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Abstract:

This paper seeks to extend understanding of how impact measurement capability can be fostered among social enterprises. It presents empirical insights from a novel experience of developing a cloud-based outcomes and impact measurement and reporting platform, for and with small to medium social enterprises in Australia.

The paper is guided by a situated learning theory lens and draws on thematic analysis of data collected from co-design and action research that underpinned the technology development.

Learning and practice benefits were observed in the co-design process of the platform development, as participants brought diverse expertise to the process, interacted, shared knowledge and practice, and diffused learning from the process to other communities of practice within their organisational and operating settings. At the same time, the technology-led solution acted as a boundary object, around which its co-developers interacted and navigated different practices and perspectives among researchers, social entrepreneurs and technologists. Additionally, development of the platform reinforced the limitations of seeking universalised responses to highly diverse organisational and ecosystem needs.

The paper contributes to understanding the relational domain of social impact measurement by social enterprises in a learning process and brings empirical insights from co-designing and co-creating technology solutions for social impact measurement with social enterprises.

Developing digital impact measurement tools with social enterprises: a situated learning perspective

1. Introduction

Despite the growing body of research, knowledge, and evidence for social impact measurement among social enterprises, a challenge persists in the complexity and sheer volume of different methodological approaches to social impact measurement. This is underlined by the lack of a widely accepted definition of social impact – which is socially constructed and has different interpretations (Hazenberg and Clifford, 2016; OECD, 2021). It is also reinforced by the diversity of social enterprise types and their hybrid structures, which require communication of social impacts to diverse stakeholders for a range of purposes (Luke et al., 2013). The challenge of social impact measurement among social enterprises is further intensified by debates over methodological rigor and the appropriateness of different impact measurement approaches in communities of practice, and academic and policy domains. Recent developments have seen a growing rejection of a one-size-fits-all approach or tool (OECD, 2015; Hazenberg and Clifford, 2016; Costa & Pesci, 2016; OECD, 2021; OCED, 2024), recognising the importance of purpose, context and stakeholder engagement, supporting mixed method approaches to understand what impact is produced and how, and taking advantage of digital technologies.

Social impact measurement research and literature recognises navigating and selecting appropriate social impact measurement methods, identifying and utilising tools and indicators can be very difficult for social enterprises, given their resource constraints, the required specific skills and knowledge for the task, and the diverse requirements from different stakeholder groups (e.g., Hazenberg and Clifford, 2016; Kah and Akenroye, 2020; Perrini et al., 2021). While there has been little research on the adoption of digital technologies as part of social impact measurement practices in the social enterprise context, possibilities and benefits of technology use and integration alongside the broader challenges of evaluation practices have been discussed and studied for decades (e.g., Gay & Bennington, 2004; Bamberger et al., 2016; Nielsen, 2023). Advancement of digital technologies has been described as contributing towards lowering costs and improving efficiency of data collection, analysis, and storage (Bamberger et al., 2016), which can help alleviate resource constraints faced by social enterprises.

This paper explores the learning effects and outcomes of developing a technology-enabled ‘solution’ to support social outcomes and impact measurement in the Australian context. In response to the

repeated needs for social outcomes and impact measurement capability among social enterprises in Australia, researchers, social entrepreneurs, practitioners of social impact measurement, and technologists embarked, with resourcing from government, on a novel journey to build a cloud-based outcomes and impact measurement and reporting platform from 2022 to 2023. Developing a technology-enabled solution to help social enterprises overcome resource constraints and methodological challenges required integrating insights across multiple knowledge domains and stakeholder groups, including social enterprise, impact measurement, web design and development, business information systems, accounting and performance management, and social finance. The project to build the platform was guided by co-design and action research principles (McNiff & Whitehead, 2006; Sanders & Stappers, 2008). These principles contributed to ideation and problem-solving for the platform development and encouraged collective learning and knowledge creation throughout the cycles of reflection and action embedded in the development process.

The purpose of this paper is to illuminate the collective learning achieved in the multi-actor environment of platform co-design and development, as well as present the empirical insights that arose from this work in relation to social outcomes and impact measurement. We aim to address the following research question:

> *RQ: How does co-design of a technology-enabled outcomes and impact measurement platform support learning and capability and what are its limitations?*

To address this, guided by situated learning theory (Lave & Wenger, 1991) we thematically analysed data collected from four co-design and reflective cycles throughout the platform development. Findings from our study demonstrate collective learning creation achieved through a community of practice and peer-based learning environment. Theoretically, this study presents a fresh perspective on the relational domain of impact measurement, extending the understanding of impact creation to a learning process. Empirically, it lends evidence that reinforces the limitations of seeking universalised responses to highly diverse needs to impact measurement and communication. Practically, our study models the importance of co-designing and co-creating technology solutions with a user community of diverse social enterprises.

The following sections set out our conceptual approach, literature review, research methods, and learnings and reflections from the project. The paper concludes with discussion of the broader theoretical and empirical implications of the study and areas for future research.

2. Situated learning theory: Our conceptual approach to explore learning effects and outcomes in this study

This paper adopts situated learning theory informed by conceptions of social learning systems as an analytical lens through which to examine the processes and outcomes of the action research and co-design, described in detail below. Situated learning theory is located within both adult learning and organisational studies (Merriam, 2017; Illeris, 2018; Stewart, 2021) and has applications in a wide range of fields, such as entrepreneurship education, ethical research and medical and health education (Huang & Chen, 2022; O'Brien & Battista, 2020; Ratinen & Lund, 2015; Renga, 2024; Robinson et al, 2016; Vargas et al, 2024). The concept originated in the work of Lave and Wenger (1991), who challenged individual behaviourism and reconceptualised learning as a social and cultural process. Within situated learning theory, learning processes are understood to be embedded in day-to day-practice, and take place within dynamic interactions, often between what are described as 'old timers' or 'more knowledgeable others' and 'newcomers' in communities of practice (O'Brien and Battista, 2020). Building on this earlier work, Wenger (2000) suggested that organisations are constituted in and through 'social learning systems', in which people's learning occurs through interactions with multiple communities of practice. According to Wenger (2000), this learning is dynamically 'pulled along' by the competence of new communities in which people engage. Learning is diffuse and is developed as people take new experiences and competencies into other communities in which they are involved. Communities of practice are the building blocks of social learning systems and are (co)designed around elements of events, leadership, connectivity, membership, learning projects and artifacts (Wenger, 2000). However, Wenger (2000) also observes that boundaries are as important to social learning systems as communities, as it is at the edge of our competence, or the boundaries of communities, where dynamic learning is most likely to take place.

The conceptual propositions of situated learning theory and social learning systems resonated both with our research question and with the normative goals and empirical features of the platform co-design process. In the context of the platform development, participants had diverse areas of expertise, such as social enterprise and social impact measurement research; information systems research; social entrepreneurship practice; evaluation and outcomes measurement practice; web design and development. While the group came together around a shared goal, none had the full knowledge and expertise of the artefact – that is, the platform – they were coproducing. Through a situated learning theory lens, the co-design process sought to create the environment and context to facilitate interaction, practice, and learning among all participants. Every party involved thus played a dual role as both learner and expert. Interactions took place between all participants through iterative rounds of design, development, testing and feedback on prototypes, and knowledge was co-constructed about how the platform would work, which led to the creation of the final platform. The

learning system was bounded by the resources and timelines required of a funded project, and by the focus on social enterprises as the users of the platform.

The situated and social learning approach informed the nature of data collected and our approach to analysis. Learning processes and outcomes are reflected upon in this article, which has been co-authored by researchers, social enterprise leaders and technology development members of the community of practice. Before presenting our research design and findings, we turn first to the literature that, alongside our conceptual approach, informed the work.

3. Literature review

To examine the possibilities and learning effects of co-designed digital technologies to support social outcomes and impact measurement by social enterprises, our literature review thus focuses on three areas of inquiry. First, we consider the literature on how and why social enterprises measure social impact. Guided by our conceptual approach and interests in social learning, we then briefly examine the literature on the relational aspects of social enterprises' impact measurement practices. Finally, given the normative goals of the platform development around which our action research is centred, we examine the literature on the role of technology in evaluative practices.

3.1 The purpose of social impact measurement for social enterprises

Although social impact measurement has received increasing attention from social entrepreneurs, social financiers, policymakers and researchers in recent years, this emergent field is contested by a multitude of different approaches and frameworks fuelled by different underlying logics and diverse stakeholder interests (Hazenberg and Paterson-Young, 2022). Consistent with much of the literature concerning the hybridity of social enterprise, research on outcomes and impact measurement in relation to social enterprises can be broadly categorised into two distinct (although sometimes dually examined) domains. The first is reminiscent of Power's (1999) 'audit society' and draws on new institutional theoretical conceptions of isomorphism (DiMaggio and Powell, 1983). Multiple studies have observed that social impact measurement and the popularity of particular methodologies form part of the discursive repertoire through which symbolic legitimacy is sought or conferred on social enterprise activity in a neoliberal world (Luke et al., 2013). Reflecting practice needs and a more developmental perspective, studies in the second domain have examined the practical challenges and contexts for social impact measurement and/or the organisational learning effects of such practices for social enterprises (Connolly and Kelly, 2011; Arvidson and Lyon, 2014). While we acknowledge established critiques of the grand narratives of social impact measurement, our focus

in this paper is on how measuring social impacts (and creating the tools through which this occurs) constitutes and shapes collective learning experiences.

In comparison to the fragmentation in methodologies, there is greater consensus regarding the benefit, motivation, and rationale for measuring the social impact of social enterprises. Studies have found that the purposes of social impact measurement are predominately centred around compliance with funding requirements, addressing the need for accountability to stakeholders, achieving the social mission of the enterprise (and the resource provider), and acting as a communication vehicle for the legitimacy of the organisation (Barraket and Yousefpour, 2013; Bradford et al., 2020; Costa and Andreaus, 2020; Crucke and Decramer, 2016; Kay & Akenroye, 2020; Nguyen et al., 2015). There is, however, a growing body of empirical research has found that organisational learning and development, or 'measuring to improve', is gaining prominence over legitimacy seeking or 'measuring to prove' (Nielsen et al., 2019; van Rijn et al., 2024).

3.2 The relational aspects of social impact measurement

Social enterprises typically have wide engagement with diverse stakeholders, as their governance involves multiple stakeholders as part of their activities to meet social, economic, and environmental purposes (EESC, 2014; Costa and Andreaus, 2020). The rationale and scope of undertaking impact measurement implies a need to meet different demands from different stakeholders (European Union and OECD, 2015; Costa and Pesci, 2016). This further highlights the relational nature of social impact measurement practices (Lall, 2019).

Researchers, practitioners, and policy makers have paid increasing attention to the importance of stakeholder engagement and the influence of relationships particularly with resource providers on social impact measurement practices (Costa & Pesci, 2016; Lall, 2019; Nguyen et al, 2015; OECD, 2021; OECD, 2024). For example, Nguyen et al. (2015) found evidence that social impact measurement was shaped by the nature and dynamics of the relationships between social enterprises and their resource providers. Lall's study (2019) revealed that as relationships evolved between social enterprises and their funders from transactional to more collaborative partnerships, both parties' approaches to impact measurement evolved as well. For social enterprises, more collaborative approaches have facilitated a shift in understanding impact measurement - from a method of meeting reporting requirements to organisational learning tools; for funders, it has become an empowering tool for social enterprises to measure their impacts (Lall, 2019).

The relational nature of impact measurement practices contests the one-size-fits-all approach, confirming that social impact measurement should be highly contextual and adaptable. It also

positions social impact measurement practices as sitting within, and contributing to, social learning systems, as discussed above. While existing studies have centred on the relational methods to explore the influences of internal and/or external stakeholders of social enterprises, this study attempts to expand the relational domain of impact measurement to a learning process between social enterprises, and between social enterprises and other ecosystem actors, exploring whether, what and how to measure impact creation.

3.3 The role of technology in evaluative activities

To date, there has been little research on the adoption of digital technologies in the context of social impact measurement for social enterprises. However, applying digital technologies to enhance broader evaluation efforts is not new. Prior studies have documented technological progress and discussed its benefits and challenges in evaluation. Internet-based technologies, mobile applications, and text messaging have been found to reduce costs in resourcing and increase the efficiency of various evaluation activities, such as recruiting participants, collecting and analysing data, and disseminating evaluation findings (Raftree and Bamberger, 2014; Materia et al., 2016).

The evolving nature of technology supports increased technology use and integration in evaluative activities. Early analysis highlighted the use of multimedia tools to capture video and audio data, web-based surveys, and computer-supported collaborative activities (Gay and Bennington, 1999). More recent applications include real-time polling and web-based data entry portals (Materia et al., 2016) and the collection and analysis of mixed types of data to strengthen evaluation designs (Bamberger et al., 2016). The implementation of technology has become commonplace and ubiquitous within organisational contexts, leading to historical advancements in accounting systems, enterprise systems (including enterprise resource planning systems), retail automation, and electronic commerce (Swanson, 2020). A further advancement in enterprise resource planning systems has been the governance of transactions between organisations (Swanson, 2020).

In a review of the potential technologies and their impact on evaluation, Nielsen (2023) highlights the latest technical evolutions that introduced drastic changes through new data sources (such as social media, satellites, and Internet of Things), new data storage and management (cloud computing and edge computing), and new data processing sources such as machine learning and artificial intelligence. Nielsen (2023) argues that these specific technologies have potential to complement impact evaluation. While automation might have been applied heavily to areas of recurrent and/or large-scale data collection, processing and reporting, other fields such as designing systems and frameworks for monitoring and evaluation, interfacing with stakeholders, and building capacity that relies on specialist knowledge are less likely to be automated in the short term (Nielsen, 2023). Less

progress is being made towards integrating monitoring and evaluation practices with an organisation's information management systems.

Our review of the literature finds that there is limited uniformity in motivations for, and practices of, social impact measurement among social enterprises, which is driven by both the need to establish legitimacy (or 'prove') and the need to learn and advance social purpose (or 'improve'). However, the relational nature of social enterprises as hybrid and multistakeholder organisations both demands and lends itself to social and situated learning conceptions of how social enterprises develop and apply their capabilities in social impact measurement. Finally, while there is an established literature on the role of digital technologies in evaluation practice, this has not to date extended to examinations of social enterprise practice. Informed by these findings and gaps in the literature, we seek to better understand through this project the learning outcomes and practical possibilities and limitations of codesigning a digital 'solution' to support social enterprises measure and communicate their social impacts.

4. Methodology

4.1 Platform development context

Launched in 2023, Seedkit is a cloud-based platform designed for small to medium social enterprises to measure and communicate their impact. Development of the platform featured collective inputs from the project team (researchers from two universities and an in-house developer), a co-design group of social enterprises (details presented in next section), and a commissioned web-design firm. Seedkit has a dual mission: supporting social enterprises to manage their impact data and present meaningful data dashboards and reports for stakeholders; and generating aggregated insights to inform social enterprises, policymakers and funders with evidence needed to support the growth of the social enterprise sector. It is also designed as a learning platform, which provides users with educational resources to support their approaches to outcomes and impact measurement.

The platform was built within an intensive twelve-month period from 2022 to 2023; however, ideation and development of Seedkit was built on knowledge from prior research. It was particularly informed by action research conducted in 2017 to 2019. This explored the complexities and challenges embedded in social impact measurement for social enterprises and produced a preliminary prototype for an open-access Data Dashboard to help organisations grow their internal evaluation capacity.

During the development stage covered by this study, key functionality of Seedkit for outcomes measurement and reporting allows users to:

- Set up an organisation account, and add social enterprises, programs or projects that users want to track and measure outcomes and impact for.
- Select indicators from a library or create custom indicators to report on how the social enterprise is changing the world or managing their operations.
- Enter data to selected indicators regularly.
- Create dashboards to present both numeric measures and qualitative insights, and export reports to share and communicate with stakeholders.

The platform also has a resources hub that contains:

- Educational resources to support knowledge and skills development in impact measurement and communication;
- Platform-specific user guidance materials; and
- News articles and posts about platform feature development, user events, and developments and news from the social enterprise sector.

4.2 Research design

The design and development of Seedkit was based on co-design principles and an action research design. With its origins in the work of Kurt Lewin (Adelman, 2006), action research seeks to advance practice through collective cycles of reflection and action involving researchers and participants. With origins in participatory design dated back to the 1970s (Sanders & Strappers, 2008), co-design aims to fulfill a specific design task through multistakeholder engagement activities. Both approaches emphasise collective learning and knowledge generation, with the research and design activities and processes situated in a specific context (McNiff & Whitehead, 2006; Zamenopoulos & Alexiou, 2018). While the co-design and action research principles contributed to normative goals of the platform development, these principles also embedded learning, reflection, and knowledge transfer throughout the design and development processes of the platform, which is what this study is centred on.

In policy and civil society contexts, the importance of co-design has been increasingly acknowledged as necessary in seeking solutions for complex social, political, environmental, and technological issues (Steen et al., 2011; Zamenopoulos & Alexiou, 2018). In this study, the action research and co-design approaches were integrated in four co-design and reflective cycles throughout development and subsequent to the platform launch. In the spirit of action research and co-design, researchers worked and learned with the Co-Design Group, engineers and designers as colleagues (McNiff &

Whitehead, 2006) and social enterprises who would eventually be the users of the platform played a role of 'experts of their experience' in the design process (Sanders & Stappers, 2008).

4.3 Co-design process and action research with 37 social enterprises

A Social Enterprise Co-Design Group was established at the start of the development phases and consisted of 37 social enterprises based in the Australian state of Victoria, to share their needs, test prototypes of the platform and provide feedback on their experience. The Co-Design group was established via an expression of interest process promoted through researcher and social enterprise intermediary networks. Two thirds of the participating enterprises were small (or micro) businesses.[i] There was significant diversity among Victorian social enterprises in the Co-Design Group from the industries they operated within to the social purposes they served. As shown in Table 1, these enterprises self-described 20 industries in which their businesses worked, and at least half of the enterprises provided services to businesses or customers as their primary operation. Such diversity was essential as feedback from the Co-Design Group on their user experience and testing would then have reflected dynamic needs, expectations, and environments to use the platform.

[Insert Table 1]

The co-design process comprised four key steps:

Step 1: Social enterprises in the Co-Design Group provided feedback about reporting and impact measurement challenges enterprises faced. This enabled the project team to have an in-depth understanding of user context.

Step 2: The Co-Design Group shared information and advice about the enterprise's data and reporting needs, including the process and target audience of the current organisational performance and impact measurement. This presented specific user requirements.

Step 3: The project team produced design solutions and developed prototypes.

Step 4: Social enterprises in the Co-Design Group were invited to test and feedback on prototypes and iterations of the platform, focusing on functionality, content, usability, and usefulness.

4.4 Data collection and analysis

[Insert Table 2]

Table 2 presents the co-design and action research activities throughout four co-design and reflective cycles. These activities were conducted online via Zoom and using collaboration applications such as Gleap and Miro. Data collected include organisational details submitted to the online prototypes of

the platform, responses submitted to the online user feedback tool, user survey responses, meeting notes, interview notes made by researchers during interviews, and workshop notes and observations recorded by members of the research team (notes recorded verbatim comments from participants). Initially, data were selectively coded against our research question with attention to the features of situated and social learning systems central to our conceptual approach. Data were then axially coded to allow researchers to continually identify and reframe emerging themes (Simmons, 2017). Next, in keeping with the action research methodology and the abductive process typical of co-design practices (Kolko, 2010), two Co-Design group members who agreed to participate in this publication were then invited to reflect on the dominant themes, leading to collective refinement and sensemaking of findings. Findings presented below are informed by the thematic analysis and dialogic meetings between the paper authors where we sought to 'make sense' of our learning through different positional lenses in the process.

5. Findings and discussion

The presentation of our findings is guided by a situated learning theory approach, which emphasises understanding the contextual conditions that drive both practice and learning. Themes identified are grouped in response to the research question: *How does co-design of a technology-enabled outcomes and impact measurement platform support learning and capability and what are its limitations?*

5.1 Learning together

Support and participation of the Social Enterprise Co-Design Group in a range of engagement activities through Seedkit development reflected a shared goal for learning together. These activities fostered communities of practice and peer-based support (Wenger, 2000), mirroring relational characteristics of social enterprises more broadly. One Co-Design Group member explicitly commented on the culture of social enterprises to learn from each other in comparison to competitive relationships experienced in the commercial sector.

Despite a dedicated space in Seedkit for educational resources on outcomes measurement and communication, the development process highlighted the need to make this measurement tool double as a capacity building tool and an artefact for formation and learning through the associated community of practice. This was exemplified by Co-Design group members' responses after testing the prototype of indicators, with comments such as:

> 'I love the hover-over button for more information with examples for why certain organisations may benefit from this. Perfect.' (Social Enterprise Co-Design members, online feedback)

Offering a library of indicators for users to select and modify, supplying definitions for terms and measures, and providing information and explanatory notes were all features identified by social enterprises as helping support social enterprises 'learning by using', situating the practice and learning experience in an actual measurement process. These learning effects and situated interactions in a community of practice and peer-based learning context present a fresh aspect on the relational domain of impact measurement for social enterprises, extending the understanding of relationships and power dynamics between social enterprises and stakeholders to a learning process.

5.2 Compliance and choice in measurement options

A significant library of indicators was developed by researchers and offered on the platform to address the wide range of areas in which social enterprises are working or are reporting against. The library contains 15 thematic areas and over 500 indicators which were crafted drawing from evidence-based literature and national or international measures for these thematic areas, with a goal to help users identify what to measure. These thematic areas used to group indicators in the online library are nested under the 'Changing the World' and 'Managing Our Operations' labels as follows:

Changing the World:

- Arts and Culture
- Collaboration
- Community, Connections and Place-based Development
- Decent Work and Employment
- Environmental Sustainability and Climate Resilience
- First Nations' Knowledge and Culture
- Health and Wellbeing
- Housing and Accommodation
- Improving Systems, Organisations and Practices
- Representation and Equity in Governance

Managing Our Operations:

- Financial Management
- Organisational Governance
- People Management
- Sales and Marketing

When being presented with the indicators prototype, the Co-Design group responded with both methodological and operational questions for researchers. For example, one Co-Design Group member commented 'Love the indicators and already selected 20+, but how much is too much?' (Social Enterprise Co-Design member, Drop-in Session #2). Researchers also observed social enterprises with higher self-reported experience of social impact measurement tended to be more selective in their adoption of indicators, while those newer to impact measurement practices could become overwhelmed by choice. This reflects the different competency levels of the 'more knowledge others' and 'newcomers' (O'Brien and Battista, 2020). For the latter, the situated learning may play a more active role in an impact measurement process as discussed above.

While the researchers' intention was to provide breadth in indicators available, they observed some anxiety among some co-design group members about perceptions that the researchers were seeking 'compliance' through the 'correct use' of the platform's functions. This perhaps reflects the legacy of legitimation pressures (Luke et al., 2013; Kay & Akenroye, 2020) experienced by social enterprises both in social impact measurement practices and wider operational conditions driven by their multistakeholder expectations. Co-design members explicitly highlighted the importance of having indicators to support both standardisation and customisation at an early Co-Design Group workshop, and reflected on the tensions between these two imperatives. It was reflected by participants that standardisation could support social enterprises to benchmark their practices and impacts, generate collective insights to improve visibility of the field and help reduce administrative burden from funders. At the same time, discussion quickly focused on the diversity of contexts, purposes and business models within the Co-Design group and the difficulties and limitations of standardising knowledge in such settings. These interactions facilitated discussion and learning among social entrepreneurs, researchers, and technologists in the community of practice, and observably provided rapid feedback to members who may be considered as Lave and Wenger's (1991) 'newcomers' in social impact measurement.

5.3 Hybrid indicators for social enterprise reporting triggering mixed responses

Acknowledging that social enterprises' social purposes are baked into their organisational operations, Seedkit offers a library of indicators to dually track business performance, operations and impact goals (see Figure 1). The inclusion of business performance indicators was a researcher idea, informed by multiple past studies and knowledge of the interrelatedness of business and social performance. Many Co-Design Group members supported this integrated approach of including financial/business reporting to outcomes and impact measurement but not all social enterprise users embraced this method. One member enquired about the researchers' intentions in including

financial indicators in the indicators library. And some Co-Design Group members expressed that they considered operations and impact as separate activities and outcomes:

> ‘When I'm looking at the indicators… like Financial, People and HR (Human Resource) and Sales and Marketing, I am assuming these are for my internal operations. Whereas Impact is for beneficiaries. I think this could be made super clear.’ (Social Enterprise Co-Design member, online feedback)

> ‘Seedkit has good business indicators, but not for us. We want to keep indicators on guests.’ (Social Enterprise Co-Design member, March Co-Design Group Workshop)

For others, being presented with indicators to track and manage both operations and impact goals probed them to rethink their current impact measurement and reporting practices. For example, this functionality prompted them to consider impact indicators and measurement not only as external facing activity but for internal areas and teams.

The mixed responses from the social enterprise users may reflect variations in social enterprises’ structures, business models, and approaches to social enterprise reporting. Social enterprise is a hybrid organisational form in which commercial business mechanisms are applied to create social or public value (Austin et al. 2006; Dees 1998; Shaw and Carter 2007). As a result of the integration of social value creation with commercial market mechanisms, social enterprises combine strategic and operational characteristics that traditionally have been regarded as distinct and frequently incompatible. As Battiliana and Lee write (2014): ‘The charity and business forms have historically been considered distinct and often incompatible, yet both are core to social enterprises' functioning’ (Battiliana and Lee 2014, p. 399). Social enterprise’s hybrid nature has both strategic and operational consequences (Al Taji and Bengo 2019; Austin et al. 2006; Baker 2017; Shaw and Carter 2007; Trivedi and Stokols 2011). Social enterprises frequently straddle tensions between the achievement of social impact and the commercial realities of attracting, servicing and retaining sufficient customers to ensure financial viability. Often, particularly in market failure contexts, delivery of social value results in additional costs and reduced profitability for social enterprises.

Developed as a social enterprise specific tool, the design and inclusion of hybrid indicators to Seedkit’s library drew from insights and evidence of research and practice on the incorporation of both commercial, ‘business’ indicators and social impact indicators. While this approach might not be agreed with by every user who comes to the platform, from a situated learning theory perspective, the dialogue among the researchers, social enterprise users in the Co-Design Group and

the presence of dual indicators enacted as a learning and practice environment and constituted the social learning system to support capability development.

5.4 Platform as boundary object

As stated in the earlier section, Australian social enterprises are diverse in their social purposes, business models, impact measurement needs and practices, and organisational evaluation capacity (Barraket et al., 2017), and this was reflected among social enterprises in the Co-Design Group (Table 1). The rich diversity among participating social enterprises and the multi-disciplinary expertise of the Co-Design Group members underlines boundaries of communities, practices and perspectives. From a social learning systems perspective, Seedkit has played the role of a boundary object, or integrative device between learners (Wenger, 2000), contributing to active learning by enabling competence and experience to interact (via the artefact and some shared processes) and encouraging engagement with differences under a common goal to develop the platform.

Boundary objects could enable multiple practices to navigate their relationships and connect different perspectives (Wenger, 2000). The following key aspects of impact measurement for social enterprises have been identified as relevant to Seedkit's ongoing development:

- *Customisable frameworks*: Given their diversity, social enterprises require impact measurement frameworks that can be tailored to their specific context and goals (Grieco, 2015). Seedkit's co-design approach facilitated this, allowing for the customisation of indicators while ensuring sector-wide comparability.
- *Holistic methodologies*: The mixed-methods approach is essential, integrating quantitative and qualitative data to capture a comprehensive view of impacts (Nicholls, 2009; OECD, 2021). This synthesis is critical for understanding the nuanced effects of social enterprises on their target issues. Seedkit recognises that current outputs/outcomes-focused indicators (predominantly in numeric form) led to over-reliance on quantitative data in impact analysis and reporting, presenting a design risk as qualitative data to unpack the process and context of impact creation is missing.
- *Complex systems navigation*: Impact measurement must account for the complex systems within which social enterprises operate, acknowledging interdependencies, feedback loops, and emergent outcomes. This requires a dynamic and adaptive framework, capable of evolving with the system and incorporating new learnings (Zivkovic, 2015).
- *Systems thinking*: Recognising the interconnectedness of social and environmental outcomes, impact measurement should adopt a system thinking perspective (Meadows,

2008; Hervieux & Voltan, 2019). This approach helps understand the role social enterprises play in systems change and identify actors and conditions to drive change.

- *Embracing uncertainty*: Impact measurement should foster learning and adaptation, not just accountability (OECD, 2023). It should support an iterative process where measurement insights inform ongoing strategy and operations, enhancing the enterprise's effectiveness and impact over time.

Having dialogues, seeking and developing solutions around these topics would require knowledge and practice of mixed methods, interdisciplinary approaches and systems thinking, co-creating across boundaries of communities, practices and perspectives.

Wenger (2000) noted that boundaries could create new opportunities as well as potential difficulties. While researchers witnessed how technical solutions created opportunities to better support social impact measurement practices as discussed earlier, there are potential hurdles in a user journey to adopt a new impact reporting tool that are not only technical challenges. Capability in and standardisation of how data is collected is necessary to enable cloud-based data collection and aggregation. This standardisation can inhibit the ability of organisations to capture nuances in their unique context. Organisations adopting Seedkit, therefore, need to align their social impact measurement practices with what is required by Seedkit. This can be a significant impost or can be relatively straightforward, depending on current organisational capacity and practices as well as the stage of development of the social enterprise. All organisations that adopt Seedkit will have to make changes to their social impact measurement practices to make use of the platform, reflecting the isomorphic pressures (Dimaggio and Powell, 1983) produced through the platform.

5.5 Limitations of learning and use

While the co-design process facilitated interaction, practice, and peer learning among all involved in the co-design and development of the platform, there were limitations in the implementation. As discussed earlier, learning to use a new platform could be overwhelming, especially to social enterprises with minimal social impact measurement knowledge and readiness. The significant diversity among social enterprises also means it might be challenging to apply and transfer the learning to developing bespoke social impact measurement practices that suit one’s own organisation.

The methodological complexity of social impact measurement approaches, coupled with the needs to demonstrate and understand complex systems change in open and dynamic systems, as well as navigating relational aspects of reporting and stakeholder management, requires specialist

knowledge. Furthermore, to examine and analyse data from different aspects of operations and impact creation activities requires integrating specialist knowledge and expertise across impact creation and measurement, accounting and management, and information systems (Ruff and Olsen, 2018). These challenges call for internal learning across departments within the organisation – which Co-Design Group members suggested was not always easy - and broader cross-sector collective and ongoing learning and knowledge co-construction.

6. Conclusion

6.1 Contributions of this study

Impact measurement is a social construct. This study attempts to advance the understanding of the relational domain of social impact measurement practices. It presents a novel approach and experience to co-design and build a social enterprise specific outcomes and impact measurement and reporting platform, in the Australian context.

Our paper contributes to an emergent field on the relational domain of social impact measurement by social enterprises (such as Costa & Pesci, 2016; Lall, 2019; Nguyen et al., 2015). Previous research has focused on relationships and power dynamics between social enterprises and stakeholders, particularly resource providers, and their influence on choices and practices of social impact measurement in social enterprises. This study extends and deepens the understanding of the relational dimension beyond the methods of evaluations to the relational process between social enterprises, and between social enterprises and other ecosystem actors, of understanding whether, when and how to measure outcomes and impacts. Our findings reveal the contextual and relational nature of social impact measurement practices in situated social learning systems. This study presents new insights to a crucial yet under-researched area in the social impact measurement literature.

Our paper also makes several empirical contributions to the literature. Firstly, by taking a situated learning theory lens (Lave and Wenger, 1991) our study lends empirical evidence to the organisational learning purpose/desire underlying social impact measurement practices. Findings suggest the learning process integral to the social impact creation and measurement for social enterprises. Secondly, our unique experience in development of a first-of-its-kind social enterprise specific platform reinforces the limitations of seeking universalised responses to highly diverse organisational and ecosystem needs. While a technology-led solution provides great potential for efficiently fulfilling different user objectives, users' contexts, expectations, and levels of pre-existing capability ultimately drive the utility of the platform for them. The Seedkit Co-Design group reflected

substantial diversity of organisations and thus substantial diversity of the purposes and drivers of outcomes measurement for them.

6.2 Implications

As this study was centred on the development of the Seedkit platform, a key learning from the action research embraced by the platform developer team is that as a technical solution for social impact measurement practices of social enterprise, the design and use of Seedkit should be driven by the needs of the social enterprise ecosystem; and its potential will be realised through integration of learning activities and widening peer support for both the platform and understandings of outcomes measurement and communication more broadly.

While the complexity of developing outcomes measurement capability and capacity among small to medium social enterprises remains a challenge-in-progress, this study shed light on the learning effects of social impact measurement practices for researchers and practitioners. Mirroring the relational characteristics of social enterprises (EESC, 2014; Costa and Andreaus, 2020), establishing communities of practice between social enterprises and between social enterprises and other ecosystem actors could foster social learning systems to navigate solutions, negotiate practices and connect different perspectives, leveraging rich operational expertise among members of the community.

For the broader society, this study models the importance of co-designing and co-creating technology solutions with the user community. The co-design process itself illuminated the conditions and effects of situated learning in this activity. Participants brought diverse areas of expertise to the process, shared learning within and beyond their formal roles, and took learning from the process to other communities of practice within their organisational and operating settings. As a boundary object or artefact (Wenger, 2000), Seedkit-in-development provided both a basis for peer and cross-sector learning around common problems and, through design inputs from many, prompted some changes in measurement and reporting practice among co-design members. The co-creation and co-design approaches translate relational aspects of working with diverse stakeholders and user communities to collective creativity (Sanders & Stappers, 2008). Organisations, initiatives and interventions working at complex social and technology challenges could embrace multiple perspectives and access interdisciplinary and cross-sector expertise through co-creating processes and enable knowledge co-production and sharing with co-creation members and their communities.

6.3 Limitations and recommendations for future research

This study sees several limitations with some suggesting avenues for future research. The co-design process was bounded by the resources and timelines required of the funded project to develop the platform. The co-design group comprised social enterprises from Victoria and most operated of/in metropolitan areas, although they presented great diversity in business models, sizes and industries. Future co-design activities and research should address the geographic differences with attention to social enterprises operating in regional and remote areas where they may have specific perspectives or challenges to technical solutions for impact measurement and communication.

Another limitation is that while the research focused on learning effects of the online community of practice, it did not capture how members took the new knowledge and competency back to their own communities. Extending the scope of research on communities of practice to explore how learning takes place at the new boundaries between the community and members' existing communities could offer new insights on how knowledge transfers to practice.

This study provides a fresh perspective to the relational domain of social impact measurement practices. Further research could explore and identify specific relational aspects in the learning process between social enterprises and other ecosystem actors, unpacking the role of social learning systems played in building capacity for impact measurement, reporting and communication.

[i] We use the Australian Bureau of Statistics (ABS) definition of small businesses as those employing fewer than 20 people. The ABS defines a medium sized business as employing between 20 and 199 employees and a large business as employing 200 or more employees.

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Table 1 Characteristics of Social Enterprise Co-Design Group, based on user-created data

Industry description	• Aged care services • Camping and outdoor industry • Charity retail • Cleaning • Community pharmacy • Construction • Creative Industry • Design and communications • Environmental and waste consulting • Events and programs • Homeless and housing • Hospitality • Indigenous plant nursery • Media • Smart home • Radio broadcasting • Recruitment and human resource services • Regenerative tourism • Renewables • Repair and maintenance
Main social purpose(s)	• Provide needed goods or services to a specific group or geographic community (n=15, 44%)

	• Provide employment or pathways to employment for people who face barriers to work (n=15, 44%) • Create opportunities for people to participate in their community (n=15, 44%) • Generate income to reinvest in charitable services or community activities (n=9, 26%) • Develop other social enterprise or organisations in the for-purpose sector (n=9, 26%) • Promote social and environmental innovation in business models and/or products (n=5, 15%) • Promote fair and trade and consumption of ethical products (n=2, 6%)
Target primary customers	• Business to Business Services (n=18, 51%) • Business to Consumer Services (n=14, 40%) • Business to Business Goods (n=9, 26%) • Business to Consumer Goods (n=17, 49%)
Business size	• Small business (n=23, 68%) • Medium business (n=11, 32%)

Source: Authors' own work

Table 2 Co-design and data collection activities

Timeline	**Co-design and action research activities**	**# social enterprises / participants**	**Data collected**
August – December 2022 Co-design and Reflective Cycle 1			
August – November 2022	• Project Team and Steering Group established • Social Enterprise Co-Design Group recruitment conducted • Co-Design Group kick off meeting	57 social enterprises attended the kick off meeting and 37 confirmed to participate in the Co-Design Group	Organisational details collected from 37 Co-Design Group members
December 2022	• A first prototype of Seedkit released • Co-Design Group drop-in session #1 to share insights and questions	16 social enterprise representatives attended drop-in session #1	Meeting notes including questions raised and discussed

	about evaluation, data and communicating impacts		
January – March 2023 Co-design and Reflective Cycle 2			
January 2023	• Seedkit preliminary prototype released • Co-Design Group invited to enter data to and interact with the prototype • Co-Design Group drop-in session #2 to share insights and raise questions to the Seedkit team from interactions with the platform prototype	▪ 34 social enterprises created test accounts and filled up organisational information ▪ 10 social enterprise representatives attended drop-in session #2	▪ 34 test accounts and enterprise profile information ▪ Meeting notes including questions raised and discussed
January – February 2023	• Co-Design Group users providing feedback via online feedback tool (embedded on the platform) • An online user survey released to collect anonymous feedback on user experience in usefulness, data privacy, ease of use, convenience of access, and design • One-on-one user testing sessions to elicit feedback on content, usability and functionality	▪ 12 responses to the online feedback tool ▪ 10 social enterprises responded to the survey ▪ 8 social enterprises joined the user testing sessions	▪ 12 online responses ▪ 10 user survey responses ▪ Meeting notes from 8 user testing sessions
March 2023	Social Enterprise Co-Design Group workshop	21 social enterprise representatives attended	Meeting notes
March – July 2023 Co-design and Reflective Cycle 3			
May 2023	Design workshop #1 with Co-Design Group, facilitated by the web-design firm	5 social enterprise representatives attended	Meeting notes and Miro board
May – June 2023	Stakeholder interviews	6 interviews held with representatives from intermediary or advocacy organisations,	Meeting notes

		philanthropic foundations, and impact investors	
June 2023	Design workshop #2 with Co-Design Group, facilitated by the web-design firm	8 social enterprise representatives attended	Meeting notes and Miro board
July 2023	Seedkit design prototype released		
August to November 2023 Co-design and Reflective Cycle 4			
August 2023	Two user validation sessions, facilitated by the web-design firm	Project team and 3 social enterprise representatives attended	Meeting notes and Miro board
November 2023	Alpha release (official launching of a fully functioning platform)		

Source: Authors' own work