

RESEARCH ARTICLE

The wicked problem of measuring real-world research impact: Using sustainable development goals (SDGs) and targets in academia

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Abstract

This paper proposes that the United Nation's sustainable development goals (SDGs) and associated targets form an effective framework for determining real-world research impact. Existing bibliometrics that assess the quality of academic work are usually quantitative and self-referential, reducing the focus on real-world issues. The same measurements are often adopted by funding bodies, pressuring researchers to increase compliance, and further reducing integrity and real-world impact. A series of world cafés were conducted, collecting data on how researchers, their institutions, and network organisations can contribute to, and measure research aligned with the SDGs and targets. The results showed that participants were generally positive towards using the SDGs and targets to measure impact and quality of academic research. Suggestions to assist greater adoption of the SDGs and targets as a measure of impact included: aligning governmental and institutional funding; changing key performance indicators; increasing cross-disciplinary work; aligning mission/vision statements; and legitimising SDG-focused projects at conferences.

Key words: sustainable development goals; real-world impact; research impact; bibliometrics; wicked problems

Introduction

Globally, academic institutions measure their activities and output using a range of quality indicator methods. These indicators are used to support academic institutions in measuring academic performance in three areas: research; learning and teaching; and, service and engagement. As most institutions place stronger emphasis on research output, demonstrating the value of this research output to stakeholders is essential (Hajdarpasic, Brew, & Popenici, 2015). However, measuring research impact has become a wicked problem with academic institutions applying their own values and metrics to demonstrate research impact (Brew, Boud, Namgung, Lucas, & Crawford, 2016; Latour & Woolgar, 2013; Santos & Horta, 2018). As noted by Head (2019: 182) 'wicked problems' refer to issues that 'are often systemic and interlinked, and therefore require integrated analysis and broad-based discussion among stakeholders'. The measurement of real-world research impact fits this description, due to the complex web of institutions, government bodies, individual researchers, practitioners, and the varying expectations, definitions, values, and metrics that exist between them. Furthermore, there is a clear problem arising, as if these expectations, definitions, values, and metrics are not consistent, or properly considered, the effectiveness and value of research at a global level is diminished.

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McKiernan and Glick (2017) further argue that impact measured as translation to application is crucial, particularly when the research is publicly funded. Thus, researchers have a civic duty not only to consider the return on investment for their research, but also to ensure their research has valuable real-world implications (Greenhalgh, Raftery, Hanney, & Glover, 2016; Hughes, 2012). However, the current, widely-used measures of research quality and ‘impact’ are impeded by political, social, and environmental pressures within academic institutions, including: competitive research funding; the belief that one must ‘publish or perish’; and the constant tension between research and teaching requirements (Santos & Horta, 2018; Shattock, 2014). This wicked problem led us to pose the first research question guiding this study:

RQ1. How should we measure research impact and value?

While the varying institutional expectations discussed above make it difficult to capture and report impact using traditional metrics, there are critical global indicators that can be used as a standard to provide consistency and drive the production of valuable research. One such example is the United Nations 2030 Agenda for Sustainable Development, also referred to as the Sustainable Development Goals (SDGs) (United Nations [UN], 2016).

The SDGs were created in response to the conclusion of the millennium development goals in 2015 (Disley, 2013). Seventeen goals have been created, with 169 corresponding targets that relate to the world’s most pressing challenges. Examples of SDGs include reducing poverty, increasing economic prosperity, promoting social inclusion and environmental sustainability, and working towards peace and governance to all by 2030. The targets, which have been developed based on the most current research, constitute a world-wide action plan to achieve sustainability in developing and developed countries (Disley, 2013; Salvia, Leal Filho, Brandli, & Griebeler, 2019). The SDGs were accepted by all UN member states in 2015 (United Nations [UN], 2016) and – since then – have been used as a blueprint to translate these high-level goals into national strategies and plans (United Nations [UN], 2018). The UN continuously monitors its member states’ efforts and achievements towards achieving the goals, and reports those, alongside areas that require further attention, in its annual ‘Sustainable Development Goals Report’ (United Nations [UN], 2019).

Recent literature has begun to recognise the potential value of using the SDGs as a means of measuring research impact (Bebbington & Unerman, 2018; Leal Filho et al., 2018), and along these lines, we propose that the SDGs may be an effective way to assess research impact and real-world value. Accordingly, it becomes important to understand how research can be better aligned with the specific targets set out in the SDGs, and this formed the basis of the second research question for this study.

RQ2. How can academics, practitioners, and policymakers align their research agendas with the UN’s Sustainable Development Goals (SDGs)

Existing systems of measuring research quality and impact, such as journal rankings and citation impact metrics, have been criticised (Moosa, 2016; Sangster, 2015), yet with few alternatives available, these are still the predominant systems used by most institutions. As with any shift in policy, any potential change to the measurement of research impact and value would need to be accompanied by significant changes to institutional metrics and systems. The third research question for the study considers this issue by exploring the operational considerations that would go hand in hand with any changes made to the way that research impact is measured.

RQ3. How would alignment with the SDGs be operationalised in an academic environment?

Beyond the expectations and policies set by individual institutions, academic research is often guided by network organisations, such as conferences and special interest groups (Jordan,

Sloan, Bentley, & Langerud, 2018). As the data for this study were exclusively collected from academic gatherings under the banners of such organisations, it was appropriate to explore the potential influence that these network organisations could have.

RQ4. What role could network organisations such as the Australian and New Zealand Academy of Management (ANZAM) and the Continuous Innovation Network (CINet) fulfil in aligning research agendas with the SDGs?

The next section of the paper will explore the background to this research, highlighting the value and relevance of the SDGs to the measurement of impact and quality of academic research.

Background

Agarwal et al. (2016) identify more than two dozen metrics used to measure scholarly research impact, including the *h*-index, journal impact factor, the Eigenfactor, and article metrics. These are known as bibliometrics and they are often used as ways to measure research quality and impact within academic institutions. While bibliometrics have long been used to make comparisons between researchers and institutions, Agarwal et al. (2016) advise that these comparisons should only be made between researchers who are in the same discipline and at the same stage in their career, as bibliometrics can increase bias if used incorrectly. For example, when one researcher is compared to another who has more experience in their field of research, the researcher with more experience will likely have a higher publication record, citation count, number of downloads, number of successful grants and research projects, journal impact factor, and Eigenfactor due to the differences in the length of time and opportunities they have had in their careers (Agarwal et al., 2016).

In addition, research institutions are often of the view that publications in highly ranked journals demonstrate impactful research because they have undergone a peer-review process by the research community, meet a minimum standard and have high citation impact factors. However, Seglen (1997) argues that the latter is an overly complicated and basically useless indicator of real-world impact, because it is only a measure of scientific utility, not scientific quality. Furthermore, Agarwal et al. (2016) warn researchers to be wary when new web-based tools are made available by databases to measure quality and impact because these measures are frequently owned by publishing companies. As a result, publishers generate a bias when promoting claims of their journals' reach and impact (Agarwal et al., 2016). Importantly though, these metrics are only measures of scholarly (or citation) impact and not real-world research impact. Thus, although there are several metrics available to measure research quality and impact, most only measure certain characteristics of research quality. They do not measure real-world impact and are far removed from being able to establish the value for investment return on research funded by tax-payer dollars.

Indicators used to measure academic performance have resulted in placing unnecessary pressure on academics and the Schools in which they are employed, leading to an increase in rewards for promotion but a decrease in research integrity and real-world impact (McKiernan & Glick, 2017). These methods are detached from the overarching goal of adding value to society through understanding and solving key problems and opportunities. Jones (2017) believes using quantitative citation-based methods to measure quality is a fallacy and that such numbers are not a valid representation of research quality. Furthermore, Brew et al. (2016) argue that the academic environment imposes particular ways of thinking about research upon academics that are strongly framed by quality and performance measures and metrics. These current measures are for academic institutions only and do not provide a valid representation or measurement tool for true quality or real-world, impactful research.

Moreover, these bibliometric-based methods most widely adopted by academic institutions have several additional limitations (Drew, Pettibone, Finch, Giles, & Jordan, 2016). For example,

they may not recognise academics who are actively taking part in research because the research they are involved in is not necessarily measured by the current metrics in place (Brew et al., 2016; Lucas, 2006). Examples of this often include interdisciplinary research or research in new fields not well-served by the large publishing houses.

To maintain their employment, academics must continuously meet key performance indicators (KPIs) set by Schools and Universities, and when these KPIs are based on citation bibliometrics as pushed by the global publishing industry, there is little incentive for academics to seek to measure the real impact of their research on end-users. Rather than incentivising business academics to focus on existing business and societal challenges, Chapman (2012) concludes that a focus on research outputs as measured by publication bibliometrics tends to drive Business Schools *away* from creating real solutions for such challenges. This is often reinforced by research institutions, where pay rises and promotions are awarded based upon publications in high-ranked journals that are of high 'quality', and although these citations are viewed and used by academics; industry leaders and policymakers, including large funding bodies of universities, such as the Federal Government, rarely ever read these 'highly-ranked' publications (Glick, Tsui, & Davis, 2018).

Glick, Tsui, and Davis (2018) believe that current academic incentives do not reward quality or replicability, rather they reward quantity and novelty. It is argued that the current measures of quality and performance are problematic and do not encourage meaningful research impact. Nevertheless, meaningful research impact is often achieved despite the current ill-fitting and contested performance measures and, according to McKiernan and Glick (2017), this impact should go well beyond merely counting citations and media hits. We propose that the same line of argument should be applied to the current system of journal rankings.

These traditional measures of research impact, in conjunction with the current funding model for Business Schools, mean that there is very little consideration of the *real* impact of our business research (Doyle, 2018). In terms of investment, McKiernan and Glick (2017) argue against the time and effort spent for the purpose of 'just another' publication. Glick, Tsui, and Davis (2018) further claim that stakeholders frequently pay for research that rarely benefits them. Therefore, it is becoming increasingly evident that the current measures of quality and impact of business research, and performance, are of questionable value to society. It is also evident that the current measures do not align with required current and future research agendas of government agencies and policy agendas.

Research now requires transformation and needs to serve others beyond academia to generate real-world impact (Glick, Tsui, & Davis, 2018). This view is gathering considerable traction in academia and business through organisations such as the Responsible Research in Business and Management (RRBM) Network initiated by a gathering of influential international academics in 2014. The network now includes over 1,000 members, at least 85 co-signers, nearly 900 endorsers, more than 55 institutional partners, and six pioneer Schools (RRBM, 2017). In their attempt to address the wicked problem of achieving meaningful research outcomes, the RRBM Network developed a 2030 vision, in which Business Schools and scholars worldwide will have transformed their research, focusing on responsible science, and the production of credible knowledge that assists with addressing the real-world problems important to business and society (RRBM, 2017).

New methods are available to measure research impact and therefore 'quality', which are most suited to the current institution of academia but are not being implemented. To understand how these methods can be used effectively the following question needs to be reconsidered: what is 'real' research impact?

According to the Australian Research Council, 'research impact is the demonstrable contribution that research makes to the economy, society, culture, national security, public policy or services, health, the environment, or quality of life, beyond contributions to academia' (Australian Research Council [ARC], 2015a). Research impact needs to extend beyond academia in an effort

to generate legitimate and responsible research (McKiernan & Glick, 2017). In the specific context of management research, Simsek, Bansal, Shaw, Heugens, and Smith (2018) argued research must impact 'management practice', but almost as a side-note also stated that management research can have significant impact through the role of the scholar as an educator and – more broadly – by contributing management research as a tool to address some of the bigger wicked problems in the world (George, Howard-Grenville, Joshi, & Tihanyi, 2016). Unfortunately, none of these authors have considered how such 'real' research impact can be appropriately measured within academic environments.

Additionally, more attention needs to be given to end-users, who are an integral component in determining impact (Williams & Grant, 2018). While Simsek et al. (2018) suggested that the rather narrow group of management practitioners is the main end-user of management research, they also imply that students are also end-users, and by referring to management research's ability to contribute to wicked problems, they further imply another end-user of management research: society. By seeing society, more widely, as the end-user, management research could align its impact with that required of businesses as the latter should also add value to society (Wang, Tong, Takeuchi, & George, 2016).

Consequently, research agendas need to change, especially in Business Schools where the research focuses mainly on individuals, teams, and the organisation, but generally without consideration of the broader societal and global impact of the research. A focus on individuals, teams, and organisations and a consideration of the broader societal and global impact, however, are far from mutually exclusive. In fact, George et al. (2016) argued that that management researchers are in a unique position to contribute to wider impact by addressing individual and organisational challenges that are ubiquitous to the solution of the bigger societal challenges in the world. George et al. (2016) further stated that management researchers actually want to have such societal and global impact, but often feel that the academic structures (including some of the previously mentioned pressures, such as the need to measure research with academic bibliometrics) do not allow for them to contribute in this manner. Although it is difficult to capture and report this wider impact, there are critical global indicators that can be used to drive our research (Smith et al., 2018). As previously mentioned, one such example is the United Nations 2030 Agenda for Sustainable Development, consisting of 17 SDGs and 169 corresponding targets.

The SDGs aim to enhance the globalisation of knowledge and facilitate the implementation of research across several sectors and regions (Sachs, 2012). Universities, with their unique position in society have a critical role to play in the achievement of the SDGs. Arguably, the SDG goals cannot be achieved without the contribution of the University sector. Sachs (2012) argues that academia, governments, international institutions, private business, and society, are all required to work together to ensure the success of the SDGs. Supporting this view is a range of evidence emerging in recent reports that demonstrates a significant uptake of the SDGs as a way of measuring research impact (Körffgen et al., 2018; Leal Filho et al., 2019; Saric et al., 2019).

The research agenda for the SDGs moves beyond only researching for high-income countries, which often makes it difficult to transfer the research to lower income countries (Greenhalgh et al., 2016). The SDGs instead require researchers to think about the global impact of their research in relation to the 17 goals and their corresponding targets. We therefore propose that the SDGs should be used as quality indicators and drivers within academia to measure real-world impact and research quality.

This paper begins to unpack current bibliometric measures of research outputs and proposes an alternative way to measure research value in line with the global ideal of measuring 'real-world' impact. As detailed in the Introduction, this paper addresses the following four research questions:

RQ1. How should we measure research impact and value?

RQ2. How can academics, practitioners, and policymakers align their research agendas with the UN's Sustainable Development Goals (SDGs)?

RQ3. How would alignment with the SDGs be operationalised in an academic environment?

RQ4. What role could network organisations such as the Australian and New Zealand Academy of Management (ANZAM) and the Continuous Innovation Network (CINet) fulfil in aligning research agendas with the SDGs?

The next section of this paper will provide an explanation and justification of the qualitative approach adopted for this study, an outline of the world café methodology used to collect data for the study, and an overview of the questions that participants were asked in the world café sessions.

Method

We developed a workshop that enabled researchers to constructively and openly consider and discuss how the SDGs could be incorporated into University, particularly into Business School, research agendas. The workshop focused on exploring how researchers, as individuals and members of different academic groups, would be able to engage with the SDGs. Importantly, we wanted to understand how this engagement with the SDGs could result in real-world impact.

A world café design was implemented to aggregate dialogue data from two different workshops in an open and welcoming environment. The world café approach is a process of democratic conversation that not only enables active dialogue amongst participants in a relaxed setting, but also facilitates collaborative inquiry and cross-pollination of thoughts and ideas amongst participants (Anderson, 2011; Brown & Isaacs, 2005; Fouché & Light, 2011; Jorgenson & Steier, 2013). According to Anderson (2011), the world café design creates an ideal setting for knowledge translation, whereby diverse opinions are shared and concepts are challenged, thus new learning occurs for each participant involved. The world café approach requires small groups of participants to sit around tables to discuss thought-provoking questions in multiple conversational rounds; in a traditional world café format, participants circulate between tables at the end of each round, thus adding to discussions with other participants and facilitating interaction across the different tables (Maskrey & Underhill, 2014). Facilitators should be placed on each table and summarise the main points of the previous round discussions at the start of each new round (Anderson, 2011). It was the interactive and collaborative nature of the world café format that was crucial in this study to explore and understand how participants currently engage with SDGs, how they are currently being implemented in universities, and how they could be implemented in future, resulting in real-world impact.

The workshops were conducted with nine groups at two conferences. The Continuous Innovation Network (CINet) in Ireland, September 2018, in which a total of 17 participants from diverse European countries contributed in five groups; and the Australian and New Zealand Academy of Management (ANZAM) in Auckland, New Zealand, in December 2018, where a total of 26 participants, two discussion leaders, and six facilitators partook in the workshop (six groups). Participants self-selected to participate in the workshops, thus suggesting some interest in the workshop content. The total amount of participants was 51, all of whom were researchers working at universities, at various stages of their academic careers.

Recognising that a norm of between 15 and 60 participants is likely to be considered efficient, the actual number depends on the research purpose (Saunders & Townsend, 2016). Given that the purpose of the workshops was to elucidate and explore a range of insights, we contend through the demographic data, that the number and range of participants provided a sufficient and credible sample. The participants were diverse in terms of stage in their career (including

research higher degree students [$n = 16$], early and mid-career academics [$n = 21$], and senior academics [$n = 14$], providing an overall age range of 24–63.

The workshop began with an introduction to research impact and information about the SDGs, as well as an overview of current University engagement with the SDGs, and how Universities can improve their engagement with the SDGs derived from desk research of University websites. This part of the workshop was delivered by the discussion leaders and it set the context for the world café conversations. For the world café itself, participants were seated at round tables (between five and six participants per table), which invited open conversation, modelled after a generic café environment (Brown & Isaacs, 2005). Participants were provided with a folder, which contained a consent form and information about the SDGs. All participants gave their consent to participate at the world café as a data collection approach, although provisions were available should any participants wish to be excluded from data collection.

Each table had a facilitator, whose role was to ensure that the table remained on task and that everyone was given the opportunity to express their opinion. In addition, the facilitator took notes about the discussion taking place on a large piece of paper in the centre of the table with coloured markers, and immediately after the workshop, prepared reflection notes, which included a more detailed account of their observations and richer description of the table discussions. All facilitators were researchers with experience of facilitation of group discussions and group interviews, as well as qualitative data collection and analysis, so as to fulfil their dual role of facilitating the discussions and preparing meaningful research notes (MacFarlane et al., 2017).

During the world café part of the workshop, four questions were addressed, one question per round, whereby each round lasted 10 min. These questions were aligned to the study's four research questions, and designed to ensure that the workshop theme, which focused on the SDGs and real-world impact, remained a central focus in each round:

- (1) How can we better align our current *individual* research agendas to particular SDGs?
- (2) What are the steps required to begin using the SDGs to help drive our *institutional* research agenda?
- (3) What *role* can *network organisations* (such as ANZAM/CINet) play in focusing attention on the application of the SDGs in our research activities?
- (4) How can we *measure research quality*, keeping our end-users in mind?

The design of the workshop's world-café was slightly modified from the traditional world café design. Usually, participants are required to move between tables after the conclusion of each round, which allows participants to meet other people and aims to widen their perspectives through others' differing and/or similar observations or opinions (Brown & Isaacs, 2005; Prewitt, 2011; Steier, Brown, & Mesquita da Silva, 2015). However, we modified this traditional approach and instead had participants remain at the same table to discuss each of the four questions. Although this modification reduced the opportunity for participants to obtain views from other tables, it enabled participants to build on what was discussed in the previous rounds. This resulted in deeper conversations, building on the collective knowledge of the group, and also removed the need for facilitators to constantly repeat the discussion points from previous rounds. Therefore, this modification allowed us to overcome the limitations we faced due to time constraints and large numbers of participants in the workshops. At the same time, the modification allowed us to retain the strengths of the world café format as we were able to provide a space that enabled constructive and amicable discussions per round, even though the groups remained the same. In addition, the appropriate facilitation of the groups also supported democratic conversations by ensuring that no single participant dominated the discussion.

Once the four rounds concluded, an open discussion began. In the world café literature this is referred to as the *harvesting* phase (Brown & Isaacs, 2005). During this phase, discussions that occurred at individual tables are shared with the whole group (Brown & Isaacs, 2005). Firstly,

we asked facilitators to briefly summarise one of the questions to explore patterns, themes, and deeper questions experienced in the smaller group conversations (Aldred, 2009; Fullarton & Palermo, 2008). All participants were then asked as a large group to engage in an open conversation with each other and the facilitators. This harvesting of information allowed the whole workshop group to reflect on what was discussed both verbally and visually, using the notes taken by facilitators (on the large pieces of paper and coloured markers on each table). Immediately following the workshops, we collated all notes produced during the workshop, and the facilitators were asked to provide more detailed reflections on the process. These facilitator reflections typically included observations of the discussions held at their tables, as well as richer responses to the workshop questions. All facilitators provided reflections following the workshops, and these reflections were added to the data for this study.

The harvesting phase is an integral component of the world café design. For each of the workshop groups further discoveries and insights were made through this sharing of information. According to Brown and Isaacs (2005), the harvesting phase allows for patterns to be identified and the collective knowledge of the group can be observed by everyone. It was clear that participants realised from the four rounds and the whole group discussion that the possibility for actionable research aligned with the SDGs to create real-world impact is both warranted and achievable.

Following the steps described above, the next steps in conducting the research involved an in-depth analysis of the data collected at all world café sessions and reflections collected from facilitators. This process of analysis is discussed further in the following section of this paper.

Analysis

Text data were created by aggregating the discussion notes on the large pieces of paper on each table and the reflection notes and observations for each question provided by the facilitators. There were over 30 pages of reflection notes and observations entered into QSR NVivo for the purpose of organising the sources, classification codes, and themes. This allowed for integration and comparison of the different data sources with the aim to identify convergences and contrasts of the data collected. Data were analysed by two researchers via constant comparison within the questions (are participants saying the same thing?) and within the workshops (are groups saying the same thing and if not, what is different?). The process in NVivo was a staged approach commencing with organising the data, synthesising the data, and searching for patterns and determining the findings guided by the research questions. For example, reflections, notes, and observations were coded by connecting each item, word, sentence, and passage to a theme. This yielded a coding tree with themes such as 'awareness', 'collaboration', and 'language' (see Table 1).

The meta-analysis of the data included identifying theme-connections from the perspective of the participants and examining the links and the connections between the concepts (Bryman, 2016; Quinlan, Babin, Carr, & Griffin, 2019). As such the themes were derived from the data but guided by the questions posed in the world café. Table 1 contains a list of themes, which emerged from the data for each of the four questions, as well as supporting quotes from the workshop participants.

In terms of seeking feedback from participants on the findings, workshop participants who viewed an earlier version of this paper 12 months after the workshop was held, commented that they had observed a considerable increase in their own and their colleagues' awareness of SDGs (as discussed within the 'SDG awareness' theme in the workshops) over the intervening year.

The data only derived from two workshops, with a relatively small number of participants ($n = 51$), which presents a limitation of this study. Nonetheless, the diversity of participants in terms of geographical location, career stage, and research focus provided diverse viewpoints, which nonetheless converged to a suite of common themes. Moreover, the data derived from the notes and reflections of workshop facilitators; although these were written up immediately

Table 1. Qualitative findings – themes and supporting quotes

Question	Themes	Verbatim participant quotes
How can we better align our current individual research agendas to particular SDGs?	Focus on education	<ul style="list-style-type: none"> • Pass on the importance to students • Teaching to influence others • Action to improve through teaching • Education and training towards SDGs • I think it is about quality education and integrating research outcomes into teaching • Quality education is relevant
	Alignment	<ul style="list-style-type: none"> • Use SDG language • Use SDGs to drive future research • Core goal is to anchor research agenda but align with other goals and targets as well • Competitive perspective when choosing goals to align with • Need to identify relevant themes • Better alignment is needed to be more specific • Need to align with SDGs communicated as a moral argument • A and A* journals don't align but there is pressure to publish in these outlets
	Collaboration	<ul style="list-style-type: none"> • Don't stay individual, needs a team approach • Working with countries and organisations that are already involving these goals • Research centres and ongoing collaboration lead to a critical mass, instead of the lone wolf researcher
	Target/measure	<ul style="list-style-type: none"> • Involving these goals in what we do and how we do them at a strategic organisational level through senior management is important • In the mission, vision and strategy • Use SDGs as drivers for impact quality
How can we measure research quality, keeping our end-users in mind?	Awareness	<ul style="list-style-type: none"> • Research interfaces for dissemination • Workshop with researchers to discuss data and connection with SDGs • Share research outcomes and outputs with community, e.g., tools developed, forms of evaluation • Articulate relevance • Think tanks with all stakeholders • Invite industry and researchers • I am not rewarded for focusing on students, instead only research outputs at this stage in my career
	Language	<ul style="list-style-type: none"> • Common language not just between researchers but industry as well • Articulate justifications in SDG terms • Target conversations

(Continued)

Table 1. (Continued.)

Question	Themes	Verbatim participant quotes
	End-user	<ul style="list-style-type: none"> Identify the end user – other researchers, PhD committees, publishing houses, community/society Small steps, identify the end-users Publishers, academics, government, funding institutions
	Target measure	<ul style="list-style-type: none"> Have universities sign up to the SDGs Strategic objectives – implement SDGs into them End user – those we impact we can measure for impact Can measure contribution Fidelity, are we achieving what we set out to achieve Quality is perceived by the end-user and so is impact To measure quality through publication, impact on industry Validate with industries Context is important
What are the steps required to begin using the SDGs to help drive our institutional research agendas?	Alignment	<ul style="list-style-type: none"> How well [the institutions] align with SDG's Integrate research into...newsletter to provide understanding about how research findings have been used
	Awareness drive	<ul style="list-style-type: none"> Must re-focus research Beyond awareness to engagement with the goals to funding Write a white paper or discussion paper for the upper echelons Push, directive
	Top-down and bottom-up approaches	<ul style="list-style-type: none"> Talk to the Dean – bottom up approach and HR involvement – part of position descriptions Requires a very broad institutional response as a coordinated effort. The impact of top-level management within institutions is critical Needs to come from the top Needs a mandate Strategic objectives Change needs to be driven by the more senior staff who should play a role of a sponsor
	Collaboration/networking	<ul style="list-style-type: none"> Move towards a model where at all stages of research we have an industry partner...connection to industry is important More audiences than just industry
	Target/measure	<ul style="list-style-type: none"> How do we contribute to targets is it sustainable

(Continued)

Table 1. (Continued.)

Question	Themes	Verbatim participant quotes
		<ul style="list-style-type: none"> • Now there are targets, how do we demonstrate that we have achieved • Link funding to SDGs • Consider the scope, small steps, evolutionary or archetypal • Alternative models
What role can network organisations (such as ANZAM or CInet) play in focusing attention on the application of the SDGs in our research activities?	Mapping	<ul style="list-style-type: none"> • Education, running workshops, forums • Map papers/themes of past conferences and determine future conference themes • Streams at conference/plenary/workshops • Have a track at the conference driven by SDG • Track themes with the Call for papers • Accept and officially adopt the SDG's
	Collaboration	<ul style="list-style-type: none"> • Organisational research that focuses on SDGs • Support individuals coming into this space • Proximity/alignment of goals and where they connect and connect individuals in these areas • Advocacy with related networks • Transdisciplinary networking • Role of advocacy for networking organisation to link the government, industry and academics together to ensure we actually do research that makes a difference
	Target	<ul style="list-style-type: none"> • Each paper has a goal/target statement relating to SDG's • Connect an award to SDG driven research • Funding bodies need to align with SDG's • Enforce presentation alignment
	Legitimise	<ul style="list-style-type: none"> • Legitimising it, university certificates for students • Review mission, vision and value statements, inclusivity and focus • Mandate and encourage alignment to SDG's • Review mission, vision and value statements

after the workshops, an element of recollection bias may be present as the data depended upon the facilitators' memory of the discussions and their notes during the workshop.

Every effort was made by facilitators to note and recall the views expressed by participants, but it is possible that some meaning has been lost in the process of writing up the data, which constitutes another limitation of this study. However, as the findings discussed in the next section demonstrate, the responses from participants demonstrated a substantial level of congruency,

suggesting that there was minimal loss of data clarity as a result of selective memory bias or misinterpretation. Both facilitators and participants were from the broad field of management. While this provided deep insights into the views of one particular group of researchers, it also constitutes a limitation to generalisability of the findings as scholars from other fields within the business community, such as finance or marketing, may have other views.

Results and Discussion

This section presents the findings, according to the themes that emerged in line with the four research questions. Table 1 has presented these themes in detail, alongside illustrating quotations from the workshop participants. It is interesting to note that despite the diversity within the workshops, particularly the fact that one took place in Europe and the other in New Zealand, the themes that emerged from the analysis are common across both workshops.

Research question 1 was set at the broad level of measuring research quality in general, and was addressed in the world cafés with the following workshop question:

How can we measure research quality, keeping our end-users in mind?

The measurement of research quality and/or impact was seen as a difficult step by our workshop participants because of the highly embedded nature of bibliometrics in School and University perceptions of what constitutes ‘quality’ research. The fact that such bibliometrics are also used as performance measures, and promotion criteria only add to the difficulty in making the required changes. Our workshop participants felt that better identification of the end-users of our research; developing improved measures for end-user evaluation of research outcomes; ensuring a common language is adopted by both researchers and industry/society end-users; and the establishment and promotion of improved collaboration and communication between business researchers and research end-users can all assist in the development of improved research quality and impact measures. Assistance will come with the development of the new ARC Research Impact assessment exercise, which will continue to assess how well researchers and institutions engage with end-users of research (Australian Research Council [ARC], 2015b). However, as the next round of this exercise will not take place until 2024, we need to get better at collecting end-user evaluation of our research outcomes on a timely and continuous basis. We should also be working to provide additional measures for University and School performance that include end-user evaluation of research outcomes and reduce the sole focus of such systems on citation bibliometrics and funding dollar measurements.

The second research question focused on how academics, practitioners, and policymakers can align their research agendas and measure real-world impact in an academic environment, was addressed with the following question during the world café sessions:

How can we better align our current *individual* research agendas to particular SDGs?

Participants felt that an integration of the SDGs into our teaching (as well as our research) was an important issue in building broad commitment to the sustainability targets and aligning individual research agendas. They also felt that the complex issues highlighted within the SDGs will require effective alignment between individual research agendas and institutional and government research performance measures and directions. This includes using common language, improved communication to the wider society, and a reduction of the focus on journal ranking as the only measure of research quality and value. Collaboration between researchers in different institutions and across different disciplines was also seen as essential in tackling these issues. Incorporating the SDGs into School and University mission and vision statements was seen as

a positive way to boost awareness and involvement from academic staff regarding the SDGs and their individual targets.

It should be noted that this research question included the additional stakeholder groups of practitioners and policymakers, as there was the potential for representatives from these stakeholder groups to attend the workshops. However, all participants at the workshops were University researchers, and as such, the perspectives of practitioners and policymakers cannot be included. However, the important role of these stakeholder groups cannot be ignored, so the discussion will still consider implications for practitioners and policy.

Research question 3 focused on operationalising the SDGs in an academic environment, and was addressed in the world café sessions with the question below:

What are the steps required to begin using the SDGs to help drive our *institutional* research agenda?

The workshop participants felt that establishing a clear alignment between the SDGs and institutional research agendas was an important first step in solidifying the use of SDGs. One suggestion for how to establish this alignment was to ensure that institutional communication devices such as newsletters were used to inform staff about the importance of the SDGs, and how current research findings align with them. This focus on communicating the importance of the SDGs was also reflected in the workshop participants' view that awareness was an important early stage of driving the use of SDGs in institutional research agendas.

The question of whether the use of SDGs needs to be emphasised by senior management (top-down) or independently carried out by individual staff (bottom-up) was discussed in depth, and most workshop groups concluded that there needs to be a combination of these approaches. Many participants indicated that widespread change is only possible when senior management are driving it, yet also suggested that these senior managers would be more likely to emphasise the use of SDGs if they could see that their staff were already engaging with them. Outside of drivers within the institution itself, some workshop participants indicated that the use of the SDGs would be more feasible in a model where all stages of research were connected with an industry partner. Finally, workshop participants all referred to the importance of finding a way to set achievable targets aligned with the SDGs. One suggestion for how this could be achieved would be through the development of a funding model that specifically linked funding to the SDGs.

The fourth and final research question focused on the role of network organisations, and was addressed in the world café sessions with the question below:

What *role* can *network organisations* (such as ANZAM or CINet) play in focusing attention on the application of the SDGs in our research activities?

In response to this question, many workshop participants indicated that the way in which conferences were organised could play a major role. Specifically, suggestions were made that conferences could have a dedicated stream focused on SDGs, where researchers in this area could connect and help promote this research agenda. Going further than this, some participants suggested that conferences could align all their streams with the SDGs, to provide an even clearer focus on the importance of this agenda. However, while actions such as this were considered to be important, workshop participants typically believed that the most significant role that network organisations could play was one of legitimising and supporting collaboration between researchers focused on the SDGs. In providing this supportive and collaborative environment, network organisations are able to bridge disciplinary boundaries, which is a key element in addressing the SDGs.

Overall, there was a general agreement amongst the participants for SDGs to become part of everyday academic work. For example, participants advocated the previously mentioned model where, at all stages of research, there is an industry partner connection and a recognised alignment to the associated SDG. Additionally, because a focus on SDGs is relatively new in academia, there needs to be increased awareness of how SDGs can demonstrate real-life impact. Therefore, to create awareness of the utility of SDGs for academic work, participants suggested the need to consider SDGs and targets in both teaching and research. In an effort to fully engage with the SDGs, some participants suggested that Business Schools formally connect SDGs and targets to the curriculum, and mandate SDGs to drive future research. Therefore, we believe a focus on the SDGs in academic work is warranted.

Despite the positive response regarding the recognition that SDGs are important drivers for future academic work, the difficulty lies in how we contribute, measure, and align our performance to the current goals and targets, and therefore whether the contribution to the goals and targets is sustainable. For example, there is little expert knowledge available for academics to assist them in their endeavour to plan new research projects, examples of published work that explicitly address these goals and targets are few and far in between, and measures of what exactly constitutes measurable impact on SDG targets is not currently clarified. At present, relevant A and A* ranked journals (using the Australian Business Deans Council, ABDC journal ranking as an example) do not align with the SDGs, but there is much pressure within Universities to publish in these outlets. While some journals request impact statements, such as practice impact and policy impact, most do not make known their specific sustainable development targets. Therefore, much work is needed to support academics in their future research and dissemination pursuits. The same can be said about funding applications, although there seems to be more movement towards societal relevance and impact of the research outcomes beyond academia (Australian Research Council [ARC], 2015a, 2015b; National Health & Medical Research Council, 2018). As a result, universities are commencing mapping their research outputs to the SDGs (Griffith University, 2019).

Such mapping at a University level is an important first step towards the integration of SDGs into Universities, as highlighted in the following list of mechanisms that has been proposed by the Sustainable Development Solutions Network (SDSN Australia/Pacific, 2017):

- (1) Map what they are already doing in relation to the goals and their targets,
- (2) Build internal capacity and ownership of the SDGs,
- (3) Identify priorities, opportunities, and gaps,
- (4) Integrate, implement, and embed the SDGs within University strategies, policies, and plans, and
- (5) Monitor, evaluate, and communicate actions on the SDGs often.

As this section has shown, our data from the world café workshops support these high-level actions and add valuable insights also into individual academics' views towards these steps and what they themselves can add to achieving this integration of SDGs within the University sector.

Conclusion and Recommendations

The purpose of this paper was to unpack the current bibliometric-focused measures of research 'quality' and to propose an alternative way to measure research value in line with the global ideal of measuring 'real-world' impact, through the use of the United Nation's SDGs. In an endeavour to understand how researchers can align their research agendas and measure real-world impact, how this can be operationalised in academic environments, and what role networking organisations can play in this change, we analysed research data resulting from a number of world café workshops. The main themes that emerged from the participant narratives included: driving

awareness and normalising the language around SDGs; the need for collaboration with industry partners; a call for defining the targets and how to measure the impact of research that addresses them; and, aligning research agendas to the SDGs and associated targets. Consequently, the key recommendations for Universities that came out of these findings were:

- (1) Align University mission and vision statement with the SDGs and targets, in order for individual researchers to weave these goals and targets into teaching and research practices and agendas;
- (2) Align the SDGs and targets to performance management practices to ensure accountability and commitment to the pursuit of these goals at individual and team levels;
- (3) Encourage a closer relationship with industry to ensure sustainability and real-world focus is embedded within the research from the outset; and
- (4) Commit to the professional development of academics and students to the SDGs and targets to ensure sustainability of commitment going forward into practice.

The key recommendations for networking organisations resulting from this study are as follows:

- (1) Embed and advocate for the achievement of SDGs and targets being implemented; and
- (2) Provide a platform for deep relationships to be created between government, industry, and network members.

This paper reported on two academic groups who we asked to rethink research impact beyond academia by considering the possible role of the 2015 UN SDGs. These recommendations may provide a platform for the acknowledgment and recognition of real research impact in Business Schools. The UN SDGs and related targets are a powerful guide to solve wicked real-world problems and may thus provide academic guides and measures that have the potential to pay back public investment in business research. It is clear from both developments in the field and the responses provided by workshop participants that the SDGs are increasingly coming to the forefront of academic institutions' and individual researchers' agendas. These rapid developments in the field, alongside the small sample size, focus on management research, and highly exploratory nature of the findings from this study, mean that further research needs to be undertaken in this area to: (i) better understand other stakeholders' views on this issue; (ii) establish clear measures of research impact aligned with the SDG targets; (iii) explore further opportunities for positive action; and (iv) provide an increased volume of evidence of researchers' views – including researchers in fields other than management – on the issues discussed in this paper.

References

- Agarwal, A., Durairajanayagam, D., Tatagari, S., Esteves, S. C., Harlev, A., Henkel, R., & Ramasamy, R. (2016). Bibliometrics: Tracking research impact by selecting the appropriate metrics. *Asian Journal of Andrology*, 18(2), 296.
- Aldred, R. (2009). From community participation to organizational therapy? World café and appreciative inquiry as research methods. *Community Development Journal*, 46(1), 57–71.
- Anderson, L. (2011). Use the world café concept to create an interactive learning environment. *Education for Primary Care*, 22(5), 337–338.
- Australian Research Council [ARC] (2015a) *Research impact principles and framework*. Canberra, Australia.
- Australian Research Council [ARC] (2015b) Engagement and impact assessment, available at: <https://www.arc.gov.au/engagement-and-impact-assessment>. Accessed 02 January 2020.
- Bebbington, J., & Unerman, J. (2018). Achieving the United Nations sustainable development goals: An enabling role for accounting research. *Accounting, Auditing & Accountability Journal*, 31(1), 2–24.
- Brew, A., Boud, D., Namgung, S. U., Lucas, L., & Crawford, K. (2016). Research productivity and academics' conceptions of research. *Higher Education*, 71(5), 681–697.
- Brown, J. B., & Isaacs, D. (2005). *The world café: Shaping our futures through conversations that matter*. San Francisco: Berrett-Koehler.

- Bryman, A. (2016). *Social research methods*. Oxford, New York: Oxford University Press.
- Chapman, R. L. (2012) The downside of relying on research outputs to assess business faculty performance: Comments from down under regarding 'facilitating and creating synergies between teaching and research: The role of the academic administrator'. *Journal of Management Education*, 36 (4), 495–502, Sage, Thousand Oaks, Calif.
- Disley, Y. P. (2013). Sustainable development goals for people and planet. *Nature*, 495, 21.
- Doyle, J. (2018). Reconceptualising research impact: Reflections on the real-world impact of research in an Australian context. *Higher Education Research & Development*, 37(7), 1366–1379.
- Drew, C. H., Pettibone, K. G., Finch, F. O., Giles, D., & Jordan, P. (2016). Automated research impact assessment: A new bibliometrics approach. *Scientometrics*, 106(3), 987–1005.
- Fouché, C., & Light, G. (2011). An invitation to dialogue: 'The world café' in social work research. *Qualitative Social Work*, 10 (1), 28–48.
- Fullarton, C., & Palermo, J. (2008). Evaluation of a large group method in an educational institution: The world café versus large group facilitation. *Journal of Institutional Research*, 14(1), 109–117.
- George, G., Howard-Grenville, J., Joshi, A., & Tihanyi, L. (2016). Understanding and tackling societal grand challenges through management research. *Academy of Management Journal*, 59(6), 1880–1895.
- Glick, W. H., Tsui, A., & Davis, G. F. (2018). The moral dilemma of business research. *BizEd*, 17(3), 32–37.
- Greenhalgh, T., Raftery, J., Hanne, S., & Glover, M. (2016). Research impact: A narrative review. *BMC Medicine*, 14(1), 78.
- Griffith University (2019). Sustainable development. Retrieved June 20, 2019, from <https://griffith.edu.au/sustainable-development>.
- Hajdarpasic, A., Brew, A., & Popenici, S. (2015). The contribution of academics' engagement in research to undergraduate education. *Studies in Higher Education*, 40(4), 644–657.
- Head, B. W. (2019). Forty years of wicked problems literature: Forging closer links to policy studies. *Policy and Society*, 38(2), 180–197.
- Hughes, A. (2012). Enhancing impact: the value of public sector R&D: summary report: council for industry and higher education.
- Jones, M. R. H. (2017). Can research quality be measured quantitatively? On quality of scholarship, numerical research indicators and academic publishing-experiences from Norway. *Fennia-International Journal of Geography*, 195(2), 164–174.
- Jordan, P. J., Sloan, T. R., Bentley, T., & Langerud, D. H. (2018). Australian and New Zealand Academy of Management (ANZAM) Research Productivity Survey Report 2014–2016. Retrieved from: <https://www.anzam.org/wp-content/uploads/2018/12/ANZAM-RPS-2014-16.pdf>.
- Jorgenson, J., & Steier, F. (2013). Frames, framing, and designed conversational processes: Lessons from the world cafe. *The Journal of Applied Behavioral Science*, 49(3), 388–405.
- Körfigen, A., Förster, K., Glatz, I., Maier, S., Becsi, B., Meyer, A., Kromp-Kolb, H., & Stötter, J. (2018). It's a hit! mapping Austrian research contributions to the sustainable development goals. *Sustainability*, 10(9), 3295.
- Latour, B., & Woolgar, S. (2013). *Laboratory life: The construction of scientific facts*. Princeton, NJ: Princeton University Press.
- Leal Filho, W., Azeiteiro, U., Alves, F., Pace, P., Mifsud, M., Brandli, L., Caeiro, S. S., & Disterheft, A. (2018) Reinvigorating the sustainable development research agenda: The role of the sustainable development goals (SDG). *International Journal of Sustainable Development & World Ecology*, 25(2), 131–142.
- Leal Filho, W., Shiel, C., Paço, A., Mifsud, M., Ávila, L. V., Brandli, L. L., Molthan-Hill, P., Pace, P., Azeiteiro, U. M., Ruiz Vargas, V., & Caeiro, S. (2019). Sustainable development goals and sustainability teaching at universities: Falling behind or getting ahead of the pack?. *Journal of Cleaner Production*, 232, 285–294.
- Lucas, L. (2006). *Research game in academic life*. Maidenhead, UK: McGraw-Hill Education.
- MacFarlane, A., Galvin, R., O'Sullivan, M., McInerney, C., Meagher, E., Burke, D., & LeMaster, J. W. (2017). Participatory methods for research prioritization in primary care: An analysis of the world café approach in Ireland and the USA. *Family Practice*, 34(3), 278–284.
- Maskrey, N., & Underhill, J. (2014). The European statements of hospital pharmacy: Achieving consensus using Delphi and world café methodologies. *European Journal of Hospital Pharmacy*, 21(5), 264–266.
- McKiernan, P., & Glick, W. H. (2017). Why care about impact? *EFMD Global Focus*, 11(1), 18–21.
- Moosa, I. A. (2016). A critique of the bucket classification of journals: The ABDC list as an example. *Economic Record*, 92 (298), 448–463.
- National Health and Medical Research Council (2018) *Research policy: Research translation and impact*. Canberra, Australia.
- Prewitt, V. (2011). Working in the café: Lessons in group dialogue. *The Learning Organization*, 18(3), 189–202.
- Quinlan, C., Babin, B., Carr, J., & Griffin, M. (2019) *Business research methods* (2nd ed.). Andover, UK: South Western Cengage.
- RRBM (2017). A vision of responsible research in business and management: striving for useful and credible knowledge (An RRBM Position Paper (November 22, 2017)). Retrieved from <https://rrbm.network/position-paper/>.
- Sachs, J. D. (2012). From millennium development goals to sustainable development goals. *The Lancet*, 379(9832), 2206–2211.
- Salvia, A. L., Leal Filho, W., Brandli, L. L., & Griebel, J. S. (2019). Assessing research trends related to sustainable development goals: Local and global issues. *Journal of Cleaner Production*, 208, 841–849.

- Sangster, A. (2015). You cannot judge a book by its cover: The problems with journal rankings. *Accounting Education*, 24(3), 175–186.
- Santos, J. M., & Horta, H. (2018). The research agenda setting of higher education researchers. *Higher Education*, 76(4), 649–668.
- Saric, J., Blaettler, D., Bonfio, B., Hostettler, S., Jimenez, E., Kiteme, B., Koné, I., Lys, J., Masanja, H., Steinger, E., Upreti, B. R., Utzinger, J., Winkler, M. S., & Brey, T. (2019). Leveraging research partnerships to achieve the 2030 agenda: Experiences from North-South cooperation. *GAIA-Ecological Perspectives for Science and Society*, 28(2), 143–150.
- Saunders, M. N. K., & Townsend, K. (2016). Reporting and justifying the number of interview participants in organization and workplace research. *British Journal of Management*, 00, 1–17.
- SDSN Australia/Pacific (2017). *Getting started with the SDGs in universities: A guide for universities, higher education institutions, and the academic sector* (Australia, New Zealand and Pacific Edition). Melbourne: Sustainable Development Solutions Network – Australia/Pacific.
- Seglen, P. O. (1997). Why the impact factor of journals should not be used for evaluating research. *BMJ: British Medical Journal*, 314(7079), 498.
- Shattock, M. (2014). Can we still speak of there being an academic profession? *History of Education*, 43(6), 727–739.
- Simsek, Z., Bansal, P., Shaw, J. D., Heugens, P., & Smith, W. K. (2018). From the editors – seeing practice impact in new ways. *Academy of Management Journal*, 61(6), 2021–2025.
- Smith, M. S., Cook, C., Sokona, Y., Elmqvist, T., Fukushi, K., Broadgate, W., & Jarzebski, M. P. (2018). Advancing sustainability science for the SDGs. *Sustainability Science*, 13(6), 1483–1487.
- Steier, F., Brown, J., & Mesquita da Silva, F. (2015). The world cafe in action research settings. Chapter 20: The world cafe in action research settings. In H. Bradbury (Ed.), *The Sage handbook of action research (third)* (pp. 211–219). London, Thousand Oaks: Sage Publication.
- United Nations [UN] (2016). Sustainable development goals. Department of economic and social affairs. Available at <https://sustainabledevelopment.un.org/sdgs> (accessed December 19, 2019)
- United Nations [UN] (2018). The sustainable development goals report 2018. New York, NY: United Nations Publications. Available at <https://unstats.un.org/sdgs/files/report/2018/TheSustainableDevelopmentGoalsReport2018-EN.pdf> (accessed April 24, 2020).
- United Nations [UN] (2019). The sustainable development goals report 2019. New York, NY: United Nations Publications. Available at <https://unstats.un.org/sdgs/report/2019/The-Sustainable-Development-Goals-Report-2019.pdf> (accessed April 24, 2020).
- Wang, H., Tong, L., Takeuchi, R., & George, G. (2016). Corporate social responsibility: An overview and new research directions. *Academy of Management Journal*, 59(2): 534–544.
- Williams, K., & Grant, J. (2018). A comparative review of how the policy and procedures to assess research impact evolved in Australia and the UK. *Research Evaluation*, 27(2), 93–105.

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