Management control systems, multi-stakeholder approach and organisation sustainability in times of crisis

Hoa Luong
Department of Accountancy and Finance, University of Otago, New Zealand
Email: hoa.luong@otago.ac.nz

David Gilchrist
Department of Accounting and Finance, University of Western Australia
Email: david.gilchrist@uwa.edu.au

Ros Whiting
Department of Accountancy and Finance, University of Otago, New Zealand
Email**:** ros.whiting@otago.ac.nz

Vidy Potdar
School of Management and Marketing, Curtin University, Australia
Email**:** Vidyasagar.Potdar@cbs.curtin.edu.au

Management control systems, multi-stakeholder approach and organisation sustainability in times of crisis

Abstract

This paper investigates the effectiveness of management control systems (MCSs) and a multi-stakeholder approach used by nonprofit organisations (NPOs) in responding to the impact of major crises and in achieving organisational sustainability. Utilising data obtained from an online survey questionnaire forwarded to NPOs in the Australasian region, we consider MCS as a package and measure organisational tendency in employing five types of controls: planning, cybernetic, reward, administrative and culture, and in applying a multi-stakeholder approach. We document that the impacts of major crises, including COVID19, on financial performance, service performance, operation efficiency and stakeholder satisfaction varied in response to organisational control mechanisms. Further analysis reveals a significant impact caused by the relationship between MCSs and a multi-stakeholder approach in driving organisational change in crisis management strategy, human resource management, operation and technology and innovation. Extending our analyses to organisational sustainability, we show the outcomes of the above strategic crisis responses on financial sustainability, service sustainability, operational sustainability and sustainable stakeholder satisfaction. This study provides evidence relating to effective designs of MSCs and governance, thereby providing insights to policy makers, regulators and managers when responding to public scrutiny and social pressure on organisational resilience during a crisis.

Keywords: *Management control system, Multi-stakeholder governance, Crises, COVID-19, Sustainability, Technology and Innovation, Social Trust*

Management control systems, multi-stakeholder approach and organisation sustainability in time of crises

1. Introduction

We examine how Covid-19 and other crises impact nonprofit organisations (NPOs) that employ different design of management control system (MCS) and governance and whether such mechanism has any impact on organisation's response to crises and its sustainability. Our study is motivated by the vital role of the not for profit (NFP) sector which contributes billions of dollars to the economy and community (ACNC, 2021; Charities Services New Zealand, 2022). The sector is at the heart of our communities, building connections, nurturing spiritual and cultural expression and enhancing the productivity of the labour force. However, NPOs are facing continuous challenges from exogenous events ranging from natural disasters such as bushfires, droughts, floods, earthquakes and heatwaves to religious violence, racism, health-related crises and economic shocks which significantly increase the level of uncertainty and risk across the sector (Bowman, 2006). The situation becomes even more critical with a series of recent scandals that rocked the way the public perceives the typical NPOs while trust in charitable organisations is tested as a result (Deng, 2018; Henriques-Gomes, 2020). Vast media attention given to these scandals has invoked universal criticism and inflicted considerable damage on the reputation of the culprits. Consequently, the sector is struggling with diminished donation-raising capacity, declining financial and service performance, increased pressure on maintaining their workforce, increasing public skepticism over management control and rising concerns that the most vulnerable and needy miss-out because of an exploding administration cost (Dye, 2020; McKenzie and Baker, 2020; Zhai, 2017). Given such far-reaching negative consequences, our study investigates the extent to which organisations applying different types of controls are affected by Covid-19 and other crises, how these organisations response to crises,

and in turn how the combined MCS package, multi-stakeholder approach and strategic changes affect organisation sustainability.

We investigate the above causal links for three main reasons. Firstly, prior studies have emphasised the role played by MCS in steering organisations in times of crisis. During financial crisis, certain tools such as variance analysis or a budget planning and allocation become frequently used or revised (Pavlatos and Kostakis, 2015). In the context of Covid-19, Passetti et al. (2021) consider the role of organic and mechanistic management controls in supporting decision-making. They explain that MCS promotes internal coordination, redefines operational practices, aligns objectives and results and enhances collaboration with local communities. Overall, it is relevant to learn about the intersection between (natural, humanitarian and pandemic) crises and management control to understand better how management control operates in such extraordinary settings with interrelated financial, organisational and societal aspects to consider.

Secondly, the role of MCS in organisational change has become an important concern for practitioners and researchers in management accounting (Burns and Vaivio, 2001). It is found that MCS mechanisms can be used in an interactive manner help to facilitate a change in strategy and, when a change in strategy occurs, the MCS mechanisms change to match (Kober et al., 2007). Simons and Dávila (2021) highlight that to implement strategic change, managers need to link MCS, organisational structure and cultural norms together to support organisational goals. MCSs can also be distinguished with regard to how they respond to the circumstances and how they facilitate changes (Chenhall and Euske, 2007).

Thirdly, NPOs are placing a greater emphasis on management controls, performance evaluation, and stakeholder management in order to assure their continued existence into the foreseeable future (van Iwaarden et al., 2009). In organisations that are run for profit, there is a significant correlation between governance and performance (Coles et al., 2001). For NPOs, governance is not only linked to the organisation's performance (Brown, 2005) but also its reputation

and image among stakeholders (M. Viader and I. Espina, 2014). Despite the guidance of good governance practice which aims to enhance the effectiveness of management, the process is still substantially influenced by choice of organisational control and governance, which is of paramount importance for stakeholders, regulators and the public. Therefore, in this study, we seek to determine if, and to what extent, a control and governance mechanism shapes an organisation's response to crises and its sustainability.

Finally, we consider the role of multi-stakeholder approach founded on the stakeholder theory that are widely used in the literature (Clarkson, 1995; Donaldson and Preston, 1995; Freeman, 2010). From a normative perspective, organisations should be responsive to their stakeholders because of their ethical responsibility (Barrett, 2001). From the instrumental approach, positive stakeholder relationships can contribute to better financial performance. Moreover, the relationship between firm financial performance and stakeholder relationships is mediated by the quality of an organisation's management (Barrett, 2001). Overall, the role of controls and governance in organisations is to ensure that the maximum possible value is generated for the benefit of all stakeholders. Therefore, stakeholder consideration is expected to facilitate the influence of MCS on operation and performance. However, recent publications on the drivers of NPOs' responses to crises and the subsequent sustainable performance mostly neglect these factors. This study aims to fill in this gap in the literature.

Our study uses survey data in 2022 to NPOs in Australia and New Zealand, the two developed countries which are closely located in the Pacific Ocean, are both formally colonies of Great Britain and both have strong NFP sectors. NPOs in Australian generate AU$166 billion of revenue, held AU$354 billion of assets and spent AU$157.6 billion in their activities (ACNC, 2021). The NFP sector in New Zealand held total assets of NZ$67.85 billion, earned total revenue of NZ$21.19 billion and incurred total expenditure of NZ$ 19.87 billion (Charities Services, 2022). NPOs in Australia and New Zealand are currently going through a period of transition. Their founding principles and mission

remain the compass by which they navigate their day-to-day operations and by which they devise their strategic goals. However, the knock-on effects of their actions are widespread (McMorland and Erakovic, 2009). Because of these changes, organisations will need to establish greater governance capacities to deal with and manage the spectrum of complex challenges that NPOs face in today's world (McMorland and Erakovic, 2009).

Our study indicates that the organisational control system can be a further explanation for the differences in the impact of crises in different organisations. More specifically, we discover that planning MCS is positively correlated with stakeholder satisfaction, while reward and administrative MCSs deliver better service performance. We further show that five types of MCSs interact with stakeholder governance to differently affect the responses to crises of an organisation. For example, we find that planning and reward MCSs have been slow in redesigning crisis management strategy and HR management. When incorporating MCSs, stakeholder governance and strategic changes, planning shows a positive association with service sustainability, operational sustainability and sustainable stakeholder satisfaction. The associations are more robust with a greater consideration of multi-stakeholder governance.

The contributions of this study are three folds. Firstly, while recent research reports the impact of crises on NPOs in general, we extend these findings by identifying MCS as a further relevant factor at the organisational level. We thereby find indications that MCSs differently affect financial performance, service performance, operational efficiency and stakeholder satisfaction when crises arise. Secondly, previous studies find that planning organisational control associates with more strategic changes. We add to organisational control literature by illustrating that organisations following different MCSs respond differently to crises and that a multi-stakeholder approach moderates their responses. Finally, we confirm findings in previous studies on the role of multi-stakeholder governance and enhance the predominant investigation of for-profit organisations by considering the issue in the NFP sector.

The remainder of this study is organised as follows. Section 2 presents a literature review and hypotheses development. Section 3 explains our data and methodology. Section 4 discusses the main results. Section 5 summarises and concludes the study.

2. Literature review and hypothesis development

2.1. Management control systems

Although NPOs and its employees would appear to have a clear purpose and set of altruistic objectives, this is not always the case. Objectives of the individuals and the organisation may vary due to diverse personalities and behaviours, personal motivations and limitations, and desired directions (Merchant, 1985). Both for-profit and NPO organisations attempt to align these objectives by using a management control system (Anthony, 1965), which Malmi and Brown (2008, p.290) define as "systems, rules, practices, values and other activities management put in place in order to direct employee behavior". MCS are used to ensure that resources are used efficiently to achieve organisational goals (Chenhall, 2006). According to Malmi and Brown (2008)'s framework, a MCS consists of five types of controls: planning, cybernetic, rewards/compensation, administrative and culture, which are described briefly below. These controls can be either formal (contractual and rule based. e.g. budgets, performance control measures) or informal (beliefs, norms, traditions, self-control). Both can be effective in directing employees' attention to organisational goals (Langfield-Smith, 1997).

Planning is an ex-ante form of control, consisting of both long-term plans for the future (strategic planning) and more immediate short-term plans. Planning controls set the targets for achievement, direct effort and behaviour, and enable congruence in organisational goals. Cybernetic controls set measurable quantitative standards of performance (e.g. budgets, key performance indicators, balanced score card) to be met, involve feedback (e.g. variance analysis), reporting, and mechanisms to change the system or behaviour. Rewards/compensation are given for the achievement

of targets and are used to motivate individuals. Administrative controls direct individual and group behaviour through organisational design and structure, governance and monitoring mechanisms, policies and procedures. Finally, culture controls are exerted through the values, beliefs and social norms of members of the organisation (Malmi and Brown, 2008).

In their systematic literature review, Lueg and Radlach (2016) found the most popular controls for study were administrative and cybernetic controls. They also identified that organisations concentrate on parts of the MCS. Organisations tend to manage and control smaller parts of the MCS if they do not believe that they can implement a comprehensive MCS. Traditional cybernetics controls are preferred but concentration on some of the other controls is becoming more prevalent (Lueg and Radlach, 2016).

The link between management control and strategy in NPOs is similar to that in for-profit businesses, and sectoral distinctions are minor in terms of strategy and control (Tucker et al., 2013). However, some researchers argue that the significance of management control and strategy is greater in NPOs than in for-profit organisations because of the increasing demand for public accountability, scrutiny from donors and funders, competition for resources, multiple goals, and multiple demands from stakeholders (Tucker and Parker, 2013). In addition, Conaty and Robbins (2021) found that in NPO contexts, a range of MCS components (e.g. budgetary control, personal outcomes and assurance data) are employed to manage and deliver assurances of performance and accountability to the organisations' multiple stakeholders. The requirements of these multiple stakeholders are discussed in the following section.

2.2. Multi-stakeholder governance

NPOs have multiple stakeholders who influence the governance of NPOs and the information and assurances of performance and accountability that must be provided. These stakeholders include donors and funders, regulatory bodies, employees, volunteers, and beneficiaries. In order to avoid a

"dual accountability dilemma", organisations need to strike a balance between their social (or environmental) mission and their ability to remain financially sustainable (Costa et al., 2014). However, there is a movement towards "hierarchical" responsibility, which caters to a select group of stakeholders and is becoming more prevalent (Cazenave and Morales, 2021; Cordery et al., 2019).

Donors are considered to be the most essential stakeholder to which a charity should be held accountable. Donors require charitable organisations to provide a range of background, financial, and non-financial performance information. They are particularly interested in information on outcomes, long-term results and disclosure of unintended results to demonstrate accountability and to foster the development of trust (Yang et al., 2017). They respond to acknowledgements of their donations, and invitations to special events (Bennett, 2006). In addition, they demand transparency about the use of the funds that they have contributed (van Iwaarden et al., 2009). As the number of giving opportunities continues to expand, the donor's decision is more challenging (Jones et al., 2019). NPOs should also consider that as a result of the growth in the technology industry, new types of donors emerged who were younger, more outcome-oriented, and looked at their contribution as an investment (Drucker, 2012). They expected an outcome on that investment, which meant that organisations were required to demonstrate their success and influence (Hall, 2005; Worth, 2020). Therefore, NPOs should constantly control public perception as a drop in confidence can negatively affect donations.

The other stakeholder group, beneficiaries, involve in organisational governance (Ospina et al., 2002) because such decisions directly impact their daily lives. Moreover, their satisfaction is seen as a valid way to assess organisational performance (Packard, 2010). However, numerous researchers referred to the reluctant attitude towards mechanisms involving beneficiaries in the NPO governance (O'Dwyer and Unerman, 2010). Another challenge is finding a balance between the needs, expectations and objectives of various stakeholders (Brown, 2002; Guo and Musso, 2007). This challenge of reaching equilibrium between the desires of various stakeholders might impede the

organisation to become beneficiary driven when setting organisational policies (LeRoux, 2009). Nonetheless, there are multiple positive effects that beneficiaries participation can bring to the NPO. These include increased effectiveness of delivered services, facilitated achievement of organisational goals, increased legitimacy, improved affective commitment among board members, feelings of usefulness, learning new things, increased social capital and improved quality of received services (Wellens and Jegers, 2014). Therefore, NPOs are expected to become more inclined to value beneficiaries input if they were to become customer- focused.

To NPOs, employees and volunteers are valuable stakeholders, not only because these are important collaborators in a world where competition for staff increases, but also because service effectiveness improves when employees' job satisfaction augments. Consequently, identifying and meeting employees' needs is desirable (Borzaga and Tortia, 2006; Kim and Lee, 2010; Parlalis, 2011). This is important because NPOs employ persons (partly) driven by intrinsic motivations, people stimulated by the meaningfulness of their work and the desire to make a positive difference in people's lives (Balser and Carmin, 2009; Lanfranchi et al., 2010; Narcy, 2011). It has been found that intrinsic motivation does not stop employees from leaving the organisation when they are not sufficiently satisfied with personal and process related aspects, such as job security and degree of autonomy (Borzaga and Tortia, 2006). Nonetheless, numerous studies found that offering employees voice opportunities and empowering them is not only valuable during organisational changes: a positive relation is also reported between listening to and empowering employees, and employee satisfaction and mission achievement (Costa et al., 2006; Garner and Garner, 2011; Moynihan and Pandey, 2008). Employee empowerment can be achieved via various formal and informal mechanisms at different organisational levels such as personal job involvement and participation in overall organisational policymaking (Wellens and Jegers, 2014).

Without the assistance of volunteers, the operational capabilities of a NPO would be severely limited. Every year, volunteers in Australia contribute $43 billion to the country's economy, while in

New Zealand, their total contribution is more than $4 billion (CAANZ, 2021). The COVID-19 outbreak had a substantial impact on all aspects of volunteerism in both Australia and New Zealand. This had the effect of lowering the total number of volunteers as well as the range of activities in which they engaged. Both countries started instituting lockdowns and social isolation restrictions in March of 2020, which made it difficult for people to participate (CAANZ, 2021). NPOs are well-known for the level of engagement and retention of their "volunteer" workforces, both of which are essential to the organisations' capacity to provide value (Fait et al., 2021; Govekar and Govekar, 2002). The degree to which volunteers collaborate and the openness with which they do so all have an effect on the volunteers' levels of cooperative motivation, happiness, and performance (Fait et al., 2021; Millette and Gagné, 2008). Many organisations, however, do not consider the administration of "volunteer" employees to be a marketing job, which is one of the reasons why these businesses struggle to hire and keep qualified employees/volunteers (Jäger et al., 2009).

Overall, adopting multi-stakeholder perspective increases the probability for NPOs being considered as effective organisations. In other words, aligning the diverse expectations of stakeholders is perceived as good governance (Wellens and Jegers, 2014).

2.3. Hypotheses development

2.3.1. Impact of crises

We define a crisis as "a low-probability situation with significant consequences for the organisation, a high degree of uncertainty and a sense of decision-making urgency" (Cater III and Beal, 2014, p. 65). Examples are natural disasters, pandemics, internal fraud, and investment crashes. These extreme emergencies are events that are noteworthy, rare, one-of-a-kind, and significant in terms of their consequences, repercussions, or results (Kapucu, 2007). As well as natural disasters becoming more prevalent due to climate change, the greatest crisis of the last two years has been the Covid-19 pandemic. During this period, NPO revenue was most likely affected as gaming trust

proceeds would decrease because venues such as hotels closed, trading operations (e.g. opportunity shops) closed, and fundraising events did not occur (BDO, 2020).

Crises can impact NPOs in multiple aspects. Impacts on financial and service performance are often characterized by NPOs' ability to take inputs and carry out a process to produce outputs, with the expectation that these outputs will have a wider influence, impact, or consequence. Inputs are any resources that are utilized in the production of goods or services; examples of inputs include monetary expenditures and employee hours (Connolly and Hyndman, 2003). Outputs are the immediate or direct products and services that an organisation provides, such as the number of children that are fed or research projects that are completed (Connolly and Hyndman, 2003).

Impact on operation efficiency can be proxied by the relationship between inputs and outputs, whereas effectiveness compares what has been achieved (either in terms of outputs or outcomes) to the objectives that were established at the beginning (Connolly and Hyndman, 2003). According to Sargeant and Kaehler (1998), assessing efficiency and effectiveness becomes more difficult when businesses strive to achieve a wide variety of goals, outputs, and impacts at a number of different levels. Considering these obstacles, putting in place information systems that are able to record data on performance that is both trustworthy and objective is time-consuming and, in most cases, under-resourced (Carnochan et al., 2014; MacIndoe and Barman, 2013).

When considering the term "outcomes" as synonymous with the term "impact", both terms refer to the influence that philanthropic efforts have not just on particular people or communities but also on society as a whole (Connolly and Dhanani, 2009). The phrases "individual outcomes" and "societal outcomes" can be used interchangeably in this context (Hyndman and McConville, 2018). In addition, dissatisfaction on the part of workers may result from the diversion of cash from philanthropic activities or fundraising efforts (Lyon and Arvidson, 2011).

Because MCSs focus differently on the above aspects, we expect that the impacts of crises vary across MCSs. Therefore, we formulate the following hypothesis:

H1: The impacts of crises vary across MCSs.

2.3.2. Responses to crises

Crises not only compound the difficulties that NPOs are already facing (e.g. revenue generation and attracting donors), but on the other hand, they may present an opportunity to reorganise and improve their efficiency (Ceptureanu et al., 2017). The broader response of organisation to crises is their crisis management strategy which needs to be both operational or short-term and strategic or long-term objectives (Brockner and James, 2008; Müller, 1985). Crisis management process models identify four stages in crisis management, these being detection, occurrence, recovery (efforts to return to crisis-free condition), and resolution (restoration to pre-crisis state) (Hong et al., 2012). The model suggests that warning signals must be recognised early, and prompt action taken in order to minimise damage caused by a crisis.

Secondly, change in HR management is important because human resources contribute to the survival of an organisation and lay the foundation for a sustainable advantage over other businesses in the long run and in a wider context (Cooke, 2018). As their primary objective, NPOs strive to ensure that its purpose is carried out successfully; however, the ability of the organisation to do so is contingent on the persons it employs and the willingness of those employees to collaborate with one another (Hudson and Rogan, 2009; Renz, 2010). Because NPOs are driven by their values, the management of their human resources should also be value-driven (Renz, 2010). A NPO's HR management includes activities such as planning, hiring, training, promoting employees, evaluating their performance, retaining employees, and providing support to employees and volunteers (Ahmed, 2021; Anheier, 2014).

Thirdly, operational change should be considered because NPOs are driven by their missions, it is incumbent upon them to ensure that their operational plans and the services they provide are aligned with their missions and strategic goals (Hudson and Rogan, 2009). The current form of competitive tendering and purchaser-provider contracting makes it absolutely necessary that service delivery be handled very effectively. An integral aspect of the equation is the process of negotiating resources, responsibilities, and time frames (Anheier, 2014; Hudson and Rogan, 2009). A NPO's day-to-day operations, as well as the monitoring of its performance through planning and decision making, can both benefit from sound financial management (Anheier, 2014).

Considering the features of MCS and the role of multi-stakeholder approach, we propose hypothesis as follow:

H2: Organisations response differently across MCS and stakeholder mechanisms.

2.3.3. Organisation sustainability

NPOs operate in an environment that is constantly shifting, making it essential for them to be able to create organisations with a long-term focus (Weerawardena et al., 2010). Therefore, it is argued that sustainability of the NP sector is severely tested in times of crisis (Kapucu, 2007). Most NPOs have limited reserves, with heavy reliance on ongoing revenue streams and cashflows, meaning that their operations can be severely compromised during times of crisis (BDO, 2020). Revenue streams such as donations, grants, fundraising, fees and subscriptions, trading revenue, interest and dividends can be threatened, costs can increase, and volunteering can decrease.

NPOs who are able to learn and apply lessons from crises can survive and develop sustainably (Valentinov and Vaceková, 2015). Higher levels of autonomy, risk-taking, proactiveness and even innovativeness can aid family firms in coping with a crisis (Boers and Henschel, 2021), which may be applicable to NPOs also. In crises, it is common for NPOs to create official or informal links in order to collaborate on addressing comparable goals and issues, however collaborations require the

effective mobilisation and utilisation of a large number of community resources, both public and private (Kapucu, 2007). Ulmer et al. (2017) also identify that the alignment of MCSs and multi-stakeholder governance play an important role in driving organisations' responses to crises.

There are four main ways for NPO to achieve sustainability. The first way is to promote financial viability or long-term economic growth (Ceptureanu et al., 2017). Many charitable organisations, including non-profits and philanthropic organisations, do not generate revenue through the sale of their goods or services, which puts their long-term existence at risk. However, one of the questions that remain unanswered is "what happens to those organisations like NPOs that provide essential services such as disaster relief, family welfare and counselling, and emergency relief, and not necessarily marketable goods?" (Chetkovich and Frumkin, 2003). They have to deal with long-term sustainability issues while also providing the private, merit and public goods that compassionate societies require (Omura and Forster, 2014).

Secondly, one manner in which sustainability can be characterized is by the capacity of nonprofit charitable and philanthropic organisations to assure the continuity of the services they provide to the local community (Weerawardena et al., 2010). The charitable industry is experiencing increased stress as a result of recent worldwide humanitarian crises. Thus, the charitable sector is becoming increasingly attractive to a wider pool of prospective benefactors (Salamon et al., 2000).

Thirdly, sustainability of organisations can be assisted by developing operational methodologies for the long-term sustainability of NPOs. These methodologies are based on an evaluation of fundamental qualities, such as the competencies of leadership and management, the organisational capacity to provide particular services, or the organisation's capacity to anticipate and adapt to change (Ceptureanu et al., 2017). Sustainable NPOs have the ability to effectively address external changes by adjusting their objective, securing access to new sources of money, and enhancing their internal mechanisms to better deal with the new challenges (Ceptureanu et al., 2017).

Finally, sustainability is organisation's ability to survive so that it can continue to serve its constituents and the ability of an organisation to fulfil its commitments to the people it serves as well as the community in which it is based (Weerawardena et al., 2010). These stakeholders have confidence in the NPO's ability to do what it sets out to do and achieve its objectives. When several parties have faith that the commitment will be upheld, we can conclude that something is sustainable (Lee, 2017; Weerawardena et al., 2010). From a macroeconomic standpoint, nonprofit sector sustainability ensures that critical societal demands will be satisfied (Dickinson et al, 2021). The sustainability of the sector is also critical in terms of the reliability of services and supports relied upon by some of the most vulnerable people in our communities (Gilchrist and Perks, 2022).

We consider MCS specifics, multi-stakeholder governance and organisation's responses to crises to hypothesize as follow:

H3: MCS specifics, multi-stakeholder governance and organisation's responses impact organisations' sustainability.

3. Data and methodology

3.1. Data

We use the Australian Charities and Not-for-profit Commission and Charities Services New Zealand databases to randomly select the NPOs in different size groups, forming a population of 1,000 organisations. Although publicly available data such as annual reports may serve to investigate financial performance, information related to MCSs and extent of multi-stakeholder governance are typically not published in annual reports or other publicly available sources. Hence, it is necessary to collect data from inside organisations. Key informants remain the only source of expert knowledge of the organisation's control and governance. Therefore, representative of each organisation in the sample received an invitation via e-mail containing a hyperlink to our web-based survey starting in Feb 2021. The survey consists of a wide range of questions about charity's characteristics, the primary

activities of the charity, the location of the charity, demographic characteristics of respondents, detailed information of the management control system of the charity, the impacts of crises on the charity over the last decade, among others. We ask the representative to forward the invitation to relevant stakeholders in the organisations including Chairman, CEO, member of the board, trustee, management committee, fundraising committee, community engagement committee, nomination and remuneration committee, grant allocation committee, audit, investment, and risk committee and the operations and management control department, finance, budgetary and treasury department, HR department and IT department. We guaranteed anonymity and offered participants the opportunity to receive a summary of the findings of the study. Two and four weeks after starting the survey, organisations who had not yet participated received reminders via email. Of the 1,000 distributed questionnaires, 152 responses (15.20%) were informative enough for our analysis.

Panel A of Table 1 describes our sample which consists of 118 Australian organisations (77.63%) and 34 New Zealand organisations (22.37%). Participating organisations operate across various categories with the highest contributing category being Human rights, community and laws (19.13%), followed by the Religion and Culture (15.13%), Health (12.50%), Education and sport (11.84%) and Environment and Animals (8.55%. The contributions other categories are approximately 33 percent. Moving to sample distribution by size, the number of participating organisations is highest in the Medium size group (30.26%). The Small and Large groups account for 27.63% and 26.97% respectively, leaving the remaining share of 15.13% to the Extra large group.

Panel B reports that 65.79% of respondents hold a management role, 34.21% are employees and 57.24% are female. The modal respondent was 45 years or older (73.02%) and literate (59.21% bachelor's degree or higher).

[Insert Table 1 about here]

3.2. Dependent variables

It has been argued that the overall performance of charities is best measured by a set of factors that reflect its mission and the multiple and diverse stakeholders associated with charities (Boateng et al., 2016). In fact, some of the largest charitable organisations have found success in managing their overall performance by employing balanced scorecards, which are comprised of a number of different metrics and facets of performance (Saj, 2013; Tucker and Thorne, 2013). Therefore, we measure the immediate impacts of crises on four dimensions, namely financial impact, service impact, operational impact and stakeholder satisfaction. Respondents were asked to assess the impact of the most significant crisis on (i) financial performance; (ii) service performance; (iii) operation (in terms of geographic coverage, range of service lines, service distribution channels, financial resources and information and technology capacity); and (iv) stakeholder satisfaction (employees' satisfaction, beneficiaries' satisfaction and donors' satisfaction).

The organisation's responses to crises are considered in four aspects: (i) change in crisis management strategy; (ii) change in HR management; (iii) change in operational strategy, including fundraising strategy, engagement, and business partnerships; and change in technology and innovation (in a wide range of technology facilities and policies such as Website/Internet/network data links, personal computers and equipment, external IT support services, information management system and annual IT training and skill development programmes). Respondents were asked to assess the extent to which the charity has undergone change over the last decade due to crises.

Organisational sustainability is examined in four angles, financial sustainability, service sustainability, operational sustainability and stakeholder satisfaction (employees' satisfaction, beneficiaries' satisfaction and donors' satisfaction). Respondents were asked to assess the performance of their organisation in the above area as a result of strategic responses to crises. For variables that are constructed from multiple factors, we use exploratory factor analysis (EFA) to load each factor. Our Kaiser-Meyer-Olkin (KMO) tests for sampling adequacy are greater than 0.5,

confirming that our data is suitable to EFA (Kaiser, 1974). Moreover, the Cronbach (1951) alpha scores are above 0.7, indicating an acceptable level of reliability for all variables.

3.3. Independent variables

We follow Malmi and Brown (2008) to construct five MCS variables. Respondents were required to indicate the extent to which a series of statements reflected how MCS works in their organisations. For planning MCS, a three-item measure was used to assess the extent of emphasis placed on tracking the organisation's progress towards mission and vision, providing a clearly defined and effective organisational structure and for setting competitiveness, high demands and achievement. Cybernetic MCS was evaluated based on a three-item measure on the extent of the emphasis placed on benchmarking (e.g., quality, cost, practices, and procedures), variance analysis and program evaluation review. Reward MCS was proxied by the extent of emphasis placed on designing monetary rewards respective to performance measurement, designing non-monetary rewards respective to performance measurement and designing penalties respective to performance measurement. Administrative MCS was constructed from five indicators: distributing authority, autonomy, and administrative consistency effectively throughout the business unit; developing an effective mechanism of fundraising; developing an effective mechanism of resource allocation; supporting individual career planning; developing channels for peer review and feedback; and coordinating, teamwork consensus and participation. Finally, culture MCS was assessed on the extent that the organisation is held together by loyalty, mutual trust and commitment, and by mutual goal accomplishment.

Multi-stakeholder approach was measured by nine indicators presenting the emphasis of the charity on achievements from the employees'/donors'/beneficiaries' perspective; developing an effective mechanism of meeting employees'/donors'/beneficiaries' needs; and reviewing outcomes in consideration with employees'/donors'/beneficiaries' expectations. We base on a recent desire for

demonstrating accountability and transparency to construct this variable. Accountability is defined as a connection between two or more entities involving the giving and receiving of accounting for intentions, activities, and performance within a certain social and moral context (Gray et al., 2014). In other words, accountability could be a three-stage process: (1) the information phase, in which the "actor" informs the "forum" about their actions, (2) the discussion phase, in which the "audience" assesses and deliberates the actor's performance, and (3) the consequences phase, in which the actor is rewarded, punished, or corrected (Brandsma and Schillemans, 2013).

The EFA analysis show that the individual item loadings are all above the recommended cut-off point of 0.5 (Kaiser, 1974) and demonstrate satisfactory reliability with alpha scores are higher than 0.7 (Cronbach, 1951).

3.4. Analytical models

To test hypothesis 1, we investigate the immediate impact of crises by employing ordinary least squares regression for models with continuous dependent variables and ordered probit regressions where dependent variable is ordinal. Our sample size exceeds the minimum sample size to apply these analytical models (Knofczynski and Mundfrom, 2008). The model is written as follow:

$$IMPACT_i = \beta_0 + \beta_1\, MCS_i + \beta_2\, COVID\text{-}19_i + \beta_3\, Other\ Crises_i + \beta_5 Organisation\ Size_i + \beta_6 Multiple\ Locations_i + \beta_7 Category_i + \beta_8 Country_i + \varepsilon_i\,, \quad (1)$$

where the dependent variable $IMPACT_i$ represents, in each model, the two ordinal measures, *Financial Impact* and *Service Impact* and the two unobserved continuously latent variables, *Operational Impact* and *Immediate Stakeholder Satisfaction*. The main explanatory variables are MCSs which are classified into five system, namely *Planning*, *Cybernetic*, *Reward*, *Administrative* and *Culture* as explained in Section 3.3 above. To support hypothesis 1, the coefficients of MCS variables are predicted to vary across the five systems.

We include a set of control variables that have been reported to have a possible influence on the impact of crises, organisation response to crises and organisation sustainability. We asked the respondent to indicate their organisation size as determined by ACNC based on annual revenue or by Charities Services New Zealand based on operating expenses. NPOs are a very heterogenous sector within the economy. They are particularly varied in terms of size by turnover with the vast bulk of organisations being small while the next largest grouping is mid-size organisations with large organisations being very economically significant but relatively few in number (Australian Charities Report). Organisations are classified into six categories, namely Human rights, community and laws, Religion and Culture, Health, Education, Environment and Animals and Others. We further control for the effect of operating in multiple locations, i.e if the organisation operates in more than one state or country. Finally, we control for national differences by a dummy country variable.

To test hypothesis 2, we investigate organisations' response to crises across different MCSs and the moderating effect of multi-stakeholder governance by estimating the following equation:

$$RESPONSE_i = \beta_0 + \beta_1 MCS_i + \beta_2 Multi\text{-}Stakeholder\ Governance_i + \beta_3 MCS*Multi\text{-}stakeholder_i + \sum Controls_t + \varepsilon_i \,, \quad (2)$$

where the dependent variable $RESPONSE_i$ represents, in each model, the three ordinal measures, Crisis management strategy, HR Management and Technology and Innovation and one unobserved continuously latent variable *Operational Change*. We include five types of MCSs, Multi-stakeholder Governance and their interaction terms as explanatory variables. We control for the same set of variables as in Equation (1). To support hypothesis 2, the coefficients of MCSs variables and the interaction terms are expected to vary across different mechanisms of control and governance.

To examine the effect of MCSs, multi-stakeholder governance and strategic changes on organisation sustainability, we estimate the following regression model:

$$SUSTAINABILITY_i = \beta_0 + \beta_1 MCS_i + \beta_2 Multi\text{-}Stakeholder\ Governance_i + \beta_3 MCS*Multi\text{-}stakeholder_i + \sum RESPONSE_i + \sum Controls_t + \varepsilon_i \,, \quad (3)$$

where the dependent variable $SUSTAINABILITY_i$ in each model is the three ordinal measures, *Financial Sustainability, Service Sustainability* and *Operational Sustainability* and one unobserved continuously latent variable *Sustainable Stakeholder Satisfaction*. We include the same set of explanatory variables and control variables as in Equation (2) together with *RESPONSE* variables which are dependent variables in Equation (2). To support hypothesis 3, the coefficients of MCSs variables and the interaction terms are expected to vary across different mechanism of control and governance.

4. Results

4.1 Descriptive statistics and correlations

Table 2 reports descriptive statistics of our sample, including the mean, standard deviation, and the minimum and maximum values for each variable. The definitions of these variables are provided in Appendix. In Panel A, the average immediate impact of crises on financial (*Financial Impact*) and service performances (*Service Impact*) are 2.5066 and 2.5329 respectively on a 5-point scale. The immediate changes in operation efficiency (*Operational Impact*) and stakeholder satisfaction (*Immediate Stakeholder Satisfaction*) because of crises constructed from multiple ordinal indicators are 0.0366 and 0.0338, respectively. Regarding organisations' response to crises, the average value of changes in *Crisis Management Strategy* is relatively high at 1.7237 on a 3-point scale. The average value of 1.3421 for *HR Management,* indicating that organisations in our sample place a higher emphasis on crisis management strategy than on HR management in response to crises. Change in operation (*Operational Changes*) and change in technology and innovation (*Technology and Innovation*) variables are constructed from multiple ordinal indicators using EFA and obtain the average value of 0.0111 and 0.2002, respectively. Organisation sustainability after applying strategic changes increases at a moderate level on a 3-point scale, in particular, 2.3421 for *Financial Sustainability*, 2.6447 for *Service Sustainability* and 2.4868 for *Operational Sustainability*.

Sustainable Stakeholder Satisfaction is constructed from multiple ordinal indicators using EFA and obtains the average value of 0.0599.

Turning to independent variables of interest in Panel B, all six variables *Planning*, *Cybernetic*, *Reward*, *Administrative*, *Culture* MCS, and *Multi-stakeholder Governance* are constructed from multiple indicators using EFA with the average value of prediction of approximately zero, confirming that the indicators in each factor have a high level of internal consistency.

Control variables are presented in Panel C. More than 93% of NPOs reported that Covid-19 was the main cause of negative impact on their operations. More than 63% of orgnisations also report that they are affected by other types of disasters such as wildfires, floods, earthquakes etc.A typical size of organisation in our sample is 2.2961 on a 4-point scale and around 47% operate in more than one state or country.

[Insert Table 2 about here]

We perform Pearson correlation analysis and present results in Table 3. We report that the significant level of five measures of MCS and multi-stakeholder approach with the impacts of crises, organisation's responses to crises and organisational sustainability are varied. This provides initial support to our hypothesis predicting that organisational control and governance mechanisms matter in responding and managing the organisations during crises. Many variables used in regression models demonstrate significant correlations with each other. Nonetheless, the highest correlation of 0.59 is recorded between Administrative MCS and Operational impact, which is not unexpected and does not exceed 0.80, meaning that our models do not suffer from a multicollinearity problem (Gujarati and Porter, 2009).

[Insert Table 3 about here]

4.2 Impacts of crises

In this section, we report the outputs generated by estimating Equations (1) that was designed to test the immediate changes in financial performance, service performance, operational efficiency and stakeholder satisfaction because of Covid-19 and other crises. The results are presented in Table 4. We find that the coefficients of *COVID-19* are negative across all the models. Specifically, the coefficient estimates on financial impact (-0.3312), service impact (-0.6779) and operational impact (-0.3578) are statistically significant at the level of 10% or higher. The results demonstrate that NPOs in our sample have been negatively impacted by Covid-19 in all examined areas. The results are consistent with the literature that Covid-19 has negatively affected most organisations, including charities (Santos and Laureano, 2021). On the contrary, we find that the coefficient estimates of *Other Crises* on *Service Impact* are positive and statistically significant at the 1% level, signifying that organisations in our sample provide better service when they experience crises other than Covid-19.

The coefficient estimates of *Planning* on *Stakeholder Satisfaction* are positive and significant, suggesting that planning MCS has a positive impact on stakeholder satisfaction during unprecedented circumstances. The finding is consistent with the research results of Crittenden et al. (1988) and Dimitrios et al. (2013) that find a positive correlation between strategic planning and stakeholders' satisfaction in religious organisations and non-profit organisations, respectively. Likewise, the coefficients of *Reward* and *Administrative* on *Service Impact* are positive (0.2241 and 0.1700, respectively) and being statistically significant at the 5% and 10% levels, demonstrating that organisations employing *Reward* and *Administrative* MCSs tend to show better service performance compared to their counterparts. Our findings support the argument of Gul et al. (2012) and Parsons and Broadbridge (2006) on the role of rewards in maintaining and encouraging employees' performances which inturn can enhance outcomes of organisations.

By contrast, the coefficient estimates of *Cybernetic* on *Financial Impact* and *Service Impact* are negative (-0.1626 and -0.2819, respectively) and statistically significant, implying that *Cybernetic* MCS has a negatively impact on financial and service performance of organisations when crises happen. In a similar vein, the coefficient of *Culture* on *Service Impact* is negative (-0.1585) and statistically significant, demonstrating that culture MCS experiences a higher level of service vulnerability. Taken together, these results imply that the impact of Covid-19 and other crises varied under different MCSs mechanism. These findings, therefore, provide strong support for H1.

For other variables, in Column (3), the coefficient estimates of *Organisation Size* is positive and significant, suggesting that larger organisation operate more efficiently than their counterpart. Small and midsize charities are dependent heavily on donations from individuals and grants from government or foundations (National Council of Nonprofits, 2019). Therefore, these charities may suffer great difficulties in operating to sustain the workforce when facing labor market fluctuation (Preston, 1990) such as crises. By contrast, the coefficient of *Multiple Locations* is negative and significant, meaning that NPOs operating in multiple locations experience a more severe operational impact. A possible explanation for this finding could be that charities operating in multiple locations will be negatively impacted by large-scale shocks such as Covid-19 or climate change. Notably, the coefficient of *Education* on *Operational Impact* is positive and significant, implying that the Education category achieved better geographic coverage, range of service lines, service distribution channels, financial resources, and information and technology capacity. Likewise, the coefficient of *Environment and Animals* category on *Financial Performance* is positive and statistically significant. Conversely, organisations belonging to the *Religion and Culture* category are negatively and significantly affected in terms of service and operation.

[Insert Table 4 about here]

4.3 Response to crises

So far, we have shown that financial performance, service performance, operational efficiency and stakeholder's satisfaction are impacted by Covid-19 and other crises over the last decade. The effect, however, varies with differences in MCSs. All else being equal, organisations' tendency in following different mechanisms are expected to response differently to crises. Thus, we explore how the effect on changes in crisis management strategy, HR management, operation procedures and technology and innovation due to the mechanism varies with different combinations of MCSs and multi-stakeholder approach. For this purpose, we interact each of the MCSs *(Planning*, *Cybernetic*, *Reward*, *Administrative and Culture*) with the *Multi-stakeholder Governance* variable and examine each interaction terms as explanatory variables. We report the summary of the regression results in Table 5.

In Table 5, we yet observe a negative and significant effect of *Planning* and *Reward* on *Crisis Strategy* and of *Planning* on *HR Management*. The negative and significant correlation between Reward and Crisis Strategy can be explained by the argument of Areiqat and Zamil (2011) that employee empowerment (which may not be monetary rewards) has a positive effect on coping with crises of organisations. By contrast, *Culture* and *Administrative* exhibit a positive impact on such changes while *Cybernetic* seems to push *Technology and Innovation* forward. The positive impact of Culture on change in crisis management of organisations has also been demonstrated in the study of Deverell and Olsson (2010). The positive role of cybernetic management on technology and innovation is also demonstrated in the study of Schuh and Kramer (2016).

Columns (3) to (4) show that coefficient estimates of *Multi-stakeholder Governance* on Operational Change and Technology and Innovation are positive and significant at the 5% and 10% levels respectively. These results indicate that organisations respond differently under different MCSs and that multi-stakeholder governance contributes to how the organisations adapt to crisis situations. Turning to the interaction terms, four coefficient estimates of MCSs and *Multi-stakeholder*

Governance are positive with a great magnitude, including *Administrative x Multi-stakeholder Governance* and *Culture x Multi-stakeholder Governance* on Crisis *Strategy*, *Reward x Multi-stakeholder Governance* on *HR Management* and *Cybernetic x Multi-stakeholder Governance* on *Technology and Innovation*. The results are significant at the 10% level or above, suggesting that the responses to crises in these areas become stronger for organisations that apply a particular MCS and multi-stakeholder approach. Nonetheless, the coefficient estimate of *Reward x Multi-stakeholder Governance* in Columns (1) is negative and significant at the 5% level, indicating that the effect of *Reward* on organisation change in *Crisis Strategy* becomes weaker for organisations with a higher level of multi-stakeholder governance. However, this negative correlation has a marginal magnitude as compared to the aforementioned positive relations. These results are consistent with the literature and demonstrate that the alignment of MCSs and multi-stakeholder governance play an important role in driving organisations' responses to crises (Galambos et al., 2005; Ulmer et al., 2017).

We also examine the impact of Covid-19 and other crises on organisations' changes during the unprecedented time. In columns (1), (2) and (3) in Table 4, our crisis variables (*COVID-19* and *Other Crises*) produce positive coefficient estimates, being significant at the 5% level or above. For example, in Column (1) and (3), the coefficients of *COVID-19* on *Crisis Strategy* and *Operational Change* are 1.6853 and 0.8274 at the 1% level, implying that NPOs severely affected by Covid-19 have higher levels of changes than their counterparts. It can be said that Covid-19 has had a negative effect on most organisations including charities (Santos and Laureano, 2021). Covid-19 has provided an alarm to charities about unforeseen risks that require long-term response plans. However, in Column (4) the coefficient of *Other Crises* on *Technology and Innovation* is negative (-0.4157) and significant at the 1% level, indicating that experiencing other crises such as natural disasters and financial recession slow down the change in technology and innovation. A possible explanation could be that the charities affected by the crisis may temporarily experience resource constraints including

financial and human resources which make it difficult to change technology which requires a large financial and personnel resources.

Turning to other control variables, *Organisation Size* is significantly and positively associated with changes in *Crisis Strategy* and *Technology and Innovation*. These findings accord with much prior literature that makes similar assertions that large NPOs have a resource advantage over small and midsize charities for making strategic changes (Galambos et al., 2005). By contrast, operating in multiple locations seems to be a challenge for organisations in designing an effective crisis management strategy.

Notably, the coefficients four category variables are negative and statistical significance, being *Education and Sport* and *Environment and Animals* on *Operational Change*, *Religion and Culture* on *HR Management* and *Environment and Animals* on *Crisis Strategy*. The results are consistent with the literature that crises including Covid-19 have provided an alarm to NPOs about unforeseen risks that require long-term response plans (Santos and Laureano, 2021).

[Insert Table 5 about here]

4.4 Organisational sustainability

Tables 6 presents the regression results of Equations (3) to estimate the impact of MCSs, multi-stakeholder governance, organisations' responses to crises and other factors on financial sustainability, service sustainability, operational sustainability and sustainable stakeholder satisfaction. The coefficient of *Planning* is positive and significant in Columns (1), (2) and (4), demonstrating a significant positive effect of planning on financial sustainability, service sustainability and sustainable stakeholder satisfaction. A similar pattern is reported on the positive impact of the administrative MCS on financial sustainability. The findings confirm the argument of Bray (2008) and León (2001) about the positive impact of strategic planning on the financial sustainability. By contrast, the coefficient of *Reward* on *Sustainable Stakeholder Satisfaction* is

negative (-0.1638) and statistically significant at the 5% and. It shows that organisations employing *Reward* MCS tend to experience a lower level of stakeholder satisfaction under challenging circumstances.

We find that the coefficients of *Multi-stakeholder governance* are positive and significant in Columns (1) and (4) (0.3412 and 0.3586, respectively) which is strongly significant at the 5% and 10% levels. This finding indicates that NPOs following multi-stakeholder approach showcase a higher level of financial sustainability and sustainable stakeholder satisfaction. The coefficient estimates of *Planning x Multi-stakeholder Governance* on *Financial Sustainability* and *Service Sustainability* are positive and significant, suggesting that the positive effect of planning MCS on financial performance and service performance are more substantial for organisations with more significant consideration of multi-stakeholder approach. The result on the impact of the interaction terms between *Administrative* and *Multi-stakeholder Governance* on *Financial Sustainability* paint a similar picture. However, the coefficients of *Cybernetic x Multi-stakeholder Governance* and *Culture x Multi-stakeholder Governance* on *Financial Sustainability* and *Service Sustainability* are negative and significant, indicating negative effects of cybernetic and culture MCSs on service sustainability and financial sustainability are more critical for organisations with less consideration of multi-stakeholder approach. These findings, therefore, provide strong support for H3.

We find that the coefficient of *Crisis Strategy* is negative and statistically significant in column (1), indicating that the changes in crisis management strategy may not result in a positive financial impact in the short term. By contrast, the coefficients of *Operational Change* are positive and significant in Columns (2), (3), and (4) whereas the coefficient of *Technology and Innovation* is positive and significant in Column (1), suggesting a positive impact of operational changes and technology and innovation in organisational sustainability.

For other variables, we find that Covid-19 brings a negative effect to stakeholder satisfaction even after changes has been made. On the contrary, other crises seem to enhance organisations'

service sustainability. While organisation size has a positive impact on financial sustainability, it can place the organisations under higher level of social scrutiny, which result in a lower level of stakeholder satisfaction. Consistent with findings in previous section, operating in multiple locations can be a hurdle to operational sustainability. Notably, we find that organisations belong to health and *Education* are struggling operationally while Human rights and community are facing financial vulnerability. Conversely, organisations belonging to the *Religion and Culture* category are improving their financial and service sustainability after applying strategic changes.

[Insert Table 6 about here]

5. Conclusion

Even though the impact of crises has attracted great attention from the public and scholars, little is still known about the differences in responses to crises and the effectiveness of MCS and stakeholder governance in managing the organisation in crises. This issue is critical because of a series of scandals that results in severe economic consequences and associated costs. Loss of trust in the NFP sector have undermined donors' confidence, damaged the organisations' value, caused misallocation of resources, and increased the sector's vulnerability. Moreover, the occurrence of tragic natural disasters and the COVID-19 health and economic crisis has added to the woes of NPOs at a time of less disposable income but greater financial need. These incidents have encouraged us to to examine how organisations applying five types of controls are affected by Covid-19 and other crises, how these organisation response to crises, and in turn how the combined MCSs, multi-stakeholder approach and strategic changes affect organisation sustainability.

Using data collected from NPOs in Australia and New Zealand, we confirm that Covid-19 has a negative immediate impact on financial performance, service performance, operational efficiency and stakeholder satisfaction. We demonstrate that MCS can be a further explanation for the differences in the impact of crises in different organisations. In particular, we find that planning MCS

displays a positive association with stakeholder satisfaction, whereas reward and administrative MCSs enhance service performance. Nonetheless, we observe that cybernetic MCS have a negatively impact on financial and service performance and that culture MCS exhibits more service vulnerability.

We further show that five types of MCSs interact with a stakeholder governance to differently affect the responses to crises of an organisation. The negative association of planning MCS with response in crisis management strategy and HR management and reward MCS with crisis management strategy imply that planning and reward MCSs have been slow in these areas. Culture and administrative seems to better enable organisations to encourage these changes while cybernetic appears to drive technology and innovation. We illustrate that a multi-stakeholder approach carries the power to push operational change and technology and innovation as strategic responses to crises. The interactions between MCSs and stakeholder governance exhibit notable positive and significant impacts such as in the cybernetic system on technology and innovation, in the reward system on HR management, and in the administrative and culture systems on crisis management strategy. We also highlight that Covid-19 is an important driving force to facilitate strategic changes. These results underpin the relevance of MCS and multi-stakeholder approach as an integrated mechanism to promote organisations' responses to crises. Nonetheless, further assessment is required on areas where a particular MCS has been slow in certain aspects.

When incorporating MCSs, stakeholder governance and strategics changes, planning shows a positive association with service sustainability, operational sustainability and sustainable stakeholder satisfaction. The associations are more robust with a greater consideration of multi-stakeholder governance. By contrast, adopting a reward MCS can negatively affect overall stakeholder satisfaction in the long run. Similarly, a combination of cybernetic and culture with multi-stakeholder governance may not result in service sustainability and financial sustainability, respectively. Furthermore, our data suggest that operational change and technology and innovation positively and

significantly drive organisation sustainability. These results are in line with our assumption that organisation sustainability varies across different mechanism of MCSs and multi-stakeholder governance.

This study contributes to the existing literature in three main ways. Firstly, this is the first study to investigate the associations of the major MCSs and the immediate impact of Covid-19 and other crises. While recent research reports the impact of crises on NPOs in general, we extend these findings by identifying MCS as a further relevant factor at the organisational level. We thereby find indications that MCSs differently affect financial performance, service performance, operational efficiency and stakeholder satisfaction when crises arise. Secondly, previous studies find that planning organisational control associates with more strategic changes. We add to organisational control literature by illustrating that organisation following different MCSs responses differently to crises and that a multi-stakeholder approach moderate their responses. Finally, we confirm findings in previous studies reveal that certain types of organisational controls were more successful in driving organisation sustainability. Moreover, we illustrate the role of multi-stakeholder governance and enhance the predominant investigation of for-profit organisation by also considering NPOs.

Organisations may use our findings to apply MCSs and multi-stakeholder approach to response to crises and achieve sustainability. Planning and administrative MCSs show a greater effectiveness in manging organisation during crises. Low levels of response to crises, especially in operation, technology and innovation might be a reason for an organisational financial, service and operation vulnerability, as well as a lower level of stakeholder satisfaction. This especially applies for reward and culture MCSs as they may underperform in several aspects. To speed up strategic changes, organisations could aim to identify the critical areas and take stakeholder governance into account as well as adjusting MCS, such as toward planning and administrative. In order for organisations to be successful, they need to have both a clear awareness of their current financial situation and a long-term vision for the organisation and its objectives (Batista and Francisco, 2018).

It is necessary to take into consideration the activities, programs, and managerial functions of the company, as well as its relationships with other organisations and various stakeholders (Pyanov et al., 2021).

Because of the pressure to operate in a sustainable manner, several NPOs have been compelled to adopt a strategic approach for all of the work that they do (Weerawardena et al., 2010). According to Weerawardena et al. (2010), some of the actions that help NPOs in this area include adopting a competitive posture, recognizing opportunities in a proactive manner, and relying on government support less frequently. It is also necessary to have management control systems (MCSs) that are both intelligent and effective in order to maintain long-term enterprise viabilitys. This may be accomplished by maximizing operational efficiency by employing strategies that both increase revenue and minimize costs (Weerawardena et al., 2010). These new management control mechanisms in sustainable environments would also have an effect on the value-creation tactics employed by NPOs. This transformation could impact a redefinition of the mission, embracing best practices of the business, investing in high impact projects, innovating, and aggressively engaging with for-profit organisations. Socially entrepreneurial NPOs tend to focus more on innovative fundraising strategies in their efforts to attain long-term sustainability. This is in contrast to the for-profit literature, which places a greater emphasis on the necessity of product innovation (Weerawardena et al., 2010). In general, both NPOs and for-profit corporations can benefit from employing entrepreneurial strategies in order to increase their organisations' levels of long-term sustainability. However, it seems that very little is known regarding the various types of strategies, the manner in which these strategies would be implemented in MCSs, and the manner in which the non-profit sector, particularly charitable organisations, would benefit from upgrades in MCSs.

Like other research, our study faces limitations. Even though we take precautions to address potential biases in surveys, we cannot ensure the absence of these potential weaknesses. Firstly, our investigation of five important types of MCSs, which we specifically derived from the literature for

our research topic, do not guarantee that we cover all types of organisational controls that influence organisation strategic changes and performance. Future research could use other control systems such as Hofstede (1981) and Jukka and Pellinen (2020) control typologies. Secondly, despite the significant difference found across different MCSs, we may encounter measurement errors relating to the classification of MCSs and respondents' subjective in assessing their organisation governance practice and performance. Especially, it appears to be more challenging to measure the performance of charitable organisations than the performance of for-profit organisations (van Iwaarden et al., 2009). Hence, future research could employ other methods such as an experiment or conduct in depth interview to overcome this challenge. Thirdly, we acknowledge that apart from the moderating effect of multi-stakeholder and the control variables included in our investigation, there might be some unobservable factors that have the potential to influence both the adoption of control, governance, response to crises and sustainability. Future studies may take factors such as the types of performance evaluation (e.g., subjective vs objective performance evaluation) into consideration. Finally, although we assess the response rate of 15.20% (152 organisations) as high enough to derive overall valid conclusions in this study, the number of respondents may limit our study results concerning national specifics. A longitudinal study or archival investigation may provide broader empirical evidence about the causal relationships between control, governance, strategic response and sustainability.

Table 1: Sample distribution

Panel A: By organisations			**Panel B: By individual respondents**		
	Obs	**Percent**		**Obs**	**Percent**
Country			**Main role**		
Australia	118	77.63%	Chairman/CEO/Board/Trustee	100	65.79%
New Zealand	34	22.37%	Employee	52	34.21%
Size			**Education**		
Small	42	27.63%	Doctoral Degree	9	5.92%
Medium	46	30.26%	Master's Degree	36	23.68%
Large	41	26.97%	Postgraduate	6	3.95%
Extra large	23	15.13%	Bachelor's Degree	39	25.66%
			Others	62	40.49%
Category			**Gender**		
Health	19	12.50%	Older than 54	80	52.63%
Education	18	11.84%	45 to 54	31	20.39%
Religion and Culture	23	15.13%	35 to 44	13	8.55%
Environment and Animals	13	8.55%	25 to 34	6	3.95%
Human rights, community and laws	29	19.08%	Younger than 25	1	0.66%
Others	50	32.89%	Prefer not to say	3	1.97%

This table presents sample distribution by organisations (Panel A) and individual respondents (Panel B).

Table 2: Descriptive statistics

	Mean	Std. Dev.	Min	Max
Panel A: Dependent variables				
Financial Impact	2.5066	1.1960	1.0000	5.0000
Service Impact	2.5329	1.0913	1.0000	5.0000
Operational Impact	0.0366	1.0601	-3.2085	3.7832
Immediate Stakeholder Satisfaction	0.0338	1.1252	-2.5705	3.6213
Crisis Strategy	1.7237	0.9642	1.0000	3.0000
HR Management	1.3421	0.7556	1.0000	3.0000
Operational Change	0.0111	1.0052	-0.8411	1.9314
Technology and Innovation	0.2002	0.9373	-1.7185	1.7140
Financial Sustainability	2.3421	0.6315	1.0000	3.0000
Service Sustainability	2.6447	0.5199	1.0000	3.0000
Operational Sustainability	2.4868	0.5979	1.0000	3.0000
Sustainable Stakeholder Satisfaction	0.0599	0.9922	-1.9743	1.5015
Panel B: Independent variables				
Planning	-0.0038	0.9806	-2.8251	1.5375
Cybernetic	-0.0031	0.9977	-1.8669	1.6080
Reward	-0.0037	1.0040	-1.1116	2.1487
Administrative	-0.0005	0.9995	-2.6104	1.9088
Culture	-0.0019	1.0011	-2.6733	0.8987
Multi-stakeholder Governance	0.0043	0.9927	-3.1434	1.7998
Panel C: Control variables				
COVID-19	0.9342	0.2487	0.0000	1.0000
Other Crises	0.6316	0.4840	0.0000	1.0000
Organisation Size	2.2961	1.0348	1.0000	4.0000
Multiple Locations	0.4737	0.5010	0.0000	1.0000

This table presents the descriptive statistics for the dependent variables in Panel A, independent variables in Panel B and control variables in Panel C. We provide variables definitions in the Appendix.

Table 3: Correlation matrix

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Financial Impact	(1)	1.00										
Service Impact	(2)	0.29***	1.00									
Operational Impact	(3)	0.46***	0.50***	1.00								
Immediate Stakeholder Satisfaction	(4)	0.37***	0.28***	0.53***	1.00							
Crisis Strategy	(5)	-0.06	-0.05	-0.01	0.00	1.00						
HR Management	(6)	-0.03	0.02	-0.12	-0.07	0.35***	1.00					
Operational Change	(7)	-0.06	-0.07	-0.11	0.14*	0.49***	0.30***	1.00				
Technology and Innovation	(8)	-0.06	-0.09	-0.14*	0.04	0.18**	0.11	0.19**	1.00			
Financial Sustainability	(9)	0.31***	0.14*	0.27***	0.28***	-0.06	-0.02	0.09	0.15*	1.00		
Service Sustainability	(10)	0.12	0.27***	0.21**	0.24***	0.07	0.04	0.06	0.14*	0.41***	1.00	
Operation Sustainability	(11)	0.16**	0.14*	0.20**	0.28***	0.05	0.04	0.01	0.32***	0.35***	0.52***	1.00
Sustainable Stakeholder Satisfaction	(12)	0.25***	0.19**	0.18**	0.39***	-0.07	-0.01	0.12	0.13	0.28***	0.43***	0.39***
Planning	(13)	0.05	0.03	-0.04	0.18**	-0.02	-0.01	0.15*	0.32***	0.16*	0.21**	0.18**
Cybernetic	(14)	-0.06	-0.08	0.03	0.07	0.13	0.22***	0.17**	0.43***	0.19**	0.13	0.22***
Reward	(15)	0.02	0.09	-0.02	-0.01	-0.03	0.09	0.15*	0.13	0.16**	-0.05	0.12
Administrative	(16)	0.03	0.06	0.09	0.09	0.12	0.23***	0.15*	0.32***	0.30***	0.10	0.24***
Culture	(17)	-0.06	-0.04	0.02	0.10	0.04	0.07	0.08	0.12	0.21***	0.13	0.20**
Multi-stakeholder Governance	(18)	0.16**	0.06	0.07	0.12	0.10	0.00	0.24***	0.26***	0.32***	0.17**	0.21***
COVID-19	(19)	-0.02	-0.11	-0.07	0.02	0.14*	0.12	0.20**	0.16**	-0.02	0.07	0.08
Other Crises	(20)	-0.02	0.20**	0.04	0.00	0.01	0.09	-0.05	-0.07	0.09	0.11	0.01
Organisation Size	(21)	0.04	-0.05	0.07	-0.04	0.25***	0.14*	-0.00	0.48***	0.15*	0.10	0.14*
Multiple Locations	(22)	0.03	-0.05	-0.15*	0.07	-0.14*	-0.01	-0.02	0.09	-0.03	0.04	0.13
		(12)	**(13)**	**(14)**	**(15)**	**(16)**	**(17)**	**(18)**	**(19)**	**(20)**	**(21)**	**(22)**
Social Trust	(12)	1.00										
Planning	(13)	0.27***	1.00									
Cybernetic	(14)	0.11	0.53***	1.00								
Reward	(15)	0.00	0.30***	0.47***	1.00							
Administrative	(16)	0.11	0.50***	0.59***	0.41***	1.00						
Culture	(17)	0.28***	0.25***	0.17**	0.18**	0.27***	1.00					
Multi-stakeholder Governance	(18)	0.41***	0.43***	0.34***	0.26***	0.42***	0.29***	1.00				
COVID-19	(19)	-0.17**	0.08	0.22***	0.12	0.22***	-0.09	0.12	1.00			
Other Crises	(20)	-0.04	0.18**	0.12	0.04	0.07	-0.07	0.02	-0.04	1.00		
Organisation Size	(21)	-0.19**	0.23***	0.30***	0.09	0.25***	0.05	0.11	0.13	0.17**	1.00	
Multiple Locations	(22)	-0.08	0.10	-0.03	0.02	0.08	0.02	-0.02	0.15*	-0.01	0.09	1.00

This table presents the correlation among variables used in the subsequent analyses. All variables are defined in the Appendix. The asterisk *, ** or *** denotes statistical significance at 10%, 5% or 1%, respectively. We provide variables definitions in the Appendix.

Table 4: Impact of crises

	(1)	(2)	(3)	(4)
	Financial Impact	Service Impact	Operational Impact	Immediate Stakeholder Satisfaction
Planning	0.1372	0.0534	-0.0937	0.2131*
	(1.32)	(0.48)	(-0.88)	(1.76)
Cybernetic	-0.1626*	-0.2819**	0.0163	0.0151
	(-1.72)	(-2.34)	(0.13)	(0.10)
Reward	0.0681	0.2241**	-0.0406	-0.0812
	(0.65)	(2.03)	(-0.44)	(-0.68)
Administrative	0.0237	0.1700*	0.0943	0.0074
	(0.20)	(1.70)	(0.73)	(0.05)
Culture	-0.1339	-0.1585*	-0.0051	0.0686
	(-1.21)	(-1.65)	(-0.06)	(0.64)
COVID-19	-0.3312*	-0.6779***	-0.3578*	-0.0153
	(-1.73)	(-3.16)	(-1.66)	(-0.07)
Other Crises	-0.1098	0.5974***	0.1554	0.0070
	(-0.62)	(3.19)	(0.88)	(0.04)
Organisation Size	0.1277	-0.0107	0.1495*	-0.0998
	(1.24)	(-0.11)	(1.77)	(-1.07)
Multiple Locations	0.0173	-0.1061	-0.3017*	0.1495
	(0.09)	(-0.59)	(-1.68)	(0.74)
Category 1: Health	0.4721*	-0.1551	0.0405	-0.2420
	(1.69)	(-0.50)	(0.13)	(-0.80)
Category 2: Education	0.4011	0.2478	0.5778**	0.1770
	(1.16)	(0.69)	(1.99)	(0.63)
Category 3: Religion and Culture	-0.3033	-0.4361	-0.4577*	-0.3282
	(-0.96)	(-1.51)	(-1.81)	(-1.06)
Category 4: Environment and Animals	0.8469***	0.5719	0.0100	0.1065
	(2.77)	(1.22)	(0.02)	(0.26)
Category 5: Human rights and community	0.2872	0.2764	-0.2438	-0.0349
	(1.13)	(1.28)	(-1.02)	(-0.12)
Country Fixed Effects	Yes	Yes	Yes	Yes
Pseudo R2 / R2	0.0357	0.0710	0.2315	0.0966
Wald chi2 / F-stat	25.49	40.85	2.04	0.84
Prob	0.0437	0.0003	0.1377	0.0714
N	152	152	152	152

This table reports the regression results of the extent to which financial performance, service performance, operational performance and social trust were affected by the most significant crisis in the last decade under different management control system and other factors. Robust two-tailed t-statistics are presented in parentheses. The superscripts ***, ** and * correspond to statistical significance at the 1%, 5% and 10% levels, respectively. We present the variable definitions in the Appendix.

Table 5: Response to crises

	(1) Crisis Management Strategy	(2) HR Management	(3) Operational Change	(4) Technology and Innovation
Planning	-0.3538**	-0.4490**	0.0189	0.0206
	(-2.26)	(-2.42)	(0.17)	(0.26)
Cybernetic	0.1465	0.5062**	-0.0244	0.2500***
	(0.83)	(2.56)	(-0.21)	(3.10)
Reward	-0.2406*	-0.0798	0.0496	-0.0572
	(-1.73)	(-0.51)	(0.47)	(-0.81)
Administrative	0.1468	0.4955**	0.0408	0.0699
	(0.77)	(2.23)	(0.36)	(0.76)
Culture	0.2207*	-0.0125	0.0263	0.0452
	(1.78)	(-0.07)	(0.32)	(0.61)
Multi-stakeholder Governance	0.0472	-0.1870	0.2406**	0.1554*
	(0.32)	(-1.10)	(2.46)	(1.82)
Planning x Multi-stakeholder Governance	-0.2572	-0.0821	-0.0798	-0.1219
	(-1.50)	(-0.39)	(-0.67)	(-1.37)
Cybernetic x Multi-stakeholder Governance	-0.1699	-0.2792	0.0695	0.2144*
	(-0.70)	(-1.28)	(0.57)	(1.77)
Reward x Multi-stakeholder Governance	-0.4888**	0.3900*	0.0757	-0.1287
	(-2.51)	(1.88)	(0.60)	(-1.19)
Administrative x Multi-stakeholder Governance	0.6421***	-0.0985	0.1218	0.0350
	(2.82)	(-0.58)	(1.22)	(0.48)
Culture x Multi-stakeholder Governance	0.3935***	0.0697	-0.0435	-0.0523
	(2.76)	(0.37)	(-0.51)	(-0.64)
COVID-19	1.6853***	5.1676***	0.8274***	0.1115
	(3.78)	(9.42)	(3.71)	(0.55)
Other Crises	-0.0603	0.7269**	-0.0961	-0.4157***
	(-0.21)	(2.12)	(-0.58)	(-3.08)
Organisation Size	0.3815***	0.2275	-0.1260	0.2743***
	(2.69)	(1.36)	(-1.30)	(3.58)
Multiple Locations	-0.6812***	-0.0456	-0.0324	0.0838
	(-2.66)	(-0.14)	(-0.19)	(0.62)
Category 1: Health	-0.0853	0.1980	-0.4102	-0.1087
	(-0.18)	(0.46)	(-1.30)	(-0.49)
Category 2: Education	0.0691	0.4668	-0.4428*	0.1898
	(0.18)	(0.88)	(-1.97)	(0.91)
Category 3: Religion and Culture	0.0790	-5.7181***	-0.2009	0.2658
	(0.21)	(-7.70)	(-0.86)	(1.21)
Category 4: Environment and Animals	-1.4084**	-0.2538	-0.6811**	0.0396
	(-2.49)	(-0.40)	(-2.33)	(0.12)
Category 5: Human rights and community	-0.0371	0.2591	0.2436	0.0294
	(-0.10)	(0.62)	(0.99)	(0.16)
Country Fixed Effects	Yes	Yes	Yes	Yes
Pseudo R2 / R2	0.2639	0.2763	0.2109	0.4538
Wald chi2 / F-stat	49.02	629.51	2.38	8.81
Prob	0.0005	0.0000	0.0016	0.0000
N	152	152	152	152

This table reports the regression results of the extent to which crisis management strategy, HR strategy, operation and technology were changed in responses to the most significant crisis in the last decade under different management control system, multi-stakeholder governance and other factors. Robust two-tailed t-statistics are presented in parentheses. The superscripts ***, ** and * correspond to statistical significance at the 1%, 5% and 10% levels, respectively. We present the variable definitions in the Appendix.

Table 6: Organisational sustainability

	(1) Financial Sustainability	(2) Service Sustainability	(3) Operational Sustainability	(4) Sustainable Stakeholder Satisfaction
Planning	0.2039*	0.3003*	-0.0519	0.1927*
	(1.66)	(1.78)	(-0.40)	(1.77)
Cybernetic	0.0430	-0.0296	0.0870	0.0479
	(0.32)	(-0.17)	(0.60)	(0.49)
Reward	0.0627	-0.1855	0.0819	-0.1638**
	(0.52)	(-1.41)	(0.70)	(-2.09)
Administrative	0.2387*	-0.0775	0.0183	-0.1148
	(1.67)	(-0.50)	(0.13)	(-1.03)
Culture	0.0707	-0.0143	0.1341	0.1388
	(0.58)	(-0.12)	(1.20)	(1.61)
Multi-stakeholder Governance	0.3412**	0.1169	0.1036	0.3586***
	(2.42)	(0.86)	(0.85)	(4.08)
Planning x Multi-stakeholder Governance	0.4382***	0.3434*	0.0362	0.0908
	(2.96)	(1.90)	(0.27)	(1.01)
Cybernetic x Multi-stakeholder Governance	-0.1198	-0.3802**	0.1080	-0.0077
	(-0.75)	(-2.13)	(0.69)	(-0.07)
Reward x Multi-stakeholder Governance	0.1382	0.1308	-0.0961	0.1386
	(0.80)	(0.78)	(-0.64)	(1.39)
Administrative x Multi-stakeholder Governance	0.1236*	0.0225	-0.1479	-0.0783
	(1.70)	(0.21)	(-1.18)	(-0.94)
Culture x Multi-stakeholder Governance	-0.3423***	-0.1759	-0.1155	0.0002
	(-2.66)	(-1.25)	(-0.90)	(0.00)
Crisis Management Strategy	-0.2711*	0.1057	0.1432	-0.0481
	(-1.84)	(0.65)	(0.91)	(-0.43)
HR Management	-0.1604	0.0844	-0.0020	0.0345
	(-1.01)	(0.51)	(-0.01)	(0.35)
Operational Change	0.1282	0.2805*	0.4636***	0.2201**
	(0.86)	(1.78)	(3.00)	(2.20)
Technology and Innovation	0.2435*	-0.0052	-0.1293	0.0359
	(1.77)	(-0.04)	(-0.88)	(0.35)
COVID-19	-0.3485	0.2705	-0.0770	-0.7083**
	(-0.73)	(0.54)	(-0.18)	(-2.54)
Other Crises	0.3402	0.4950*	0.1659	-0.0101
	(1.33)	(1.84)	(0.66)	(-0.06)
Organisation Size	0.3904***	-0.0362	-0.0477	-0.2848***
	(2.92)	(-0.25)	(-0.34)	(-3.57)
Multiple Locations	-0.1381	0.1700	0.3906*	-0.1171
	(-0.61)	(0.75)	(1.92)	(-0.79)
Category 1: Health	-0.1627	-0.9223***	-0.1462	0.3670
	(-0.44)	(-2.67)	(-0.42)	(1.48)
Category 2: Education	-0.4992	-0.7169*	0.0568	-0.0320
	(-1.37)	(-1.69)	(0.12)	(-0.11)
Category 3: Religion and Culture	0.3110	0.2315	-0.0483	-0.1511
	(0.77)	(0.64)	(-0.15)	(-0.64)
Category 4: Environment and Animals	1.4195**	1.2891**	0.3404	0.0250
	(2.53)	(2.32)	(0.73)	(0.07)
Category 5: Human rights and community	-0.4569*	-0.2216	-0.4246	-0.0196
	(-1.66)	(-0.69)	(-1.48)	(-0.10)
Country Fixed Effects	Yes	Yes	Yes	Yes
Pseudo R2 / R2	0.2376	0.1867	0.1439	0.3902
Wald chi2 / F-stat	70.91	67.12	59.65	6.26
Prob	0.0000	0.0000	0.0001	0.0000
N	152	152	152	152

This table reports the regression results of the extent to which financial sustainability, service sustainability, operational sustainability and social trust were achieved under different management control system, multi-stakeholder governance, responses to crises and other factors. Robust two-tailed t-statistics are presented in parentheses. The superscripts ***, ** and * correspond to statistical significance at the 1%, 5% and 10% levels, respectively. We present the variable definitions in the Appendix.

Appendix: Definitions of variables

Variable	Definition
Dependent Variables	
Financial Impact	Immediate impact of crises on financial performance, measured on a Likert scale from 1-Dramatic decrease to 5-Dramatic increase.
Service Impact	Immediate impact of crises on service performance, measured on a Likert scale from 1-Dramatic decrease to 5-Dramatic increase.
Operational Impact	Immediate impact of crises on operation efficiency, constructed using EFA from five indicators: Geographic coverage, Range of service lines, Service distribution channels, Financial resources, and Information and technology capacity. Each indicator is measured on a Likert scale from 1-Dramatic decrease to 5-Dramatic increase.
Immediate Stakeholder Satisfaction	Immediate impact of crises on stakeholder satisfaction, constructed using EFA from three indicators: Employees' satisfaction, Beneficiaries' satisfaction and Donors' satisfaction. Each indicator is measured on a Likert scale from 1-Dramatic decrease to 5-Dramatic increase.
Crisis management strategy	Change in crisis management strategy in response to crises, measured on a Likert scale from 1-Not at all to 3-To a great extent.
HR Management	Change in HR management in response to crises (e.g., rewards systems, training, recruitment, etc), measured on a Likert scale from 1-Not at all to 3-To a great extent.
Operational Change	Change in operational strategies in response to crises, constructed using EFA from three indicators: Fundraising strategy, Engagement strategy, and Business partnerships. Each indicator is measured on a Likert scale from 1-Not at all to 3-To a great extent.
Technology and Innovation	Change in technology and innovation in response to crises, measured on a Likert scale from 1-Not at all to 3-To a great extent.
Financial Sustainability	Financial performance after applying strategic changes, measured on a Likert scale from 1-Poor to 3-Excellent.
Service Sustainability	Service performance after applying strategic changes, measured on a Likert scale from 1-Poor to 3-Excellent.
Operational Sustainability	Operation performance after applying strategic changes, measured on a Likert scale from 1-Poor to 3-Excellent.
Sustainable Stakeholder Satisfaction	Stakeholder satisfaction after applying strategic changes, constructed using EFA from three indicators: Employees' satisfaction, Beneficiaries' satisfaction and Donors' satisfaction. Each indicator is measured on a Likert scale from 1-Poor to 3-Excellent.
Independent Variables	
Planning	Planning MCS, constructed from three indicators using EFA: tracking the organisation's progress towards mission and vision, providing a clearly defined and effective organisational structure and setting competitiveness, high demands and achievement. Each indicator is measured on a Likert scale from 1-Not at all to 3-To a great extent.
Cybernetic	Cybernetic MCS, constructed from three indicators using EFA: benchmarking (e.g., quality, cost, practices, and procedures), variance analysis and program evaluation review. Each indicator is measured on a Likert scale from 1-Not at all to 3-To a great extent.
Reward	Reward MCS, constructed from three indicators using EFA: designing monetary rewards respective to performance measurement, designing non-monetary rewards respective to performance measurement and designing penalties respective to performance measurement. Each indicator is measured on a Likert scale from 1-Not at all to 3-To a great extent.
Administrative	Administrative MCS, constructed from five indicators using EFA: distributing authority, autonomy, and administrative consistency effectively throughout the business unit; developing an effective mechanism of fundraising; developing an effective mechanism of resource allocation; and

	supporting individual career planning; developing channels for peer review and feedback; coordinating, teamwork consensus and participation. Each indicator is measured on a Likert scale from 1-Not at all to 3-To a great extent.
Culture	Culture MCS, constructed from two indicators using EFA: the glue that holds the charity together is loyalty, mutual trust and commitment, and the glue that holds the charity together is mutual goal accomplishment. Each indicator is measured on a Likert scale from 1-Not at all to 3-To a great extent.
Multi-stakeholder Governance	This variable was constructed from nine indicators presenting the emphasis on the internal and external relevant stakeholders using EFA. Each indicator is measured on a Likert scale from 1-Not at all to 3-To a great extent.
Control Variables	
COVID-19	A dummy variable that receives a value of 1 if Covid-19 was identified as the most significant crisis impacting the organisation over the last decade, and 0 otherwise.
Other Crises	A dummy variable that receives value of 1 if the organisation was impacted by other crises over the last decade, and 0 otherwise.
Organisation Size	The size of the organisation, categorised in four groups: 1-Small/Tier 4, 2-Medium/Tier 3, 3-Large/Tier 2 and 4-Extra large/Tier 1.
Multiple Locations	A dummy variable that receives value of 1 if the organisation operates in more than one location, and 0 otherwise.
Category	The category of the organisation, categorised in six groups: Human rights, community and laws, Religion and Culture, Health, Education, Environment and Animals and Others.

References

ACNC. 2021. Australian Charities Report

Ahmed, S. (2021). *Effective nonprofit management: context, concepts, and competencies*. Routledge

Anheier, H. K. (2014). *Nonprofit organizations: Theory, management, policy*. Routledge

Anthony, R. N., 1965. Planning and control systems: a framework for analysis. *Harvard University Graduate School of Business Administration, Cambridge, MA*.

Areiqat, A., Zamil, A., 2011. The role of empowerment in crisis management in business organizations. *Asian Journal of Business Management*, *3*(3), 188-195.

Balser, D. B., Carmin, J., 2009. Leadership succession and the emergence of an organizational identity threat. *Nonprofit Management and Leadership*, *20*(2), 185-201.

Barrett, M., 2001. A stakeholder approach to responsiveness and accountability in non-profit organisations. *Social Policy Journal of New Zealand*, 36-51.

Batista, A. A. d. S., Francisco, A. C. d., 2018. Organizational sustainability practices: A study of the firms listed by the Corporate Sustainability Index. *Sustainability*, *10*(1), 226.

BDO. 2020. Impact of COVID-19 on the Charitable Sector.

Boateng, A., Akamavi, R. K., Ndoro, G., 2016. Measuring performance of non-profit organisations: evidence from large charities. *Business Ethics: A European Review*, *25*(1), 59-74.

Boers, B., Henschel, T., 2021. The role of entrepreneurial orientation in crisis management: evidence from family firms in enterprising communities. *Journal of Enterprising Communities: People and Places in the Global Economy*.

Borzaga, C., Tortia, E., 2006. Worker motivations, job satisfaction, and loyalty in public and nonprofit social services. *Nonprofit And Voluntary Sector Quarterly*, *35*(2), 225-248.

Brandsma, G. J., Schillemans, T., 2013. The Accountability Cube: Measuring Accountability. *Journal of Public Administration Research and Theory*, *23*(4), 953-975.

Bray, I., 2008. Effective fundraising for nonprofits: Real-world strategies that work.

Brockner, J., James, E. H., 2008. Toward an understanding of when executives see crisis as opportunity. *The journal of applied behavioral science*, *44*(1), 94-115.

Brown, W. A., 2002. Inclusive governance practices in nonprofit organizations and implications for practice. *Nonprofit Management and Leadership*, *12*(4), 369-385.

Brown, W. A., 2005. Exploring the association between board and organizational performance in nonprofit organizations. *Nonprofit Management and Leadership*, *15*(3), 317-339.

Burns, J., Vaivio, J., 2001. Management accounting change. *Management Accounting Research*, *12*(4), 389-402.

CAANZ. 2021. Giving Back.

Carnochan, S., Samples, M., Myers, M., Austin, M. J., 2014. Performance measurement challenges in nonprofit human service organizations. *Nonprofit And Voluntary Sector Quarterly*, *43*(6), 1014-1032.

Cater III, J. J., Beal, B., 2014. Ripple effects on family firms from an externally induced crisis. *Journal of Family Business Management*.

Cazenave, B., Morales, J., 2021. NGO responses to financial evaluation: auditability, purification and performance. *Accounting, Auditing & Accountability Journal*, *34*(4), 731-756.

Ceptureanu, S.-I., Ceptureanu, E.-G., Orzan, M. C., Marin, I., 2017. Toward a Romanian NPOs Sustainability Model: Determinants of Sustainability. *Sustainability*, *9*(6).

Charities Services New Zealand. 2022. Charities services annual review report In.

Chenhall, R. H., 2006. Theorizing contingencies in management control systems research. *Handbooks of management accounting research*, *1*, 163-205.

Chenhall, R. H., Euske, K. J., 2007. The role of management control systems in planned organizational change: An analysis of two organizations. *Accounting Organizations and Society*, *32*(7-8), 601-637.

Chetkovich, C., Frumkin, P., 2003. Balancing Margin and Mission: Nonprofit Competition in Charitable Versus Fee-Based Programs. *Administration & Society*, *35*(5), 564-596.

Clarkson, M. B. E., 1995. A Stakeholder framework for analyzing and evaluating corporate social performance. *Academy of Management Review*, *20*(1), 92-117.

Coles, J. W., McWilliams, V. B., Sen, N., 2001. An examination of the relationship of governance mechanisms to performance. *Journal of Management*, *27*(1), 23-50.

Conaty, F., Robbins, G., 2021. A stakeholder salience perspective on performance and management control systems in non-profit organisations. *Critical Perspectives on Accounting*, *80*, 102052.

Connolly, C., Dhanani, A. (2009). *Narrative reporting by UK charities*. Association of Chartered Certified Accountants

Connolly, C., Hyndman, N., 2003. Performance Reporting by UK Charities: Approaches, Difficulties and Current Practice'.

Cooke, F. L., 2018. Concepts, contexts, and mindsets: Putting human resource management research in perspectives. *Human Resource Management Journal*, *28*(1), 1-13.

Cordery, C., Belal, A. R., Thomson, I., 2019. NGO accounting and accountability: past, present and future. *Accounting Forum*, *43*(1), 1-15.

Costa, C. A., Chalip, L., Christine Green, B., Simes, C., 2006. Reconsidering the role of training in event volunteers' satisfaction. *Sport Management Review*, *9*(2), 165-182.

Costa, E., Parker, L. D., Andreaus, M. (2014). The Rise of Social and Non-Profit Organizations and their Relevance for Social Accounting Studies. In *Accountability and Social Accounting for Social and Non-Profit Organizations* (Vol. 17, pp. 3-21). Emerald Group Publishing Limited.

Crittenden, W. F., Crittenden, V. L., Hunt, T. G., 1988. Planning and stakeholder satisfaction in religious organizations. *Journal of Voluntary Action Research*, *17*(2), 60-73.

Deverell, E., Olsson, E.-K., 2010. Organizational culture effects on strategy and adaptability in crisis management. *Risk Management*, *12*(2), 116-134.

Dimitrios, N. K., Sakas, D. P., Vlachos, D., 2013. Analysis of strategic leadership simulation models in non-profit organizations. *Procedia-Social and Behavioral Sciences*, *73*, 276-284.

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

Drucker, P. (2012). *Managing the non-profit organization*. Routledge

Fait, M., Cillo, V., Papa, A., Meissner, D., Scorrano, P., 2021. The roots of "volunteer" employees' engagement: The silent role of intellectual capital in knowledge-sharing intentions. *Journal of Intellectual Capital*, *ahead-of-print*(ahead-of-print).

Freeman, R. E. (2010). *Strategic management: a stakeholder approach*. Cambridge University Press

Galambos, C., Dulmus, C. N., Wodarski, J. S., 2005. Principles for organizational change in human service agencies. *Journal of Human Behavior in the Social Environment*, *11*(1), 63-78.

Garner, J. T., Garner, L. T., 2011. Volunteering an opinion: Organizational voice and volunteer retention in nonprofit organizations. *Nonprofit And Voluntary Sector Quarterly*, *40*(5), 813-828.

Govekar, P. L., Govekar, M. A., 2002. Using economic theory and research to better understand volunteer behavior. *Nonprofit Management and Leadership*, *13*(1), 33-48.

Gray, R., Brennan, A., Malpas, J., 2014. New accounts: Towards a reframing of social accounting. *Accounting Forum*, *38*(4), 258-273.

Gujarati, D., Porter, D. (2009). *Basic Econometrics* (5th ed.). McGraw-Hill

Gul, A., Akbar, S., Jan, Z., 2012. Role of capacity development, employee empowerment and promotion on employee retention in the banking sector of Pakistan. *International Journal of Academic Research in Business and Social Sciences*, *2*(9), 284.

Guo, C., Musso, J. A., 2007. Representation in nonprofit and voluntary organizations: A conceptual framework. *Nonprofit And Voluntary Sector Quarterly*, *36*(2), 308-326.

Hall, P. D. (2005). *Historical perspectives on nonprofit organizations*. Jossey-Bass Publishers

Hofstede, G., 1981. Management control of public and not-for-profit activities. *Accounting, Organizations and Society*, *6*(3), 193-211.

Hong, P., Huang, C., Li, B., 2012. Crisis management for SMEs: insights from a multiple-case study. *International Journal of Business Excellence*, *5*(5), 535-553.

Hudson, M., Rogan, L. (2009). *Managing without profit: leadership, management and governance of third sector organisations in Australia*. UNSW Press

Hyndman, N., McConville, D., 2018. Making charity effectiveness transparent: Building a stakeholder-focussed framework of reporting. *Financial Accountability & Management*, *34*(2), 133-147.

Jäger, U., Kreutzer, K., Beyes, T., 2009. BALANCING ACTS: NPO-LEADERSHIP AND VOLUNTEERING. *Financial Accountability & Management*, *25*(1), 79-97.

Jones, J. A., Cantrell, R. A., Lindsey, A. B., 2019. America's worst charities: The effect of bad press on philanthropic giving behavior. *International Journal of Nonprofit and Voluntary Sector Marketing*, *24*(1), e1616.

Jukka, T., Pellinen, J., 2020. Exploring management control system typologies: an organisation-level view. *Journal of accounting & organizational change*, *16*(3), 427-445.

Kapucu, N., 2007. Non-profit response to catastrophic disasters. *Disaster Prevention and Management: An International Journal*.

Kim, S. E., Lee, J. W., 2010. Impact of competing accountability requirements on perceived work performance. *The American Review of Public Administration*, *40*(1), 100-118.

Kober, R., Ng, J., Paul, B. J., 2007. The interrelationship between management control mechanisms and strategy. *Management Accounting Research*, *18*(4), 425-452.

Lanfranchi, J., Narcy, M., Larguem, M., 2010. Shedding new light on intrinsic motivation to work: evidence from a discrete choice experiment. *Kyklos*, *63*(1), 75-93.

Langfield-Smith, K., 1997. Management control systems and strategy: a critical review. *Accounting, Organizations and Society*, *22*(2), 207-232.

Lee, W., 2017. Sustainability of nonprofit human service organizations in a neighborhood context. *Nonprofit Management and Leadership*, *28*(1), 11-24.

León, P., 2001. Four Pillars of Financial Sustainability, The Nature Conservancy, Arlington. In: Virginia.

LeRoux, K., 2009. Managing stakeholder demands: Balancing responsiveness to clients and funding agents in nonprofit social service organizations. *Administration & Society*, *41*(2), 158-184.

Lueg, R., Radlach, R., 2016. Managing sustainable development with management control systems: A literature review. *European Management Journal*, *34*(2), 158-171.

Lyon, F., Arvidson, M., 2011. Social impact measurement as an entrepreneurial process.

M. Viader, A., I. Espina, M., 2014. Are not-for-profits learning from for-profit-organizations? A look into governance. *Corporate Governance*, *14*(1), 1-14.

MacIndoe, H., Barman, E., 2013. How organizational stakeholders shape performance measurement in nonprofits: Exploring a multidimensional measure. *Nonprofit And Voluntary Sector Quarterly*, *42*(4), 716-738.

Malmi, T., Brown, D. A., 2008. Management control systems as a package-Opportunities, challenges and research directions. *Management Accounting Research, 19*(4), 287-300.

McMorland, J., Erakovic, L., 2009. Perceptions of'good governance'in New Zealand non-profit organisations. *Third Sector Review*, *15*(2), 125-147.

Merchant, K. A. (1985). *Control in business organizations*. Harpercollins College Division

Millette, V., Gagné, M., 2008. Designing volunteers' tasks to maximize motivation, satisfaction and performance: The impact of job characteristics on volunteer engagement. *Motivation and Emotion*, *32*(1), 11-22.

Moynihan, D. P., Pandey, S. K., 2008. The ties that bind: Social networks, person-organization value fit, and turnover intention. *Journal of Public Administration Research and Theory*, *18*(2), 205-227.

Müller, R., 1985. Corporate crisis management. *Long Range Planning*, *18*(5), 38-48.

Narcy, M., 2011. Would nonprofit workers accept to earn less? Evidence from France. *Applied Economics*, *43*(3), 313-326.

National Council of Nonprofits. 2019. Nonprofit Impact Matters: How America's Charitable Nonprofits Strengthen Communities and Improve Lives. *National Council of Nonprofits*.

O'Dwyer, B., Unerman, J., 2010. Enhancing the role of accountability in promoting the rights of beneficiaries of development NGOs. *Accounting and Business Research*, *40*(5), 451-471.

Omura, T., Forster, J., 2014. Competition for donations and the sustainability of not-for-profit organisations. *Humanomics*, *30*(3), 255-274.

Ospina, S., Diaz, W., O'sullivan, J. F., 2002. Negotiating accountability: Managerial lessons from identity-based nonprofit organizations. *Nonprofit And Voluntary Sector Quarterly*, *31*(1), 5-31.

Packard, T., 2010. Staff perceptions of variables affecting performance in human service organizations. *Nonprofit And Voluntary Sector Quarterly*, *39*(6), 971-990.

Parlalis, S. K., 2011. Organizational changes and job satisfaction among support staff. *Journal of Social Service Research*, *37*(2), 197-216.

Parsons, E., Broadbridge, A., 2006. Job motivation and satisfaction: Unpacking the key factors for charity shop managers. *Journal of retailing and consumer services*, *13*(2), 121-131.

Passetti, E., Battaglia, M., Bianchi, L., Annesi, N., 2021. Coping with the COVID-19 pandemic: the technical, moral and facilitating role of management control. *Accounting Auditing & Accountability Journal*, *34*(6), 1430-1444.

Preston, A. E., 1990. Changing labor market patterns in the nonprofit and for-profit sectors: Implications for nonprofit management. *Nonprofit Management and Leadership*, *1*(1), 15-28.

Pyanov, A., Drannikova, E., Shevchenko, E., Kochkarova, Z., 2021. Sustainable development of non-profit and non-governmental organizations: financial and organizational mechanisms. *E3S Web Conf.*, *250*, 04008.

Renz, D. O., 2010. Leadership, governance, and the work of the board. *The Jossey-Bass handbook of nonprofit leadership and management*, *4*, 127-166.

Saj, P., 2013. Charity performance reporting: comparing board and executive roles. *Qualitative Research in Accounting & Management*.

Salamon, L. M., Hems, L. C., Chinnock, K. (2000). *The nonprofit sector: for what and for whom?* (Vol. 37). Johns Hopkins University Institute for Policy Studies Baltimore, MD

Santos, M. R., Laureano, R., 2021. COVID-19-Related Studies of Nonprofit Management: A Critical Review and Research Agenda. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 1-16.

Sargeant, A., Kaehler, J. (1998). *Benchmarking charity costs*. Charities Aid Foundation West Malling

Schuh, G., Kramer, L., 2016. Cybernetic approach for controlling technology management activities. *Procedia CIRP*, *41*, 437-442.

Simons, R., Dávila, A., 2021. How top managers use the entrepreneurial gap to drive strategic change. *European Accounting Review*, *30*(4), 583-609.

Tucker, B., Thorne, H., 2013. Performance on the right hand side: Organizational performance as an antecedent to management control. *Qualitative Research in Accounting & Management*.

Tucker, B. P., Parker, L. D., 2013. Out of control? Strategy in the NFP sector: the implications for management control. *Accounting, Auditing & Accountability Journal*.

Tucker, B. P., Thorne, H., Gurd, B. W., 2013. Uncharted waters: Exploring the relationship between strategy processes and management control systems in the nonprofit sector. *Nonprofit Management and Leadership*, *24*(1), 109-133.

Ulmer, R. R., Sellnow, T. L., Seeger, M. W. (2017). *Effective crisis communication: Moving from crisis to opportunity*. Sage Publications

Valentinov, V., Vaceková, G., 2015. Sustainability of rural nonprofit organizations: Czech Republic and beyond. *Sustainability*, *7*(8), 9890-9906.

van Iwaarden, J., van der Wiele, T., Williams, R., Moxham, C., 2009. Charities: how important is performance to donors? *International Journal of Quality & Reliability Management*, *26*(1), 5-22.

Weerawardena, J., McDonald, R. E., Mort, G. S., 2010. Sustainability of nonprofit organizations: An empirical investigation. *Journal of World Business*, *45*(4), 346-356.

Wellens, L., Jegers, M., 2014. Effective governance in nonprofit organizations: A literature based multiple stakeholder approach. *European Management Journal*, *32*(2), 223-243.

Worth, M. J. (2020). *Nonprofit management: Principles and practice*. CQ Press

Yang, C., Northcott, D., Sinclair, R., 2017. The accountability information needs of key charity funders. *Public Money & Management*, *37*(3), 173-180.