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The pursuit of organizational impact: hits, misses, and bouncing back

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ABSTRACT

Conducting impactful research is a cornerstone of good academic practice. It increases the likelihood that research outcomes are used to generate positive change, e.g., by improving working lives, and delivering improvements in the management, operation, and performance of organizations. This, in turn, makes research relevant, representative, and credible. However, undertaking impactful research is challenging, especially when considered alongside other competing academic pressures and research goals. The purpose of this paper is to consider different approaches to creating impactful research in organizational psychology, and to propose that each approach can help meet different research goals. In particular, we introduce and reflect on the value of building long-term partnerships with organizations to create research impact, and consider lessons that we have learned from doing so. To do this, we conceptualize impact delivery as a socio-technical challenge, and demonstrate this using examples from our collaborations. We conclude with recommendations for those who seek to deliver research impact while grappling with these competing pressures.

The debate regarding the divide between science and practice, together with concern about real-world impact, is not new to organizational psychology (e.g., Anderson, Herriot, & Hodgkinson, 2001; Bartlett & Francis-Smythe, 2016; Gelade, 2006; Rynes, Bartunek, & Daft, 2001; Starkey & Madan, 2001). However, this debate feels strange to us – akin to questioning whether child psychologists should try to improve children's lives; or whether clinical psychologists should try to alleviate their clients' distress. Most fields of psychology do not learn in the abstract; rather, they openly consider those experiencing psychological phenomena (e.g., Elvish, Lever, Cawley, & Keady, 2013; Meyer & Fletcher, 2007; Rogers, Harrell, & Liff, 1993) and then draw on this to inform theory. Thus, delivering impact is central to their research (Ryba, Stambulova, & Schinke, 2013).

Many of our discipline's pioneering insights have arisen from observations of the real world, tackling specific practical challenges. For instance, the Tavistock Studies (see Bion, 1948; Parker, 2014; Rapoport, 1970) in the 1940s, which researched neurosis among soldiers during and after the World Wars, first documented how *work* could contribute to mental and physical health problems. Such findings were largely serendipitous, with the theories developing over time based on observations of these phenomena, and have ultimately inspired decades of scholarly interest and impact in the form of countless interventions and management practices to improve wellbeing, motivation, and productivity (e.g., Campion & Thayer, 1985; Parker, 2014; Rapoport, 1970). The field of change management has a similarly serendipitous history, with theory developing often through case studies that have been developed in response to observations and/or practical intervention (e.g., see Cummings, Birdgman & Brown, 2016; Kotter & Cohen, 2012).

Elsewhere, practical technological developments have driven research changes. The rise of the internet has spurred

researchers to examine its impact on ways of working, and how the technologies may be capitalized on and managed to benefit workers and their organizations, through virtual teams, remote working, and multi-national corporations, for instance (e.g., Charlalampous, Grant, Tramontano, & Michailidis, 2018; Hertel, Konradt, & Orlikowski, 2004; Hertel, Konradt, & Voss, 2006). Such examples are plentiful, thus demonstrating that insights from the real world can (and should) shape our research agendas. They help focus us on issues that matter to organizations and their employees, and that reflect business practices (e.g., Grote, 2017); and they prevent research and theory from becoming microscopic and blinkered (Anderson et al., 2001; Hisrich, Langan-Fox, & Grant, 2007).

However, often the current academic environment does not support the goal of applied and impactful research, for many inter-related reasons. First, the academic landscape is becoming increasingly pressurized. Not only must scholars publish but do so increasingly frequently, and in high-ranking journals, while also generating research income, and satisfying increasing student and institutional demands (Dostaler & Tomberlin, 2013; Ito & Brotheridge, 2007). Meanwhile, the standards for publication in fields like organizational psychology are ever increasing (Chen, 2018), fuelled by advances in statistical and analytical capabilities (Cortina, Aquinis, & DeShon, 2017) and increased competition for space in elite journals (Ito & Brotheridge, 2007). To survive in this environment of temporary contracts for junior researchers, low journal acceptance rates, and scarce research funding, academics must *"publish or perish"* (e.g., Miller, Taylor, & Bedeian, 2011). As psychologists, we know well that motivation is goal-directed, and that incentivizing a "publish at all costs" mentality will encourage academics to do so at the expense of other, lower priority goals. Indeed, this is the central premise of goal hierarchy theories (e.g., Unsworth,

Yeo, & Beck, 2014), and the negative, often unintended consequences of fostering such goal-driven behaviours have been widely documented (Kleingeld, van Mierlo, & Arends, 2011; Ordonez, Schweitzer, Galinsky, & Bazerman, 2009). It is therefore unsurprising that many academics seek to reap these publishing benefits *without* engaging in challenging organizational research.

Second, even if one accepts impact as fundamental to research excellence, we must recognize that this is not the *only* metric for assessing research (Anderson et al., 2001; Briner & Rousseau, 2011; Erkut, 2002; Grand et al., 2018; Grote, 2017; Lluch, 2005). It is also imperative that our research yields reliable, valid, and useable conclusions (Cortina et al., 2017; Grand et al., 2018), as it is possible to undertake flawed scientific research that is highly impactful at generating change but also creates *adverse* impact (Briner & Rousseau, 2011). Furthermore, sometimes short-term beneficial impact can lead to long-term adverse impact, such as when short-term performance is maintained by compensatory strategies that initially mask burnout (Demerouti, Bakker, & Leiter, 2014). We must avoid conflating these two goals while recognizing their interrelatedness. *Responsible* impact can only happen when our theories, methods, and data have integrity *and* credibility (Briner & Rousseau, 2011; Grand et al., 2018; Morrell, 2008). Nevertheless, science for science's sake isolates the academic community (Grote, 2017; Grote & Cortina, 2018; Mohrman, Gibson, & Mohrman, 2001; Van de Ven & Johnson, 2006) and risks creating rigorous but trivial (pedantic) science (Anderson et al., 2001). Consequently, research impact is becoming widely accepted as a key metric for research value (Morgan Jones, Castle-Clarke, Manville, Gunashekar, & Grant, 2013; The PLoS Medicine Editors, 2006; Watermeyer, 2016). Although this paper primarily considers the value of different researchers' routes to impact, this cannot be separated from other research goals because of the necessary trade-offs that each route necessitates. Accordingly, we suggest that the pursuit of impact is an integral aspect of research excellence, not an *optional extra*. This framing advances the debate to consider instead *how* academics can engage in impactful research, in ways that facilitate rather than compete with other goals (e.g., high-quality research, excellent teaching, research funding, leading journal publications, job security, and career progression).

The purpose of this paper is to consider this challenge. To do so, we present different approaches being used within the research community that aspire to deliver impactful research, and consider how these approaches can each help meet distinct (though interrelated) research goals. This discussion highlights the ways that competing goals influence research processes in organizational psychology research communities. The structure of the paper reflects four aims. First, we define what we mean by impactful research. Second, we consider and evaluate different practical approaches to delivering impactful research. Third, we present our hybrid approach, based on our collective experience of working in an interdisciplinary research centre specializing in socio-technical systems. Fourth, we offer some lessons learned in pursuing impactful research, along with practical recommendations for those seeking to create organizational impact through research. Our aspiration is that this paper will advance discussions of the creation of research impact by reconceptualizing this

as a socio-technical challenge; and that the paper itself can be used as a practical point of reference for researchers who, like us, are trying to balance a variety of academic pressures.

What is impactful research?

The Oxford Living Dictionary (2019) definition of "impact" is to have a *"marked effect or influence on someone or something"*; however, this lends itself to different interpretations. Coherent and comprehensive definitions of "impactful research" are elusive, and often framed to reflect the strengths of an institution, outlet, or scholar (e.g., Eysenbach, 2011; Morgan Jones et al., 2013; PLoS Editors, 2006; Watermeyer, 2016). The UK's Research Excellence Framework (REF 2021, 2019) claims to be the first exercise to assess the impact of academic research outside academia; defining research impact as that which has *"an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia"*. This definition is interesting to us, for six reasons:

(1) It implies that impact is concerned with *change*, to one or more of these areas (society, economy, individuals, organizations, and so on).
(2) It implies that impact typically occurs *after* the research.
(3) It implies that impact (change) should be *directly attributable* to the preceding research.
(4) It implies that impact can be objectively and overtly *measured* (e.g., a policy or financial change).
(5) It highlights that impact occurs *in partnership* with non-academic collaborators.
(6) It does not distinguish between the creation of *beneficial* and *adverse* impact.

For transparency, we adopt this as our working definition within this paper. However, we return to this again in our lessons learned section, where we consider some of the challenges with conceptualizing and measuring impact in this way.

Next, we consider and evaluate the typical, practical approaches of researchers seeking to deliver impact through their work.

Approaches to delivering impactful organizational research

A range of conceptualizations have been presented in the literature to contrast differences in approaching research impact (e.g., Anderson et al., 2001; Van de Ven & Johnson, 2006; Zhang, Levenson, & Crossley, 2015). Practically, we see four broad approaches to delivering impactful research, reflecting the modi operandi of peers working in our field. In this section, we describe each approach and compare them in Table 1, where we outline their advantages, disadvantages, and risks. This framework is not intended to be exhaustive but covers four widely used approaches. For simplicity, we present these approaches as distinct, but recognize their overlaps in practice, much like business models which can be combined or innovated to suit particular needs. We regard our own approach as one such hybrid, and so outline this afterwards.

Table 1. Approaches to the pursuit of impact, and the advantages, disadvantages, and risks inherent in each.

	Approach 1 Proactively develop long-term partnerships with organizations	Approach 2 Develop niche expertise and let organizations approach you	Approach 3 Engage with client organizations through paid consultancy activities	Approach 4 Collect employee data using participant recruitment platforms and data mining tools
Advantages	Researchers are able to capitalize on opportunities as they arise within the organization. Researchers are more likely to be party to strategic priorities and planned organizational change. The body of work and activity with a single partner builds external reputation. Trust and contacts support deep access and enable the partner to be included in public funding calls quickly. The research relationship supports wider academic goals. For instance, partnership with a public body might provide a pipeline for future students, or guest speakers.	Affords high levels of control over research design and methods. Provides consistency across research undertaken and builds a programme of interlinked work, across a range of partners. Standardized conditions, methods and/or designs support systematic testing of theory – conducive to the publishing and development of theory, tools, and approaches within the niche, influencing academic practice and organizational partners. Enables researchers to choose which organizational approaches to accept. Building a track record in a particular niche helps develop an international profile, attracting funders and partners.	Reflects current business problems, issues, and trends that clients want to commission a consultant to work on. While problem-driven, researchers retain control over the methods and approaches pitched to clients and can choose whether or not to engage. Projects are usually set-up and conducted quickly. Enhances the researcher's reputation, for example through book authoring or industry contacts. There is potential for the consultancy activity to cross-subsidize other research activities or follow-on work.	Affords high levels of control over research design and methods. Researchers are able to specify the participant pool or dataset to be mined (Landers & Behrend, 2015). Provides opportunities to carry out a programme of interlinked work, using consistent methods and tools. Supports systematic testing of theory – conducive to the publishing and development of theory, influencing academic practice, and organizational partners. Projects are usually set-up and conducted quickly, with minimal risk and need for external contacts or relationship management. Can test ideas out quickly and respond to changing trends. Can recruit participants from difficult to access populations (Harms & DeSimone, 2015).
Disadvantages	The relationship is heavily underpinned by mutual trust, taking time and resource to develop and maintain. Responsiveness and relationship management necessitate compromise, for example, regarding research design (Cox, Karanika, Griffiths, & Houdmont, 2007; Griffiths, 1999), theoretical and/or methodological approaches. Responding to the organization's problems and interests may weaken the coherence of the group's research. Academic papers can take time to publish – the research process can be slow and time-consuming, with organizational dissemination and publishing embargos.	To be recognizable and valuable requires a compelling offer, which requires investment, for instance in equipment, facilities, or academic posts. Requires time to develop resources and a profile to attract organizations. Constrains the range of domains that the group is likely to become involved in.	While researchers tender for the work and design their methods, clients can require changes and impose constraints. Client management necessitates compromise, for example, regarding research design (Cox et al., 2007; Griffiths, 1999), theoretical and/or methodological approaches. Academic papers can take a long time to write/publish and may be subject to publishing embargo/restriction by the client. Being client-driven may weaken the coherence of the researcher's research. University costs can include overheads and so the researcher may become more costly for organizations to engage than smaller consultancies.	Data can be devoid of context which limits knowledge of the broader research context and the kinds of environment that the employees work in, which might be highly varied (e.g., culture, work organization, and practice). Usually able to sample participants across organizations (good range and variance), but usually not within organizations. Reliant on the demographic of interest being available/on the platform, or the data being publicly available in a usable form. There are questions over the representativeness of samples (Harms & DeSimone, 2015). Large samples can become expensive. More suited to particular research designs, such as self-reported questionnaire-based research.
Risks	Time and goodwill may be exploited on either side of the partnership (e.g., "Can we just ask your advice about ...?"). Where a partnering organization becomes used to getting unfunded activities/services, this can risk devaluing the need for paid research activities. Key relationship brokers and stakeholders leave, weakening or ending the partnership. Organizations assimilate researchers and they essentially become consultants; or become myopic to the organization at the expense of generalizability. The focus can be pulled towards issues that matter to senior leaders in the organizations, at the expense of individuals/employees and/or research agendas. Important variables or research aspects might be suppressed because they do not fit with the managerial/funder's agenda.	Organizations may not become aware of or value the group's expertise or proposition. Researchers risk becoming pigeon-holed to a particular topic or method. May become blinkered to alternative methods or theories, or become overly prescriptive rather than responsive to organizational issues. Loss of staff who are identifiable with the research expertise the group are known for. The focus can be pulled towards issues that matter to senior leaders in the organizations, at the expense of individuals/employees and/or research agendas.	Organizations may not become aware of or value the researcher's expertise. Experimenting with new ideas or interventions may not work for the client who has commissioned the work. Organizations assimilate researchers, who then prioritize consultancy over research. Academic knowledge can be misinterpreted or used unethically (e.g., misrepresented) by academics and organizations for their own personal gain (leading to adverse impact). The focus can be pulled towards issues that matter to senior leaders in the organizations, at the expense of individuals/employees and/or research agendas. Important variables or research aspects might be suppressed because they do not fit with the managerial/funder's agenda.	May lack broader organizational insight. Limited organizational data or contextual information may lead to contingency variables being missed. May pursue ideas in silico and not spot emerging trends and opportunities. No stakeholders or participants to engage with or support the delivery of impact.

Approach 1: proactively develop long-term partnerships with organizations

In this approach, research organizations proactively develop long-term, mutually beneficial partnerships with end-user organizations (e.g., large international corporations). Such partnerships are often central to research funding schemes, can have high reputational value for both parties, and can develop out of low-scale bids, academic reputation, good fortune(!), or a more central university relationship (e.g., where a Senior Executive is a university alumnus). At one extreme, the relationship might be exclusive, with the university providing benefits that are not offered to competitors, and the organization offering exclusive research access in return (e.g., partnerships with public bodies, charities, trade unions, and/or corporate organizations). In most cases, these relationships will be less precious, but once developed can be lucrative for creating internal and external reputation, facilitating funding, and/or accessing participants and students. They can also generate opportunities to co-create viable and evidence-based solutions to problems that directly address organizational needs, thereby increasing the likelihood of impactful research (Van de Ven & Johnson, 2006). However, the success of such partnerships tends to rely on interpersonal relationships between key individuals in both organizations, which, over time, inevitably change, thus jeopardizing the organizational relationship.

Approach 2: develop niche expertise and let organizations approach you

Here, research institutions invest in the development of niche research expertise, which in turn attracts expertise from scholars interested in pursuing, or already developing, research in that field. For instance, the Institute for Simulation and Training (IST, n.d.) at the University of Central Florida has become internationally acclaimed for its research studies of different aspects of team work, from team training to team decisions. The Institute has attracted an international reputation for excellence and expertize in this area. Rather than partnering with particular organizations (Approach 1), this route instead develops a world-class hub for research in a particular area, typically characterized by advanced technology and simulation infrastructure. Once established, such institutes are able to develop high-quality experimental and quasi-experimental studies, and engage participants and organizations who wish to not only benefit from their leading research but also from using state-of-the-art facilities such as training simulators and assessment equipment. This can enable formulaic publishing (e.g., replication or laboratory studies, with strong research designs). It can attract world-class scholars publishing in top-tier journals, and funding from multiple sources (both public and private corporations), and is thereby self-perpetuating. Consequently, it can undertake high-quality applied research, and lead theory and practice, with a reputation that grows to precede it, both in academia and related practice. Another example of this approach is the Human Factors Engineering team (HFE, n.d.) at the University of Southampton, UK, who publish extensively on improving human performance in systems, particularly involving new technology and automation. A key feature of Approach 2 lies in the investment in resources needed to support such groups.

Approach 3: engage with client organizations through paid consultancy activities

In contrast to Approach 2, this approach builds on the expertise of individual academics, who generate impact by engaging in consultancy activities that gather data in client organizations, who in turn, select them based on their specialist expertise. A notable example is Professor Rob Cross, of Babson College, USA, who has utilized distinctive academic expertise in the field of organizational network analysis, developing a successful consultancy organization through which he has gathered data from over 300 organizations (robcross.org, n.d.). Through disseminating, selling, and leasing network analysis tools, he has skilfully developed organizations which run events and develop solutions that impact the practice of these organizations, while publishing extensively (e.g., Cross, 2019) and using the collected data to set new agendas in this growing area (e.g., Cross & Cummings, 2004; Cross, Kase, Kilduff, & King, 2013; Cross, Thomas, & Light, 2009).

Similarly, Professor Steve Woods, of the University of Liverpool, UK, has a thriving consultancy business (ABA, n.d.) which designs and delivers psychometrics tools within organizations, facilitating pioneering research into personality in the workplace (e.g., Woods & Anderson, 2016) and simultaneously benefiting clients directly. Other academics have established evidence-based organizational psychology consultancies engaging in a broader range of consulting problems, capitalizing on strong academic records, public profiles, and guru-like status to collect large-scale field data and test interventions (e.g., Robertson-Cooper, n.d.; and the Work Psychology Group, n.d., led by Professor Fiona Patterson and Dr Maire Kerrin).

Of course, for all these examples of excellence, there will also be instances in the field of academic knowledge being perverted in the pursuit of its marketization, by those whose practices are either unethical or ill-informed. However, we consider these to be strongly in the minority. More often, these collaborations can be highly beneficial in shaping research agendas and generating research impact through reputational power.

Approach 4: collect employee data using participant recruitment platforms and data mining tools

Participant recruitment platforms are increasingly popular ways to recruit research participants (Buhrmester, Kwang, & Gosling, 2011; Harms & DeSimone, 2015; Landers & Behrend, 2015; Smith, Sabat, Martinez, & Weaver, 2015). With sophisticated participant sampling mechanisms, and ability to attract participants from different demographic backgrounds, sectors, organizations, job roles, regions and nationalities, these provide new ways to access data quickly, at relatively low cost, and with minimal research design concessions (Landers & Behrend, 2015). This approach is lucrative for scholars because such rigour opens doors to elite journals (e.g., Grand et al., 2018), and the *academic* impact can be significant in terms of citations, and influence on research agendas in the field (e.g., Buhrmester, Talaifar, & Gosling, 2018). However, creating broader impact through such work is more challenging and usually requires translational effort (Morrell, 2008). In part, this is because many academic outputs are subject to licences, and

thus unavailable to those working outside academia, but also because organizations are looking for help tailored to their distinctive, rather than generic, organizational problems (Gelade, 2006; Van de Ven & Johnson, 2006; Zhang et al., 2015).

Our hybrid approach

This paper draws on our experiences of using a hybrid of these approaches while working in a UK-based research centre engaging in organizational design challenges. We approach academic and organizational problems with a socio-technical systems mindset (e.g., Cherns, 1976; Clegg, 2000; Mumford, 1983). Accordingly, we believe that complex organizational systems involve human behaviour (*social* components) and physical or technological aspects (*technical* components), and can consequently be considered socio-technical systems (Clegg, 2000). The over-arching contention is that system components are inter-related and so change in any one is likely to cause change or adaptation elsewhere (Clegg et al., 2017).

In reality, many technological ideas that sound ideal *in principle*, have dire social and business consequences when implemented in practice, and/or fail to deliver the expected benefits. For instance, in 2002, work began within the UK's National Health Service (NHS) on a National Programme for IT (NPfIT), which sought to implement a set of pre-defined IT systems that would enable healthcare professionals to deliver better care to patients (Connecting for Health, 2005). Expected to cost c£2.4 billion (Clegg & Shepherd, 2007), the programme was scrapped after 10 years, having cost over £10 billion (House of Commons, Committee of Public Accounts, 2007; Syal, 2013). Drawing widespread criticism for its *"techno-centric mind-set"* (Clegg & Shepherd, 2007, pp.212; Eason, 2007) it was described as, *"The biggest IT failure ever seen"* (Syal, 2013). Indeed, a *socio-technical* mindset proposes that such failures often happen because the social consequences of the technology are ill-considered, or because social and technical components are treated separately within design and implementation processes, rather than as interdependent elements that should be considered in tandem. For instance, in reality, the introduction of a new IT system will not only create technical and infrastructure changes but will usually necessitate intended (and unintended) changes to the design of work systems, such as new work processes and new training needs (Clegg, 2000). Evidence from numerous domains shows that such changes are more successful and accepted by the system's users where their needs (and psychology) are incorporated throughout the design process (Carayon, 2006; Challenger & Clegg, 2011). We believe that psychology can draw these aspects closer, by recognizing that organizational change is most effective when the people within affected organizations *pull* for it (as opposed to change being *pushed* on them) (Clegg, 2000). A socio-technical approach also recognizes that change is most effective when the needs of its different stakeholders (managers, employees, shareholders) are both understood, and are incorporated into solutions.

Our approach is therefore a combination of understanding an organization's top-down requirements, but doing so alongside the bottom-up. Extending these principles, our perspective is that key global challenges can only be resolved by interdisciplinary work, bringing together complementary tools, methods, and thinking (see: Davis, Challenger, Jayewardene, & Clegg, 2014; Hughes, Clegg, Bolton, & Machon, 2017; Mumford, 2006). Reflecting this, our research centre connects academics and practitioners from multiple disciplines (including engineering, medicine, mathematics, design, and geography). This distinctive inter-disciplinarity enables us to approach problems from different perspectives, creating new solutions and theory that challenge previous assumptions. Our strapline is *"putting people at the heart of design"* and, to this end, our projects have focussed on a wide range of organizational psychology phenomena, including competencies, team work, culture, leadership, wellbeing, sustainability, workspace design, and job crafting.

The pursuit of impactful research is therefore central to the research we do, and our hybrid approach draws upon Approaches 1–4 and typically comprises the following aspects:

- We build long-term partnerships with organizations (Approach 1), underpinned by mutual trust and a genuine interest in learning from each other. Organizations then gain useful outputs and reports, in exchange for our access to employees for data collection, idea testing, and theory development.
- We take a reflexive, "feed in, feed off" approach to research (see: Hughes, Clegg, Robinson, & Crowder, 2012) – which means *feeding in* our ideas, methods and proposals to organizations (similar to Approach 2); while *feeding off* the ideas, issues and challenges facing them (Approach 1). Through long-term partnerships, we test theories or methods in development (e.g., Hughes et al., 2017), and then use organizational opportunities to refine, obtain feedback, and re-test. From an organizational perspective, this style of iterative working with research teams is well suited to integration in business and continuous improvement programmes.
- We apply different financial models for mutual benefit, including funded research projects, consultancy work (Approach 3), supported PhD students, and knowledge–transfer partnerships. Sometimes, we support quid pro quo arrangements – for instance, guest lectures for our students by our organizational partners, in exchange for us offering a similar contribution for their organization's benefit. We also often work with organizations to co-develop briefs for smaller MSc dissertation projects, so that students gain experience of real organizational problems while testing psychological theories. Occasionally we combine organizational samples with online samples (Approach 4).

In each case, collaboration is symbiotic – the organization gains academic expertise to help solve problems, and we benefit from our research creating impact within their organization. Consequently, the projects we work on vary in scale. Over the last 10 years, we have collectively been awarded over £6 million in research funding from multiple sources, working with both public and private sector organizations (including those in the manufacturing, automotive, and IT industries, as well as medical health trusts, transportation, retail services, and charities). In the UK's 2014 REF, the Impact Case Study (Clegg & Robinson,

2014) based on our research on socio-technical systems was awarded a maximum 4 rating ("world-leading") and commended by the assessment panel.

The following *lessons learned* are drawn from our application of this approach. These are not exhaustive, but capture factors that have influenced *hits* (i.e., achieving beneficial impact, intended or otherwise), as well as *misses* (i.e., achieving no beneficial impact), and how we *bounced back* from disappointments to convert misses to hits, while we have conducted research targeting both academic value *and* practical impact.

Lessons learned

Impact is multi-partnered, multi-disciplinary, and collaborative

Researchers cannot achieve impact alone; the work must impact *on* something or someone to elicit change, thereby involving multiple parties. Creating impact is therefore effectively an organizational change process, best facilitated through socio-technical principles (e.g., Cherns, 1976; Clegg, 2000; Mumford, 1983). Central to this, we consider different perspectives on problems; recognizing that stakeholders (the end-user organizations, their employees, university researchers, policymakers, and the public) have different needs, values, and requirements from the research. Sometimes these align, but they often conflict. For instance, organizations often require quick solutions, which pressurizes data collection time and can compromise research rigour. Negotiations between parties can be time-consuming and frustrating, but can also reap research rewards.

Accordingly, we find that establishing longstanding relationships with key stakeholders in the organization can be highly beneficial. Indeed, such relationships, underpinned by mutual trust, were a fundamental precursor to the impact case study previously outlined (Clegg & Robinson, 2014). Core research underpinning this impact was originally part of a multi-partner research programme, an early project of which measured the time that engineers spent on different activities and the competencies used (Robinson, 2010). The organization used these findings to help optimize employees' time and inform work organization practices. Participants each completed an electronic diary at random hourly intervals for 20 working days, answering questions about their current work task, to yield rich, multi-level, time-on-task data from 11,137 sample-points. It was only possible to collect this volume of data because organizational buy-in led to strong participant commitment – despite responding to hourly alarms, the response rate was 75% (Robinson, 2010). Aside from the academic value, this research led to further roles being analysed using this method and shaped role design and work practices within a multi-national organization. Moreover, interventions that followed from the evidence and recommendations of the work were associated with productivity improvements (Clegg & Robinson, 2014). Flexibility and compromise are therefore important: *pushing* your agenda rarely works; impact is created when the collaborating organization *pulls* (Clegg, 2000).

Such relationships can also help the organization to join dots between projects themselves, so that they see improved Return On Investment (ROI). For instance, we incorporated findings from the above project into a subsequent agent-based simulation model of team work that we developed within a completely separate research project (see Crowder, Robinson, Hughes, & Sim, 2012). Obviously, we could have undertaken this work using online data samples but by working with one organization we could: (a) develop and evaluate interventions to enact real change; (b) connect data, improving the validity and richness of our case studies; (c) avoid time and resource costs of either collecting or buying further data, delivering greater value and speed to the client; (d) increase face validity, as the client understood the basis of the model; and (e) connect with influential market leaders, providing opportunities to showcase the work elsewhere. These benefits generated wider opportunities for impact, with reputational benefits for both organizations.

Pursuing impact presents socio-technical challenges

Our experience is that challenges inherent in pursuing impact are fundamentally socio-technical; and need explicitly and deliberately considering throughout the collaboration, to maximize impact (see Figure 1). Creating impact is further compounded by different partners (e.g., research, industrial, political) each operating in distinct organizational (socio-technical) systems with their own discrete goals, technologies, infrastructures, cultures, processes, and people, which must also be jointly considered and optimized (e.g., Davis et al., 2014). Therefore, pursuing research impact requires early consideration of the broader organizational and institutional systems in which the participants and researchers work, as shown in Figure 1.

Our experience is that change within an organization (and successful research) is more likely when the alignment of personal and institutional *goals* are considered at the outset. Where researchers seek solely to publish, and the organization values bespoke solutions, these priorities create conflicting – potentially irreconcilable – goals. Even with aligned goals, collaborations can falter through a lack of common *process* to facilitate this. For instance, the inability to secure adequate resources (time, money, people, travel) can prevent the fertilization of early (unfunded) collaborations, hindering the development of partnerships. Such processes and their compatibility are typically underpinned by other factors such as the *culture* of the various institutions. Understanding all of these aspects is crucial to initiate collaboration and throughout the impact delivery process.

Of particular importance is working with the right *people*, who have time to commit to the work needed. Sometimes organizational contacts are engaged, but lack influence to achieve wider organizational buy-in; or are unskilled in the areas you seek to influence. Investing in pivotal cross-organization personal relationships can also be risky, as key contacts may leave or organizations may be restructured. We have experienced this several times and it can be dispiriting to re-establish relationships or have to demonstrate the value of ongoing work to new contacts. Thus, it is important to build resilience into the collaboration, by involving others in conversations for instance (e.g., each person brings a deputy to key meetings).
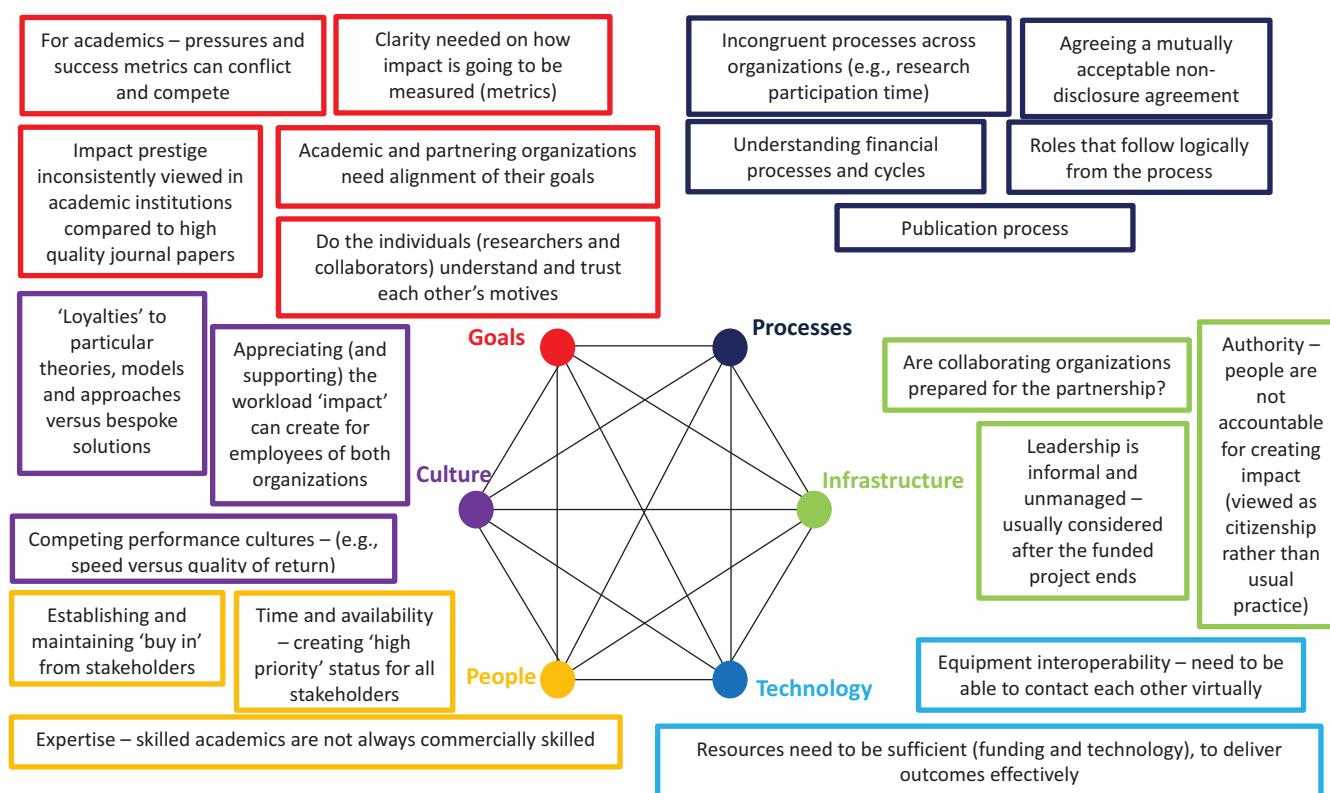
Figure 1. Socio-technical challenges inherent in the pursuit of impact.

Organizations' *infrastructures* should also facilitate impactful research. Here, we extend the term infrastructure beyond the physical. For instance, it is important that the business model for collaboration is the right one, and enables each organization to derive value from the work (Beaumont, Bolton, McKay, & Hughes, 2014). Transparency about this at the outset, and also throughout, builds the mutual trust necessary for positive research impact.

Notably, some of the interdependencies inherent in the system may not be immediately apparent and/or may emerge as unintended consequences, so reflexivity is essential. Understanding and monitoring interrelationships can improve collaboration quality and, in our experience, the likelihood of delivering research impact.

Impact is emergent and takes time

In many fields, the route to impact is typically linear, such as medical science that is developed and then applied to create new drug treatments which improve health outcomes, creating evidence and leading to impact (Morrell, 2008). The impact frameworks used in organizational psychology adopt this approach (c.f., the definition presented in our introduction), typically conceptualizing impact as something that occurs at the *end* of research (post-discovery or post-results), rather than developed *during* the project. In this way, *impact* is often conflated in our field with project *dissemination*, because it is implicitly presumed that dissemination is an essential precursor to impact (e.g., see: Mohrman et al., 2001; Rynes et al., 2001; Van de

Ven & Johnson, 2006). However, in our experience organizational impact is typically more emergent. Of course linear impact *can* happen, but, just as our most *cited* paper is not necessarily our *best* paper (Erkut, 2002), sometimes the research aspects that gain traction are not those intended. Furthermore, the very process of conducting research and creating partnerships can yield changes in business practices or thought, creating impact during data collection (or intervention testing), regardless of whether the research *data* are compelling or the subsequent paper is widely cited.

An example of this was our research project using social network analysis with a large engineering organization. The research collected data to understand how people's social networks influence their job crafting behaviours (Hughes, 2016). When presenting data to the organization, an interesting conversation developed. It emerged that they had recently created a "Communications" group within the department, comprising carefully selected colleagues considered by the leadership to be social "influencers" (people of differing seniority whom they believed were well respected and influenced the department's climate). They wondered if they had selected the "right" people, who would be able to galvanize change if they became champions of the leadership's strategy. Our data enabled us to plot their network positions to establish whether other key brokers should also be included in the network. We did this as "goodwill" gesture, for no extra fee. However, we benefitted when the organization subsequently made changes to their practice based on our discussions – an intervention that we could subsequently evaluate empirically (publication pending). This

conversation, though unrelated to the planned research theory and aims, changed the project's direction, leading to serendipitous research outcomes and new research questions. It also enabled us to bounce back from a potential impact *"miss"*, as this particular opportunity became highly valued by the organization and led to them incorporating us within a large-scale (successful) research funding application, facilitating the exploration of new research questions.

Furthermore, during debriefing and dissemination meetings about the project, participants (from across organizational levels) described how useful it had been to their own career development to have their networks captured in this way (e.g., helping them identify colleagues and teams that they would like to have more – or less – contact with; or helping them recognize bottlenecks and dependencies in their communication channels). This persuaded the organization to fund in-house work to develop a bespoke career development tool that employees could use to enable them to self-manage their networks.

Definitions of research impact typically assume that we can couple impact in organizations with the *source* of that impact. We have found through our longer-term collaborations, however, that it is not unusual to find the general principles of our work (e.g., socio-technical thinking), or materials that we have developed, circulating around organizations within groups who have no knowledge of (or interest in) the source(s). Often the generic principles have been circulated through word-of-mouth ("I went to this presentation where they said … "). Employees utilize particular messages, incorporating them into policy or practice, and on several occasions, our organizational contacts have alerted us to examples of impact which clearly stem from our work, but are difficult to attribute directly (Morrell, 2008). We actually take pride in this – in our view, such diffusion is a key indicator of impact. Of course, it is possible for such impact to be adverse, where, for instance, key messages are misinterpreted, or willingly misconstrued, and so with organizational engagement comes this risk. The process is emergent, and sadly (but pragmatically) it is not always possible to couple it with the source. We therefore need to find ways to better align practices, impact metrics, and definitions of research excellence.

Impact is problem-centred

Our experience is that impact happens when researchers address a *problem* (Carter, 2018), but that all too often in organizational psychology we fetishize our theories to the extent that *they* become the problem. Thus, instead of exploring a problem and considering how our theories and methods may help us understand it, we fixate solely on refining our theories, and with it create a danger that, as Konrad Lorenz allegedly said, we *"learn more and more about less and less, until finally we know everything about nothing"*. Developing and testing theories is, of course, paramount. Theory frames understanding, helping us to develop evidence to improve organizational choices (Chung & Williamson, 2018). Strong theory testing is also vital to publishing in our top journals that incentivize planned, controlled, longitudinal research designs (e.g., Chen, 2018; Cortina et al., 2017). This, in turn, makes theory-testing a priority for most researchers. However, organizations usually approach academics looking for *solutions* to their problems rather than theories (Briner & Roussea, 2011; Mohrman et al., 2001; Morrell, 2008; Rynes et al., 2001). Given this, impact does not usually result *directly* from theory; rather, it comes from academics communicating theory with organizations through the language of *problems* and how they may be addressed (Van de Ven & Johnson, 2006). In other words, context matters. Researchers therefore have an obligation to shape their use of the empirical evidence by giving due regard to the problem that is being addressed and offering insights based on their professional experience.

Figure 2 shows how the four previously outlined approaches to creating impact typically deliver in timescale and research-(er) focus. While other such quadrants (e.g., Anderson et al., 2001) have been presented elsewhere, this figure presumes that each approach is high in scientific rigour, but differs in the speed at which impact is created, and the extent to which the research(ers) is driven by problems or by theory. Recognizing that organizations are often disinterested in the theoretical perspectives underlying our methods has led our hybrid approach to adopt a problem-focussed attitude, whereby we often work with organizations to co-produce solutions. This involves more open discussions about issues that an organization faces and creative thinking within our team about what theories, interventions, expertise, or methods may be best employed to help. Sometimes solutions nest directly within established literatures – for instance, the previously outlined work on engineering competencies was rooted in the literature on selection, assessment, and work design, and so contributed directly to an established research domain. However, many of our problem-domains transcend single disciplines.

The design of physical workspace is an example in which a client problem both spurred a new area of research enquiry and forced us to look beyond our disciplinary knowledge (moving through different quadrants of Figure 2). In early 2007, managers from an engineering research and development facility asked us to provide psychological input to the design of their new "Factory of the Future", hoping we could facilitate the involvement of staff in the design process, and ensure the building's design cultivated innovation and communication. The design of work buildings was a new domain for us, and an area lacking in organizational psychology frameworks (historically the preserve of architects and engineers). We undertook a multi-disciplinary literature review and *fed-in* specific design guidance, and employed socio-technical methods to facilitate user involvement. In so doing, we *fed-off* the client, employees and other technical experts, thus learning about the process, politics, and specific challenges that workspace design presents (see: Ridgway et al., 2008). The project provided us an opportunity to gain practical experience and test out user engagement and stakeholder management techniques used in other domains (e.g., Clegg, 2000). It also forced us to "walk-the-talk" by participating in multi-disciplinary design meetings and processes with engineers, managers, and architects where we had to battle to retain design features that were driven by a desire to enhance employee wellbeing, social interaction, or organizational culture. Not only did we have to sell these as benefits in their own right, from our own psychological perspective, but we also had to persuade them that these goals

		Research(er) focus:	
		Problem driven	**Theory/concept driven**
Impact timescale:	**Longer-term**	Approach 1	Approaches 2 & 4
	Shorter-term	Approach 3	Approach 2

Figure 2. Typical researcher focus and timescales for creating impact, for each of the four outlined research approaches*.

*The quadrant position for the hybrid approach is project dependent, such that the timescales and research(er) focus can change both within and between projects.

were holistically aligned with their own more technical and business concerns.

Characteristically, the impromptu nature of organizational investments in office (re)design results in most studies of workspace change being post-intervention, encouraging post-hoc hypotheses and limiting opportunities to test competing designs or changes (Davis, Leach, & Clegg, 2011; Hongisto, Haapakangas, Varjo, Helenius, & Koskela, 2016). In contrast, the "Factory of the Future" helped us establish a track record in this area with the credibility to input to the design and evaluation of a series of office refurbishments for a longstanding client (a major engineering organization). This opportunity enabled us to explore ideas around job design and the interaction with physical space within open-plan offices (see, Davis, Leach, & Clegg, 2019), delivering practical design recommendations and advice for improving the client's broader estate refurbishment.

The success of this work led to a project supporting the next stage of the client's office design innovation and concomitant change management relating to the introduction of agile working (see, Davis, 2019). We were able to build upon our contextual knowledge of the client's workspace and working practices to explore the relationship between agile working and the structure of employees' social networks within a subsequent, initially unrelated, project (see, Nagy, Hughes, Davis, & Robinson, 2018). The long-term relationship with the client organization also meant that they appreciated the value of psychological methods and designs, permitting us to use a combination of quasi-experimental and longitudinal case studies within our work (e.g., Davis et al., 2019; Nagy, Hughes, Davis, & Robinson, 2018). The lack of existing organizational psychology theory in this domain and the experience gained on the practical projects enabled us to conduct an extensive integrative cross-disciplinary review of evidence and theory in this area (Davis et al., 2011) and to develop a socio-technical conceptual framework to apply to workspace design (Davis, 2019).

A challenge for problem-centred research is that interdisciplinary collaborations can be harder to publish in the elite journals in our field (Bordons, Morillo, & Gómez, 2004) because the mix of methods and/or use of unconventional theory can limit appeal. Instead, researchers are encouraged to compartmentalize aspects of their research, or reframe *problem*-centred projects into *theory*-centred ones that fit the journal's scope, and appeal to the disciplinary expertise of reviewers. This process essentially silos the work and contributions of each discipline, and risks losing the very contribution that collaboration yields. Additionally, drawing on eclectic theory and/or mixing methods is contentious for some scholars (see: Pfeffer, 1993), and so irrespective of research quality, there are fewer, high-quality, publishing outlets available.

Collaborating across disciplines is challenging, and it can be tempting to seek out other researchers who see the world similarly, as explained by homophily principles (McPherson, Smith-Lovin, & Cook, 2001). However, we find enormous benefit to working with colleagues who see the world differently. Describing the differences in perspective as being an "academic-practitioner divide" is overly simplistic (Bartunek & Rynes, 2014), however, because the challenges are often entrenched in our multiple, different, perspectives on the problem. Go and Carroll (2004) use the analogy of six blind people touching an elephant in different places and describing it in very different ways. Each person is correct, and the collective picture is richer through working together. Extending this analogy to impact, we do not need the *same* knowledge as one-another; rather, we benefit from our different perspectives on the problem, provided we can find ways of communicating to share these (Kuhn & Dean, Jr., 2004).

Evidence alone is not enough

Evidence is imperative and, we argue, a necessary prerequisite for *responsible* impact – the caveat included, because impact is not *necessarily* responsible. Most will, at some point, have seen *expert* consultancies (often with *no* expertize in organizational psychology) advocating solutions and creating organizational

impact, based on outdated theory and/or flawed data. Given this, obviously, evidence is essential (Briner & Rousseau, 2011). Indeed, Briner and Rousseau (2011) argue that we should pay careful, sustained, attention to four sources of evidence in our professional practice: 1) practitioner expertise and judgement ;2) evidence from the local context; 3) critical evaluation of the best available research evidence; 4) understanding the perspectives of those affected by the decision.

However, evidence alone is not *enough* to guarantee impact; it also has to be effectively communicated to people so that they can and will utilize it (Mohrman et al., 2001; Nutley, Walter, & Davies, 2007). Many organizations do not have access to academic research papers, let alone time or motivation to read them (Morrell, 2008). In our experience, creating impact through research requires translation and dialogue, best led by researchers themselves which, in turn, demands they have an appreciation of the problems to be addressed.

Researchers should explicate the implications of their work throughout their interactions with collaborators – at the start, considering *potential* lessons, mid-project the *interim* findings, and *complete* findings at the project's conclusion (Mohrman et al., 2001). Collaborating organizations' perceptions of research findings at end-of-project dissemination are often clouded by hindsight bias (Christensen-Szalanski & Willham, 1991), however, because findings in psychology are often easier to explain post-hoc, because of their bi-directional plausibility (e.g., folk wisdom like "many hands make light work", but also "too many cooks spoil the broth"). This risks findings being rationalized as mere "common sense". So, by asking key stakeholders to make independent predictions (hypotheses) at the start of the research, contradictions can be addressed directly, which we find expedites research buy-in, and helps organizations see true, insightful value in the research.

Guiding organizations through recommendations at each point is also often central to creating impact because even the most engaged collaborators have limited attention and motivation. For example, of 20 recommendations, they might *remember* half; of those 10, they might *consider* half; of those five, two or three may be deemed *viable*; and, with luck, one or two of those are *implemented* (and, hopefully, in full!). We often need to guide organizations through the evidence, so that they understand how the research can help address their own idiosyncratic problems. Incorporating opportunities to measure improvements or initiatives during a project (e.g., carefully timed, costed milestones) can also be useful in creating organizational value and maintaining engagement. Building in such opportunities can also help free necessary research time and resource, allowing time to take stock, disseminate, and improve research.

In addition, we find that it helps to find champions of your work, and brokers who can connect you to the right people within their organizations (not necessarily those in authority). Connecting with the right people can help you to translate goals, priorities, and co-create shared mental models of problems as you establish projects (Cross, Ernst, Assimakopoulos, & Ranta, 2015). Building such trusted relationships helps quash incompatible ideas early on, which helps avoid starting dead-end projects. They can also help navigate organizational politics, facilitating impact delivery and joint collaborations. This is because context is imperative when translating research to

impact. Data-based solutions, for instance, must align with the needs and goals of key stakeholders, and intimate knowledge of the history and state of the organization is helpful in facilitating the successful introduction of new ideas.

Discussion and recommendations

Summarizing these lessons, our hybrid approach views *impactful research*, as research that creates beneficial organizational change, which involves:

- Developing collaborative solutions to problems that organizations and employees face in the real world, and using the data and design solutions to develop more holistic theory.
- Learning from organizations and employees, and using their experiences to inform more holistic theoretical models, which resonate with the challenges that organizations, policymakers, and communities face.
- Concluding research with useable recommendations that can be adopted and embedded by organizational stakeholders, so enabling them to make improvements themselves.
- Sharing research findings and methods with organizations, enabling them to improve their performance, reconceptualize their mindsets, and challenge them into new ways of thinking about their problems – in some cases, to the extent that they no longer need us, because they can recognize socio-technical issues in their work without our prompting.

We do not present our hybrid model, or a socio-technical approach, as the only, nor the *universally* most appropriate, route for achieving impact (either academic or practical). However, we do believe it offers a challenging and rewarding way of conducting applied research, which in turn delivers research impact. Our argument throughout this paper has been that conceptualizing the delivery of research impact as a socio-technical challenge is a useful mindset to adopt, even if socio-technical theory is not a core focus for the research itself. A socio-technical attitude reminds us to put the user at the heart of our research; it reminds us that there are usually multiple stakeholders, each with different goals, priorities and expectations; and it reminds us to consider the social and technical aspects of the system in tandem, rather than separately.

In addition, we would argue that, through the trust, we have created with organizational partners, we have been able to push boundaries in new and emerging areas of organizational psychology. For instance, we have secured co-funding to develop human-computer simulation models, with organizations who have been forward-thinking enough to recognize the future potential of simulation, despite there being low immediate return on investment (beyond the reputational benefit of being considered *forward-thinking*). In return, we have been at the forefront of developments in emerging research areas such as agent-based modelling and simulation (e.g., Crowder et al., 2012; Hughes et al., 2012), workspace design (Davis et al., 2011), crowd management (e.g.,

Challenger, Clegg, & Robinson, 2010; van der Wal, Formolo, Robinson, Minkov, & Bosse, 2017), and pro-environmental work behaviours (Davis, Unsworth, Russell, & Galvan, 2019; Young et al., 2015). We have also taken pride in observing our research deliver improvements in the lives of those working within collaborating organizations.

In many ways, the hybrid approach that we present is reflected in many traditional "research centres", given that most such centres rely on extramural funding from sponsors to deliver their research objectives. However, the ability to attract funding does not necessarily guarantee that the research centre has listened to the problems of its sponsors, or that it will work with them to deliver practical solutions during the research process, nor that any research-based solutions have a chance for implementation. Indeed, there are numerous research centres that obtain funding to undertake projects that do not involve true organizational collaboration, beyond a formal partnership. Indeed, we have ourselves worked on projects that on paper *appeared* more collaborative than they truly were. As we have sought to highlight through this paper, the delivery of research impact involves a great many steps beyond the initial creation of the partnership. Moreover, we consider that the objectives and ethos of the hybrid approach we present in this paper can be adopted by individuals working alone or in small teams, as well as those operating from larger research centres. Nevertheless, in our particular hybrid case, all four authors do work in the same university research centre, and have done so while undertaking the research case studies we describe, which we have found to be a useful mechanism for focusing our research, funding, and impact activities with the organizations that we describe.

It is worth highlighting that in this paper we frame our discussion around addressing organizational needs and aspects such as performance for good reason. This is not because we do not care or are unconcerned by issues such as wellbeing, quality of work relationships and interactions, and so forth – indeed, as organizational psychologists, we care a great deal about improving workers' lives. Rather, the emphasis on organizational performance and related outcomes reflects our experience that this is the language that most often attracts support from organizations and fosters interest in organizational psychology interventions and projects. In turn, this leads to the commitment of both the staff time, and funding, necessary to design, conduct and evaluate such interventions. While organizations are often pleased that a project may provide benefits to employee wellbeing or satisfaction, there is often a need to demonstrate wider business outcomes that also relate to the intervention. Of course, it would be ideal for organizations to be interested in improving the work lives of employees as a sole objective, but, in our experience, most businesses face hard decisions around where they invest time, energy, resource, and funds. Thus, if we are to achieve maximum impact and improve the work lives of the greatest number of people, we believe that our ideas are more likely to be taken up where they demonstrate benefit to employees, alongside wider returns to businesses investing in such ideas. Indeed, we have a responsibility to engage and present the value of organizational psychology in ways that are relevant and powerful for different stakeholders – the framing and emphasis of this

may rightly differ across groups such as individual employees, managers, NGOs, trade-unions and policymakers.

By conceptualizing impact as one of th several competing metrics for research excellence, this paper has sought to show how trade-offs are inevitable, but that research goals are not inherently incompatible. Nonetheless, we suggest that no single approach to impact can deliver against every goal, all of the time. Conceptualizing the delivery of impact as a socio-technical challenge helps us to frame and address such conflicts in practice, highlighting possible, unintended consequences that can emerge during such trade-offs.

Part of our motivation for writing this paper is the false distinction that we fear is developing in our field's understanding of research excellence, such that high-quality research, teaching, and impact are thought of as separate challenges. Our experience is that there is value in the integration of all three activities – our research can inform our teaching and industry engagement, and vice versa. Thus, we are concerned that within some universities there is a move towards trying to fragment the traditional academic role into specialized jobs, focused for instance on teaching, research, *or* engagement. In pursuing impact, it is becoming more common for business specialists (e.g., with expertise in relationship management or public relations) to be appointed in roles designed to broker (and perhaps even *own*) the university's relationship with certain organizations. We argue here, for the reasons outlined in this paper, that skilled academics should instead be empowered to undertake such activities themselves (indeed, this aligns with the fundamentals of socio-technical thinking – see: Cherns, 1976; Trist & Bamforth, 1951), because separating these roles can stifle the translational process, create bottlenecks to conversation, and falsely delineate "impact" initiatives from the research process.

Notwithstanding these comments, from the examples provided in this paper, we also maintain that there are particular attitudes and skills required from academic faculty members in order to work effectively with their industry counterparts. In the current academic climate, it is tempting for university employers to recruit only those scholars with the strongest publication records. However, to maintain the discipline's capability to deliver impact, more attention must be paid to the academic talent pipeline, and institutions must recognize that within a research team, skills needed for effective industry engagement are both invaluable and complementary. One way that we have sought to strike a balance here is by recruiting ambitious and talented MSc students and alumni to industry-facing Research Assistant roles. Often such recruits express little desire to work in academia long term, but have excellent commercial and professional skills, and so have benefited from these experiences in their early careers. Another way to achieve this balance is to recruit experienced practitioners to research teams with experience of knowledge translation. Indeed, we note that a number of research-led work psychology consultancies (e.g., Work Psychology Group, n.d.) have developed "Associate" Research Fellow roles designed to help their business-academic translation activities, such as developing research agendas, and communicating their activities to research and practitioner audiences. The effective translation of research and commercial agendas requires a particular skill

Table 2. Practical actions to consider during organizational research collaborations, to improve the likelihood of creating impact through the research.

Pre-identification of potential collaborators	How will you identify potential partner organisations?
	Are there conferences and/or other meetings that are attended by potential partners where you could introduce your research, either through presentations, or on a one-to-one basis "over coffee"?
	Are there opportunities (e.g., webinars through professional bodies) that you could capitalize on to promote your research and its potential benefits to as wide an audience as possible?
	How much resource does each side have available to develop the relationship? With organizations, this will include both time (to participate in research) and money (to fund research).
	How would you go about identifying potential areas of impact and research applications? Is there pump-priming funding available to carry out pilot studies, and to help build personal relationships and develop trust amongst key stakeholders?
	Do the potential collaborators share a similar set of views on goals/scale/scope of possible initiative? Can you have open dialogues about possible opportunities ahead of making any commitments?
	How would you assemble the players? What are the range of opportunities for you to work together? Is there an obvious power imbalance that you will need to manage?
	How you would you go about achieving agreement regarding shared "pain" (resource) or "gain" (e.g., access to intellectual property rights)? How dependent would you be on the possible collaborators? Will this affect the time investments required to make the collaboration work?
	What forms of project management or project governance arrangements are more likely to promote outcomes of interest? For a large scale project, can you secure budget for a dedicated project manager within the funding application?
	Who on both the academic and organizational side will be responsible for setting the stage for all of this? (These are important decisions, as you will need to work with these individuals, and trust their motives and competence, and know that they will have time to invest in the development of the project.)
Pre-collaboration	Does the organization have a website outlining their strategic priorities and rules of engagement (which you can engage with and appeal to)?
	Can you set up a collaboration agreement early in the conversations (e.g., covering finance, security, ethics, and publishing – this can help you later!)?
	Do you need funding to do the work, or can you consider a quid pro quo arrangement (e.g., the organization allows longitudinal access, and you offer a workshop/student project free of charge)?
	Are the people you are working with the *right* ones to ensure organizational buy-in (e.g., seniority, discipline)?
	Can you have an open and honest conversation about data collection and publishing? For instance, what is confidential? What do the organization consider to be commercially sensitive? What level of research detail will you be able to publish? (NB. It is usually helpful to return to this during the collaboration itself.)
	What is your unique selling point (USP) or brand, and can you communicate this clearly, and without jargon? (It can be helpful to test your pitch with a non-academic audience.)
	How far are you willing to compromise on favoured models, theories, or research designs?
	Can you secure some workload (time, or other incentive) within your academic institution to help you build this relationship? If workload is not available, can you partner with a colleague or PhD student, to help you manage the relationship?
	Do you understand the organization's goals/needs from the research, and do they understand yours? Are these goals similar or worlds apart? Is there a compromise that works for both parties?
	Is the culture of your institution (and theirs) supportive of academia? For instance, can either party secure resource – time, money, people, travel – to help nurture the developing relationship?
	Do you have technologies (e.g., video conference, secure email, data storage) that are interoperable and enable you to share data easily, and satisfy ethical and legal requirements?
	Will you be able to access the participants you need to do the study you want to do?
During collaboration	Will people (researchers and participants) be given time to contribute to your research? Can you incentivize them with a payment/charge code for their time (within the parameters of careful, ethical behaviour)?
	Do you have activities built into the research design phase to enable you to listen to the organization's problem and gain their ideas for how to tackle these?
	Can you build in natural reflection points within the research design (and funding plan, if necessary) to share interim findings as you are collecting and analysing data? Workshops and reports can lead to impactful activities.
	What is the process to publish (e.g., are organizational permissions required, and what is needed to secure this)?
	Can you design in user-generated participant IDs that will be stable across studies? (This can increase the potential for matching data-sets longitudinally and from past and future projects.)
	Are you able to directly engage with employees, customers, suppliers and other stakeholders – so that you can learn from their experience and build connections?
	Have you budgeted for time to spend getting to know the key stakeholders, understanding the context of the issues they report – for instance, going beyond the reported symptoms and looking for the underlying management or psychological causes?
	Can you design in activities to measure improvement or change within the project (e.g., through additional/costed milestones that are part of the project)?
	Can you arrange for key stakeholders to deliver a workshop or seminar for your students and/or research colleagues?
	Would it be beneficial for you to connect key industrial partners within your network (e.g., for a larger funding application)?
	Can you include the research in your teaching activities (feedback from student groups can help test or refine theory and methods)?
Post-collaboration	Are there opportunities to disseminate project findings beyond the core stakeholders (gain additional feedback or spark new project ideas)?
	Are you able to capitalize on the organization's network (e.g., suppliers, peers, internal management groups) to disseminate your findings and approach more widely?
	Can you find out from the organization how they share best practice internally – e.g., can you write blog posts, produce a poster, contribute to their social network/messaging groups, or produce a one-page policy summary that distils the key practical messages?
	Can you formalize a post-project reflection or evaluation meeting for six or twelve months after the project finishes? (You might use this to gather further evaluation data, understand how the organization has continued to use your work, or learn how to improve the approach going forwards.)
	Can you write plain language (jargon-free) short summaries of the research? If acceptable to the organization, you might find it beneficial to share these summaries via your social-media and personal webpages?
	Can you use social-media to contribute to discussions and promote your research activities (e.g., by creating, or contributing to groups)?

set. Consequently, carefully recruiting for these "scientist-practitioner" roles and rewarding those who engage in such activities is imperative.

We recognize that there is an implicit assumption throughout our paper that practical impact (resulting in change within organizations, wider society, or policy) is both desirable and an endeavour to which we, as researchers or academics, *should* be focussed. We also acknowledge the traditional counterview of impact as dissemination within the academic community and subsequent change in methods, theory, and paradigms, with the external world a place to study and interpret, rather than necessarily change. In many ways, this traditional view helps explain the move towards specialization of roles that we described previously. We do not advocate that all academics should be compelled to work solely on practical problems, or only to undertake projects that can be easily "sold" to managers. Conceptual, laboratory, in-silico, and other more abstract research provide critical foundations to advance knowledge and understanding. However, as a discipline, we should think creatively about how the design, delivery, and dissemination of research can impact direct stakeholders, wider business, and society. This requires going beyond including "practitioner points" at the end of academic papers, and instead incorporating these into conceptualizations of research itself.

The ethos and philosophy presented in this paper continue to frame our approach and what we aspire to achieve, and have led us to experience a number of impact "hits", with "misses" and disappointments along the way too. The recommendations presented in Table 2 extend the examples provided in this paper, and are offered to help researchers who, like us, are balancing different research goals. We include suggestions for how researchers may identify, engage and cultivate collaborative external relationships. We extend a caveat that, while we have experienced successes in engaging new partners, it is likely that a proportion of these will not stay the course and yield an output due to factors beyond either partners' control (e.g., we have had restructuring leading to key contacts being made redundant, the closure of funding schemes, collaboratively funded PhD students withdrawing). It is important, therefore, to consider engagement as an ongoing strategic priority to help build resilience in case a current or burgeoning relationship fails. They are deliberately broad, covering aspects that we have found enable researchers to take full advantage of opportunities, so as to avoid more misses and disappointments!

Conclusions

It is clear that measuring research impact is complex, and particularly challenging for applied disciplines such as organizational psychology. Nevertheless, providing a measure of impact is important in demonstrating value to stakeholders, and it is increasingly required by both public and private funders. While we must recognize that the measurement of impact is likely to involve proxies and a simplification of the context and outcomes, we would argue that it is better to *attempt* to measure the outcomes of our work than not to try at all.

This paper does not advocate our approach to impact as the one "best way", nor do we claim it to be the most fruitful. Rather, we advocate a view that pursing impact is inherently socio-technical, rather than resolvable through a few easy actions. The best laid seeds to impact can be quickly uprooted by a change in political landscape, or personnel, and this can be frustrating (and infuriating!), as well as off-putting for researchers in today's challenging research climate. However, we believe that we should not let this deter us from engaging in meaningful partnerships with organizations. By approaching our collaborators with academic humility, we find we can genuinely learn from our differences and, consequently, develop more representative perspectives. Without these relationships, our research, as well as our profession and discipline, risk losing relevance in the organizational world that we seek to understand and influence. In these turbulent economic and political times, the world needs organizational psychology more than ever. There is no shortage of issues for us to engage in (Davis et al., 2014) and the tools and approaches at our disposal are broader than ever before (Cortina et al., 2017; Crowder et al., 2012; Hughes et al., 2017, 2012). Yet, without organizational engagement, our work risks irrelevance. To deliver impact, we need to recognize and address the socio-technical issues inherent in the full life-cycle of our research. By pragmatically accepting the *misses* and *disappointments* alongside the fervour with which we accept the *hits*, we believe we can better learn from our experiences, and create impact through our research.

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