

Given current and extremely uncertain future economic conditions resulting from the COVID-19 pandemic, we do not yet know the extent to which sustainability activities and disclosures are considered important by investors. It is, however, likely that organisations perceived to have a sustainable business strategy that is resilient to unexpected shocks over the long-term will be valued, and the performance of sustainability initiatives, including the ways in which this is measured and communicated to investors, will be important (Serafeim, 2020). We know from extant research that the way in which CSR information is framed and investors’ own values influence the decisions they make when presented with this information (Gödker and Mertins, 2018). Here, we reflect on the impacts of COVID-19 for JDM research examining investor decision making using CSR reports, before considering in the next section the implications of the pandemic for JDM research examining the assurance of CSR reports used for investor JDM purposes.

Carrying out JDM research in a COVID-19 environment necessitates considering whether the behavioural decision theories traditionally used need to be refined to reflect changes in the environment. That is, it is not uncommon to test the boundaries within which theories predict behaviour. As an example, Elliott et al. (2014) suggest that CSR disclosures evoke affective reactions in investors, and there can be unintended influences of these affective reactions on investors’ estimates of fundamental value. Elliott et al. draw on ‘affect-as-information’ theory from psychology to predict that investors unintentionally use their affective reactions to CSR performance in making subsequent judgments. The measures of affective reactions used are questions to participants on whether they were ‘happy’, ‘angry’, ‘disappointed’ and ‘pleased’ with the organisation’s environmental and social performance. However, responses for these measures are likely to vary in a COVID-19 environment compared to a pre-COVID-19 environment. For example, retrenchment policies are likely to be perceived differently by investors in periods of high versus low unemployment, where investors are more likely to be ‘disappointed’ with large layoffs and ‘angry’ if senior management, at the same time, maintain or increase bonuses. Similarly, investors are less likely to be ‘pleased’, where organisations undertake actions to increase profitability ratios in the COVID-19 environment.

Footnote:
4Fundamental value estimates of cash flows and discount rates provide a direct measure of investors’ valuation of the firm (Graham and Dodd, 2009; Elliott et al., 2014; Elliott et al., 2020).
that have a negative impact on employees, or customers/suppliers facing financial difficulties.

The experimental materials in Elliott et al. (2014) refer to an organisation in the retail industry, selling discounted retail apparel, accessories and home-wares. This case material has also been adapted for recent studies examining investors’ use of CSR information, including to experimentally examine boundary conditions for using the affect-as-information heuristic (Guiral et al., 2020), and the effect of the ‘fit’ between two CSR performance information disclosure features on investment decisions made by less numerate investors in this setting (Elliott et al., 2017). With the fashion industry (including fashion retailing) substantively impacted by COVID-19, employee-related CSR information provided by a fashion retailer is likely to be perceived differently in the current environment relative to periods of strong economic and business growth resulting in likely decision making differences.

Research examining theoretical boundary conditions created by the COVID-19 pandemic is important. For example, Guiral et al. (2020) investigate two potential boundary conditions for the affect-as-information heuristic investigated by Elliott et al. (2014), specifically, the effects of the strategic importance of activities driving CSR performance (material versus immaterial CSR issues), and the valence of CSR performance (positive versus negative) on investors’ estimates of the fundamental value of the fashion retail organisation. Guiral et al. (2020) find that investors employ affect-as-information-heuristic processing only when exposed to positive (but not negative) CSR performance that is attributed to immaterial CSR issues, irrespective of whether an explicit assessment is made, and this theory does not apply to material CSR issues. Guiral et al. (2020), however, examine a setting where the industry is experiencing moderate growth and the case organisation has committed to cost cutting activities. In the pandemic environment with many organisations and industries experiencing negative growth forecasts and industry-wide cost cutting, further research examining the boundary conditions of this theory is suggested.

Research by Martin and Moser (2016) highlights the interactions between stakeholders, in this case investors and managers, that shape CSR disclosure choices. Martin and Moser (2016) consider the decision making impacts from a green investment that has been fully reflected in an organisation’s current earnings (i.e., with no scope to impact future cash flows). They find that potential investors value the societal benefits associated with this green investment, and that investors respond more positively when managers’ disclosures focus on these societal benefits, rather than the cost to the organisation. This response is attributed to reciprocity and consistency with investors’ own values, such that investors are willing to bear some of the costs of the green investment. In a COVID-19 environment, where organisations are financially constrained, the extent to which investors will be willing to bear non-shareholder value generating costs – such as the green investment – is
unclear. Interestingly, Martin and Moser (2016) also find that managers anticipate investors’ positive response here and disclose the investment accordingly; in so doing, this study contributes to our understanding of how managers decide when to disclose CSR information. Again, during the pandemic, it is less clear whether managers will anticipate the same favourable response by investors’ given the downturn in economic and financial markets being experienced.

Finally, it is important to acknowledge that with some organisations favourably impacted by pandemic-related behaviours (e.g., retailers with increased demand for online shopping platforms), investors in those organisations may be experiencing significant wealth creation. In contrast, investors in organisations unfavourably impacted by pandemic-related behaviours (e.g., airlines with travel restricted during lockdown conditions) and those with lower job security may experience decreased wealth. Such differences may affect their reactions to CSR disclosures and responses to managers’ actions.

2.3. Assurance on CSR reports

While research on sustainability reporting has existed for decades, there has been increased research interest related to the assurance of CSR information as it has become common practice for large companies to have their CSR reports voluntarily assured (KPMG, 2013, 2017; Cohen and Simnett, 2015). There are also acknowledged benefits of obtaining assurance on CSR for both users of the information, for example investors, and internal benefits to managers, including more reliable information for strategic planning, enterprise risk management and more effective management control decisions (Cohen and Simnett, 2015).

One important research question addressed is ‘whether assurance of non-financial information adds value’ (DeFond and Zhang, 2014). Key sub-questions that are important to address include under what circumstances does management provided CSR information affect investor judgments, and whether this effect depends on the type of assurance. There is also interest in the factors that affect management decisions on whether to procure assurance and, if so, at what level (reasonable versus limited) and from which type of provider (audit firm versus other provider) (Cohen and Simnett, 2015).

Prior to the COVID-19 pandemic, concerns have been expressed about the reliability of voluntarily disclosed positive CSR information and the effect of this information on investors’ judgments (Elliott et al., 2014; Martin and Moser, 2016; Hoang and Trotman 2021). Previous research has shown that there are more incentives to ‘greenwash’ and provide misleading and positive information in industries with high investment in CSR (Cohen and Simnett, 2015). Also, in similar circumstances of crisis, it has been suggested that the ability to restore trust via providing positive CSR information can benefit stock returns and growth (Lins et al., 2017). A key question that arises in the pandemic
environment is the extent to which investors are concerned about the reliability of CSR information and how this affects their decision making. Such questions can be examined by both experimental and qualitative research. In these circumstances, when there are significant greenwashing risks, independent assurance is likely to deliver a positive signal about the reporting quality (Moser and Martin, 2012; Cohen and Simnett, 2015; Hoang and Trotman, 2021). Using experimental methods, these questions can be addressed by manipulating the content of the CSR report and the nature/type of assurance. This raises a range of research questions around the role of CSR assurance, management’s decisions on acquiring assurance and, if so, the level of assurance provided. It also raises issues on the conduct of assurance engagement, when judgments involving materiality, risk, evidence collection and report writing can be challenging and very different to a financial statement audit (Moroney and Trotman, 2016).

The most common issue related to CSR assurance addressed in prior research is the effect of assurance on the judgments of users. Previous experimental CSR assurance studies have examined the effect of CSR assurance on stock recommendations (Pflugrath et al., 2011), stock price estimates (Coram et al., 2009; Brown-Liburd and Zamora, 2015), investors’ willingness to invest (Cheng et al., 2015), and investors’ estimates of fundamental value (Hoang and Trotman, 2021).

A second issue is the type of assurance chosen by management. Either reasonable or limited assurance can be provided for assurance engagements on CSR information (ISAE 3000, IAASB, 2013). Limited assurance provides a lower level of assurance, greater engagement risk and less extensive evidence gathering than a reasonable assurance engagement. While both types of assurance levels are undertaken in practice, limited assurance is more commonly observed (GRI, 2012; KPMG, 2015; Fuhrmann et al., 2017). The comparative value of limited versus reasonable assurance for CSR assurance and assurance on other non-financial information is of ongoing interest to assurance standard setters (Simnett, 2012; Cohen and Simnett, 2015; IAASB, 2016, 2019; AUASB, 2019), and this question has been examined in a number of experiments. Brown-Liburd and Zamora (2015) and Cheng et al. (2015) find that the effect of reasonable assurance increases investors’ willingness to invest and share price estimates. However, Pflugrath et al. (2011) examine the effect at the limited assurance level and find no significant effect on investors’ share price estimates and share recommendations. Hoang and Trotman (2021) hold constant the case materials, tasks and type of investors and provide a more direct comparison between the effect of reasonable assurance and limited assurance. They find both reasonable and limited assurance increase investors’ reliability estimates of CSR information compared to no assurance, but that reasonable assurance leads to higher fundamental value estimates than limited assurance.
Little is known about the value added by assurance on non-financial information in situations of poor financial performance and in some cases, where organisations are on the brink of collapse. In a COVID-19 environment, comparison between the potential benefits of sustainability assurance and the associated costs may be made using very different criteria and there may be more weight given to short-term considerations than long-term. Similarly, managers need to make judgments about the appropriate level of spending on other activities that increase the reliability of validity of the CSR data. This includes internal controls over CSR data and internal audit to ensure compliance with CSR rules and regulations and improved process (Cohen and Simnett, 2015; Trotman and Trotman, 2015). If an organisation is on the brink of collapse, will its decisions about its investment in CSR matters decrease and will it be willing to pay for the added credibility via assurance?

The COVID-19 environment is also likely to affect how an assurance engagement is conducted and, therefore, the relevance of the case material used in an experiment to address questions related to CSR assurance needs to be considered. For example, Cohen and Simnett (2015) refer to the diversity of subject matter examined, and that the wide range of subject matters reported under GRI (emissions, biodiversity, water, energy, labour practices, human rights, society, product responsibility) cannot be measured with a common currency. While some can be expressed in dollars, others need other qualitative measures (e.g., GHG emissions, water usage and worker safety) while others can only be described (e.g., new policies to avoid discrimination). With the uncertainty of a COVID-19 environment, challenges arise in determining materiality for a CSR assurance engagement. For example, Moroney and Trotman (2016) note the importance of understanding the factors that impact materiality judgments in CSR reports, because of the effect on the reliability of these statements. In the COVID-19 environment, where retrenchments are common, CSR users may view such disclosures differently, thus affecting the materiality thresholds of assurance providers.

Another question to be addressed by CSR assurance providers is what are the incentives for management fraud in CSR reporting, and how will these impact the risk of material misstatement for CSR reports. In the pandemic environment, there are likely to be higher incentives for fraud in CSR disclosures given the reporting challenges around such issues as redundancies and the consequent impact on the welfare of employees. Discussions about changes in energy policies and investments in energy as a way of addressing economic problems caused by the pandemic, all can affect organisational reporting of sustainability information and, in some cases, can increase the incentives to misreport.

Further, there are suggestions that ‘there will be new forms of corporate social responsibility and sustainability in a post-pandemic world’ (as noted in the call for papers for this special edition; World Economic Forum, 2020). From an assurance perspective, research is needed to address: the different types of risk of material misstatement occurring; evidence collection including
the analytical procedures, testing of controls and substantive procedures, and what are the relative effectiveness of these procedures. In addition, for these new disclosures, research is needed on how do managers and auditors choose between reasonable versus limited assurance, and how does this choice affect the judgments and decisions of CSR report users.

As these new forms of sustainability disclosure evolve, and there is a need for assurance, consideration needs to be given to assurance team background. For example, in the assurance of GHG emissions, multi-disciplinary teams are needed including those with an accounting/auditing background and others with an environmental science background (Trotman and Trotman, 2015). These differences can create challenges for team judgments including the review process due to different frames of reference, different terminology, and different problem-solving styles (Trotman et al., 2015). Such interactions between multi-disciplinary team members are an important area of future research.

Based on the above discussion in this section, we provide a summary of key opportunities identified for CSR research using experimental methods in the COVID-19 pandemic environment in Table 1. This table outlines potential research questions with a CSR focus, covering the preparation, use and assurance of CSR information for JDM purposes.

3. Auditing and assurance JDM research

COVID-19 has caused major disruptions to the operations of most organisations and those of their stakeholders including shareholders, creditors and employees. In some situations, operations cannot continue or are severely reduced. There has been a need to change the nature of work done, new approaches to work and new ways of working often referred to as the ‘new normal’ (AASB/AUASB, 2020; IESBA, 2020). There are new COVID-19 related pressures on management resulting from these changes. Organisations facing reduced revenue are under pressure to cover operating costs and, in some circumstances, to remain a going concern. Managers can be under potential pressure to report misleading financial information to shareholders, lenders and government, and to overstate profit or rates of return on projects to protect capital projects and acquisitions (IESBA, 2020). Also, as many organisations are facing liquidity and solvency issues as a result of COVID-19, there are increased risks of organisations misreporting negative developments, withholding disclosure of relevant information, or providing misleading information on financial performance and position (IESBA, 2020).

All the above has significant implications for auditors. In particular, auditors are faced with greater uncertainty and unpredictability, which may create additional risk of material misstatement. Auditors also face new challenges in obtaining sufficient appropriate evidence, including access to people, locations and information during lockdown and the requirements of social distancing. This includes access to premises for inspection of assets and restrictions on
stocktakes. The nature of group interactions within the audit team, with other parties to the financial reporting process including management and audit committees, has changed (IAASB, 2020a). There are also potential implications for audit reports including modifications to the auditor’s opinion due to material misstatements or inability to obtain sufficient appropriate audit

Table 1
Opportunities for CSR research using experimental methods in the COVID-19 pandemic environment

| Preparation and use of CSR reporting in managerial decision making |
|---------------------------------------------------------------|
| RQ1.1 What factors motivate managers to pursue alternative sustainability initiatives in a pandemic environment, including when and where to report CSR information? |
| RQ1.2 What are the effects of employee layoffs and changed working environments during the pandemic on CSR initiatives and investment decisions? |
| RQ1.3 What are the implications of recent changes to expectations on disclosures of CSR information within the pandemic environment, including what motivates managers to choose particular disclosure formats and how these formats are perceived by key decision makers (such as managers, investors, and customers)? |
| RQ1.4 How does the reporting of CSR information in performance evaluation reports affect managers’ behaviour and what factors interact with these disclosures in a pandemic environment? |

| Investor decision making using CSR information |
|-----------------------------------------------|
| RQ2.1 In what ways do behavioural decision theories traditionally used in JDM research on CSR reporting need to be refined to reflect changes in the pandemic environment? |
| RQ2.2 How do investors’ affective reactions to CSR performance information differ in a pandemic environment, and what is the effect on investors’ estimates of fundamental values and decisions to invest? |
| RQ2.3 To what extent are investors willing to bear non-shareholder value generating costs in a pandemic environment, particularly where the organisation is financially constrained? |
| RQ2.4 How are existing research findings on investor decision making using CSR information impacted by changes to the industry environment, organisations’ financial conditions, and investors’ risk profiles during the pandemic? |

| Assurance on CSR reports |
|--------------------------|
| RQ3.1 What changes during the pandemic affect whether assurance (either limited or reasonable) of CSR information adds value? |
| RQ3.2 What changes during the pandemic affect management decisions on whether to procure CSR assurance and, if so, at what level (reasonable versus limited) and from which provider (audit firm versus other provider)? |
| RQ3.3 In the pandemic environment, what changes are observed in investors’ concerns about the reliability of CSR information and the effect of different forms of assurance or perceptions of reliability? |
| RQ3.4 How will the ‘new forms of CSR reporting in a post-pandemic world’ affect assurance procedures, including risk assessment, materiality judgments, evidence collection, and assurance reports? |
evidence, material uncertainties related to going concern, and the inclusion of key audit matters (KAMs) (IAASB, 2020c). Auditors also face greater uncertainty regarding information that becomes available after the reporting date but before the issuance of the financial statements, because of the likelihood of unplanned events occurring, the uncertain duration of the effects of the COVID-19 environment, and the shifting timelines around the audit. These events require greater attention by auditors related to these subsequent events (IAASB, 2020b).

Auditors are also undertaking their work remotely and in different ways (e.g., Zoom meetings) and thus quality control policies and procedures relating to direction and supervision of audit teams and the hierarchical review process need to be considered. The increased likelihood of fraud and error increase the importance of the exercise of professional scepticism. Further details on specific matters for consideration by auditors related to COVID-19 are provided by IAASB (2020a) related to identifying and assessing risks of material misstatement (ISA 315 Revised), responding to assessed risks (ISA 330), auditing accounting estimates (ISA 540), the auditor’s responsibilities relating to subsequent events (ISA 560), and the auditor’s responsibilities related to going concern (ISA 570).

The above changes need to be carefully considered by audit JDM researchers in motivating their studies, in hypothesis development including consideration of the boundary conditions that present theory is likely to apply, the case materials to be used, the choice of independent and dependent variables, and their discussion of how the results of the study are likely to vary depending on when the study was conducted (e.g., pre, during or post the COVID-19 pandemic). Researchers need to carefully consider the content of the case materials used in conducting experiments and should be aware that results from previous studies using the same case materials in a pre-COVID-19 environment may no longer hold.

Many of the above changes have going concern implications. They affect both the duties and responsibilities of management on solvency and going concern issues, and impact the auditors’ obligations in relation to going concern. Auditors’ judgments with respect to going concern had already come into focus with going concern judgments on the agendas of both the IAASB and the AUASB (AASB/AUASB, 2020). The pandemic environment places even greater importance on auditors’ judgments in this area. These going concern assessments, and the related assumptions, have effects throughout the financial statements including cash flow projections, on other estimates as part of impairment of assets, fair value measurements, decreases in net realisable value of inventory and recognition of provisions (AASB/AUASB, 2020). These judgments by auditors are common in current audit JDM literature (e.g., Griffith et al., 2015).

One issue raised by AASB/AUASB (2020) relates to going concern judgments when an entity is in hibernation. One of the consequences of
COVID-19 has been the need for some organisations to suspend all or part of their operations because of government restrictions on travel, large gatherings, and social distancing. Examples include the travel industry (airlines, hotel chains, tourist activities), entertainment (live entertainment, movie theatres, arts, sport), restaurants and hotels/clubs. The effect on other industries such as retail have varied depending on the nature of the products. For example, while food retailing, protective clothing and home improvements flourished during the pandemic, other retailers such as fashion goods and accessories generally suffered large decreases in revenue, but this has often varied with the online presence of the organisation. Auditors face greater uncertainty in verifying future cash flow estimates in making judgments related to revenue recognition, impairments and going concern. While being in temporary hibernation does not necessarily mean the organisation is no longer a going concern, it does mean that the auditor has to consider disclosures either as a significant judgment or as a material uncertainty that questions the company’s ability to continue as a going concern (AASB/AUASB, 2020). These issues raise new and important issues for JDM researchers to examine.

While audit JDM research focuses on individual judgments, audits are generally conducted in teams with extensive interaction between team members. Research on audit groups/teams includes research studies where two or more individuals within the audit firm interact with each other. This includes fraud brainstorming teams, the review process, and consultations between one auditor and others within the firm (Trotman et al., 2015; Bauer et al., 2021). While traditionally much of this interaction has been face-to-face, the COVID-19 pandemic has resulted in most face-to-face interactions not being possible. Many of these interactions are now done by Zoom, Microsoft Teams and other similar electronic alternatives. For example, an area of group interaction that is far less likely to be face-to-face in a COVID-19 environment is the review process. Previous research on the review process has most commonly considered face-to-face review (see Trotman et al., 2015 for a review). Research that has examined some form of review of electronic work papers has generally found this type of review to be less effective (e.g., Agoglia et al., 2009, 2010). With far less reliance on face-to-face review in the COVID-19 environment, research on alternative methods of review becomes more important. We also note that many changes to review methods in the current environment are likely to become the ‘new normal’ post COVID-19 and experimental research to investigate these alternatives has long-term benefits (Bauer et al., 2021).

While the discussion in this section has focused on financial statement audits, we note that ISAE 3000 (which covers CSR assurance and other non-financial assurance) states that the general audit standards (ISAs) may provide guidance in relation to the engagement process for assurance practitioners. Our coverage above of specific effects of COVID-19 related to evidence collection, risk assessments and the review process are relevant to CSR assurance because of...
their direct relationship to procedures that are relevant to an audit of financial statements and an assurance engagement on a CSR report.

4. Management accounting JDM research

The pandemic has required many organisations to focus on identifying new growth strategies, as they experience declines in demand for goods and services, cash flow, their ability to pay operating expenses and access to credit. These challenging financial conditions have combined with changing customer needs and delivery modes (including a strong re-orientation to online delivery channels), supply chain uncertainties due to lockdowns, travel restrictions and demand fluctuations, and significant workplace change (including changes in the ways employees are working and the work undertaken, employee layoffs and furloughs) during the pandemic.

Within this setting, there is a need for management accountants to provide managers with timely and decision relevant information on strategic performance and risk management, budgeting and forecasting, and costing. These COVID-19 related changes need to inform the questions researchers are addressing now and into the future, as well as the case materials used. For example, JDM research examining managers’ use of strategic performance information (including the balanced scorecard) has typically focused on single-period decision making, with a small set of JDM research examining decision making in dynamic business environments (e.g., Farrell et al., 2012; Humphreys et al., 2016). However, JDM management accounting research has not yet examined the more complex setting where major changes in external factors impact dynamic business environments, as is being experienced during the pandemic. For example, changes in customer demands (including delivery modes) and supply chain uncertainties are lengthening the time delays in organisations from a decision to its observable impact. We know that these longer time delays reduce learning and decision performance by managers (Humphreys et al., 2016), and this research can be extended to examine how managers adapt to changes in these time delays over time. We can also employ multi-period experiments to extend the time horizon of JDM research looking at building trust in new supplier relationships (e.g., Anderson et al., 2017) to identify and examine key factors that enable stakeholder trust-building during the pandemic, where many employees are working from home, interstate travel is restricted, and there is little or no international travel. Van Lysebetten et al. (2020) find that using simulations with high situational variation for training purposes improves innovation knowledge. Exposure to multiple situations equips decision makers to develop richer, more accurate mental models that facilitate their learning. Simulation-based training is already being used by business leaders to enact hypothetical policy scenarios, and facilitate learning through the development of richer mental models for managing climate change (Roston, 2020).

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Much of the JDM research examining managers’ use of strategic performance information is situated in a hypothetical, store-based retail fashion organisation (developed by Lipe and Salterio, 2000), with each business unit employing revenue growth and profit-focused strategies (see Salterio, 2012 for a review). With significant shifts in strategic foci resulting from COVID-19, it is important for JDM research to examine the generalisability of theory and the resultant findings to changes in strategy (e.g., delivering a quality, online customer service experience, rather than a store-based experience; implementing a long-term strategy, with restricted budgets for capital investment and training). For example, Humphreys and Trotman (2011) include a second experiment replacing a profit-based strategic theme with an asset productivity-focused theme to examine the generalisability of findings to changes in strategic theme focus.

Similarly, JDM research in this area has tended to focus on minor variations between target and actual performance, while COVID-19 has seen organisations experience significant variations in performance from target (both positive and negative, depending on the specific industry impacts from the pandemic). It is pertinent to understand how managers’ judgments are impacted by the way in which these significant variations in performance are presented. For example, research finds that managers’ performance evaluations are affected by the way performance measures are organised into balanced scorecard perspectives, when multiple below (or above)-target measures are presented within a category, but this is not the case when these same measures are distributed across the four balanced scorecard perspectives (Lipe and Salterio, 2002) or presented in an unformatted scorecard (Cardinaels and van Veen-Dirks, 2010).

With COVID-19 strengthening the need for managers to provide a comprehensive overview of business performance, organisations will need to combine strategic performance information with information from other key management accounting reports, including risk and CSR reports. Linnenluecke et al. (2015) also identify risk assessment (i.e., assessing vulnerabilities and adaptive capacity) as a key area for managerial accounting research to focus on in managing climate change; specifically, risk assessment approaches and related metrics, and how these can be presented so decision makers have the information required for managing climate change over a longer time horizon. JDM research is beginning to investigate ways in which strategic performance information may variously be combined with strategic risk information (e.g., Cheng et al., 2018) and sustainability information (e.g., Kaplan and Wisner, 2009). This research can be extended to consider decision making during the pandemic. For example, Cheng et al. (2018) find that incorporating risk information in a balanced scorecard (versus a stand-alone risk report) increases managers’ tendency to distinguish between performance driver risks and performance outcome risks and to place greater emphasis on the former. This emphasis is beneficial where risks evolve over long time horizons (e.g., social
In a pandemic environment though, further research is required to examine how to best integrate the full set of risk exposures in managers’ strategic decisions.

Taking a more operational focus, we consider the impacts of COVID-19 for JDM research on budget and forecast information. Budgets are used for both planning (e.g., resource allocation) and control (e.g., performance evaluation) purposes; thus, providing decision facilitating and decision influencing information, respectively (Sprinkle and Williamson, 2007). During COVID-19, budgets, including performance targets, have shifted significantly, as the assumptions and forecasts upon which they are based have been fundamentally challenged. We know from survey and archival research following the global financial crisis (GFC) that the role of budgeting in planning (encompassing operational planning, forecasting, coordination and variance analysis) and resource allocation (i.e., decision facilitating uses) increased, while its use for performance evaluation and compensation purposes (i.e., decision influencing uses) was diminished (Becker et al., 2016). Yet JDM research finds that synergies exist when budgets are used for both planning (decision facilitating) and control (decision influencing) purposes, with reduced budget slack and improved employee effort and performance (Fisher et al., 2002). Extending JDM research to investigate the causes and behavioural effects of this focus on providing decision facilitating information in crisis environments is important.

During the pandemic, managers and management accountants are revisiting prior year budget assumptions and establishing new assumptions to develop forecasts for zero-based budgets (Broughton, 2020; Gartner, 2020). This highlights the importance of professional judgment in facilitating budgeting and forecasting processes. Recent JDM research has begun to consider unintentional biases in the forecasting process (e.g., Chen et al., 2015). With financial incentives limited during COVID-19 and managers and subordinates both facing uncertainties when developing budgeting and forecasting assumptions, further JDM research to examine the heuristics and biases used when preparing budgets and forecasts in highly uncertain environments is required.

Budgeting and forecasting processes, including those related to sustainability expenditures, will also be impacted by the emergent changes in work practices, including working from home and virtual teamwork. Budget development and negotiation is often conducted via face-to-face meetings and JDM research finds positive effects from participative budgeting, including increased information sharing, reduced budget slack, and improved performance (Sprinkle and Williamson, 2007). Extending JDM research to examine participative budgeting in remote work settings may yield valuable insights. Similarly, team-based development of forecasts may be impacted by the accelerating trend towards virtual teams (Mak and Kozlowski, 2019). Benefits from team decision making include diversification and interaction effects (Trotman et al., 2015). However, in a virtual teamwork environment, research finds that the communication richness available to face-to-face teams is lacking (Kniffin
et al., 2020), and biases such as groupthink are more likely. Decision making effects of virtual teamwork on budgeting and forecasting processes warrant future JDM research.

Finally, during the COVID-19 pandemic, understanding cost structures and identifying opportunities for overhead reduction and strategic cost management has become a focal area for many organisations. While there is a long history of JDM research examining cost information, more recent research has focused on the impact on decision performance of factors including the type of costing system (e.g., Dearman and Shields, 2005; Masschelein et al., 2012), level of aggregation in the definition of costing system activities (e.g., Cardinaels and Labro, 2008), and fit between cost report presentation format and cost accounting knowledge (Cardinaels, 2008). This research considers the use of cost information for both decision facilitating and influencing purposes, including product pricing, employee effort allocation, resource allocation, and customer-supplier negotiations; however, there has been limited consideration of its use for strategic cost management, a key area of focus for organisations during the pandemic. Future JDM research examining the way cost information is presented and used for strategic cost management decisions can offer valuable insights. Such research can include sustainability cost information, given the influence of environmental cost information on a range of business decisions (e.g., product design, differentiation, costing, and pricing; see Joshi and Krishnan, 2010) and potential business cost savings generated by sustainability initiatives, including operational efficiencies and cost savings from lower input disruptions due to improved supply chain resilience and sustainability; see Joshi and Li, 2016).

5. Conclusion

In this paper we have considered how the COVID-19 pandemic results in changes in the economic environment and work modes, which have direct effects on the design of JDM experiments in accounting. Most fundamentally, these changes affect the research questions that need to be addressed. For example, increased financial pressures can affect spending on sustainability issues, the content of CSR reports and the demand for assurance. The changing environment during the pandemic also raises important questions about the use of CSR reports both by managers and investors. Finally, the presence/absence and level of assurance (limited versus reasonable) on investor judgments and the professional judgments that need to be made by assurance providers are considered.

These changes raise experimental design challenges for JDM researchers in conducting experiments in the pandemic environment, including the applicability of current psychology and social psychology theories used by accounting JDM researchers, how to maintain internal validity in the collection of data,
and how both internal and external validity are affected by the appropriateness of prior case materials in the pandemic environment.

Having discussed the impacts from COVID-19 on JDM research examining the preparation, use and assurance of CSR reports, we also look at the broader JDM research on audit and management accounting JDM. These research areas have links to the sustainability JDM research and are expected to be significantly impacted by the pandemic. Our aim is to interest the broader JDM research community to further integrate sustainability issues within this research literature.

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