

**RESPONSIBLE MANAGEMENT LEARNING: REFLECTING ON
THE ROLE AND USE OF PARADIGMS IN SUSTAINABILITY,
RESPONSIBILITY, ETHICS RESEARCH**

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Abstract

We conceptualize responsible management learning (RML) as process through which SRE knowledge is embedded into practice; through which SRE knowledge becomes socially relevant. Accordingly, creating knowledge suitable for RML is crucial. A first step for creating such knowledge is the application of research paradigms that match typical SRE research settings. We conduct a review of ‘mainstream’ research paradigms (positivism, rational choice theory) and ‘alternative’ paradigms (critical theory, critical realism, pragmatism, and social constructionism) and their applications in SRE research. We provide literature exemplars to illustrate how alternative research paradigms’ have been used in SRE research, and we empirically explore paradigm choice through the case of a RML research project. We find that the ‘domains of ideal use’ of conventional research paradigms have remarkable blind spots as they cover only a minor part of typical SRE research settings. This implies for SRE researchers to reflect on the adequateness of our paradigm choices, and on the implications for the relevance of SRE knowledge creation. We introduce a matrix tool to support researchers’ reflection on paradigm choice in SRE research.

Keywords

Responsible Management Learning; Social Relevance of Knowledge; Domain of Ideal Use; SRE Research; Sustainability; Responsibility; Ethics

Introduction

Recent research has highlighted not only highlighted the transformative impact of responsible management education, but also its many limitations (Alcaraz & Thiruvattal, 2010; Burchell, et al., 2014; Cornuel & Hommel, 2015; Dyllick, 2015; Forray & Leigh, 2012; Louw, 2014). Much research has been conducted on responsible management education and the related organizational change of business schools (Doherty, et al., 2015; Maloni, et al., 2012; Solitander, et al., 2012; Vazquez Sampere, 2015), and on the implementation of educational designs, such as degree and course curricula and educational methods (Blasco, 2012; Verbos & Humphries, 2015; Lavine & Roussin, 2012). However, little has been said about the nature of research to be conducted to be socially relevant for responsible management.

Godeman and colleagues (2014) found through an analysis of business schools' reports that responsible management research is reported, but it seems anecdotal in its description and lacks evidence of social impact. Also Moosmayer (2015), through a review of the inspirational guides for the UN PRME initiative, finds little evidence of research related to responsible management. This finding raises concerns for responsible management practice, both educational and managerial, as sound research is a critical underpinning for management learning and education (Cassell, et al., 2009). Also, the United Nations Principles for Responsible Management Education (PRME) initiative, one of the main institutional driving forces for responsible management practice asks business schools to 'engage in conceptual and empirical research that advances our understanding about the role, dynamics, and impact'.¹ It has been suggested that a major issue leading to the perceived lack in SRE research for responsible management education are epistemological and ontological issues, closely linked with the applied research paradigms (Painter-Morland, 2015).

¹ <http://www.unprme.org/about-prme/the-six-principles.php>

In this article, we approach this gap through the exploration of research paradigms' 'domains of ideal use', the types of research settings in which a paradigm is most effective in (Baskerville & Wood-Harper, 1996). We match these domains of ideal use with typical settings found in SRE research. We build up on two key questions: (RQ1) How suitable are 'conventional' research paradigms, particularly positivism and rational choice theory, for SRE research? (RQ2) Are there alternative research paradigms with characteristics that make them potentially better suited to cover typical settings of SRE research?

These questions are approached through a review of two conventional research paradigms (positivism and critical choice theory) and four alternative paradigms (critical theory, critical realism, pragmatism, and constructionism). Each paradigm's domain of ideal use is compared with typical SRE research settings. Particular research exemplars and typical applications of the paradigms in SRE research are reviewed. This conceptual section is complemented by an explorative empirical case studying the responsible management learning processes in a large business, 'The Company'.

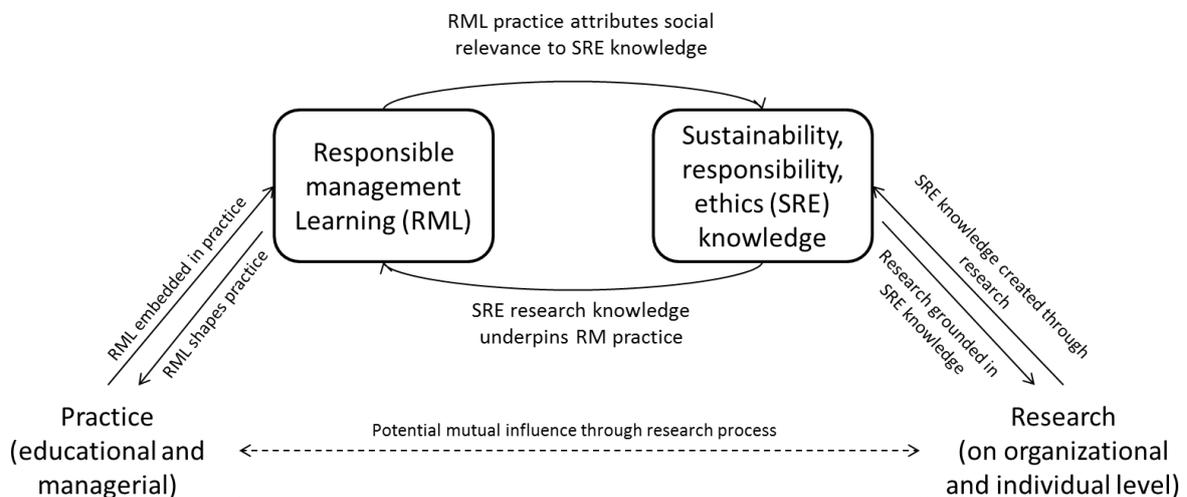
Responsible management learning (RML) and sustainability, responsibility, ethics (SRE) research

Responsible management has been described as a type of management that 'assumes responsibility for the triple bottom line (sustainability), stakeholder value (responsibility), and moral dilemmas (ethics) (Laasch & Conaway, 2015, p. 25). Accordingly, responsible management education is aimed at embedding reflections about sustainability, responsibility, and ethics into educational practices (Rasche & Gilbert, 2015). We aim to broaden this understanding by proposing the more inclusive term responsible management learning (RML). RML unlike responsible management education does not only include management learning in explicit educational settings, but also learning that takes place outside such

settings, particularly when embedded in managerial practice (Wenger, 2000). Accordingly, RML, as learning for SRE is embedded in both educational and managerial practice. Academic SRE knowledge, on the other hand, is created through research with both individual and organizational foci. Consequently, our conceptualization of RML learning includes learning both on individual and related organizational learning processes (Kim, 1993).

In our conceptualization, the social relevance of SRE knowledge is realized when it shapes the practice that RML is embedded in. To do so, SRE knowledge has to become part of the RML process. If this happens, SRE knowledge is considered socially relevant as it has shaped practice. Accordingly, social relevance of SRE research may be achieved through RML. Figure 1 serves as an illustration of the resulting larger conceptual structure.

Figure 1 Processes shaping the social relevance of SRE knowledge for RML



The above definitions highlight the crucial importance of SRE research in underpinning RML. Knowledge creation through research in the SRE disciplines is crucial for the practice of RML. Vice versa, RML attributes social relevance to SRE research through its role in embedding knowledge in practice. Accordingly, creating knowledge suitable and accessible for RML processes is crucial for creating socially relevant SRE knowledge. A first step for

creating such knowledge is the application of research paradigms that match the settings of typical SRE research projects.

Research paradigms and their domains of ideal use

We understand research paradigms in the context of methodology, the techniques used to investigate the world, including elements, such as the research question, method(s) applied (e.g. case study, survey, action research), data collection, interpretation, theorizing, dissemination, and the researcher role (Bryman, 2008; Healy & Perry, 2000; Saunders, et al., 2007). What we call research paradigms are prominent philosophical stances that lead to very distinct types of such methodologies applied in research.

Research settings in SRE research tend to be significantly different from non-SRE, mainstream research. Typical SRE research focuses on socially-minded themes, such as societal impacts, environmental sustainability, or ethical issues. Mainstream research, on the other hand, is centered on significantly distinct themes, such as profitability, effectiveness, and efficiency. With these different foci, comes the question about the necessity of research paradigms for SRE research, distinct to the ones dominantly used in mainstream research. These differences between mainstream and SRE research imply a dissonance with conventional paradigms, related to a positivist understanding of social science, and of rational choice theory (Dierksmeier, 2011; Scherer & Palazzo, 2007). However, most of SRE research is still based on exactly these conventional paradigms (Ählström, et al., 2009; Bansal & Gao, 2006; Brand, 2009).

Distinct research paradigms provide fertile grounds for distinct types of research settings. The concept of 'domains of ideal use' captures this idea that distinct research methods are of distinct effectiveness in answering different types of research questions (Baskerville & Wood-Harper, 1996). However, also a specific research method, such as

action research, may be used under a diversity of paradigms (Cassell & Johnson, 2006). This leads to the emergence of the larger question about the ideal use beyond the methods level. Thus, we broaden the concept by arguing that the concept of the domain of ideal use may also be applied on a research paradigm level, as paradigms are differently suited to different research settings (Syed, et al., 2010).

Research settings include multiple characteristics, such as the research question, conditions of data access, researcher preferences, purpose of research, and dominant research paradigms in the research environment. We question if the domain of ideal use of the conventional paradigms of positivism and rational choice sufficiently covers typical settings in SRE research. We assume that alternative paradigms' domains of ideal use might be necessary to address typical research settings in SRE, and to cover potential blind spots of conventional paradigms. Also, there may be a need for 'multi-paradigm research', to carefully combine distinct paradigms, and their respective domains of ideal use, to achieve ideal coverage of the settings of a specific research project through meta-triangulation (Burrell & Morgan, 1994; Lewis & Grimes, 1999; Morgan, 1984; Weaver & Gioia, 1994).

Later in this paper we recommend reflective paradigm choice to SRE researchers. So it appears appropriate to act upon our own recommendation and to explicitly reflect on the paradigm this paper is grounded in. We form of pragmatism, called design science. The matrix (Table 1) is an artefact designed with the purpose of aiding researchers to support their own reflective process. In pragmatism the epistemological criterion for valid knowledge creation is its usefulness for its intended purpose. In the case of this article the knowledge created results in the artefact (the matrix) which we hope to be useful in supporting SRE researchers' reflective paradigm choice process. The conceptual choice made when applying the domain of ideal use further highlights the pragmatic stance of this paper. The term 'ideal

use' embodies the pragmatic criterion of putting knowledge, in this case each respective paradigm, to its most useful application in the research process.

Research paradigms and their use in SRE research

The following description of six major research paradigms is aimed at outlining their respective domains of ideal use and comparing it with typical SRE research settings. This includes both the conventional paradigms (positivism and rational choice theory) and a selection of four major alternative research paradigms (critical theory, critical realism, pragmatism, and social constructionism). Table 1 provides an overview of the paradigms, and serves as summary and as a tool to aid researchers' reflective paradigm choice process.

Each paradigm description includes a summary of its basic tenants, comprising both ontology ('what the world is like'), and epistemology ('what a valid explanation of the world must tell us'). We present both of them together, as one cannot be divorced from the other (Fay, 1987; Van De Ven, 2007). We then explain how these tenants translate into characteristics of each paradigm's domain of ideal use, and explore applications in SRE research through exemplars of published papers (Lewis & Grimes, 1999). This provides us with an initial appreciation of the domain of ideal use of each paradigm, to guide the reflection on which paradigm(s) to apply. We do not delve too deeply into the philosophical discussions underpinning these tenets, as the primary goal of this paper is to create intellectual access to, and a primary understanding of research paradigm alternatives.

Table 1 Comparing paradigms and their respective applications in SRE research

Paradigm	Conventional Paradigms		Alternative Paradigms			
	Positivism	Rational Choice Theory	Critical Realism	Critical Theory	Pragmatism	Social Constructionism
Ontology	'There is a real world out there...	'The social reality are the result of actors' rational choices and actions...	'There is a real world out there...	'People create and change their (own) social realities and ...	'There might or might not be a real world out there, but it does not matter much because...	'Social reality is constructed and maintained through actors and their interaction...
Epistemology	... and it can be perceived perfectly by means of observation.'	... and we can know about it by modelling the factors involved in choices.'	... , but we can never perfectly know about it.'	... should be aided through emancipatory knowledge from moral philosophy and social science.'	... valid knowledge is constituted by its effectiveness in solving social issues.'	... and we can know about it by deconstructing relational processes involved.'
Central concepts	Empiricism; causality; prediction; quantitative methods	Homo oeconomicus; rationality, economic modelling; utility	Transitive and intransitive domains; stratification; theory-ladenness; generative mechanisms	Social facts; change; power; emancipation; freedom; discourse; critical social inquiry	Artefacts; social issues; instrumental value; practice relevance; problem solving	Anti-essentialism; deconstruction; sensemaking; actor-network theory
Pioneers	Vienna circle (e.g. Schlick, Carnap, Neurath)	Chicago School of Economics (e.g. Becker, Friedman)	Harré, Bhaskar	Frankfurt School (Horkheimer, Adorno, Habermas, Marcuse)	Dewey, James, Peirce	Berger & Luckman, Latour & Woolgar
Knowledge & process	Empirical generalization	Mathematical modelling and testing	Triangulated knowledge revealing generative mechanisms	Emancipatory knowledge	Practical adequacy through piloting in practice	Social processes revealed through deconstruction
Researcher profile	Impartial observer	Rational evaluator	Reflexive explorer	Change activist	Practical problem solver	Interpreter and 'deconstructor'
Research output	Cumulative truth claims	Behavior explained through utility	Iterative truth claim	Change agenda	Solution generating tool	Description of social construction
Research design	Inductive-empiricist	Hypothesis testing	Linear-iterative	Ongoing emancipatory	Cyclical-repetitive	Ongoing, following the social process
Domain of ideal use in SRE research	Application in parts of SRE research that are close to natural science, or that are reliably observable	Object of criticism in various streams of reasoning in SRE, but works well for consequentialist ethics and some applications in behavioral ethics	In-depth evaluation of underlying mechanisms, of sustainable, responsible, and ethical phenomena	Critical philosophical questioning of status quo, and social science analysis to facilitate emancipation for change	Bridging theory-practice gap, by providing 'problem-solving artefacts' for SRE issues	Deconstruction of socially constructed unsustainability, irresponsibility, and unethical behaviors as basis for transformation
Exemplary SRE application areas	Environmental impact analysis; environmental ecology	Humanistic management; human relations theory ; business case for SRE	Critical realist ethics; multi-level analysis of behavior in SRE	Critical management studies; critical skills for SRE education; critical management education	Pragmatic inquiry for sustainability; design for environment	Sensemaking in corporate social responsibility; actor-network theory and multi-level change in sustainability
Exemplar Papers (in order of appearance in text)	<i>Application:</i> Whiteman, et al. (2013); Scherer & Palazzo (2007). <i>Limitation:</i> Crane (1999); Wicks & Freeman (1998); Meppem & Gill (1998)	<i>Application:</i> Faucheux & Proger (1995); Sacconi (2006) <i>Limitation:</i> Sen (1977); Crane & Matten (2010); Boudon (2003)	<i>Application:</i> Carolan (2005); Birkin & Polesie (2011); Wry (2009); Mingers (2009)	<i>Application:</i> Foster & Wiebe (2010); Prasad & Mills (2010); Jones & Fleming (2003); Åhlström, et al. (2009) Springett, 2005; Welford (1998); Grey (2004); Dehler (2009); Fenwick (2005); Hay & Hodgkinson (2008); Periton & Reynolds (2004); Reedy & Learmonth (2009); Kurucz (2013)	<i>Application:</i> Wicks & Freeman (1998); Rosenthal & Buchholz (2000); Nahser & Ruhe (2001); Jacobs (2004); Surie & Ashley (2008); Jensen & Sandström (2013); Wang, et al. (2013); Van Aken (2007); Kelley (2014); York (2009); Knuijsen, (1998); Lenox & Ehrenfeld (1997); Sharma (2009); Dobers & Strannegård (2005)	<i>Application:</i> Waller & Conway (2011); Basu & Palazzo (2008); Angus-Leppan, Metcalf & Benn (2010); Nijhof & Jeurissen (2006). Newton (2002); Elzen, Geels & Green (2003); Murdoch (2001)

Positivism

Proponents of positivism assume that there is a real world out there that exists independently from the researcher or knower, and which we as researchers can perfectly know through empirical observation. Mainstream organization and management theory with its focus on measurable outcomes, such as effectiveness, efficiency, or profit lends itself to positivist thinking, as all of these phenomena are represented in well observable and little ambiguous terms. The positivist paradigm has a strong relation to the natural sciences for which it was originally developed. Accordingly, the domain of ideal use of the positivist research paradigm lies in the areas of SRE, where data is easily observable, and in the areas that are close to natural science. An example are applications of business sustainability that are highly quantifiable and often based on processes from natural sciences, such as the calculation of CO₂ or water footprints, or investigating the carrying capacity of an ecosystem (Whiteman, et al., 2013). From this domain of ideal use of positivism in the natural sciences-related areas of sustainability, also comes the call for ‘more science based goals’ in corporate sustainability; an implicit call for more positivism (Whiteman, et al., 2013). Also, the occurrence of ethical behaviors in the behavioral ethics area of business ethics may be well observable and quantifiable. In corporate social responsibility especially the ‘instrumental’ approach to CSR is well served through a positivist research paradigm as it focuses on tangible (observable) benefits from responsible behavior (Scherer & Palazzo, 2007).

However, instrumental CSR is just one out of four larger streams of CSR research and positivism is of limited use for the other three streams (Garriga & Melé, 2004). Crane (1999) points out that the domain of positivism might have been stretched too far, also when it comes to business ethics. Positivism is much less effective when it comes to hard to observe, and little quantifiable phenomena, such as ‘responsibility’ which is a moral, and relational concept. This also applies to the parts of business ethics based on moral philosophy, and cultural concepts of right or wrong. The systematic elimination of morally ‘normative’ elements under a positivist research paradigm, make the analysis of inherently normative phenomena, such as human survival on earth (sustainability), being responsible (responsibility), or ‘doing the right thing’ (ethics) very hard to grasp (Wicks &

Freeman, 1998). Also, in sustainability, the use of positivism is limited as it cannot grasp the normative dimensions, such as its political and cultural embeddedness (Meppem & Gill, 1998). While the focus of this paragraph was on the particular limitations of positivism for SRE research, there is also a more general, stream of argument that has led to so-called post-positivist and anti-positivist theories, defined by their distinction from tenets of positivist science (Alvesson & Skoldberg, 2009; Stockman, 1983).

Rational choice theory

The second conventional paradigm, *rational choice theory*, bases research activity on the assumption that all of peoples' decision and behaviors are grounded in rational choices that can be explained by means of the involved utility. Such choices of the 'economic man' are understood in terms of monetary utility (Simon, 1955). Thus, the domain of ideal use of rational choice theory covers settings where people make decisions primarily based on such criteria. In some cases, a wider interpretation of these traditional criteria can serve to extended the coverage of rational choice theory into to questions, for instance, in environmental sustainability, where the traditional economic criteria can be complemented through new criteria more tuned in to the characteristics of environmental decisions (Faucheux & Froger, 1995), or through the application of rational decision making frameworks such a game theory to 'games' played between companies and their stakeholders (Sacconi, 2006).

However, the domain of ideal us of rational choice theory is limited, especially regarding its application in SRE research. Individual utility, and its business cognate profit maximization are based on the moral philosophy of egoism (Sen, 1977). However, many more moral philosophies are neither based on egoism, nor on an economic paradigm, which largely limits its usefulness for business ethics research (Crane & Matten, 2010). Boudon (2003) mentions three general weaknesses: Rational choice cannot process 1) 'noncommonplace beliefs'; 2) only works with consequentialist ethics (e.g. utilitarianism), not with non-consequentialist (e.g. ethics of duties, ethics of rights and justice); and 3) that it cannot accommodate motivations unrelated to self-

interest. These blind spots dramatically decrease its usefulness for SRE research, which often focuses on altruistic motivations and non-consequentialist, deontological moral concepts, such as responsibility. In addition, the complexity that comes with multiple stakeholder perspectives and multiple levels of analysis in sustainability, as a per se systemic topic, is hard to capture in rational-choice-based research. Consequently, researchers in SRE, depending on the characteristics of the research project at hand, may be well-advised to consider alternative research paradigms.

Critical realism

The critical realist stance is that there is a real world independent from the observer, but our attempts to apprehend it are fallible and theory-laden, so we have to critically question our observations, and to delve into deeper layers of the reality than the ones at plain sight, in order to unveil the underlying ‘*real*’ (Van De Ven, 2007; Stanford University, 2014). According to Bhaskar (1975), there are three domains of reality, the empirical (‘what we can observe’), the actual (‘what happens’), and the real (both of the former, but including structures underlying the actual level). These domains are also conceptualized as layers of reality, which leads to the notion of a stratified reality. Sayer (1992) highlights the importance of science to be critical of its object, the social realities it investigates. Due to stratification, we cannot trust our direct observations, and must suspect further structures on deeper layers, before jumping to conclusions from superficial observations. Of special interest are ‘generative mechanisms’ in the domain of the real that might currently not cause events on empirical-observable level, but that might have the latent power to affect the actual and observable levels (Bhaskar, 1975; Harré, 1970).

Research strategies in the domain of ideal use of critical realism aim at transcending the empirical and actual levels, and at reaching conclusions about the underlying ‘*real*’. A central role in doing so plays the triangulation of research findings through several sources of data and varying methods that jointly provide deeper picture of the nature of the underlying generative mechanisms (Healy & Perry, 2000; Sobh & Perry, 2006). For instance, in-depth case study research may be an adequate methods choice in critical realist research strategies, due to the possible triangulation

through multiple points of data in one case (Easton, 2010). In-depth interviews, also called ‘convergent interviews’ provide a promising research strategy, to reach the deeper spheres of reality (Sobh & Perry, 2006; Smith & Elger, 2012). Researchers who work in a critical realist paradigm should take a critical stance towards findings, being open to always question further in order to reach insights in deeper spheres of reality.

Critical realism has found application throughout all three domains of sustainability, responsibility, and ethics. In the sustainability domain, Carolan (2005) uses the idea of stratification, to develop a framework for the stratification of ‘nature’ in organization and environment studies. Birkin and Polesie (2011) use realism to analyze the unsustainable features of business conduct. From a responsibility perspective, Wry (2009, p. 159) demands a shift in the research approach in the business and society field. He suggests that research, based on critical realism and the application of a ‘multi-level view of reality’ might be conducive to exploring ‘the complex roots of firm behavior’ in corporate responsibility. Mingers (2009) explores the application of a critical realist business ethics, building up on the assumption of a ‘critical realist morality’, based on Bhaskar’s work.

Critical theory

The stance of critical theory may be summarized as empowerment of people to create their own social realities. The ultimate goal of knowledge creation (both through research processes and outputs) in critical theory is social change that liberates human beings from the structures suppressing them (Fay, 1987; Stanford University, 2005). In order to reach this goal, Horkheimer (1993), suggests that knowledge created under the critical theory paradigm must fulfill the epistemological conditions of being, at the same time, explanatory, practical, and normative. Valid knowledge has to explain the structures of suppression, which impede change, and to lead to practical action for transformation that follows normative principles.

In the epistemological conditions of critical theory lie strong implications for research strategies. In order to achieve change for emancipation, critical theory is inherently

interdisciplinary, consisting of at least two disciplines, social science for social inquiry ('explanatory'), and moral philosophy ('normative'). The third criterion ('practical') provides critical theory with an imperative to create knowledge that is applied for change in practice as outlined later in this article under the pragmatism paradigm. As a consequence, knowledge created has to be presented in a format, that is accessible and actionable; one of the rationales, for, as an example, Marx's and Engel's Communist Manifesto. Their work has served as a strong influence for the group of early critical realists called 'The Frankfurt School'. In addition, research strategies in critical theory have to include an agency for the knowledge created. This agency implies the existence of an agenda for knowledge dissemination and utilization among the social group inhabiting the social reality to be changed.

Critical theory is based on a perception of people as social activists, which is as much expected of the researcher, as of research participants, and of the users of the knowledge created (Fay, 1987). This implies a researcher role of what Healy and Perry (2000, p. 119) call a 'transformative intellectual'. Typically, research methods in critical theory include democratic, inquiry-based, dialectic, participatory, and emancipatory elements (Cassell & Johnson, 2006; Healy & Perry, 2000). For instance, an action research strategy under a critical theory paradigm would be strongly based on participatory dialogue 'on eye level' between the researcher and participants, that aims at facilitating their emancipation, and societal change (Cassell & Johnson, 2006).

Due to its focus on criticizing the status quo, and on effecting change, an underlying theme of SRE, critical theory has found wide application in SRE research. For instance, the critical management discipline, increasingly moves towards research in business ethics, acting upon the implicit 'ethical promise' of critical theory (Foster & Wiebe, 2010), and by criticizing socially undesirable practices of corporate social responsibility, such as its instrumentalization and 'greenwashing' practices (Prasad & Mills, 2010). Jones and Fleming (2003) call for a 'critical stakeholder analysis' framework, to shed light on the structural issues in stakeholder theory, such as power asymmetries, class differences, and access to resources. In environmental corporate sustainability, there has been a call for research for critical skills, in order to facilitate emancipation

challenging unsustainable practices (Ählström, et al., 2009; Springett, 2005; Welford, 1998). The field of critical management education extends critical management theory to educational activities, and focuses on ‘the unavoidable presence of values’ (Grey, 2004, p. 178). Critical management education pursues the goal of developing critical, emancipated managers (Dehler, 2009; Fenwick, 2005; Hay & Hodgkinson, 2008; Perriton & Reynolds, 2004). It highlights importance of rethinking the organizations-society relationship (Reedy & Learmonth, 2009), and connects to sustainability, by using it ‘as provocation’ to change management education (Kurucz, et al., 2013).

Pragmatism

The basic stance of pragmatism is that if there is a real world out there or not is irrelevant, because valid knowledge is judged by its practical consequences, whether in (an) objective or a subjective reality (or realities). The main epistemological condition of pragmatism is to judge the meaning of an idea and the validity of knowledge by its practical consequences (Rescher, 2000). What gives knowledge meaning is the inference made through it for repeated actions; knowledge in pragmatism aims at guiding action (Dewey, 1916). In the context of SRE, we will focus on the latest of the classic pragmatic conceptions, as postulated by William James, who specified the type of issues to be solved by pragmatism as social ones (James, 1907/1995). As the main distinguishing characteristic of pragmatism is on the epistemological condition for valid knowledge to solve problems, the ontological question about the nature of knowledge becomes of secondary importance. Thus, while there is a realist ontology bias in publications on pragmatism, it has been based on both objective (‘one real world’) and subjective (‘various real worlds’) ontologies (Van De Ven, 2007).

Due to its pragmatic nature (aimed at human problem solving), design science may be seen as an extension of pragmatism, through the epistemological focus on useful artefacts as research product (Hevner, 2007). In a design science epistemology, valid knowledge is represented by artefacts (e.g. rules, models, or tools), and by their utility in solving human problems (Van Aken,

2004; Van Aken, 2005; Venable, 2006). Such knowledge is intended to be of prescriptive nature, which aids in bridging the theory-practice gap (Holmström, et al., 2009) (Van Aken, 2005).

To be positioned in the domain of ideal use of pragmatism, research settings have to allow for the creation of knowledge aimed at solving social problems, possibly in the form of an artefact that translates such knowledge into practice application. This stance influences paradigm choice from the beginning, when identifying a socially relevant research question. It may also imply a favor for research methods that can make an immediate practical impact in the research environment, such as action research. In addition, it involves ensuring the real-life problem solving capability of the research outcomes or artefact(s) created, through end-user involvement, such as pilot testing, and training (Hevner, 2007; Järvinen, 2007; Peffers, et al., 2006).

The disciplines of sustainability, responsibility, and ethics share the communality of urgent social problems to be solved. While there is an increasing amount of SRE research based on a pragmatism and design science paradigms, such research activity has not yet fully picked up on the problem-solving capability of such research. In business ethics, pragmatism has been proposed as an philosophical basis for collaboration between organizational and ethics scholars (Wicks & Freeman, 1998); between the empirical and philosophical research streams of business ethics (Rosenthal & Buchholz, 2000); as a teaching method based on ‘pragmatic inquiry’ (Nahser & Ruhe, 2001); and as an approach to integrity (Jacobs, 2004). Pragmatism has been applied very little to the responsibility domain, for instance, through the discussion around pragmatic stakeholder theory and democracy (Surie & Ashley, 2008; Jensen & Sandström, 2013; Wang, et al., 2013); and as design for the integration of organizational and human values (Van Aken, 2007). Applications from a sustainability perspective are much more numerous and include pragmatic inquiry and pragmatic ethics to shape sustainability strategies (Kelley, 2014; York, 2009); design science to create rules and applications that guide realizing sustainability in practice (Kruijzen, 1998); and to design structures, processes, and products for environmental sustainability (Lenox & Ehrenfeld, 1997; Sharma, 2009; Dobers & Strannegård, 2005).

Social constructionism

The initial stance of social constructionism (also constructivism) is that social phenomena, realities, and their meanings are constantly co-constructed by social actors. So to know about them we have to deconstruct the beliefs and relational processes that create the respective realities. The original understanding of social constructionism was outlined by Berger and Luckman, (1966), who focused on the idea that knowledge is created and maintained by social interactions. The ontological range of different versions of constructionism all represent the social world, or at least parts of it, as socially-constructed through the interactions between actors. It is anti-essentialist, in the sense that it denies the existence, or the essence, of a social phenomenon before the social interaction that created them (Bryman, 2008; Stanford University, 2013). The epistemological orientation of constructionism is to create valid knowledge about the way these social realities are constructed, which often requires a ‘deconstruction’ of the social construction process, in order to understand the factors that have led to a specific social reality.

What characterizes the domain of ideal use of constructionism? Research strategies based on social constructionism are often centered on the language involved into the construction process, or focus on the social actions and their meaning. Constructionist research methods especially helpful for SRE research settings are sense-making (Weick, 1995), and actor-network theory (Latour, 2005). Each of them sheds light on the elements of the process through which social realities and phenomena are created. Understanding all three, sustainability, responsibility, and ethics involves the appreciation of such complex social phenomena. In sustainability, such phenomena might be the interconnectedness of multiple social scales and temporalities of sustainable development; in responsibility the entangled network of stakeholder responsibilities; and in ethics the social complexity of making ‘the right’ decision in a multi-normative social world. Discourse analysis copes with this social complexity through scrutinizing mental processes and languages, while actor-network theory focuses on the relationship between human and non-human actors (Cordella & Shaikh, 2006; Miettinen, 1999). Charreire Petit and Huault (2008) find that while constructionism

appears to offer an attractive alternative to positivism, researchers conducting such research often find a challenge in using adequate research methods for this new paradigm.

Applications of constructionism in SRE research identified may be divided into two main streams, sensemaking and actor-network theory, as introduced above. As an example for the sensemaking type of research, Waller and Conaway (2011) investigate the social construction process of ‘framing and counterframing’ of the company Nike and their critics in a child labor scandal related to the company’s corporate social responsibility. Basu and Palazzo (2008), propose a model of corporate social responsibility that builds up on the managerial sensemaking process as its core element. Angus-Leppan, Metcalf, and Benn (2010) apply a similar approach by investigating leaders’ sensemaking process relates to corporate social responsibility practice. Previously to this, a whole special issues of the journal *Business Ethics: A European Review* had focused on a sensemaking approach to corporate social responsibility (Nijhof & Jeurissen, 2006). Newton (2002) provides an excellent example for the application of actor-network theory in sustainable development by questioning the feasibility of a construction of the social reality of a ‘new ecological order’. The structural similarity of stakeholder networks and actor-networks lends itself to further research. Elzen, Geels, and Green (2003) use an actor network perspective to understand system innovation for sustainability, and Murdoch (2001) proposes actor network theory as ontology for the human-nature relationship.

Matching paradigms and research settings in The Company research

The following application example of the paradigm matrix describes a RML research project in a major multinational company- The Company, whose identity has been anonymized. The research interest was to understand how the company’s corporate responsibility (CR) program resulted in RML. Data was collected through participant observation and interviews during a three-month deep immersion into the CR department and through an ongoing interaction over the course of two years. The following text summarizes the processes of matching paradigms and settings. These processes resulted in three temporarily stable multi-paradigm constellations to be described in greater depth.

As an early-stage researcher the first tendency was to make the conventional paradigms found in the research environment work for the research project. In the researcher's business school one of the dominant research paradigms was positivism, which was adopted as first paradigm. This initial paradigm choice was complemented by rational choice theory, whose domain of ideal use lies in settings related to rational decision making. Positivism and rational choice theory appeared to be a perfect fit for the setting encountered through pilot interactions with The Company. The main driver of RML back then was the CR key performance indicators on The Company's balanced scorecard. The 'rational choice' of whether to engage in learning for sustainability, responsibility, or ethics was dominantly based on the incentive system expressed through these indicators, as exemplified through the statement of a CR manager:

'Only when you're measured, that's when change happens, so when you're actually measured on the right thing.(...) you start to drive remarkable behavior.'

This rationalization of the RML process was also visible in the company's CR report, which outlined the drivers for RML as follows: *'we report progress against our Key Performance Indicator targets internally four times a year to the Executive Sustainability Committee.'* The positivism and rational choice paradigms' usefulness began to weaken when The Company began to adopt a new approach, which instead of relying on key performance indicators positioned CR as a company value. This meant that, increasingly, RML became a vehicle for employees' personal motivation to express their social cares through CR activities. This change in setting moved the research project away from the rational choice theory domain. Nor could positivism describe the phenomenon as positivist thinking aims to be value neutral, which was at odds with the value-laden nature of CR as a value.

It had become clear that the initial paradigm constellation would not allow for an adequate analysis of the RML processes, and the search for alternative paradigms begun. At the business school, the researcher had come to an appreciation of the second locally dominant research

paradigm of critical realism. Critical realism allows for the exploration of a stratified reality, which includes the exploration of values and other normative factors. At the same time the researcher became aware of the own desire to make a social impact and searched for ways to do so through research. Business models for CR had become a novel stream of research, with the underlying design-science and pragmatic orientation of designing business model artefacts to aid the organizational RML process. So the domains of ideal use of critical realism and pragmatism appeared to be an excellent match with the new research settings. However, it quickly became clear that the design and planning process underlying the pragmatic business model thinking did not capture The Company reality. Pragmatic design thinking was perceived by interviewees in the company as *'post rationalizing something that evolved organically'* and that there was *'no predefined (...) business model'*. The mismatch between conceptual lens and perceived reality is well exemplified through the following quote:

'We are not make this up as we go along, but we are comfortable with ambiguity and that we can be future fit and take a bunch of opportunities so I think there is a danger (...) trying to assume that everything is fully planned and those according to the plan.'

Also, the design science approach was perceived by interviewees to be too *'top down, command and control, and a stick approach'*, and not reflecting the more *'bottom up'* approach through which *'business model change'* happens, which is more a process of *'winning hearts and minds'*.

The constellation of business model thinking under a pragmatic design science paradigm's domain of ideal use was inadequate for the nature of the phenomenon encountered. However, the discussions around its adequateness had led to the researcher's appreciation, of a socially-constructed process through which RML materialized in The Company. At the same time it became apparent that both human (e.g. employees' values, the CEO, the corporate responsibility department) and non-human elements (e.g. the balanced scorecard, products, documents) were *'acting'* in the RML process. Human and non-human actors appeared deeply entangled:

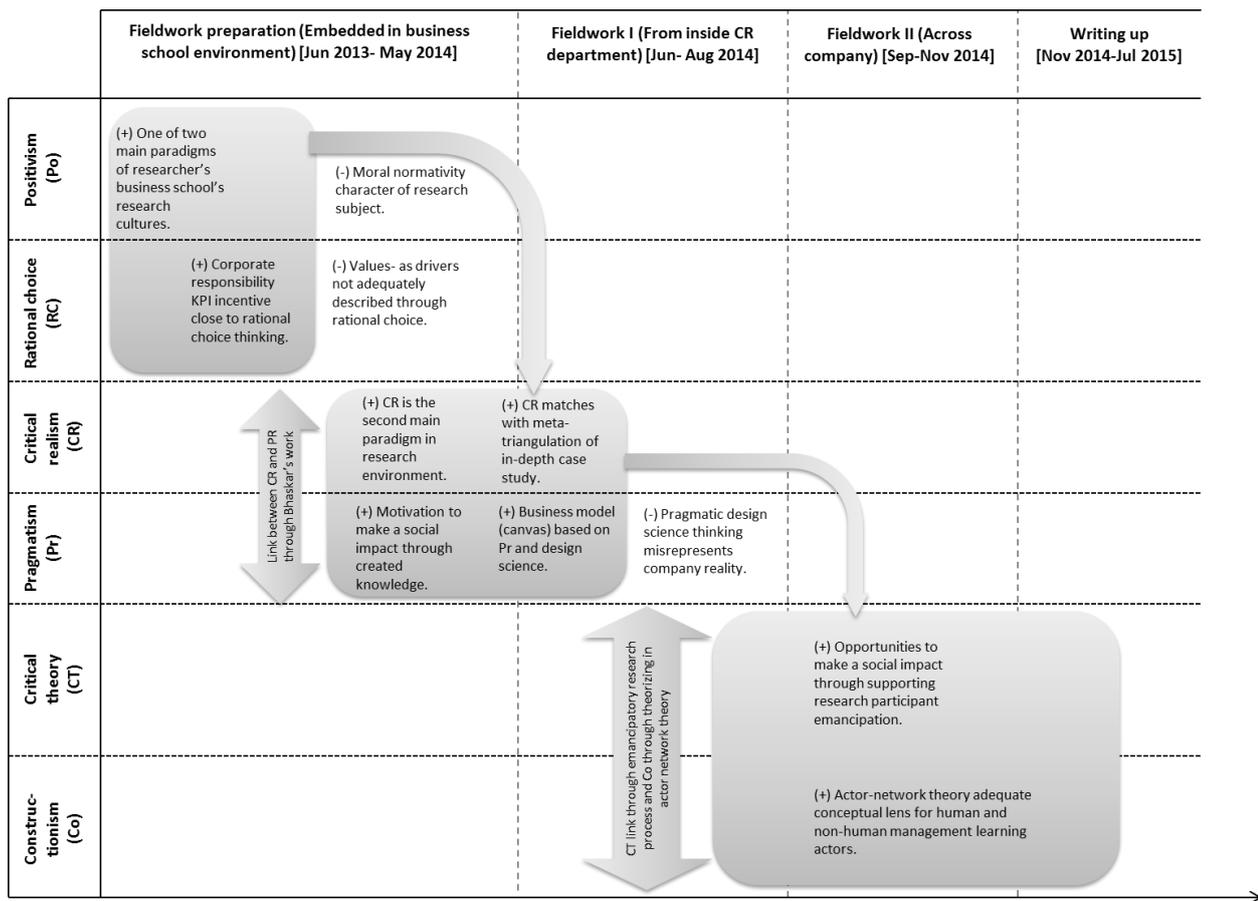
'(...) structural drivers, do you have the right structures processes KPI's (...) in place? But (...) if it is just that you will stop pretty quickly. (...) absolutely key is (...) people emotionally interested, that they feel is the right thing to do'.

This led to the reorientation toward actor-network theory as new conceptual lens, able to capture human and non-human actors' entanglement. Actor-network theory is strongly grounded in social constructionism into whose domain of ideal use the research setting had moved. Another change in setting was that many interviewees voiced their interest to create positive social change through the structures of the company and actively approached the researcher to facilitate this change through the research process:

'Fortunately for me it is something much more personal (...) it quite neatly sums up the opportunity for me (...) being a business of the size of The Company (...) our trade, using our footprint, using our network, to benefit people or the planet, that for me is why I work for The Company.'

The researcher realized that he would be able to make a social impact through the research process, and not necessarily through knowledge created (as suggested by pragmatism). Critical theory aims at aiding participants' emancipation through the research process. Accordingly, critical theory together with social constructionism covered the research setting very well.

Table 2 Shifting paradigm-setting matches



Findings and implications

The anecdotal case evidence supports the theoretical suggestion that the domains of ideal use of positivism and rational choice theory may often not adequately cover the breadth of research settings in SRE research. While these paradigms would have covered the initial setting well, the company's shift towards a value model made a shift in paradigms necessary to match the new setting. However, if the company's stance towards RML had not changed, the domains of ideal use of positivism and rational choice theory would have sufficed. So it would be unfair to say these domains are generally inadequate for SRE research, but they cover only a minor part of its settings. This observation contributes to an understanding of the first research question on how suitable 'conventional' research paradigms are. Rational choice theory and positivism may contribute to socially relevant knowledge creation in their domains of ideal use. However, SRE research settings often are located outside these domains. Research phenomena and settings are typically focused on social impacts, and are more of a value-laden nature than phenomena and settings in mainstream

research. Particularly two characteristics diminish the conventional paradigms' ideal use in SRE research: Firstly, rational choice theory has a blind spot when it comes to 'irrational', values-laden phenomena as typically encountered in SRE research. In the case example rational choice theory cannot capture CR as a value. Secondly, the positivist image of researchers as neutral observers would make emancipation and social value creation through the research process as intended by the researcher in the case non-justifiable.

The second research question was if alternative paradigms display characteristics that make them potentially better suited for SRE research. As in mainstream research, also in SRE research the alternative paradigms enable the coverage of a wider breadth of research settings. The domains of ideal use of the paradigms of critical theory (through emancipatory elements of research process) and pragmatism (through the social usefulness of knowledge), however, embrace the need for social impact in their epistemologies. This makes their domains of ideal use more likely to match SRE research settings. Both constructionism and critical realism in different ways allow for additional interpretive depth in research, which is beneficial to SRE research. Constructionism matches well with the multiple social dimensions and constellations of complex social realities typically found in SRE research. Examples are complex multiple stakeholder worlds, and the normative multiplicity of ethical dilemmas. In the empirical case, however, it was the specific conceptual lens of actor-network theory that allowed for a more profound analysis of the management learning process. In this specific case, this choice cannot be attributed to characteristics unique to the SRE research setting.

In the case we see temporarily stable matches and subsequent shifts. Both the temporary stability, and shifts may be explained by match and mismatch situations between the respective paradigm constellations' domains of ideal use and the research setting at the respective point in time. Periods of temporary stability were based on characteristics of chosen paradigms matching the setting. For instance, rational choice theory matched the KPI-induced RML; and pragmatism matched the researchers' interest in making a social impact. Changes in the setting then interrupted stable matches. Examples are the shift from key performance indicators to values as RML drivers

in The Company; or the researcher's realization that the research phenomenon could not be described through the chosen pragmatic design science paradigm. Accordingly, the very notion of 'paradigm choice' becomes questionable as it suggests controlled single-point decision making. In the case, however, we see a constantly emerging and iterative paradigm shaping process. This observation might have interesting implications for the discussion on multi-paradigm research.

What are the implications for SRE researchers aiming at the creation of socially-relevant knowledge for RML? Matching the right paradigm with the research setting is crucial to assuring the creation of valid knowledge. Conventional paradigms, due to their blind spots in significantly important areas of SRE research are limited in their capacity to create such knowledge. Accordingly, it is crucial for SRE researchers to engage into a reflective-iterative paradigm choice process that leads to the best-possible setting-paradigm match.

Conclusions

We have introduced Responsible Management Learning (RML) as an umbrella for learning for sustainability, responsibility, and ethics. RML as a process attributes social relevance to knowledge created through SRE research, by embedding it into educational and managerial practice. Vice versa, RML requires the creation of knowledge suitable for RML, which in turn requires a deeper discussion on the paradigmatic foundations of SRE research. To initiate this discussion, we have developed an appreciation of different research paradigms' relevance for SRE research, through a description of the domains, and how they have been applied to SRE research settings of exemplar articles.

We have explored the 'domains of ideal use' of the two conventional research paradigms of positivism, and rational choice theory, and of the four alternative paradigms of critical theory, critical realism, pragmatism and social constructionism in the context of SRE research. This review has been summarized in a research paradigm matrix aimed to be a diagnostic instrument aiding SRE researchers' paradigm choices. In an exploratory case, we observed how changing research

settings, moved the research out of initially chosen paradigms' domains of ideal use. Iterative reflection on paradigm-setting was necessary to ensure setting-paradigm fit.

We find that the 'domains of ideal use' of conventional research paradigms only covers a minor part of typical SRE research settings. Conventional research paradigms' domains of ideal use have blind spots in areas crucial for SRE research, such as values-laden and non-rational phenomena. Alternative paradigms' domains of ideal use appear to have complementary characteristics that to cover the resulting blind spots. They appear to be more suitable to an average SRE research project than conventional paradigms. We conclude that researchers may be well advised to conduct an iterative-reflective paradigm choice with special attention to the consequences of these choices to the social relevance of knowledge created for RML. In this article, we could only provide an initial positioning of the question for 'the how' of SRE research that is relevant for RML practice, and hope to initiate a deeper discussion.

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