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Understanding scientific freedom and scientific responsibility in business and management research

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Abstract

To illuminate the nature of contemporary business and management research and to reinforce the principles of responsible research proposed by the social movement Responsible Research in Business and Management (RRBM), this paper explores two critical elements of the scientific process – scientific freedom and scientific responsibility. We observe that in recent times, context and practice have weakened both of them. Path-dependent processes in a closed research ecosystem have restricted scientific freedom. A "publish or perish" culture has clouded scientific responsibility. We examine the definition of scientific freedom and assess how much freedom scientists can expect in current social conditions. We apply Schulz's (1972) responsibility categories of a) who is responsible? b) For what are they responsible? And c) to whom are they responsible? to develop an expanded definition of scientific responsibility. Aligning high and low levels of freedom and responsibility, we identify four types of research, one of which fits RRBM's definition of responsible research. We suggest a set of light and heavy actions in a humble attempt to shift the research ecosystem further towards responsible research, focusing on benefits to society. We conclude with a set of scientific norms to guide researchers who aspire to make their research more responsible and impactful.

Keywords

Responsible business and management research, scientific freedom, scientific responsibility, RRBM, scientific norms

1. Introduction

Recent years have witnessed the resurgence of severe forms of injustice around the world. The most notable are economic inequality, racial and gender discrimination, climate irresponsibility, and significant global healthcare disparities, as we have seen through the two years of the COVID-19 pandemic. As management scholars, we wonder what knowledge business and management (B&M) research has contributed to addressing these injustices as well as the contemporary issues of, for example, safe workplaces, work-from-home practices, supply chain security, or employee reaction to vaccination requirements. What solutions can management research offer to alleviate the broader contextual injustices?

Indeed, an abundance of writings in recent decades suggests that B&M research may not have much to offer. There is certainly research attention to some of these issues and timely work on COVID-related management issues[1], but most researchers largely have continued their research business as usual, focusing on filling gaps in the literature, building and enhancing theory with unclear connection to practice. This is not surprising, since caring for practice is not incentivized for business school scholars. It is also not surprising that media editors or policymakers rarely tap into the deep knowledge of B&M scholars to inform and address the management challenges related to the current public health crisis.

Ironically, keeping management scholars in the ivory tower may be a blessing in disguise for the public as much of their research has a credibility problem in its findings. The public may be better off not applying this research, given the doubts on the truthfulness of the published research results and the disconnect between the topics studied and the needs of society or business. Further, at an estimated $400000 per top journal article (Terwiesh & Ulrich, 2014), the public may see a moral issue with the cost-benefit (Glick, Tsui & Davis, 2018). While some scholars may be content with or even prefer the status quo, we ask - is this condition desirable or optimal?

The grass-roots movement 'Responsible Research in Business and Management (Co-founders of RRBM, 2017, revised 2020)[2] was introduced in 2016 as a reaction to two major crises in management research, i.e., its scientific credibility and its usefulness. It was a call for action to correct a neglect of the needs of our societies by focusing on **both** rigor and relevance in our research.

While the reception to RRBM was generally positive, occasionally, the audience would raise one or both of the following challenging questions: a) "Don't we have academic freedom in what we study?"; b) "What is responsible (or irresponsible) research?" These are fair questions, but they reveal an inadequate understanding of the concepts of scientific freedom and scientific responsibility. The primary point of this essay is to discuss these two concepts in detail by asking what freedom means in our scientific inquiry and what responsibilities do we shoulder as social scientists working in the B&M field today.

[1] We recognise that there were many scholars and journals publishing COVID-related research, much more than that during or after other crisis periods, e.g., the financial crisis in 2008/09, according to the observation by Starkey (2015).

[2] The RRBM movement is a global, multi-disciplinary effort, involving the major sub-disciplines within the business or management schools such as accounting, finance, management, marketing, and operations. Our discussion here focuses on the management sub-discipline, but the ideas are applicable to all the sub-disciplines in various degrees.

This essay begins with a brief account of how scientific freedom and scientific responsibility have weakened over the last three decades in B&M research. Next, drawing upon the philosophy of science literature, we define the two concepts within the context of B&M research. Then, we describe four types of science in current B&M research based upon high or low levels of freedom and responsibility. Following that, we suggest some actions for both internal and external stakeholders of the research ecosystem to increase the sphere of freedom and domain of responsibility. We conclude by introducing several scientific norms to complement our formal commitment to advance science for the betterment of society while providing meaningful careers to scholars who aspire to make a difference in the world through their excellent scientific work.

2. Gradual Weakening of Scientific Freedom and Responsibility in B&M Research

Tsui (2022) depicts a chronology of how the management field changed over the forty years of her career with signs of decline in both scientific freedom and scientific responsibility. For the first fifteen years of her career (1981 to 1995), the problems of the time (the context) inspired her research. There were no journal lists, no counting of papers and the substantive contribution of the scholar's research was the basis for hiring, promotion and tenure decisions.

During the later 1980s and the early 1990s, things changed as academic research became subject to measurement. From the broad outlets for research dissemination (e.g., books, policy papers), the most accessible outlet to measure was the journal's 'perceived' quality, as measured by the Impact Factor.[3] Hence, journal ranking lists appeared, e.g., the United Kingdom's CABS Academic Journal Guide and Australia's ABDC list.[4] The ongoing academic trend towards writing for top journals and eschewing other types of publications began. As Goodhart's Law (1975) explains, "When a measure becomes a target, it ceases to be a good measure". Papers proliferated, and their primary if not only audience was other B&M academics.

At the same time, Hambrick (1994) identified the problem of an inward-focused incestuous cycle of writing for each other in a closed academic system. After him, a procession of the Academy of Management presidents repeated the call to make B&M research better connected to society.[5] Daft and Lewin (1990) referred to the intense attention to scientific rigor and weak interest in practical relevance as the "normal science straitjacket". By the beginning of the 2000s, journals emphasized theory much more than a contribution to practice (Hambrick, 2007). Around the same time, many scholars began to write about the research-practice gap, how to think about it, and what to do about it (Bartunek & Rynes, 2014). This problem is still alive and well today, with voices from senior scholars in marketing (Reibstein, Day, & Wind, 2009), operations management (Tang, 2016), and

[3] The Impact Factor is based on a year's citations of the journal's articles published in the previous two years divided by the number of articles published in these two years. The 2-year citation impact counts are easy to manipulate and not a credible indicator of the impact of the papers published in that journal. Cagan (2013) points out that the evidence has shown no relationship between citations of the journals and those of the individual articles in them and calls for a stop in using the journal's impact factor as a proxy for the quality of the papers in the journal.

[4] By early 2000s, many business schools have a "journal list", including schools in North America, Asia and Europe.

[5] For example, Hitt (1998), Van de Ven (2002), Cummings (2007), A DeNisi (2010), Tsui (2013), and McGahan (2018) (https://aom.org/about-aom/governance/presidential-gallery) – all called for more attention to studying problems that matter to society.

accounting (e.g., Rajgopal, 2020). After almost twenty years and despite the expressed concerns and offered solutions, the research-practice gap or the relevance problem persisted. This is symptomatic of a deeper problem that we explore in this paper.

Concurrently, the journal lists became more widespread, school leaders adopted them in hiring, promotion, and tenure decisions. The types of problems a scholar studied or whether the research findings offered actionable solutions to practitioners were less critical than the number of articles published in the 'A-list'. Scholars were hesitant to study challenging or new problems if there was not a solid body of literature to build upon and if contemporary theorizing is complicated. Authoring or editing books, engaging in consulting, serving as expert witnesses, talking to or writing for the media carried little weight in performance evaluations where the peer-reviewed article had a monopoly. Many scholars did not dare to engage in such applied activity or, if they did, they might not have reported them in annual reviews or tenure evaluations for fear of punishment.

Early in the 2010s, scholars identified a worrisome problem over the credibility of the research findings in B&M.[6] In deductive[7] research, conscious or subconscious dishonesty splits into 'Big' and 'Little' Lies (Schwab & Starbuck, 2017). This categorization hinges upon the severity of the breach of ethical behavior involved (Bakker & Wicherts, 2011; Honig & Bedi, 2012), with most infringements falling into the 'little' lie category (Honig, Lampel, & Drori, 2014). Big lies are intentional attempts to deviate from ethical guidelines, usually for personal gain e.g., promotion, tenure. The case of Diederik Stapel's rapid rise to Dean at the University of Tilburg is well known (Schwab & Starbuck, 2017). His prolific publication record in social psychology averaged 10 articles and 2 book chapters a year over a decade, came to an unfortunate end when young researchers exposed his blatant data invention and manipulation. Another interesting example is the study about dishonest by Shu, Mazar, Gino, Ariely and Bazerman (2012) which reported two lab experiments and a field experiment. Simonsohn, Nelson and Simmons (2021) did an analysis of the field data in the third study and found strong evidence of data fabrication by the authors. The story was reported in Fortune (Miller, August 30, 2021). One author independently wrote a personal reply to this incident (Bazerman, 2021). Other big lies can be seen in the daily records at https://retractionwatch.com

The little lies take several forms, including p-hacking – a search for significant effects in a dataset and construct a story with theory to write a paper (Bedeian, Sturman, & Streiner, 2009) or HARKing - making up or revising hypotheses after the results are known (Bedeian, Taylor, & Miller, 2010) to maximize publication success. The emphasis is on choosing "beautiful" (confirming) results rather than "true" results, which may be null or negative. Selective reporting of hypothesis tests led to great success rates of over 90% in the published papers, with the potential of a preponderance of Type I (false positive) error. When world leading food psychologist and a Nobel prize winner Brian Wansink failed to find a beautiful result in his dataset of a New York pizza restaurant, he instructed one of his graduate students to analyze the data until she found something salvageable. Daily, she returned with 'puzzling new results', and new ways to analyze the database. By such data dredging, Wansink unintentionally committed the flaw of p-hacking (Ritchie, 2020). Though a "little" lie by

[6] The problems are replete across the scientific spectrum and not limited to B&M. Ritchie singles out fraud, bias, negligence, and hype as four cornerstones of poor scientific practice across this spectrum (Ritchie, 2020).
[7] Inductive or abductive research does not escape the potential for dishonesty and mistakes. Again, these can be conscious or subconscious and might involve unrepresentative samples, cognitive errors like confirmation bias, judgmental and decision-making errors (Nickerson, 1998).

definition, the consequences could be serious if the results are not replicable and if used for setting policies or introducing new practices.

Given the preponderance of little lies, it's no wonder that only a third of the results are replicable (Bergh, Sharp, Aguinis, & Li, 2017; Goldfarb & King, 2016; Open Science Collaboration, 2015). This confirmation bias suggests that the literature may be full of wrong or even flawed theories because theories are rarely refuted or questioned (Ghoshal, 2005).

The practice of requiring new theoretical contributions in every paper discourages or disqualifies studies that report descriptions of unusual phenomena or explorations of new phenomena in new or changing contexts.[8] The business and management world is changing in profound ways in the twenty-first century. The theory constructed to explain the beautiful results among variables may have little or no connection to significant problems in the new economic and social contexts. Ironically, the search for novelty may lead to authors' risk-averse behavior, causing incremental research in the top journals. This type of research extends the boundaries of a field slightly but does not advance it in significant ways. Heckman and Moktan (2020) reviewed papers published in the top five cited economics journals (T5) and found that the genuinely innovative articles were in non-T5 journals.

Tsui (2022) reasoned, and we agree, that these practices suggest that researchers have lost their intellectual freedom when they have had to succumb to the preferences of editors and reviewers when choosing topics, citations, methods, theories, and results to include in their papers. The research ecosystem that encourages and rewards such behaviors also reveal a poor understanding or a disregard for scientific responsibility.

Many researchers, by necessity, have mastered the art of successful publishing in elite journals. They have received handsome rewards for these publications. Senior scholars continue to adopt the criteria used to judge them in evaluating the work of others. They transfer their success formula to their junior colleagues and doctoral students, with all good intentions. The process repeats, and prevalent research practices perpetuate. Research became a matter of life and death for many young scholars, as captured in the famous phrase "publish or perish" (Glick, Miller, & Cardinal, 2007; Mitchell, 2018; Tsui, 2022).

We argue that these closed circular, path-dependent practices have compromised the idea of scientific freedom by emphasizing the peer-reviewed article over other research dissemination formats. Further, they encourage scientists to cut corners in their research procedures in conflict with a responsibility to produce credible and reproducible results. Freedom and responsibility are at the heart of the scientific enterprise, and we argue that the research practices of recent years have compromised both. We discuss each concept below.

3. The concepts of scientific freedom and scientific responsibility

Scientific freedom[9]

[8] The AoM Board of Governors approved the *Academy of Management Discoveries* (*AMD*) during Anne Tsui's presidency (2011-2012). *AMD* aims to publish exciting and important phenomena without the burden of a theory, focusing on robust results that may inspire subsequent theorising.

[9] What constitutes science and what constitutes scientific freedom can be traced back to *Aristotle's Metaphysics*. The definitions of each concept have changed with the times, e.g., during the Enlightenment in Europe. Bayertz (2006) makes a strong case for any definition of scientific freedom to identify more strongly with the social reality of science today. Science is no longer an atomistic scientists' pursuit for happiness but is mass-produced

The idea of scientific freedom became especially important in the 17th century (Robert, 1991) to protect the scientific community from the pressures of authority such as the government or religious organizations. This freedom from the external force is necessary to ensure scientists have independence of thought. As Einstein noted:

> "The development of science and of the creative activities of the spirit requires a freedom that consists in the independence of thought from the restrictions of authoritarian and social prejudice." (Isaacson, 2008, p. 550).

This independence permits scientists to concentrate fully on the phenomenon(a) under investigation. Kuhn (1996, p. 164) attributed success in the natural sciences to such autonomy. Separating science from society and treating it as a value-free enterprise keeps science 'apolitical' and allows it to be independent. This independence includes exclusion from worrying about the utilization of science and what consequences it may bring about. As the proclamation "science proposes, society disposes" suggests (Lekka-Kowalik, 2010), such decisions are in the hands of politicians, medical doctors, firm owners, etc. Science discovers, but society (individuals and institutions) consumes scientific knowledge and science-based technologies. In this view, science passes the responsibility for its application and its consequences to others.

Proponents of this value-freedom proposition have offered strong arguments for focusing science only on epistemic logic and avoiding the involvement of social logic (Reichenbach, 1951). As Hempel (1965) emphasized, justification in empirical discoveries or confirmation of scientific explanation, as well as the sufficiency of the evidence to accept or reject a hypothesis, should form the basis of science. Scientists should not have to worry about society's concerns. Knowledge is value-neutral, where the end (the generation of new knowledge) justifies the means. This argument represents the freedom of science at the institutional level.

However, freedom from institutional influence does not give scientists the freedom to act as they wish in their roles. As a start, their science should be free from personal values and dispositions. That is why (Merton, [1942], 1973) identified "disinterestedness" as part of the ethos of science. Scientists should not have any personal motives (e.g., success, fame, wealth) in their decisions to pursue science, except the thirst for knowledge and understanding. A degree of disinterestedness at the individual scientist level is necessary to ensure all decisions involved in the scientific work are guided by what is best for attaining truth. But such an expectation is an ideal because it is impossible in practice - as Rudner implies in the title of his seminal article, "The scientist qua scientist makes value judgments" (Rudner, 1953). The institutional pressure in B&M to pursue publications (and citations) to get hired or promoted suggests that the expectation of "disinterestedness" is illusional in the current era. Publications are essential to contemporary scientists because the schools that employ them provide incentives to do so. Publications are important to schools because accreditation bodies or ranking agencies use them to evaluate their performance. Instrumental rationality has a higher priority in this research culture than epistemic rationality for both individual scientists and academic institutions (Tsui, 2016).

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in large institutions. More, large agencies (e.g., governments, MNCs) fund it. They can be more concerned with setting the scope of scientific projects and their output than with the scientific process or method deployed.

Further, scientific work is context embedded. Scientists are members of at least three communities. The first is the institution and, for B&M scholars, this is usually a business school. Most business schools employ key performance indicators (KPIs), monitored in annual performance reviews, targeting articles in top-rated journals. They reward productivity yet hope for relevance. We argue that these performance vectors constrain individual academic freedom and produce several damaging unintended consequences, e.g., an 'avalanche of sub-standard, incremental papers, poor methods and increases in false discovery rates' (Smaldino & McElreath, 2016).

The second is the scientific community in the different disciplines. In the social sciences, these include psychology, sociology, economics, and B&M. In B&M, there is a further division into accounting, finance, management, marketing, and operations management sub-disciplines. Each discipline develops its standards of professional competence governing scientific investigations. Equally, there are differences in the dominant conduct of inquiry (e.g., theories, methods, assumptions) and other elements of the research process (e.g., concepts, laws, models). Kaplan asserts that "The autonomy of inquiry is in no way incompatible with the mature dependency of several sciences on one another" (1964, p. 4). Some of the most exciting encounters are among scientists from different disciplines working on the same problem. Such inter-dependence is particularly important for solving problems in the social world due to the complex, dynamic and reactive nature of social subjects – individuals and collective units (Risjord, 2014). Though interdisciplinary research is encouraged, it is not practiced often in the B&M discipline (Khurana, 2007). We observe that the prevalent professional practices in the research community constrain scientific freedom.

Third, science occurs within the context of a larger society. Society supports science through government policies or private funding and, in the case of universities, through student tuition fees. In return, society expects scientific work to provide reliable knowledge and essential discoveries with robust evidence to inform policies or practice, with the ultimate purpose of improving people's livelihood. Dewey (1927) viewed science as a crucial value-based enterprise to address human needs and concerns. Therefore, society guides what the scientific community should study. The significant funding given to coronavirus research and the development of vaccines is a timely example of the critical interdependence of science and society. However, scientists can still enjoy some degrees of freedom, for instance, in deciding what problems interest them personally, having the freedom to engage in investigations with objectivity, to report findings truthfully, and complete their work unconstrained by non-science considerations. Funders cannot force individual scientists to work on a problem they do not believe in, and non-scientific groups cannot interfere with scientific investigations. Only scientific community members can render an opinion on the "truthfulness" of the scientific claims.

This autonomy of inquiry is "the principle that the pursuit of truth is accountable to nothing and to no one not a part of that pursuit itself." (Kaplan, 1964, p. 3). Presumably, this autonomy covers the entire scientific process, from the choice of questions to the dissemination of findings. So, the scientific community decides and develops the logic of inquiry that will provide the standards for reaching and judging reasonable and reliable conclusions. Any expectations, criteria, or standards from society or other sources that may interfere with the objective pursuit of scientific activities are potential threats to the autonomy of inquiry principle and the scientific freedom necessary for credible science.

By clarifying the meaning of scientific freedom, we better understand how research practices in B&M have constrained freedom in some domains and provided unchecked freedom in others. For example, scientists should be free to choose the problems they find interesting and meaningful without worrying about editors' and reviewers' preferences. The scientists should be able to decide whether to undertake an exploratory study, to propose a bold theory (Popper, 1959), to pursue normal science involving primarily replication research (Kuhn, 1996), or to refine and extend a research program (Laudan, 1977). The expectation that every research paper should contribute to theory discourages exploratory research and replication studies. The KPI requirement to produce a certain number of articles in the top journals influences scientists' behavior, directing their attention to ideas, theories, and methods acceptable to these journals and away from those that don't. The reviewing practices prevalent in many journals constrain the freedom to tackle challenging problems, ground-breaking discoveries, or revolutionary science (Kuhn, 1996).

The current research stratagem of using different ways to maximizing publication success throws scientific objectivity and ethics out of the window. Authors and reviewers have unchecked freedom to publish what they believe is interesting, novel, insightful and appealing to the editors and reviewers without considering the importance of the problem or the replicability of the findings or wrongful conclusions. Despite admirable corrections by journal editors[10], value intrusion into these epistemic decisions is rampant, reflecting a poor understanding of the idea of scientific freedom.

Now let us consider the first question those early RRBM audiences asked: “Don’t we have academic freedom in what we choose to study?” We think the discussion above points to an obvious answer. The scientific community and broader society set expectations on the critical problems, the standards that scientists must follow, and the evidence on the solutions to the issues. While scientists have the freedom to choose what they want to study, the needs of society should guide that freedom. While scientists have the freedom to choose which theories or methods to use, this freedom does not compromise the epistemic requirements and professional norms of objectivity. Further constraints emerge from the single and inter-disciplinary guidance of professional associations. In other words, there are some necessary constrains on scientific freedom.

In brief, scientists are accountable for both the quality of their work and the potential usefulness of their discoveries to society. As Merton expressed, beyond credible knowledge, “scientists have to take responsibility for the social implications of their work, or risk undermining social support for scientific research” (Merton, 1973, p. 263). In other words, there is no "free" freedom. Scientific freedom and scientific responsibility are necessary partners. Now we turn to the question of what the term responsibility means for science.

Scientific responsibility

The German ethicist Schulz (1972)[11] proposed three essential questions to understand the concept of responsibility: a) Who is responsible? b) For what is one responsible? c) Toward whom one is responsible? Relatedly, Douglas (2009) defines four dimensions to the

[10] We acknowledge noticeable changes in some journals to address the dual problems, e.g., the *Academy of Management Journal* editorial inviting authors to join conversations in society (Tihanyi, 2020) and the *Strategic Management Journal’s* replication special issue (Ethiraj, Gambardella & Helfat. 2016). While encouraging, such changes are not widespread yet.

[11] Discussed in Enderle (2021, 164-166)

responsibilities for scientists, three of which map onto these questions from Schultz. One concerns who bears the responsibility (Schultz's who) - the individual or the community. A second is the nature of responsibility (Schulz's what), which includes both general and role. A third indicates the audience to whom scientists are responsible (Schulz's to whom) - scientific reasoning, the scientific community, and the broader society. Douglas (2014) considers the "level" of responsibility as the 4th dimension. This section discusses the first three dimensions for social scientists working in the business and management discipline. Section four will consider the fourth dimension of "level".

1. *Who* is responsible in the B&M research enterprise?

The scientific enterprise involves many stakeholders. On the supply side, the most important ones internal to the research enterprise are the scientists themselves. These consist of both mature scientists and nascent entrants (e.g., doctoral students) who are the 'core' workers in the supply chain of the knowledge production process. Internal stakeholders include the deans and vice deans of research, the department heads of disciplinary units, and the promotion and tenure (P&T) committee members. Another group consists of the university level leadership and the institutional review boards (IRBs), which ensure that research complies with the legal, ethical, and moral requirements of protecting the rights and well-being of the research subjects – both humans and animals. Internal stakeholders also include leaders of the professional associations (e.g., Academy of Management, European Academy of Management) and the editors and reviewers of the scientific journals. These internal stakeholders define scientists' expectations and professional conduct, making decisions about performance evaluation, hiring, promotion, tenure, acceptance and rejection of projects, and resource allocation (e.g., research grants). The responsibility of these supply-side stakeholders is to support and hopefully not constrain the core workers in the knowledge production process.

On the demand side, external stakeholders are actual and potential consumers of scientific knowledge. They include the managers of organizations (e.g., business, non-profit), funding agencies (e.g., U.S. National Science Foundation, the European Research Council), accreditation agencies (e.g., AACSB, EFMD), associations like the GRLI or ABI, publishers (e.g., university and commercial), the media interested in science (e.g., The Conversation or The Economist), and ranking publishers (e.g., Financial Times). These external stakeholders possess resources that are helpful to the scientists, including funding, data, research sites or subjects. Government and the broader society also are potential beneficiaries of scientific knowledge and relevant stakeholders of business research.

The combination of internal and external stakeholders comprises a research ecosystem in B&M. Figure 1 is a graphic presentation of the intertwined stakeholders of this ecosystem. The two circles on the left and the right of the circle of workers in the center of the diagram list the external stakeholders. The two circles above and below the circle of core workers comprise the internal stakeholders. Our primary focus is on the scholar-scientists core workers though we also consider the responsibility of the other stakeholders of the research ecosystem since they shape the context of scientific work.

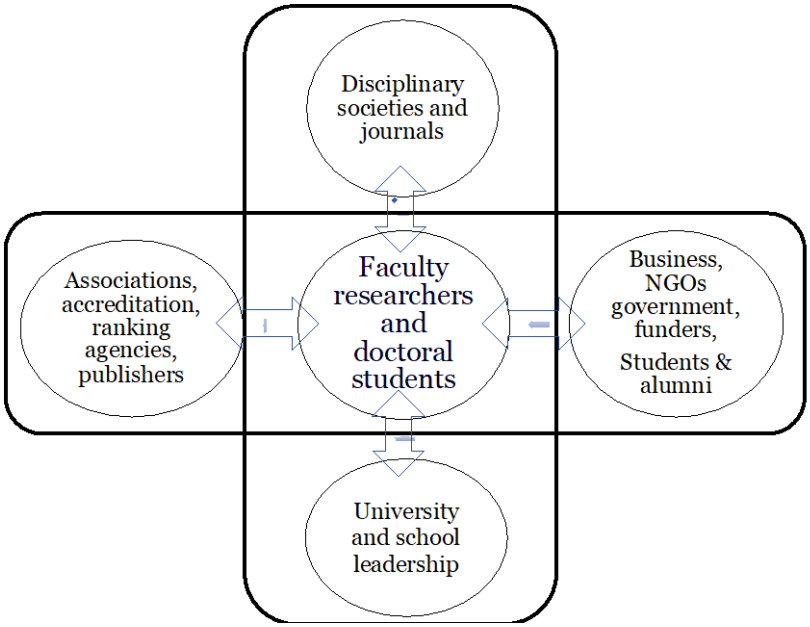


Figure 1: *Who* is Responsible? Members of a Research Ecosystem in Business & Management

2. For *what* is the scientist in B&M responsible?

We all share some general responsibilities as members of human society. At a minimum, these include obeying the law, being honest and trustworthy, helping others and not harming them deliberately. Scientists have these general responsibilities, but we hold them to a higher level. For example, little white lies - like pretending to remember someone when you don't - are *not* acceptable in the scientific community (though they seem to be tolerated if not implicitly condoned currently), but they might be forgiven in everyday life. The specific role responsibilities of scientists are our main foci here. Most scientific communities have statements of responsibility or codes of research ethics. However, the responsibility of scientists goes beyond the content of these documents. We focus on three primary role responsibilities in B&M research: epistemic, societal, and contextual.

The role responsibility begins with the scientists acquiring the necessary competence in the skills of scientific work and applying epistemic criteria to guide their scientific investigation and minimize error. We refer to this as "epistemic responsibility" because it aims to reach true knowledge.

Since all scientific conclusions involve uncertainty and risks (of Type I or Type II error), scientists are held morally responsible for both the intended and unintended consequences of their scientific claims (Douglas, 2009). This scientific role includes assessing the impacts of wrongful conclusions and being attentive to the side effects of their research actions (e.g., the looping effect[12], see Risjord, 2014, chapter 3). Due to the specialized expertise required to understand scientific work, the scientists are the most qualified to make this risk assessment.

[12] Depending on their original characteristics, people are often placed in categories to enable, for instance, control (e.g., prostitutes) or support (e.g., homeless). Placing people in categories changes their behaviour which, in turn, changes the properties that form the classification. The system becomes a moving target. People under study are changed by being characterised and are not the same people as before. Hacking (2006) studied the concept over three decades and referred to this dynamic change as the 'looping effect'.

The careful deliberation that went into the test of the first atomic bomb – the 'Trinity Test' – is an example of scientists' concern about an unintended consequence involving a possible explosive chain reaction in the atmosphere that may destroy all life, human and otherwise, on earth (Rhodes, 1986). The scientists cannot just be 'scientists qua scientist'. They must also be responsible for advising users of scientific knowledge in the promise, the limitation, and the potential risk of the scientific claims. We refer to this as the "societal responsibility".

Interestingly, assessing inductive risk and unintended consequences do not seem to be a responsibility within the B&M research community since risk assessment seldom appears in published work (Tsui, 2021). This responsibility does not receive as much attention as the emphasis on offering novel explanations of a phenomenon, developing complex theoretical models involving multi-way interactions, or selecting the best results, especially those confirming the hypotheses. These practices reveal not an epistemic logic for truth but an instrumental logic that caters to the preferences of reviewers and editors and the publication goal of the researcher. Commitment to the epistemic value of discovering valid explanations of the social or natural world should be the prime responsibility of scientists. Without correct theories and robust evidence, knowledge is flimsy at best and harmful at worst.

Finally, role responsibility involves establishing and enforcing norms and practices in a scientific community that takes its epistemic and societal responsibilities seriously. Here, school leadership and P&T Committees give an appropriate degree of freedom to pursue scientific work; funders and organizations provide necessary resources to the research projects. Journal editors and school leadership champion a fair evaluation system to encourage and support scientists to fulfil their epistemic and societal responsibilities. We refer to these activities as part of the "contextual responsibility". The responsibilities of the stakeholders besides the core workers (junior and senior scholars) are contextual.

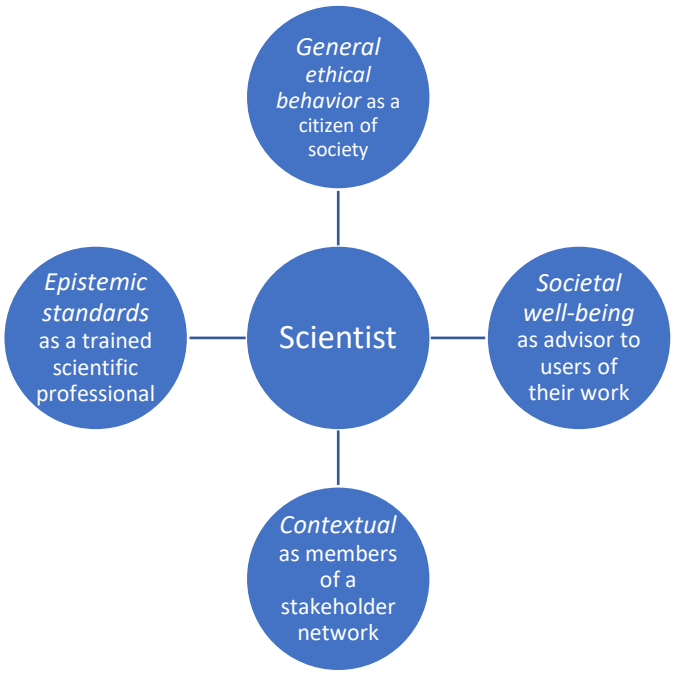


Figure 2: For *What* is the scientist responsible? Four Types of Responsibility

3 To *whom* is one responsible?

Douglas (2014) proposes three bases of responsibility: scientific reasoning, the scientific community, and the broader society. We add a fourth basis, self.

Without reifying science, the first basis is the pursuit of truth, involving genuine discovery. It is the scientists' first significant responsibility, manifested in an objective, competent, and ethical conduct to provide the most accurate and valid conclusions, the best explanations, and the most robust predictions. In Douglas' words:

> "It is this basis that is violated when scientists fabricate data or falsify records in order to produce a particular outcome. It is also violated when scientists cherry-pick data because they want a preferred theory to be true, or when they deliberately avoid tests of a favored theory because they don't want to know if it is false. It is a responsibility to this basis that many scientists hold up as the core of scientific integrity" (Douglas, 2014, p. 964).

The second basis of a scientist's responsibility is the scientific community from internal and external stakeholder groupings. While each group has its responsibility to support scientists in doing their best work, scientists are responsible for delivering the value of their knowledge, expertise, and scientific discoveries. Members of the scientific community are responsible for following the rules and contributing to developing a healthy intellective community as it takes responsibility toward its first basis, good practice in discovering the truth.

The third basis of responsibility is the broader society. Science exists insofar as it provides value to society in the form of "generally robust, reliable, empirical knowledge." (Douglas, 2014, p. 964). Scientists ensure that knowledge production does not justify unethical or immoral methods that prove more harmful than beneficial. Some knowledge, no matter how useful, may not justify the means used to produce it (e.g., use of human subjects in medical research during the Nazi regime)[13]. In B&M, research that caters to the interests of business owners by emphasizing shareholder returns may be reckless because of a willful disregard of the interests or well-being of other stakeholders in society, such as employees, customers, suppliers (Bower & Paine, 2017). An analysis of papers published in the *Academy of Management Journal* (from 1958 to 2000) shows that management research has focused more on society's economic than social objectives. Both objectives were considered equally important in the editorial of the first issue of the *Journal* (Walsh, Weber, & Margolis, 2003). An update in 2013, using data from the top six English language management journals and the three top Chinese language journals, shows that the Chinese studies have a dramatic dominance of economic objectives relative to human welfare (Tsui & Jia, 2013). We argue that such a systematic preference to serve the interest of capitalists at the expense of labor or other stakeholders is an unbalanced view of responsibility to society among business researchers. In general, scientists should minimize negligence, avoid recklessness, practice competent science, estimate the consequences of the error to consumers of knowledge, and be accountable to society (e.g., taxpayers, granting agencies and citizens) that supports science (Douglas, 2009).

[13] See the discussion of the Nuremberg trials in Bridgman (1947).

There is some overlap among the three bases, especially the first two. For example, offering criticisms of a paper constructively and kindly combines a consideration for both the concerns of scientific reasoning and the good functioning of the scientific community.

Lastly, we add a fourth basis – that of self-responsibility. Subconsciously, individuals have different heuristics and biases, e.g., framing, hindsight, confirmation, prejudice, etc. Consciously, there will be dominant cultural attributes and received histories, an eagerness to do well through pride and a tendency to obey or disobey rules. Contextually, there are variations in how a person responds to the pressure, rewards, and penalties within different institutions. The heterogeneous make-up of the self will influence the variety of attitudes that individuals carry to their scientific work. An essential first step for a developing scientist is to be self-reflective of prior experiences, cultural influences, deeply held values and biases and to strive for "disinterestedness" as much as possible when conducting scientific work. Additionally, the individual scientist has the responsibility to protect the self, or others, from being victims to the "system" by speaking up and taking actions about practices that are dysfunctional for science and harmful to the scientific community, society, and the well-being of the scientists.

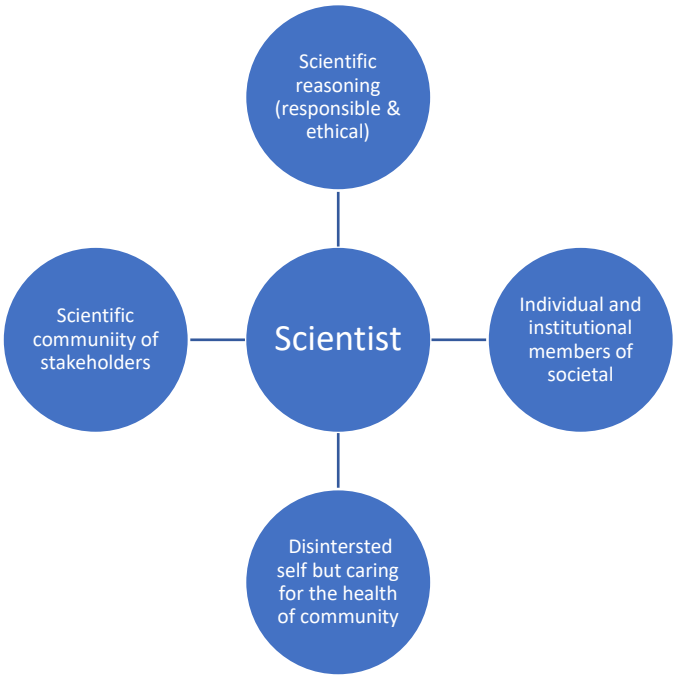


Figure 3: To whom are scientists responsible? Four bases of responsibility

In summary, the role responsibilities of social scientists in B&M can be defined by answers to three questions: 1. Who is responsible?; 2. What are they responsible for?; and, 3. To whom are they responsible?. The ‘who’ question consists of the scientists, the internal stakeholders, and the external stakeholders. The ‘what’ question refers to three responsibility domains, epistemic (seek truth), societal (meet needs), and contextual (provide support). The ‘to whom’ question identifies science, the scientific community, society, and the scientist him or herself as the potential beneficiaries. These role responsibilities fit the definition of responsible research offered by RRBM - any scientific work that produces credible knowledge with direct or indirect usefulness for addressing problems significant to both business and society (Co-founders of RRBM, 2017, revised 2020).

Table 1 below summarises the responsibilities of the stakeholders of the B&M research ecosystem to guide responsible research in practice.

Table 1: Responsibility for Responsible Research by Stakeholders of the Research Ecosystem

1 *WHO* IS RESPONSIBLE?	2 FOR *WHAT* IS ONE RESPONSIBLE?	3 TO *WHOM* IS ONE RESPONSIBLE?
INTERNAL STAKEHOLDERS		
Core Workers: Doctoral students, junior and senior scholars	Applying epistemic standards, risk assessment of inference errors, civil exchange of ideas and criticisms, dissemination of research findings, e.g., books, articles, reports, observing local regulations and ethical standards, students, society knowledge consumers, self-reflection, and education.	Editors, reviewers, peers, P&T committees, department heads, doctoral directors, institutional bodies (e.g., ethical approval), society, self.
Disciplinary association leaders	Ethical standards, dissemination, capacity & capability development, society's needs, policy, and practice advice, conferences & meetings, journals, newsletters, policy briefings, staff health, safety, & development.	Members, other cognate associations, national audit bodies, national governments, broader society.
Editors and reviewers	Fair and objective evaluations, sound epistemic practices, inclusivity in topics of research, diversity in reviewers and authors, reviewer competence, reviewing standards	Publishers, journal owners, authors, peers, the scientific community.
Deans and vice deans of research	Support research on societally significant problems focusing on strategic areas of expertise, faculty health, safety, development, equity-diversity-inclusion and fairness in research funding, policy, evaluation and rewards, research profiling and exposure, research utility and value for money.	Faculty/researchers, university leadership, institutional owners, society, accreditation agencies, ranking and rating bodies, students, alumni, sponsors, donors, advisory board, media.
School and university P&T Committees	Transparent, fair, evaluation criteria and standards, objective, and thorough evaluation, avoidance of personal preferences or orientation.	Faculty, department heads, dean, university leadership, external standards, society's needs and expectations.
PGR & PhD directors	Doctoral curriculum, development opportunities, funding of student projects, diversity of students, proper supervision, annual reviews and progress reports.	Doctoral students, faculty, dean, institutional research committees, auditing bodies, accreditation agencies.
EXTERNAL STAKEHOLDERS		
Current students	Participating in faculty research, feedback on research ideas and findings, encouraging peers to do the same.	Faculty, peers, student's union, school, department.
Alumni	Provide support or access to research, feedback on the usefulness of research for profession, industry, or community, guest lectures, knowledge exchange with faculty/school.	Alma mater, employing organization, profession, industry, local community, and society.
Accreditation agencies	Transparent and inclusive standards, processes supporting continuous improvement, competent and objective accreditors, quality & consistent reporting, training & development of accreditors.	Board, school and deans, cognate academies, and social movements, e.g., cRRBM.

Managers/executives of business, non-profit, and government organizations	Funding, research topics, access to organization and data, collaboration, and co-creation in research projects, guest lectures, knowledge exchange, policy advice.	Owners, sector bodies, employees, customers, clients, suppliers, regulators, and community.
Non-governmental institutions, e.g., UNGC, UNPRI, ILO	Funding, research topics, commissioning of consultancy, collaboration, or co-creation projects, knowledge exchange	Their respective communities, government, and broader society.
Public and private funders	Transparent and fair funding allocations, fit for purpose research output, policy/strategy recommendations, progress, and end of project reports with supportive feedback.	Researchers, society, fund providers, scientific communities.
Publishers of research books and journals	Production, standards, equitable, diverse & inclusive practices, fair pricing, support of editors and authors.	Scientific communities, authors, reviewers.
Media	Dissemination, suggestions of research topics, revealing fraud, influencing policy	Scientific communities, society, researchers.
Ranking publishers	Fair, appropriate, and transparent standards aligned with stakeholder needs, feedback on unintended consequences, periodic review and revision of standards.	Schools and universities, scientific communities, public.

4. The interdependence of scientific freedom and scientific responsibility

Even if we interpret scientific freedom as immersed in current social reality, academic researchers have likely taken it for granted. Similarly, they may have under-emphasized scientific responsibility, while practice (external) stakeholders may have under-appreciated this responsibility. Freedom and responsibility are two sides of the same coin. Freedom without responsibility is an abuse of this privilege and may generate unimaginable consequences in frivolous and reckless research with potential harmful effects on society – as illustrated by the use of human subjects in medical research during WWII (see Bridgman, 1947) or Joachim Boldt's[14] dangerous experimentation and fabricated results that suggested to surgeons that the blood volume expander hydroxyethyl starch was safe and successful when patients given the treatment were more likely to die than to survive (Ritchie, 2020, chapter 3).

Responsibility without freedom does not offer the condition necessary for independent science and breakthrough discoveries. The American Association for the Advancement of Science states that both freedom and responsibility are essential for science to serve society (Jarvis, 2017).

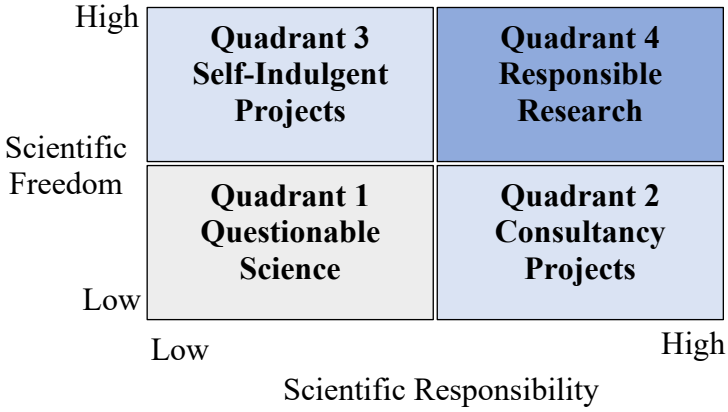
Now we consider the question of level. Is there a minimal or ideal level of freedom or responsibility that would provide the optimal condition for scientists to do the best work possible? The answer is complex because what is perfect or minimally acceptable involves the value preferences of the community, whether scientific or societal. In B&M research, we argue that the scientific communities define appropriate levels of scientific freedom and responsibility, and these involve a) minimum standards to accept research evidence as sufficient to confirm or reject a hypothesis; b) minimum professional conduct within the scientific community; c) minimum value proposition to society in terms of knowledge contribution, and d) the minimum degree of harm to human subjects. Likely, the heterogeneity of these communities will cause different minimum conditions. But it is

[14] Boldt is high up on the top ten fraudsters list on Retraction Watch with over 100 papers retracted to date.

reasonable to expect that a relatively higher level among them is preferable to a somewhat lower level in each of freedom and responsibility.

Table 2 combines the relatively high and low levels of freedom and responsibility exercised by a scientific community. They yield four different types of research. First, low levels of both lead to the findings being of questionable value to knowledge creation and broader society. Arguably, this is a position occupied in recent decades by some, or even many B&M researchers. Second, low levels of freedom coupled with high levels of responsibility are akin to tightly scoped consultancy projects. Of course, scholars can conduct responsible research with a high impact in this quadrant. In some cases, the results may lead to good strategic or policy advice and a favorable effect on society. Third, high levels of freedom and low levels of responsibility represent research that can reify the interests of the individual researcher over those of the broader society or, at least, allow a substantial gap to grow between them. Again, good research can take place here, but it is limited in its societal impact. Finally, high levels of both freedom and responsibility form what we have referred to as responsible research wherein, the interests of both the scientist and society coincide. We consider this an optimal position. However, the heterogeneity of individual interpretations of freedom and responsibility may cause fuzziness at the margins of these research types, so, in practice, they depart from the precise delineations depicted in Table 2. For instance, research that radiates over the border between quadrant four and quadrants 2 and 3 will likely close the research practice gap and be powerfully impactful.

Table 2: The Scientific Freedom-Responsibility Matrix



Two by two matrices enable strategic responses at both the individual and the institutional levels. Here, we are concerned with shifting an ecosystem where path-dependent processes seem to be set in concrete and will require heavy measures to mediate change rather than the actions of individual researchers to make their research more responsible. However, we can see two promising shifts in the latter's behavior from quadrants 2 and 3 towards quadrant 4 by increasing freedom for the former and increasing responsibility for the latter.

Quadrant 2 consultancy projects are for solving immediate problems of specific clients. For example, in strategic management, consulting projects can be tightly designed around a specific product market, a certain geography and a particular timeframe and be of use to a single client. Relying on expediency, they may not be established around careful scientific principles. But valuable data might be collected, especially if 'elites' in the board room are

involved. Academic researchers working in tandem with clients and negotiating freedom to use the data responsibly may provide important knowledge useful to a broader audience.

Projects in quadrant 3 (self-indulgent research) tend to have low relevance for policy or practice. However, they may have relevance for future applications if they are related to some meaningful problems in society. Currently, in many business schools worldwide, individual careers have been made from the pursuit of top journal articles for their own sake, many of which have a limited impact on society. They may be technically excellent but practical irrelevant. It is desirable to shift such a strong academic expertise towards being of more practical benefit for both academia and for society. Moving research in quadrant 3 to quadrant 4 may require both cognitive and behavioral shifts by individuals and the KPI shift by institutions towards making their good research more relevant than in its present form.

We think this approach of introducing more freedom in quadrant 2 and emphasizing more responsibility in quadrant 3 may gain the quickest and most effective results (e.g., picking low hanging fruit). However, bold efforts at both the institutional and individual scientist levels can provide more impactful and lasting changes. We recognize that it is naïve to expect and not even desirable to have all research be in quadrant 4. There is value to the research in quadrants 2 and 3. It is a matter of a distribution of talents. The RRBM movement is to encourage more research to be in quadrant 4[15], relative to what we have now or relative to the other three quadrants. This typology of B&M research offers a possible answer to the question "what is responsible (or irresponsible) research?" that some audience asked when we introduced RRBM in the earlier years.

We suggest that increasing both freedom and responsibility in B&M research also will improve the coupling of academic and practice stakeholders in the research ecosystem. This coupling might lead to a greater range of research questions and increased potential impact of the results. Traditionally, internal, and external stakeholders have occupied a different space in the B&M research ecosystem. Uniting them in this marriage of creativity and impact may be arduous, but it is not impossible. In section five, we offer some suggestions on how to achieve such progress through possible actions by different stakeholders.

5. Actions to increase freedom and responsibility

The B&M research culture is resilient to change because we assert, there has been a decoupling of the expectations of the internal stakeholders (producers) and external stakeholders (consumers) of knowledge. The former has focused on scientific freedom, which, ironically, remains highly constrained in the current ecosystem. The latter complain about the lack of understanding of, and access to, the output produced by the former. External stakeholders may have lost interest in B&M academic research since they are not the immediate beneficiaries of it and their engagement in it is neither solicited nor valued. This highly suboptimal position has contributed to a significant research-practice gap – an issue of relevance that has left many senior B&M scholars and their national and international academies calling for correction over the past three decades. External shocks like the current pandemic have shown that producers and consumers of knowledge can quickly realign their interests and resource allocation to solve pressing issues in an international emergency. Hence, we argue that B&M researchers should deploy the 'relative' freedom in their

[15] The winners of the Responsible Research in Management, Marketing, Operations, or Finance exemplify quadrant 4 research. Go to www.rrbm.network/awards to see these award-winning works from 2018-2021.

scientific inquiry as embedded in its social context to clarify and enforce their responsibility in scientific practice. This will improve the relationship between science and society in both understanding and mutual support. But such an initiative requires behavior changes from both sets of stakeholders and good cooperation between them.

The RRBM community held four summits between 2019 and 2021, bringing together internal and external stakeholders to identify potential actions to align business school research with the needs of business and society. The participants identified a variety of measures that internal stakeholders can pursue to advance responsible research. Two complete reports are available on the RRBM website.[16] Also, participants wrote, "I Will" or "We Will" statements as pledges to correct undesirable research practices or to introduce positive actions leading to more credible or useful research. One notable success was the introduction of societal impact in the revision of the AACSB accreditation standards [17] - the implementation of an "I Will" commitment by the accreditation officer who was at the first summit.

In Table 3, we offer a few illustrative rather than exhaustive actions for stakeholders in the B&M domain. We divide these changes into light and heavy ones. The light ones aim to bring change to research, so it moves from quadrants 2 and 3 towards quadrant 4. These tactics tinker at the edges and are likely to have a marginal impact on the ecosystem without shaking its foundations. The heavy actions target a transformation of the ecosystem such that most research occurs either at the fringes of quadrant four or wholly within it. This transformation will involve many heavy actions taken in parallel, especially by agencies who matter most to institutional well-being, e.g., accreditation of business schools can influence enrolment, prestige and income of the business schools, and the career vector of their deans. Fortunately, besides AACSB, many members of the research ecosystem have begun to take some of these actions (e.g., see Tsui, 2022 , p. 5-6).

Table 3: Illustrative actions by internal and external stakeholders

STAKEHOLDERS	**ACTIONS *Light***	**ACTIONS *Heavy***
INTERNAL		
Researchers	Engage with standards for sound science; engage with movements to support responsible research.	Match their research interests with societal needs; define formal qualifications to practice science; engage in reflexivity; ensure a healthy scientific community.
Editors (Especially of top-rated journals)	Call for special issues on topics important to society; ensure authors write a practitioner-oriented abstract for each article.	Introduce reviewer criteria and training on societal relevance and license reviewers; strengthen the epistemic standards for publication.
Deans and vice deans	Identify strategic areas of excellence for the school; develop and inform faculty of the school's value on research that matters to society; encourage and support both basic and applied research.	Allocate funding to research that prioritizes the school's local, regional, national, and global communities; introduce fit for purpose KPIs based upon quality and relevance, not productivity; join networks of deans to

[16] These two reports are free to download here: the 2019 Responsible Research Summit and the 2021 Responsible Research Academic Summit.

[17] See the AACSB research report on this website https://www.aacsb.edu/publications/researchreports/impact-research for an explanation of the addition of standard nine and revision of standard one and standard eight to emphasise societal impact. See also See "Research That Matters: An Action Plan for Creating Business School Research That Positively Impacts Society" at https://www.aacsb.edu/-/media/aacsb/publications/research-reports/research%20that%20matters.ashx?la=en&hash=C46DC15423E49338D14A0F7F947BA04D98CD7FAF

		lever change in the system, e.g., Aspen Institute, EFMD
Promotion and Tenure Committees	Add societal impact statements in annual faculty reviews; be mindful of unintended effects of specific performance metrics on researchers' behavior.	Place more value on research topics that may have the potential to contribute to practice or policy; make intense demands on the quality of science deployed in applicant's publications; expand the acceptable outlets of research to include practitioner-oriented journals.
Students	UGs - Participate in research projects; P.G.s & Executives - contribute ideas, participate in research, and learn and apply rigorous research methods in their doctoral or master's theses.	Participate in a course on understanding science, on topics of scientific reasoning, progress, values, science and society;[18] pursue research projects as term papers; choose topics that relate to grand challenges of local and global societies.
EXTERNAL		
Managers (of any type of organization)	Approach local universities for consultancy projects; provide their organizations as research sites and grant permission to use proprietary data.	Engage with university knowledge exchange schemes, become longer-term research partners of their local universities/business schools; offer ideas for research at the commissioning stage.
Policymakers	Consider tapping the talents in the business discipline in addition to economics/psychology; join academic networks and their research seminars.	Engage business researchers in policy discussions; utilize the excellent research available in the management disciplines; invite management scholars as expert witnesses.
Funders	Require a statement of societal impact in grant applications; special funding for significant problems.	Sponsor longer-term research projects with an emphasis on the involvement of broader multidisciplinary teams.
Alumni	Serve as mentors to current students at all levels; support faculty research as research sites or subjects.	Provide financial support to school research; serve as executive reviewers of research proposals, papers, or awards; serve as research collaborators.
Accreditation agencies	Publish cases of responsible research in their house journals.	Incorporate the principles of reliable research into their statutes or standards for accreditation and reaccreditation.

6. Scientific norms and conclusion

When RRBM appears at conferences or workshops, audiences sometimes raise an additional question to those mentioned in our introduction – "is the research that I am contemplating responsible?" Besides formal responsibilities, the scientific community has several ways to help individual members to make this judgement. For instance, Merton ([1942], 1973) identified four norms as institutional imperatives that comprise the ethos of science - universalism, communism, disinterestedness, and organized skepticism. Tsui (2021) increased these to five norms by adding independence – freedom of science from institutional rules or performance metrics. These norms are not personal values or formal ethical codes, nor are they binding on the scientists' behavior. Education, socialization, internalization, and an implicit sanction for violation enforce them. Once the scientist has internalized them, these norms form part of the scientist's conscience. They guard science against bias related to personal values. Scientific norms serve as a "celestial star", providing light to any scientific journey. Tsui (2021, p. 184) goes on to invite our research community "to scrutinize, revise, and refine these scientific norms or to identify other important ones to complement efforts to

[18] The Responsible Research in Business and Management (RRBM) offers a free online course on the topic of Philosophical Foundations of Responsible Research that discusses science's epistemic and societal standards.

guide our scientific work in fulfilling our responsibility to deliver credible and useful knowledge." Along this line, we propose a sixth norm, self-reflection, or reflexivity, based on an idea introduced in section 3 above. The six norms[19] are:

1. *Independence* – Having the freedom to pursue problems in society deserving research attention, with institutional rules and performance metrics supporting rather than reducing this freedom.
2. *Detachment* – Accepting scientific work as service to society, as a calling, detached from a scientist's professional (e.g., career advancement) or personal (e.g., money) interests.
3. *Impartiality* – Using impersonal criteria and objective processes, unbiased by personal background or preferences, in conducting or evaluating scientific work.
4. *Humility* – Recognizing science as one of many ways to advance human societies, maintaining modesty about the truth of discoveries, welcoming criticism, and self-correcting.
5. *Communality* – Treating scientific discoveries as a public good, accessible to all, with open and timely sharing of discoveries, regardless of funding source or ability to pay.
6. *Reflexivity* – Engaging in the continuous development of knowledge about science, the world, and the self; conscientiously contributing to a healthy scientific community that supports responsible research and offers opportunities for rewarding careers.

In this essay, our narrative indicates that our B&M research community has fallen short on formal codes of responsibility and informal norms to our scientific activities. We are happy to conclude that there is reason to be hopeful as a new era is dawning. Many stakeholders are taking light and heavy actions (see Table 3) to explore ways to support meaningful research and not rely on the numerical metric as the single criterion of research contribution. As Tsui (2022) expresses, there are many "promising signs of positive changes, and more are on the horizon." This optimism is not far-fetched, because as a community of scholars, we – as both individuals and members of institutions – are responsible for the ecosystem that has developed. Hence, we have both the solutions and the means to correct them. For instance, those agencies with power – populated by senior scholars who progressed in the ecosystem, can help to reclaim our freedom, and respond to the call to be responsible social scientists. To contribute to a healthy, just, and thriving world will require clear definitions, understanding and practice of scientific freedom and scientific responsibility.

As a reflective community of scholars, we are confident that we can shape our future to be consistent with our collective scientific conscience. We are confident that in the not-too-distant future, management scholars in business schools will be sought out frequently by business, government, non-profit, and news media to offer expert opinions on responsible management and how to address our societies' ills. The RRBM position paper articulates this vision in its opening sentence:

> "In 2030, business and management schools worldwide are widely admired for their contributions to societal well-being. Business and management scholarship has been central to solving society's challenges."

Our scientific work will become a significant source of knowledge and pride for all stakeholders through the appropriate use of freedom and steadfast commitment to

[19] Norms 1 to 5 are from Tsui (2021, p, 184-185).

responsibility. With our collective resolve, the Business and Management scientific community will become a force for good in our diverse societies.

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