

**A theory of actionability: Complementing rigour and relevance
in management research**

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Abstract

Our purpose is to contribute to the debate on how to close the gap between management research and practice and to offer a solution. We analyze the literature investigating the research-practice gap including evidence-based management, mode 1 and 2 knowledge generation, design science approaches, and action research. We argue that in order to narrow the gap between management research and practice and more effectively contribute to management learning, we need to engage in research that, in addition to being rigorous and relevant, is actionable. We offer a theory of actionability with enabling propositions that would facilitate the design of management research through explicit consideration of actionability dimensions - causality, persuasiveness, context, conceptual clarity, operationality, comprehensiveness, and comprehensibility. We propose a conceptual model to bring rigour, relevance, and actionability into greater coherence through a trusted sustainable collaboration among the producers, arbiters, and users of management knowledge.

Keywords

Actionability, Rigour, Relevance, Evidence-based Management, Research-practice gap, Decision making

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Introduction

That management research has not significantly affected management practice is a repeated concern of leading management scholars (Syed, Mingers, and Murray, 2010; Wilson and Thomas, 2012). This is a long standing problem. In his 1993 Academy of Management (AOM) Presidential Address, Hambrick (1994) argued that while the main responsibility of management research is to be of service to management practice, the field has failed to effectively translate academically generated knowledge into practical knowledge for managers. Bartunek (2003) echoed a similar concern a decade later, and encouraged the AOM community to tackle the tension and duality between rigour and relevance in order to bridge the gap between management knowledge and practice. Rousseau (2006) reaffirmed the existence of the divide between management knowledge and practice and suggested that principles of evidence-based practices, as previously applied to the field of medicine, can help to overcome the issue. Later, Cummings (Cummings, 2007) called for a closer interaction between researchers and practitioners to ensure both rigour and practical relevance of management research-based knowledge.

Addressing the academic-practitioner gap, Bartunek and Rynes (2014) argued that regardless of whether this gap can be bridged, it warrants theorizing about and investigation. To this end, they outlined the main sources of tension between academics and practitioners, including different time constraints, contrasting logics, distinct

communication practices, differing interests and incentives, and of course, the challenge of bringing rigour and relevance together. We recognize the existence of these issues and agree that studying the research-practice gap is interesting and important from a scholarly point of view; however, we argue that bridging it is not only interesting from a theoretical standpoint, but necessary for the field of management if it is to flourish and make meaningful contributions to practice. We are of the view that management knowledge should ultimately be of service to management practice, thereby enabling managers to make better decisions that lead to better organizational outcomes.

Apart from the existence of practitioner oriented journals in management, research-generated management knowledge seems to be irrelevant to practice and often ignored by practitioners (Pfeffer and Sutton, 2006). Historically, there has been no meaningful relationship between the importance, validity, and usefulness of many established theories in management (Miner, 1984). While the situation has improved to some extent (Miner, 2003), research reports are more often than not solely read by fellow scholars in very narrow communities (Daft and Lewin, 1990, 2008) and not interesting to managers (Deadrick and Gibson, 2007, 2009). This is prevalent in many sub-fields of business (Benbasat and Zmud, 1999; Gaffikin, 2008; Robey and Markus, 1998). That said, several general suggestions have been made to enhance the relevance of management research to practice (Rynes and Bartunek, 2017). These suggestions include modifying researchers' compensation systems to focus more on end users' value (Vermeulen, 2005) and involving practitioners and other stakeholders in the research process (Gough, Oliver, and Thomas, 2012). Despite such calls, even relevant research has not been able to effectively influence management practice (Rousseau, 2012; Rynes, Colbert, and Brown, 2002).

The relationship between the rigorousness of research and its practical relevance and whether both can be simultaneously achieved is still debated (Kieser, Nicolai, and Seidl, 2015). Empirically speaking, research studies have reported both positive (Baldridge, Floyd, and Markóczy, 2004; Dunn, 1980; Weiss and Bucuvalas, 1980) and negative (Duncan, 1974; Shrivastava, 1987) relationships between rigour and relevance.

Conducting and disseminating rigorous research is time-consuming and can affect the currency of the published research. Benbasat and Zmud (1999) have suggested that relevant research should be interesting, applicable, current, and accessible. Moreover, to read and comprehend academic papers, one often requires knowledge of advanced statistical analysis and an ability to follow academic writing style, among other skills. Consequently, common research practices aimed at achieving academic rigour seem to have a diminishing effect on practical relevance (Robey and Markus, 1998).

There have been a number of attempts to bring both rigour and relevance into management research. One approach towards resolving the rigor and relevance gap is the idea of putting “Mode 1” and “Mode 2” knowledge production side by side (Bartaunek, 2011). While “Mode 1” is discipline-based and university-centered and attempts to uncover the truth through positivist approaches, “Mode 2” knowledge production, as an interactive and problem-oriented method, advocates knowledge creation that stems from practice and is validated through implementation (Gibbons et al., 1994). While “Mode 1” seems to be more rigorous, “Mode 2” is perhaps more relevant. Huff (2000) put forward the concept of “Mode 1.5” knowledge production to fuse the benefits of the two modes and avoid shortcomings. She suggested a knowledge creation method in which research questions rise from and are clarified through a close conversation between practitioners

and academics (HakemZadeh and Baba, 2016 b). Academic skills and methods are then utilized to collect, analyze, and interpret data and develop generalized frameworks. Another influential insight to resolve this issue came from the “design science” paradigm that advocates an engineering approach focusing on what does and does not work instead of focusing on what is true and what is not and calls for collaborative research involving both researchers and practitioners (van Aken, 2004). Action research is another approach that focuses on local problem solving where researchers first engage in solving problems in organizations and then use the intelligence gained to create theoretical knowledge that informs practice (Coghlan, 2011). Evidence-based management (EBMgt), as one of the emerging movements that attempt to bridge the gap between research and practice, argues that the practical value of management knowledge and the quality of management decisions can be enhanced through implementing the best available evidence based on unbiased and systematic accumulation and synthesis of pieces of evidence appraised for quality (Rousseau and Gunia, 2016; Rynes and Bartunek, 2017) through a collaborative mechanism that includes key stakeholders of management knowledge such as researchers, educators, journal editors, consultants, and managers (HakemZadeh and Baba, 2016 b). These approaches, while effective to some extent, are viewed as imperfect solutions fraught with operational challenges for reconciling rigour and relevance and for closing the gap between management research and practice (see (Kieser, Nicolai, and Seidl, 2015)).

The empirical and theoretical ambivalence between rigour and relevance call for a deeper investigation of our purpose and methods of inquiry (Kieser et.al. 2015; Syed et al., 2010). We believe that we should seek a systematic means that can result in a synergistic

alignment of rigour and relevance, in turn leading to greater pertinence of our research findings to management practice. As it stands, much of management research explores organizational and managerial phenomena for theoretical intent and not necessarily to provide practical guidance (Thomas and Wilson, 2011). By contrast, managers would like to know how to predict and control outcomes of their decisions. Such disparity in motivation indicates a divide between researchers and practitioners beyond what rigour and relevance together can resolve (Pearce and Huang, 2012a). In order to address this issue and to strengthen the value of management knowledge, we propose actionability as an attribute of management knowledge that complements rigour and relevance.

While the need to make management research actionable has been previously touched on by Pearce and Huang(2012b), there has been no systematic effort yet to develop the notion of actionability as a complement to rigor and relevance. This paper is an attempt to define and develop the concept of actionability, identify its dimensions, and put them in a theoretical format.

We argue that in order to bridge the gap between academics and practitioners, we need to clearly distinguish (a) rigour as a property of research method, (b) relevance as a property of research topic and the knowledge generated about it, and (c) actionability as a property of research results pertaining to their usability manifested in the manner in which they are communicated. We develop a theory of actionability guided by an in-depth review of the relevant literature and a critical reflection on the best practices for increasing the practical value of management knowledge.

The missing link: Actionability

Klein (1971) mentioned that knowledge has to be valid for it to be useful. This validity is often communicated through research. Tranfield and Starkey (1998) identified this process as one of the two common flows of knowledge transfer: one where management knowledge is generated by academics in the form of explicit knowledge and disseminated through papers published in peer-reviewed journals, and the other where management knowledge is produced by practitioners in the form of tacit and applied knowledge. In order to benefit the profession, research generated knowledge also needs to be relevant (Starkey and Madan, 2001). Given that the central task of management involves problem solving and decision making, a main objective of management research is to improve the quality of decisions being made (Davenport and Markus, 1999). As a result, similar to professional fields such as engineering and medicine, establishing a realistic and meaningful linkage between theory and practice (Van de Ven and Johnson, 2006) is becoming critical to the survival of the field (Khurana and Nohria, 2008) and the legitimacy of business schools as one of the key knowledge disseminators (Wilson and Thomas, 2012). Research in medicine, physics, and engineering has been relatively more successful in closing the research-practice gap as evident in the professional nature of their fields and access to codified and aggregated forms of knowledge. While these fields have developed more stable empirical data compared to the field of management, they too struggle with their own limitations in terms of levels of uncertainty and risk of bias. For example, randomized controlled trials, which are believed to provide the most reliable empirical data in the field of medicine, have limited inference capacity due to flaws in design, conduct, analysis, and reporting (Schulz, Chalmers, Hayes, and Altman,

1995; Wood et al., 2008). That said, management research, can learn from the effective knowledge generation and dissemination techniques in those fields to facilitate research that, in addition to theoretical development, leads to professionally useful suggestions.

In essence, the value of management research is linked to the degree to which it is actionable (Pearce and Huang, 2012a); without actionability, even rigorous and relevant research will remain unappreciated. Actionability of management research refers to the extent to which its findings can be implemented in organizations through managerial interventions and decisions (Shrivastava, 1987). Tsoukas and Knudsen (2002) suggest that knowledge is actionable when it succeeds in assisting the relationship between thinking and decision making. Knowledge becomes actionable when theories are summarized and simplified into tools and artifacts that can be directly implemented into practice (Jarzabkowski and Wilson, 2006).

Actionable knowledge goes beyond pure rigour and relevance and is aimed at empowering managers to make research-informed decisions with a higher probability of success. We argue that by increasing the overlap between rigour, relevance, and actionability of management knowledge, the field can aspire to a higher state of professionalism and enable more rapid, effective, and relevant scholarly advancements. Research will be relevant if it answers questions asked by practitioners. Therefore, managers themselves are a key stakeholder for generating knowledge with practical value. As rigour is achieved through robust application of research methods, scholars are the other the key stakeholders. Actionability of research will require both researchers and practitioners as well as other stakeholders such as key knowledge disseminators including relevant journals, educational institutions, knowledge translators and so forth. A

collaboration between all the main stakeholders can then bring rigour, relevance, and actionability together. (Figure 1).

Therefore, we propose that:

The practical value of management knowledge is enhanced through the fusion of rigor, relevance, and actionability, which is achieved through a collaborative mechanism inclusive of its main stakeholders.

Insert figure #1 about here

In order to make the fusion of rigour, relevance, and actionability possible, we need to define the characteristics and attributes of the final product of the proposed collaborative mechanism. To address the challenge of producing actionable knowledge through research, we expand on Pearce and Huang's (2012b) definition of actionable research and propose a theory of actionability. Our theory suggests a framework for identifying and assessing actionability, and offers a guideline for generating actionable research that can be of practical value to managers. Actionable research can be symbolic, instrumental, and/or conceptual (Pelz, 1978). Symbolic research refers to that which decision makers present in order to persuade others of the effectiveness of a decision. Instrumental research is identified as research that is directly used in a decision process. Conceptual research shapes decision makers' understanding of a phenomenon and cognitively empowers them in the decision-making process. In their study of assessing the gap between management research and practice, Pearce and Huang (2012b) argued that

actionable research has both instrumental and conceptual utility but did not identify facets that contribute to this utility. This calls for a theoretical elaboration on the facets of actionability leading to a theory of actionability (Figure 2):

Research is actionable when it is variously causal, contextual, conceptual, comprehensive, operational, comprehensible, and persuasive. The more these components come together, the more actionable the research is. Their coherence is achieved through establishing trust and collaboration among producers, arbiters, and users of research knowledge and communicated through the resulting systematic reviews that are accessible at the time of decision making.

Insert figure #2 about here

In the following section we elaborate on the attributes of actionability and clarify them through examples.

Causality- Causality refers to the extent to which research findings can establish cause and effect relationships. Practicing managers strive to increase the probability of achieving desired results through their decisions; therefore, management research is valuable to practice if it demonstrates a causal relationship between the decision and the resulting consequences. This causal reasoning is central to practicing managers' cognitive process in decision making (Pearl, 2000). Unlike the natural sciences where the objective of research is to understand and/or predict events, managers need knowledge

that enables them to control events (Gouldner, 1957). For example, while it is useful to know that trust in leadership can positively affect group performance (Dirks and Skarlicki, 2004), in order for research to be actionable, managerial interventions that result in higher interactional and procedural justice and hence greater trust in leadership must be specified.

The importance of establishing cause-effect relationships in research and its centrality to understanding organizations and managerial decisions has been repeatedly emphasized in the literature (Argyris, 1996; Durand and Vaara, 2009; Gregor and Hovorka, 2011; Huff and Jenkins, 2002). Nevertheless, many published studies merely report information rather than provide actionable knowledge, and often present results that are more meaningful to academics than to practitioners (Christensen and Raynor, 2003). This is not to suggest that studies that report correlational relationships are not of value in advancing knowledge in management; rather, theories and studies need to eventually establish causal relationships between their components if they were to enable managers to predict and control outcomes (HakemZadeh and Baba, 2016 a). Even studies that are focused on action merely recommend mimicking best practice based on case studies and success stories. Research techniques that focus on establishing causality according to the design science paradigm (Denyer, Tranfield, and Van Aken, 2008), longitudinal research strategies, field experiments, and other research methods for advancing management knowledge should be reinforced, and finding a common ground between researchers and practitioners should be encouraged (Rousseau and Gunia, 2016; Starkey and Madan, 2001). Therefore we propose that:

Research is more actionable when it demonstrates a causal pathway between a managerial decision and its consequences.

Contextuality- Contextuality refers to research process and reporting that address to circumstantial, environmental, and/or target population characteristics. For the past half-century, management research has focused on the importance of context in understanding and investigating organizational phenomena (Johns, 2006). Actionable research is a story best narrated by context and data (Cao et al., 2007). Basically, managers are not only interested in knowing whether a decision can lead to desired results, but also about how effective an intervention will be when applied to their unique circumstances. Without context, data cannot be interpreted and pragmatic knowledge cannot be gained (HakemZadeh and baba, 2016 a). For example, many interventions aiming to influence individual behavior are contingent on personality, values, social-normative factors, and so forth. Bamberger (2008) has suggested that in order to fully grasp the contextual factors and their influence on the question under investigation, researchers need to go beyond merely acknowledging the existence and importance of contextualization and use the domain-driven contextualization theories and frameworks to explicitly identify and study situational variables and their interactions (HakemZadeh and Baba, 2016 a). This approach leads to more actionability of management research as it allows managers to not only obtain a better understanding of the problems they encounter and the factors contributing to them, but also to better translate research conducted in an environment and context different from their own unique organization and circumstances (Wright, Zammuto, Liesch, Middleton, Hibbert, Burke, and Brazil, 2016) . Therefore we propose that:

Research is more actionable when it identifies relevant, contextual variables and documents their impact on a managerial decision.

Conceptual clarity- Managerial concepts foster a deeper understanding of the phenomenon that managers are facing. The clarity of concepts driving the research helps managers better understand the reasons behind a problem and the mechanisms through which it can be resolved. Facing the complexity and uncertainty surrounding organizational problems, the rationality of decision making is bound by knowledge, judgment, and time constraints (Gigerenzer and Selten, 2002). However, within these boundaries, managers still intend to behave rationally (Grundvåg Ottesen and Grønhaug, 2002) and therefore seek to consciously analyze their environment, detect existing problems, and then identify relevant facts and information in order to solve them. Research is actionable when it enables this cognitive processing by explaining why and how something occurs (HakemZadeh and Baba, 2016 a). Many managerial studies and theories help managers better understand the problems they face. And while understanding a problem is only the first step in solving it, the step is a very important one. Understanding theories help managers classify and categorize their observations, attribute meaning to and interpret them, and more effectively communicate their perspective with others inside and outside their organizations (Zaltman, LeMasters, and Heffring, 1982). This conceptual understanding can be delivered by providing a short description of the supporting theories in research reports. This helps managers form a mental model through which they can organize the information they receive from the environment into structured patterns (Jarzabkowski and Wilson, 2006). A logical mental model enables decision makers to understand and design complex systems of decisions

that respond to organizational problems (Cannon-Bowers, Salas, and Converse, 1993).

Therefore we propose that:

Research is more actionable when it is clear as to why and how factors leading to a decision relate to each other.

Operationality- Operationality refers to the action-orientation characteristics of research that actually make research pragmatic with direct implications for practice.

Operationality is one step beyond conceptual clarity and understanding problems (Jarzabkowski and Wilson, 2006). It is about framing a course of action and intervention to address those problems. Applied research should make explicit recommendations regarding managerial practice based on organizational aspects that managers can influence. Operationality is about giving managers the ability to control events and outcomes and stipulates that research should be cost effective and provide information on how to measure the cost of implementing the decision and its probable outcomes (HakemZadeh and Baba, 2016 a). For example, through empirical research we know that one of the main reasons employees intend to leave an organization is dissatisfaction with their jobs or the firm (Arnold and Feldman, 1982). Research also suggests that commitment mediates the relationship between satisfaction and turnover (Williams and Hazer, 1986). When an organization faces high turnover rates, this research would acquire operational value if the manager could determine which tools are necessary to measure commitment and satisfaction, how employee satisfaction can be increased, and through what practices satisfied employees become committed. Therefore we propose that:

Research is more actionable when its parameters are operational and facilitate decision making and implementation.

Comprehensiveness- Organizations are complex entities with different interactive relationships across all levels. Moreover, they are open systems intertwined with other organizations, industries, and a broader socio-economic environment. Actionable research needs to acknowledge the complexity and dynamic nature of a decision process and facilitate a comprehensive understanding of organizational phenomena. Achieving such level of comprehensiveness in research is possible by adopting a dynamic model of decision making in which a series of dependent decisions (Brehmer, 1992) is required to approach organizational problems. Such research can help decision makers determine if the benefits outweigh the potential harms of their actions (Van Tulder et al., 2003). For example, according to goal setting theory, a widely replicated and empirically supported theory in management, challenging and specific goals boost performance (Locke and Latham, 1990). However, by overprescribing or through partial and careless implementation of goal theory practices, individuals and organizations may suffer from systematic side effects such as neglecting non-goal areas, increasing unethical behavior, biased risk preferences, and even reduced intrinsic motivation (Ordóñez, Schweitzer, Galinsky, and Bazerman, 2009). Actionable research on goal theory would present decision makers with an overall view of the chain of events and decisions that could stem from implementing goal theory practices.

In particular, system thinking has been recommended as a conceptual framework that effectively captures interrelated aspects of complex managerial decisions. System-thinking is a problem-solving approach that enhances the understanding of different

problem-related phenomenon by considering a problem in its entirety and explaining causal relationships between its different parts (Rubenstein-Montano et al., 2001). A system-thinking framework for research in management can be particularly effective as it brings to light certain properties of a problem otherwise overlooked when a problem is defined and formulated in isolation. In most cases, such comprehensiveness is beyond the scope of a single study. Researchers can, however, acknowledge the interconnectivity of their models to other models and theories and provide a general understanding of the relationships not directly covered in their research in order to gradually accumulate and synthesize research results and form integrative theories and models (Rousseau and Gunia, 2016). Therefore we propose that:

Research is more actionable when it incorporates the complexity and dynamics of the decision process toward a comprehensive understanding of organizational phenomena.

Persuasiveness- Persuasiveness of actionable research denotes its soundness and thereby its ability to convince. We propose that actionable research should not only be conducted in a rigorous manner, but should also have face validity and demonstrate its rigor if it is to persuade its users. To claim convincing results, actionable research should provide high quality arguments and evidence. Therefore, actionable research can only be achieved through synthesizing results of various studies in different settings in order to decrease the effects of measurement error, sample size, and other sources of bias (Rousseau and Gunia, 2016). Furthermore, in generating actionable knowledge, research findings need to be evaluated and graded according to an agreed upon framework capable of assessing each study's validity and reliability, or in other words, the strength of the

evidence (HakemZadeh and Baba, 2016 b). In management, one such framework, suggested by Shrivastava and Mitroff (1984), assesses rigour and relevance of research evidence on aspects of conceptual adequacy, methodological rigor, accumulated empirical evidence, meaningfulness, goal relevance, operational validity, innovativeness, and cost of implementation. However, an integrative mechanism that would make all these dimensions to cohere is not offered. Furthermore, innovativeness does not appear necessary for defining the strength of evidence. Another grading framework, based on a theory of evidence (Baba and HakemZadeh, 2012), proposes a more generalizable perspective. This framework argues that research evidence is of higher quality and strength when it is derived from aggregating and synthesizing results of studies that are guided by appropriate research methods, transparently documented, validated through replication, and offer a detailed analysis of contextual factors resulting in a high degree of consensus among academics and experts. Therefore we propose that:

Research is more actionable when it demonstrates validity and persuades the decision maker.

Comprehensibility- Comprehensibility of research refers to how understandable it is to its users (HakemZadeh and Baba, 2016 a). For knowledge to be actionable it should be generated according to the needs and preferences of its target audience. If not, research will remain only within the academic domain. Most often, research findings are reported in academic papers using technical language not easily accessible to non-research-trained users (Last, 1989). Kezar (2000) has suggested that practitioners prefer web accessible, easy-to-read, short summaries of research reports.

In order to realistically achieve a state of knowledge that is rigorous, relevant, and actionable, and in order to increase the overlap between the three facets of management knowledge, we must design a knowledge production system that can effectively and sustainably facilitate such operation (HakemZadeh and Baba, 2016 b). It is time for an intervention that can meaningfully test the suggested remedies (Gladwell, 2006).

Therefore we propose that:

Research is more actionable when it is readily understandable by the decision maker and those impacted by the decision.

Strengthening the overlap between rigour, relevance, and actionability

While each of the dimensions of actionability contributes to making research actionable, they do so uniquely. It is possible for research to show strong causal links between a decision and its outcome without necessarily being anchored in the right context.

Likewise, while the research can be comprehensible, it may not necessarily be operational. Though research might have clarity in what it offers, it may not be persuasive. In other words, in order for actionability to be robust, all dimensions must be present in the research, while also being rigorous and relevant (HakemZadeh and Baba, 2016 a). Such co-occurrence must be consciously planned at the time of asking the research question and designing research. It can be strengthened by an ongoing collaboration among the producers, arbiters, and users of the evidence. It can be sustained through establishing trust among the collaborators. Therefore we propose:

The degree of actionability is determined by the extent to which the dimensions of causality, contextuality, conceptual clarity, operationality,

comprehensiveness, persuasiveness, and comprehensibility are consciously factored in the research.

Pathway to actionable knowledge: The Collaboration

Generating actionable research and simultaneously creating rigour, relevance, and actionability is not without its challenges. Researchers in management and its subfields have little incentive for pursuing relevance, and their research topics are generally guided by their academic interest or theoretical gaps in literature. Moreover, in the current system of peer review, academics are the sole judges of rigour (Judge, Cable, Colbert, and Rynes, 2007). While authors are often required to outline possible practical implementations of their research, no feedback or study on the effectiveness of their claims is required. Unlike in medicine and engineering, management researchers cannot evaluate the implementability and effectiveness of their recommendations in a controlled test condition (Kieser and Nicolai, 2005). Hence, the system of knowledge production seems to be a closed and autonomous social system and as it stands, there is no regular flow of communication between practice and research in management, and the promise of collaborative research, as called for by action research and mode 2 knowledge generation, is fleeting (Kieser and Leiner, 2009).

Adding to the dilemma is that while the peer review process is not dispensable (Kassirer and Campion, 1994), it still cannot guarantee rigour (Jefferson, Alderson, Wager, and Davidoff, 2002). Moreover, management knowledge that never goes through the peer review process and is produced by management consultancies, governmental institutions, and other for-profit and not-for profit organizations is often ignored by academics.

Management practitioners and researchers are trained differently, have their own unique jargons, and operate according to dissimilar value systems (Kieser and Leiner, 2009).

We argue that the challenge of closing the gap can be better tackled through an independent institution that facilitates the collaboration between the two very different social systems of management research and practice. This organization can systematically define questions that are relevant, gather related knowledge generated at different sites, appraise their rigour, and synthesize them into actionable reports that are short and easy to read (HakemZadeh and Baba, 2016 b). Moreover, it can provide the infrastructure for effective dissemination of knowledge to different users as well as communication between different stakeholders by utilizing knowledge brokers. The idea of such an organization, called the Collaboration, has already helped the fields of medicine (Cochrane Collaboration) and policymaking (Campbell Collaboration) to close the gap between research and practice.

It is important to also point out that trust in research processes and in the organizations and individuals involved in them is an important indicator of research actionability; an independent collaboration affects practicing managers' perception of the level of certainty surrounding the results and hence influences their intention to implement them (Moorman, Zaltman, and Deshpande, 1992). Establishing a trustworthy independent institution responsible for assessing, synthesizing, and reporting research evidence to decision makers will serve this purpose. Therefore we propose:

The actionability of management research is sustained by an established collaboration and is enhanced by trust among the producers, arbiters, and users of evidence.

Rousseau (2007) has proposed an Evidence-based Management Collaboration (EBMC), much like the Cochrane or the Campbell that can smooth the progress of evidence-based management through close collaboration between researchers, educators, and practitioners in order to establish a body of evidence for the field of management and effectively disseminate it to different users. In a collaborative approach to knowledge production, the collaboration encourages practitioners to communicate their concerns and research topics of interest to the Collaboration, which will vet and pass on that information to funding agencies and researchers. The Collaboration may also conduct its own research for identifying relevant topics of practical value. In addition, EBMC can manage the dissemination of research findings by communicating practitioners' interests to journal editors, educators, and the media. They can further extend their role by collaborating with the Association to Advance Collegiate Schools of Business (AACSB) or other relevant accreditation bodies in regulating the curriculum business schools use toward rigorous, relevant and actionable knowledge to ensure the quality of education and training required for management professionals. The Center for Evidence-based Management (CEBMA) in the Netherlands has already begun the process of bringing the producers and users of management knowledge together. However work needs to be done toward developing a permanent collaboration such as the Cochrane collaboration for medicine or the Campbell collaboration for policy.

The authority of such collaboration emerges from its expert power and whether it can deliver knowledge that is more useful to the professional management community. This is akin to the authority that exists with top journals and prestigious conferences in the field in their function as the gatekeepers of what is published and disseminated. The role of the Collaboration is to bring rigorous, relevant and actionable research to the attention of the practitioner community (HakemZadeh and Baba, 2016 b). It is not meant to interfere with the “blue sky” academic research pursuing purely theoretical interests. By the same token, EBMC cannot dictate which topics get funded, but it can recommend a list of priority research topics that are in high demand among managers, SMEs, governmental agencies, large corporations, management consultancies, and so forth. Identifying these topics and areas of research should not be based on the personal preferences or estimations of a few individuals, but rather on what is sought by the end users. The collaboration will be responsible for promoting relevant research by identifying evidence-based research topics that are more urgently required. The reality is that research in other professional disciplines is conducted based on questions that are of interest to industry leaders (e.g., engineering), or identified as critical by respective ministries and agencies (e.g., health care and medicine). A database of all scholars, their area of expertise, and ongoing studies maintained by the Collaboration can facilitate establishing short-term collaborative groups on different topics. This collaboration also requires sophisticated data management, collaborative software, and various tools to evaluate an individual study’s quality of evidence and risk of bias. The ultimate outcome of these collaborations are regularly updated Systematic Reviews (SR) that can guide both practice and future research.

Discussion

Tackling the issue of the research-practice gap should be defined as a collaborative action. The scope of the operation needed in order to achieve this goal is certainly complex and beyond one research project. It requires an ongoing program of research (Kieser et al., 2015). However, one basic stepping stone is the development of a measure to evaluate the strength and actionability of the available research. Most reliable and rigorously generated research should then be transformed into an actionable whole. This process has its own challenges: the characteristics of the final knowledge product should be clearly defined, and the definitions should then be operationalized and agreed upon by the producers, gatekeepers, and end users of management knowledge. New dissemination channels should be created, and existing ones should be modified. This is best done with theoretical guidance—that is, theories of evidence, actionability, and collaboration. Baba and HakemZadeh have offered a theory of evidence (2012), and a theory of collaboration (2016 b). We have proposed a theory of actionability to facilitate this process. According to our theory, the actionability of management research varies across a spectrum (HakemZadeh and Baba, 2016 a). Taking into account the context and the unique nature of management practice, we have identified seven attributes of actionable knowledge: causality, contextuality, conceptual clarity, comprehensiveness, operationality, comprehensibility, and persuasiveness. We have also suggested that these attributes be integrated in research through collaborative efforts among all stakeholders involved in the production, dissemination, and utilization of management knowledge. It is only through such collaboration that we can increase the area of overlap between rigour, relevance, and actionability, and provide management practice with consumable

knowledge that can lead to higher quality decisions with a greater probability of effectiveness.

This work contributes to the literature on management knowledge production, management learning and knowledge-practice gap by offering a theory of actionability and a framework for collaboration. There is more work to be done. The theory of actionability needs to be empirically verified and validated. In essence, our attempt to make management research rigorous, relevant, and actionable sets the stage for further empirical and theoretical work that will eventually pave the way toward the implementation of evidence-based management (Rynes and Baartunek, 2017).

Conclusion

Bridging the research-practice gap should be on the agenda of management scholars as the sustainability of business schools and management research is closely linked to their contribution to management practice through a body of knowledge that can enhance decision quality. The notion that achieving more rigour and relevance would enable management research to establish a closer link to practice is hard to argue with. They are indeed necessary but not sufficient. We argue that in addition to rigour and relevance, management research needs to be actionable in order to have practical value. We believe that with a clear definition of actionable knowledge and its attributes, we can design a knowledge production system that can systematically create, codify, and communicate knowledge that is rigorous, relevant, and actionable.

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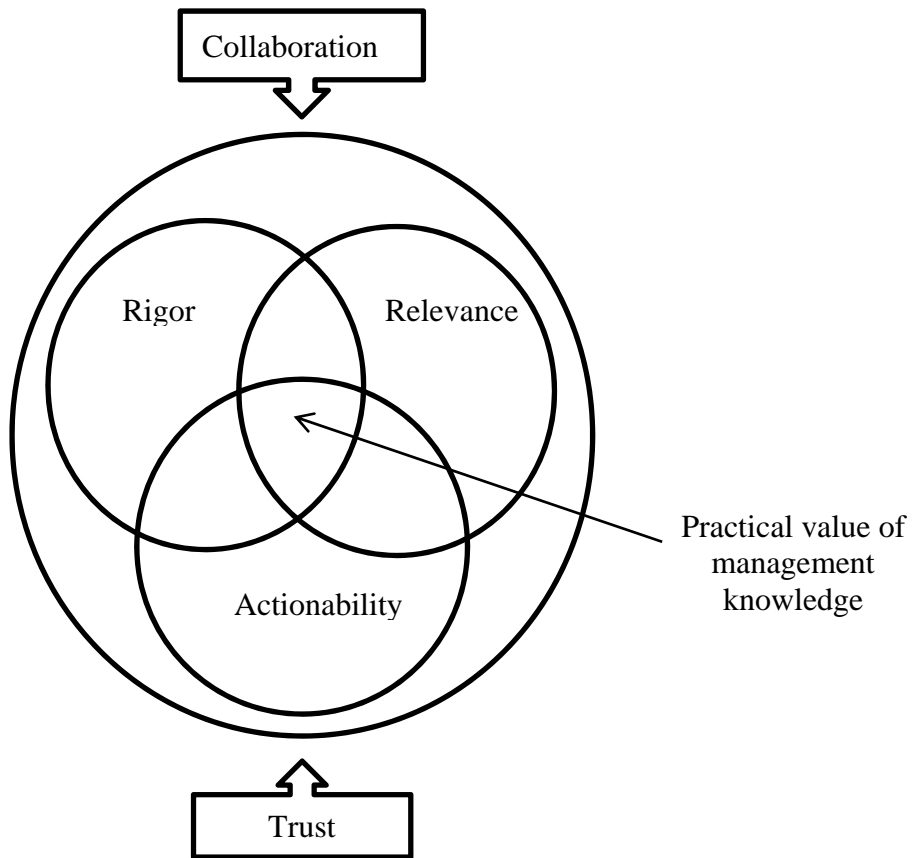


Figure 1- Practical value of management knowledge: The overlap between rigour, relevance, and actionability

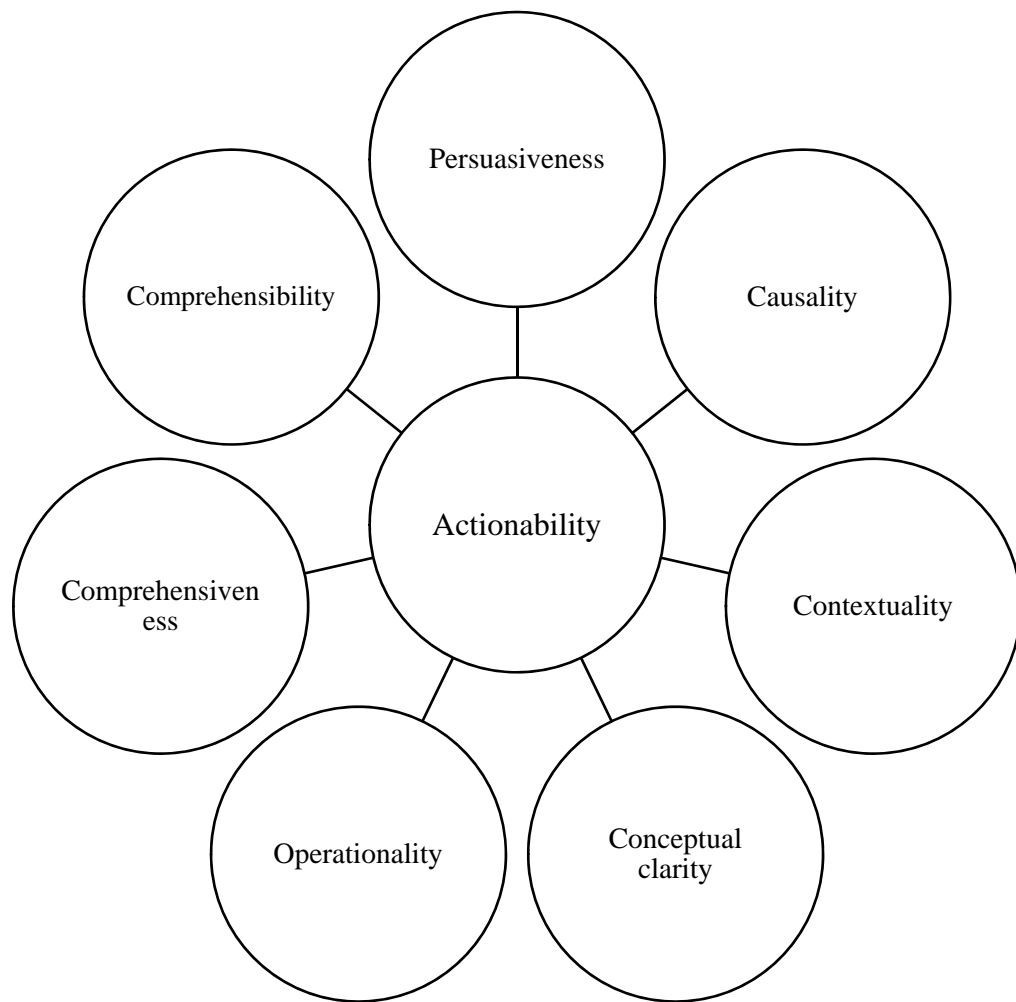


Figure 2- Theory of actionability