



# The Interdisciplinary Responsible Management Competence Framework: An Integrative Review of Ethics, Responsibility, and Sustainability Competences

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## Abstract

At the centre of responsible management (RM) learning is the development of managerial competence for ethics, responsibility, and sustainability (ERS). Important contributions have been made from each: the ethics, responsibility, and sustainability disciplines. However, we are yet to integrate these disciplinary contributions into a comprehensive interdisciplinary RM competence framework that corresponds to the interdisciplinary nature of RM challenges. We address this priority in this paper and report on the findings of an integrative structured literature review of 224 management competence articles across the ERS disciplines. Our thematic template analysis has produced an interdisciplinary RM competence framework of three layers of personal, behavioural, and intellectual competences and independent and interdependent competence dimensions. The resulting 3 × 2 competence matrix framework accommodates 33 interdisciplinary ERS competence themes and 90 subthemes in the six competence domains of *being* and *becoming*, *acting* and *interacting*, *knowing* and *thinking*. To the RM discussion, we contribute an interdisciplinary competence framework that enables the development of responsible managers who tackle the inherently interdisciplinary issues of RM. To the competence discussion, we contribute the interdependent competence dimension and future research directions through the lens of response-ability.

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**Keywords** Responsible management learning and education; ethics · Responsibility · Sustainability competence; interdisciplinary competence

## Introduction

Humanity is facing existential environmental and social challenges (Ehgartner et al., 2017; Gray & Milne, 2018; Schmuck & Schultz, 2002). Business management can and should play a crucial role in addressing these grand challenges (Antonacopoulou, 2022; Ferraro et al., 2015; Markman et al., 2019; Marti, 2018). This requires responsible managers who are competent to build, run, and maintain an ethical, responsible, and sustainable economy (Laasch, 2021; PRME, 2007; Van der Byl et al., 2020).

Accordingly, enacting practices of responsible management (RM) (Gherardi & Laasch, 2021) requires competences from the ethics, responsibility, and sustainability (ERS) disciplines (Forray & Leigh, 2012; Laasch et al., 2020a; Rasche & Gilbert, 2015). RM requires all three: competences to engage in ethical decision-making and behaviour (ethics discipline), to realise stakeholder responsibilities (responsibility discipline), and to balance social, environmental, and

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economic impacts over time (sustainability discipline). Each discipline has provided valuable complementary insights into what competences are necessary for the enactment of RM. The ethics discipline highlights ethical management competences like moral judgement competence and moral courage (Desplaces et al., 2007; Sekerka et al., 2009). The responsibility discipline has stressed the importance of community-building competences and social issues awareness (Osagie et al., 2016; Pless et al., 2011). The sustainability discipline emphasises, for instance, systems thinking and foresight competences (Hesselbarth & Schaltegger, 2014; Lans et al., 2014).

Each of these discipline-specific competence contributions is immensely valuable, and they are mutually complementary as they provide deep specialised insight into a sub-section of the competences needed. However, an integrative, comprehensive structured review of competences in the ethics, responsibility and sustainability disciplines is needed as existing frameworks relying on single disciplines are inherently incomplete and limited. A concrete example of these limitations is that ethics and responsibility frameworks typically lack the crucial anticipatory competence, which is a standard competence across existing competence frameworks in the sustainability discipline. Another example is that while sustainability competence frameworks do cover a 'normative competence' closely related to ethics, that coverage is limited as it lacks the nuanced appreciation of the varieties of ethics competences that the ethics discipline offers.

An interdisciplinary integration of these disciplinary competences is thus necessary to overcome such limitations and to mobilise the competences of all three disciplines for addressing the naturally interdisciplinary issues and challenges of RM practice (Beckmann & Schaltegger, 2020). For example, addressing issues related to sustainable development goals (SDG) like that of SDG 5 of gender equality requires moral sentiments for gender issues (ethics), the competence to balance the needs of varieties of gendered stakeholders (responsibility), and to anticipate the immediate and future social, environmental, and economic consequences of one's gender equality actions (sustainability). Therefore, just like much research in the RM learning and education discussion (Cullen, 2020; Moosmayer et al., 2020), the RM competences discussion is also in need of an interdisciplinary framework that offers a comprehensive integration of competences from all three ERS disciplines (Laasch et al., 2020a). This motivates our study and the research question guiding the study we report on in this paper:

How can ethics, responsibility, and sustainability competences be integrated into one comprehensive interdisciplinary RM competence framework?

To address this research question, we proceed as follows: First, we briefly introduce the competence debates in the ethics, responsibility, and sustainability disciplines and initial interdisciplinary moves 'From Disciplinary to Interdisciplinary RM Competence'. We then introduce our 'Methodology', an integrative structured literature review of 224 articles on ERS management competences and a thematic template analysis of the competences proposed by these articles. We find 'An Integrative RM Competence Framework' that spans a  $3 \times 2$  matrix framework by integrating ERS competences across personal, behavioural, and intellectual competences layers and along independent and interdependent dimensions, resulting in six interdisciplinary ERS competence domains of *being*, *becoming*, *acting*, *interacting*, *knowing*, and *thinking*. We identify 33 interdisciplinary RM competence themes in these domains.

We contribute to the RM discussion by offering an interdisciplinary RM competence framework, and we identify an interdependent dimension that is largely neglected in the competence discussion. We expect this framework to also provide a very solid toehold for educational practitioners in their efforts to foster interdisciplinary RM competence among their students. We explore the implications of our framework's further contribution of an interdependent competence dimension to the response-ability discussion and of the competence framework's holistic set of domains to an interdisciplinary whole-person pedagogy. We also propose a future research agenda based on the contributions and on our paper's limitations.

## From Disciplinary to Interdisciplinary RM Competence

The competence literature is concerned with the question of what competences are necessary for practitioners to expertly perform a particular type of practice (Hoffmann, 1999; Le Deist & Winterton, 2005; Shove et al., 2012; Woodruffe, 1992). Management competence refers to the capacity to perform the practices of management expertly (Boyatzis, 1982; Gilbert, 2013; Sandberg, 2000; Sandberg et al., 2017). We therefore understand RM competence as *the capacity to expertly perform the practices of RM*. RM practices, in turn, have been found to draw from all three: ethics, responsibility, and sustainability (Laasch et al., 2020c), which is why RM learning requires an interdisciplinary integration of ERS (Forray & Leigh, 2012; Laasch et al., 2020a; Rasche & Gilbert, 2015). We refer to competence in singular when we mean the overall ability to perform a certain practice, e.g., environmental accounting competence. We refer to competences in plural when we refer to the varieties of competences that need to come together to be able to perform a practice. For instance, competences of processing

information, representing facts and figures, and of obtaining information are all necessary to perform environmental accounting practices.

We will now illustrate both advances and limitations of the disciplinary ERS competences literature. By doing so, we position our study as addressing the need to advance the RM discussion through an interdisciplinary RM competence framework.

### Disciplinary ERS Competence Frameworks

Competences from each of the ethics, responsibility and sustainability disciplines feature distinct characteristics. Therefore, each discipline may contribute a different set of competences to a more comprehensive interdisciplinary RM competence. Table 1 features three examples of disciplinary competence frameworks from each discipline. We will use these to illustrate the uniqueness and breadth of each disciplinary contribution.

#### Ethics Competence

Ethics competences are mostly built on the business ethics domain's three streams of normative ethics, behavioural ethics, and ethics management (Crane & Matten, 2004; Laasch, 2021).

First, in relation to normative ethics, competences proposed frequently draw from moral philosophies. For instance, Pohling et al., (2016, p. 469, Ethics Example A) explicitly call their third competence “normative knowledge”, and their second competence is the awareness of “consequences”, which can be traced directly back to consequentialist moral philosophies. The four competences proposed by Morales-Sánchez and Cabello-Medina (2013, Ethics Example B) relate to prudence, justice, fortitude, and temperance from the moral philosophy of virtue ethics. Secondly, the proposed competences may also be derived from insights into behavioural ethics (Rest, 1986; Treviño et al., 2006), psychological theories of moral development (Kohlberg, 1971; Rest et al., 1969), and of human moral values (Fritzsche & Oz, 2007; Schwartz, 2005). For example, Pohling et al. (2016) understand ethical competence as decisions and actions in a given situation, resembling individual and situational factors in behavioural ethics (Crane & Matten, 2004; Jones, 1991). Their characteristics of ethical competences emphasise individuals' psychology, for instance, feeling “obliged to one's own moral principles” (Pohling et al., 2016, p. 469). Third, ethical management competences emphasise organisational and managerial dimensions. Spurgin (2004, Ethics Example C) strongly centres the competences for business ethics on identifying ethical business issues and applying frameworks to solve

them. These competences also include practical communication skills like the competence to speak the language of business ethics.

#### Responsibility Competence

Responsibility competences centre on how individual managers interrelate (ir)responsibly to a variety of stakeholders to whom they may be accountable (Freeman, 1983; Mitchell et al., 1997; Wicks et al., 1994).

First, responsibility competences often refer to particular stakeholder-related skills, such as Muff et al., and and's (2020, p. 2216, Responsibility Example A) varieties of “stakeholder relations” competences and Miller et al., and and's (2012, Responsibility Example B) stakeholder communication competence. Secondly, stakeholder relations are frequently enabled by positive attitudes and sentiments towards others. For instance, Pless et al., (2011, p. 256, Responsibility Example C) stress a “responsible mindset” and Miller et al. (2012) highlight empathy and compassion for others as social entrepreneurship competence. Third, responsibility competences are frequently centred on identifying *social* issues and generating a social impact. Along those lines, Miller et al., (2012, p. 353) suggest the “ability to create a significant social impact” and valuing social over financial impact, while Muff et al., (2020, p. 2216) feature a cluster of “change and innovation” competences aimed at “finding solutions for society's problems”.

#### Sustainability Competence

Sustainability competences are typically centred on sustainability's core features of future orientation and complex social, environmental, and economic problems (Bansal & DesJardine, 2014; Dyllick & Hockerts, 2002).

First, managing the time dimension requires preventive competences (Alberston et al., 2020, Sustainability Example A), “foresighted thinking competence” (Ploum et al., 2018, p. 119, Sustainability Example B), and varieties of strategic competences (Alberston et al., 2020; Ploum et al., 2018). Secondly, competences related to complexity and integration include the systemic thinking competences featured in each of the sustainability competence framework examples. It also includes competences integrating the diverse aspects of systems, for instance, integrating the business, environmental, and social dimensions of sustainability problems (Kleef & Roome, 2007, Sustainability Example C). The complex systemic and multi-sectorial nature of sustainability requires a variety of collaborative competences as the ‘wicked’ problems of sustainability can only be addressed successfully in a collaborative effort (Batie, 2008). This favours competences like “embracing diversity and interdisciplinary competence”

**Table 1** Typical managerial ethics, responsibility, and sustainability competence discussions' characteristics

	Managerial ethics competence	Managerial responsibility competence	Managerial sustainability competence
Centrepiece	Engaging in ethical decision-making and behaviour	Realising stakeholder responsibilities	Balancing social, environmental, and economic impacts over time
Academic Discussions	Business ethics	Corporate social responsibility, responsible leadership, social entrepreneurship	Corporate sustainability
Managerial Root Discipline	Ethics and compliance management	CSR and community management	Environmental and sustainability management
Examples of Disciplinary Competence Frameworks and Typical Discipline Competences	<i>Ethics Example A</i> Basic Characteristics of Ethical Competence	<i>Responsibility Example A</i> Responsible Leadership Competences	<i>Sustainability Example A</i> Managers' Competences for Sustainability
<i>Note:</i> For each ERS discipline we depict three examples of competence lists that reflect breadth and similarities in each discipline (reading the table vertically), and differences between disciplines (reading the table horizontally)	<ol style="list-style-type: none"> <li>To feel obliged to one's own moral principles</li> <li>To act responsibly taking into account legal standards as well as economic, ecological, and social consequences</li> <li>Normative knowledge</li> <li>Willingness to defend derived behavioural options against occurring resistance (Pohling et al., 2016)</li> </ol>	<ol style="list-style-type: none"> <li>Stakeholder relationships</li> <li>Ethics and values</li> <li>Self-awareness</li> <li>Systems thinking</li> <li>Change and innovation (Muff et al., 2020)</li> </ol>	<ol style="list-style-type: none"> <li>Focus on systemic thinking</li> <li>Preventive</li> <li>Normative</li> <li>Strategic</li> <li>Interpersonal (Alberton et al., 2020)</li> </ol>
	<i>Ethics Example B</i> Universal Moral Competences for Management	<i>Responsibility Example B</i> Social Entrepreneurship Competences	<i>Sustainability Example B</i> Essential Sustainable Entrepreneurship Competences:
	<ol style="list-style-type: none"> <li>Prudence</li> <li>Justice</li> <li>Fortitude</li> <li>Temperance (Morales-Sánchez &amp; Cabello-Medina, 2013)</li> </ol>	<ol style="list-style-type: none"> <li>Develop volunteer support</li> <li>Ability to communicate with customers, suppliers, and other stakeholders</li> <li>Sense of moral imperatives/ethics</li> <li>Ability to identify social problems</li> <li>Desire and ability to create a significant social impact</li> <li>Ability to build community support</li> <li>Commitment to helping people in need</li> <li>Empathy or compassion</li> <li>Ability to commit to a collective purpose</li> <li>Value social impact more than financial (Miller et al., 2012)</li> </ol>	<ol style="list-style-type: none"> <li>Strategic management competence and action competence</li> <li>Embracing diversity and interdisciplinary competence</li> <li>Systems thinking competence</li> <li>Normative competence</li> <li>Foresighted thinking competence</li> <li>Interpersonal competence (Ploum et al., 2018)</li> </ol>
	<i>Ethics Example C</i> Abilities for Competence in Business Ethics	<i>Responsibility Example C</i> Critical Competencies for Responsible Leadership	<i>Sustainability Example C</i> Competence in Innovation for Sustainable Business Management
	<ol style="list-style-type: none"> <li>Speak the language of business ethics</li> <li>Identify business ethics issues</li> <li>Apply theories and concepts to issues</li> <li>Identify connections among theories and concepts as they relate to different issues</li> <li>Construct and critically evaluate arguments (Spurgin, 2004)</li> </ol>	<ol style="list-style-type: none"> <li>Responsible mind-set</li> <li>Ethical literacy</li> <li>Self-development</li> <li>Community building (Pless et al., 2011)</li> </ol>	<ol style="list-style-type: none"> <li>Systemic thinking</li> <li>Learning and development</li> <li>Integrating business, environmental, and social problems</li> <li>Developing alternative business models</li> <li>Networking and social capabilities</li> <li>Coalition and collaboration building (Kleef &amp; Roome, 2007)</li> </ol>

(Ploum et al., 2018, p. 119), as well as building coalitions, collaborations, and networking (Kleef & Roome, 2007).

## Towards Interdisciplinary RM Competence

We briefly introduce an emergent interdisciplinarity in which the ethics, responsibility, and sustainability discipline competence have begun to complement each other.

### Implicit Interdisciplinarity

We have seen how ethics, responsibility, and sustainability each centre on a particular set of competences. There are natural implicit connections evidenced by overlaps between ethics, responsibility, and sustainability management competences.

Several competences are shared across ERS competence frameworks, generating natural horizontal connections. For instance, both responsibility and sustainability highlight competences originating from the ethics domain. For instance, a “sense of moral imperatives/ethics” (Miller et al., 2012, p. 353), and “ethical literacy” are important for responsibility (Pless et al., 2011, p. 256), and “normative competence” is crucial for sustainability (Ploum et al., 2018, p. 119). Competences related to sustainability’s triple bottom line (Elkington, 1998), are not only present among the sustainability competences, for instance, in the form of “integrating business, environmental, and social problems” (Kleef & Roome, 2007, p. 42), but also among ethics competences such as “taking into account... economical, ecological, and social consequences” (Pohling et al., 2016, p. 450).

### Pioneering Interdisciplinary Moves

Some researchers have taken pioneering steps towards an interdisciplinary integration of ERS management competences. First, Osagie et al. (2016) transferred sustainability discipline competences to the responsibility discipline. They extracted seven initial competence domains from 18 articles (17 from the sustainability discipline, one from ethics) and reinterpreted these sustainability competences for the CSR context. These competences are firmly grounded in the sustainability discipline and successfully mobilised for a responsibility phenomenon. However, they are not comprehensive as key competences from the responsibility discussion are missing (e.g., Pless et al., 2011). Nor are ethics discipline competences integrated in the resulting framework to their full depth and explanatory power.

Second, we identified two articles enriching the sustainability competences set by integrating particular sub-competences from the ethics discipline. Lambrechts et al. (2019) undergird the sustainability competences’ old-established normative competence domain through “virtuous

competence”. D’Souza et al. (2019) add “professional ethical responsibility” to their eight sustainability discipline competences. Both articles achieve a selective strengthening of their disciplinary competence profiles by drawing from other disciplines. They achieve a ‘punctual’ interdisciplinary synergy, which hints at the larger synergetic potential of comprehensive interdisciplinary integration.

Third, we identified two competence profiles with an a-disciplinary stance, which presents an opportunity for integrating relevant competences on an equal footing without ex-ante disciplinary preferences. For instance, Sharma (2017) mobilises her previous competences work to propose competence building blocks for RM. She does not make reference to any ERS competence papers. As a consequence, the competence framework lacks many of the established ERS competences. It includes a block of moral competencies but omits important competences from the ethics discipline (e.g., ethical decision-making) and sustainability discipline (e.g., systemic thinking). Similarly, Benito Olalla and Merino (2019) conducted a content analysis of ‘value-based’ business classes in Spain, organising 45 competences into five pillars. The framework is fairly comprehensive in terms of sustainability and responsibility discipline competences, but with very few exceptions it omits ethics competences. These examples avoid over-emphasis of any individual discipline but give rise to the comprehensiveness issue of missing key disciplinary competences.

These first advances showcase the potential of interdisciplinary integration of competences from ERS disciplines. However, they also emphasise a comprehensiveness challenge, where competences from one or several ERS disciplines are weak or absent. We build on these important efforts by conducting an interdisciplinary structured review that integrates ERS discipline competences comprehensively and on an equal disciplinary footing.

## Methodology

To develop an integrative RM competence framework, we conducted an integrative-systematic review (Fan et al., 2022) of articles on managerial competences across the ethics, responsibility, and sustainability disciplines. A systematic review offers the high level of comprehensiveness we were looking for, spanning ERS competences for management practices ranging from specialized ERS management and generic mainstream management to management specializations and sector-specific management practices, across a variety of disciplinary journal communities (see Table 2). The systematic review allowed us to draw from a large variety of ERS competence papers with manifold justifications for proposed competences. Justifications were in roughly equal proportions of conceptual, empirical qualitative,

**Table 2** Overview of the characteristics of articles reviewed

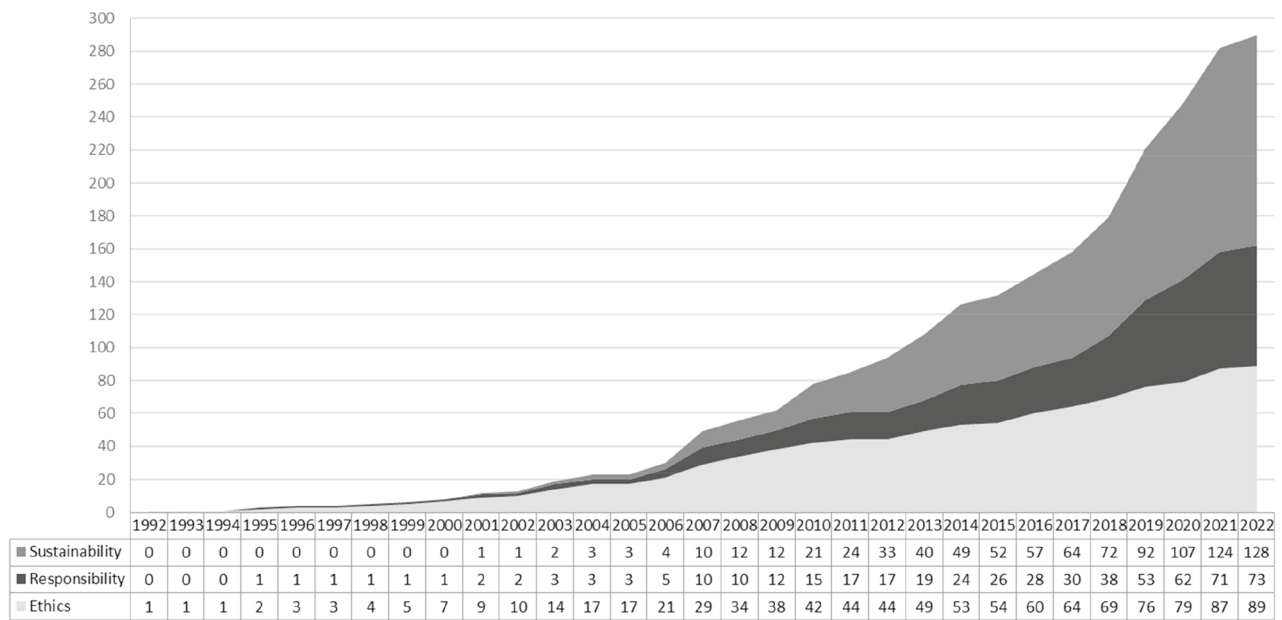
Characteristics	Prevalence
Article types	<ol style="list-style-type: none"> <li>1. Empirical-quantitative (75 articles, 33.48%)</li> <li>2. Empirical-qualitative (65 articles, 29.02%)</li> <li>3. Conceptual (62 articles, 27.68%)</li> <li>4. Mixed methods (22 articles, 9.82%)</li> </ol>
Journals with ERS competence article streams (included if at least five articles from journal)	<ol style="list-style-type: none"> <li>1. Journal of Business Ethics (39 articles, 17.41%)</li> <li>2. Journal of Cleaner Production (24 articles, 10.71%)</li> <li>3. International Journal of Sustainability in Higher Education (22 articles, 9.82%)</li> <li>4. Sustainability (20 articles, 8.93%)</li> <li>5. Nursing Ethics (5 articles, 2.23%)</li> </ol>
Journals with sporadic ERS competence articles (selection of exemplary journals chosen for disciplinary breadth)	Academy of Management Learning & Education, Benchmarking, BMC Health Services Research, Business & Society, British Journal of Management, Business Ethics: A European Review, Clinical Social Work Journal, Corporate Governance, Corporate Social Responsibility & Environmental Management, European Sport Management Quarterly, Frontiers in Psychology, International Journal of Disaster Risk Reduction, International Journal of Management Education, Journal of Business Research, Journal of Corporate Citizenship, Journal of Healthcare Management, Journal of Hospitality & Tourism Research, Journal of Professional Issues in Engineering Education and Practice, Leadership, Organization & Environment, Professional Case Management, Psychological Review, Strategic Organization, Sustainability Science, Teaching Public Administration, Technological Forecasting and Social Change
Target management practices (each article allocated into one category)	<p>Specialized ERS management</p> <ol style="list-style-type: none"> <li>1. Sustainability management (47 articles, 20.98%)</li> <li>2. CSR &amp; stakeholder management (20 articles, 8.93%)</li> <li>3. Ethics and compliance management (3 articles, 1.34%)</li> </ol> <p>Generic management practices</p> <ol style="list-style-type: none"> <li>1. Management at large (27 articles, 12.05%)</li> <li>2. Leadership (18 articles, 8.04%)</li> <li>3. Entrepreneurship (8 articles, 3.57%)</li> <li>4. Strategic management (5 articles, 2.23%)</li> </ol> <p>Management specializations</p> <ol style="list-style-type: none"> <li>1. Operations and supply chain management (13 articles, 5.80%)</li> <li>2. Human resources management (9 articles, 4.02%)</li> <li>3. Project management (9 articles, 4.02%)</li> <li>4. Engineering management (8 articles, 3.57%)</li> <li>5. Innovation and knowledge management (4 articles, 1.79%)</li> </ol> <p>Sector-specific management</p> <ol style="list-style-type: none"> <li>1. Health management (28 articles, 12.50%)</li> <li>2. Public management (14 articles, 6.25%)</li> <li>3. Agricultural and resources management (6 articles, 2.68%)</li> <li>4. Tourism and hospitality management (5 articles, 2.23%)</li> </ol>

and empirical quantitative nature. This creates a triangulation effect, increasing our identified competence themes' trustworthiness.

Figure 1 shows how the set of articles reviewed is distributed through time and across the ERS disciplines. Articles labelled as ethics were published first from the early 1990s and their total number steadily kept increasing until the present. Sustainability articles first emerged in the early 2000s and dramatically increased in numbers from the 2010s onward. Articles labelled as responsibility are represented continuously since the mid-1990s and have increased

significantly since 2018. These trajectories have led to our review's well-balanced comparative cumulative representation of articles per discipline. In our final set of articles, 89 are labelled as ethics, 73 as responsibility, and 128 as sustainability.

We have performed a thematic template analysis to organise the ERS competences put forward in these articles into higher-level themes, giving rise to our interdisciplinary competence framework. The systematic review was conducted in two stages (see Fig. 2). In the first stage in 2014, we conducted a preliminary systematic review for framework



<sup>a</sup> This chart reflects when articles in our review were labelled as ethics, responsibility, and/or sustainability. Accordingly, when an article was framed interdisciplinarily, as a combination of two or three ERS disciplines, it appears two times, respectively three times in our overall counts. Therefore, the cumulative count in this chart is 289 E, R, and/or S labels, distributed across the 224 articles included in our review. Out of the sample, 51 articles were framed as two or three of the ERS disciplines.

Fig. 1 Cumulative representation of ERS disciplines

development. In the second stage in 2022, we followed up with a systematic consolidation review to produce a comprehensive list of competences. We will now briefly outline each stage.

### Stage 1: Preliminary Review

When we conducted the preliminary systematic literature review stage in 2014, the ERS management competences

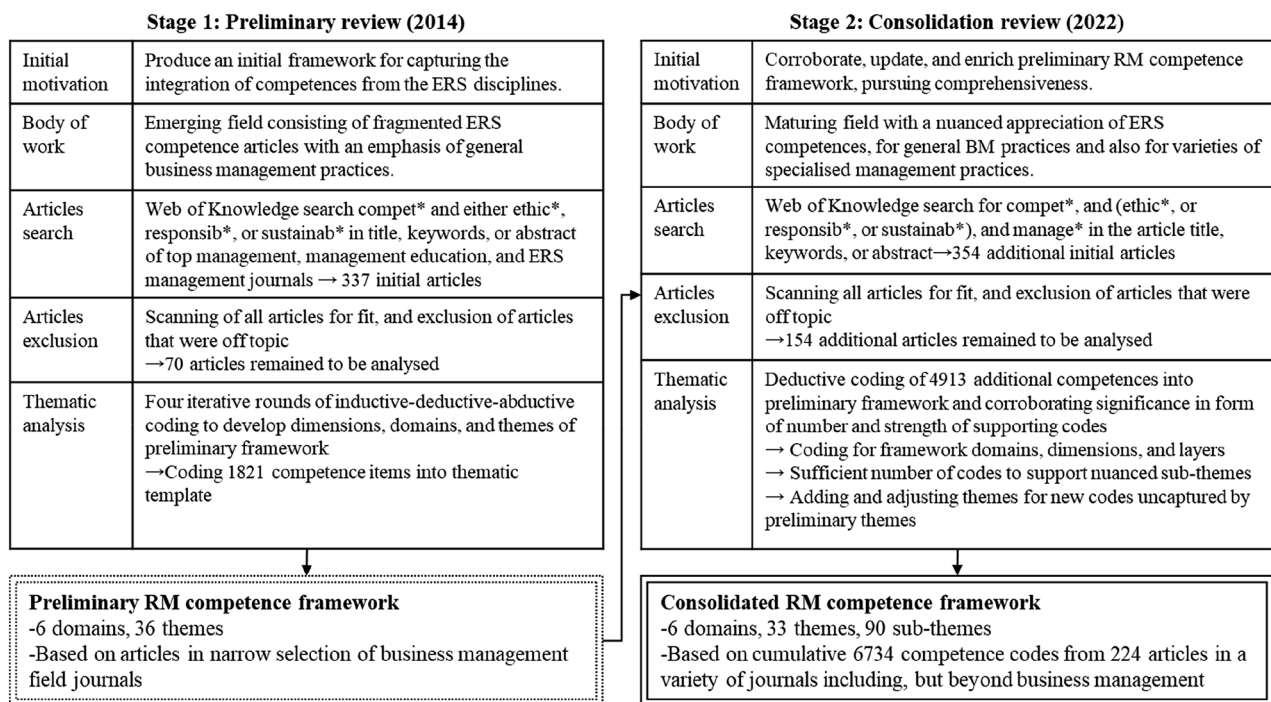


Fig. 2 Review process map

literature was in its beginnings. It was concentrated in a few journals, mostly from the business management field. The suggested competences seemed somewhat ‘patchy’ with apparent gaps in coverage and in need of further research. The literature appeared still too young to yield a comprehensive competence framework. Nevertheless, it was substantive enough to build a framework with a preliminary set of competence themes which could be used to capture ongoing advances.

### Preliminary Article Identification

We used the systematic review method (Denyer & Tranfield, 2009; Higgins & Green, 2011; Tranfield et al., 2003) to identify a small set of highly relevant pioneering articles. This review included 21 top management journals (e.g., Journal of Management), management education journals (e.g., Academy of Management Learning and Education), and specialised ERS journals (e.g., Journal of Business Ethics) in which management competence research had been published. The Web of Science database was used as it covered all the journals identified.

We identified articles centred on individual-level managerial competences for sustainability, responsibility, and ethics, by conducting a search for competen\* (capturing the words competent, competence, competency) plus sustainability, responsibility, or ethics (in title, abstract, or keywords). The initial set of 337 articles was systematically narrowed down to 70 to be included. Exclusion criteria were:

- (a) Focus on organisational competences (e.g., core competences related to strategic competitiveness) instead of individual competences;
- (b) No explicit or inconsistent reference to ethics, responsibility, and sustainability (e.g., ‘sustainable’ describing economic firm persistence);
- (c) Focus on other occupational competences (e.g., nurse managers’ physical examination competence), with little or no reference to management.

### Preliminary Thematic Template Analysis

We used an NVivo software-based thematic template analysis (Boyatzis, 1998; Braun & Clarke, 2006; King, 2004; Vaismoradi et al., 2013; Waring & Wainwright, 2008), involving induction, deduction, and abduction (Sætre & Van de Ven, 2021), to integrate ERS competence themes into one framework. We will now briefly describe our coding through four distinct rounds (see Table 3 for greater detail).

To prepare the thematic analysis, we first identified competences proposed in each article. There were articles that featured a list of competences in the main body of text.

Also, there were articles focused on a particular individual competence. For these articles, we coded the competences from the article abstract and prominent descriptions in the paper. We identified competences searching line-by-line for text segments (codes) that described items contributing to the “capacity to expertly perform the practices of RM” (our RM competences definition developed above). Competence codes typically included terms like competence or ability and active ‘ing’ verb forms like ‘coping with complexity’. We inductively clustered the 1821 competences codes that were identified, into themes in four iterative rounds of coding. In each round, the original template was refined until we arrived at a final template capturing all competence codes identified.

Round 1 was deductive coding, clustering emerging RM competence themes under the knowledge (*knowing*), skills (*acting*), attitudes (*being*) domains (Partridge et al., 2010). When interaction competences emerged as a distinct domain, we re-clustered themes deductively, now into Delors’ (1996a) four pillars of learning (*knowing, acting, being, interacting*) (Round 2). In Round 3, we had observed *thinking* competences that were related to, but not well covered, by our *knowing* domain. They were coded as an additional domain. In Round 4, we took an abductive leap prompted by the observation that *interacting* and *thinking* competences were more interdependent than the *acting* and *knowing* domains from which they had emerged. Therefore, we selectively coded to probe if there also was an interdependent domain related to *being* competences. We identified *becoming* competences.

The resulting six competence domains (*being, becoming, acting, interacting, knowing, thinking*), were clustered into a framework of six independent-interdependent domains of managerial competences in the layers of personal, behavioural, and intellectual competences. The 36 preliminary ERS competence themes each corresponded to one of these domains.

While all primary coding was carried out by the first author, process and outcomes were corroborated in the author team after each round to increase the consistency of themes and of the emerging framework as well as the rigor of the coding process.

### Stage 2: Consolidation Review

Between 2014 and 2022, the ERS competences literature matured considerably. The significant increase in the volume of published articles in the ERS competences literature provided a more significant number of competences codes. There was a wider variety of competences, a higher level of corroboration of individual competences, and a more nuanced appreciation of particular competences. It had extended in coverage beyond describing ERS



**Table 3** Preliminary thematic template analysis and the emerging framework

Coding round	Coding activity	Template	Literature grounding of newly emerged domains	Overflows and reframing
Round 1: Pilot coding	Deductive coding of knowledge, skills, and attitudes (KSA)	Knowledge Skills Attitudes	KSA competences literature (e.g., Edge & Greenwood, 1974; Hodges et al., 2001; Hunter, 2004; Noe, 1986)	Two very distinct competences groups emerged in the 'skills' domain, action-oriented skills and social skills. These were split up into the acting-interacting domains forming a practical competence layer
Round 2: Full coding	Deductive coding oriented by Delors and colleagues' (1996a) four competence groups framed as, <i>knowing, acting, interacting</i> and <i>being</i>	Knowing Acting-Interacting (Behaviourial) Being	The practical competences area builds on the distinction between procedural and social competences (Erpenbeck & Rosenstil, 2003; Tawil & Cougoureaux, 2013). It relates to Kolb's experiential learning styles that rely on experimentation and experience individually ( <i>acting</i> ) and in groups ( <i>interacting</i> ) (Holman et al., 1997; Kolb, 1984)	During the full coding a wealth of analytical competences that could not be covered by the <i>knowing</i> domain. It created the need to split it up into <i>knowing</i> and <i>thinking</i> domains in the next coding round
Round 3: Template revision 1	Deductive coding using Krathwohl's (2002) distinction between knowledge and cognitive processes, through which <i>knowing</i> domain themes were split up into domains of <i>knowing</i> and <i>thinking</i> in an intellectual competences layer	Knowing-Thinking (Intellectual) Acting-Interacting (Practical) Being	The intellectual competences area is grounded in the distinction between knowledge and the use of intellectual skills (Winterton et al., 2006). It relates to Bloom's learning in the cognitive layer (Bloom, 1956; Huit, 2004; Winterton et al., 2006), and to its two dimensions of knowledge ( <i>knowing</i> ), and cognitive processes ( <i>thinking</i> ) (Krathwohl, 2002)	The independent-interdependent competence domains in the intellectual and practical layers suggested that also the <i>being</i> domain might have independent and interdependent subdomains, to be qualified further in the next round of coding
Round 4: Template revision 2	Inductive coding consistent with an understanding of independent and interdependent dimensions derived in previous coding rounds. The <i>being</i> domain themes from Round 3, were split up into the <i>being</i> and <i>becoming</i> domains, both belonging to a larger <i>personal</i> competences layer	Knowing-Thinking (Intellectual) Acting-Interacting (Behaviourial) Being-Becoming (Personal)	The personal competences area builds up on distinct degrees of influence over personal characteristics (Boyatzis, 1982; McClelland, 1951), it connects to self-actualization in relationship to the occupational environment (Fidler & Fidler, 1978). It relates to theories of independent ( <i>being</i> ) interdependent ( <i>becoming</i> ) self (Cross & Markus, 1994; Markus & Kitayama, 1991) as well as to habits of meaning ( <i>being</i> ) and phases of meaning ( <i>becoming</i> ) in transformative learning theory (Mezirow, 1978, 1996, 1997)	The template is the comprehensive interdisciplinary RM competence framework we present in this article's findings section

competences for business management to ERS competences in managerial practices more widely (e.g., engineering management and health management).

Our consolidation-stage systematic literature review taps into these developments to corroborate and update the preliminary competence framework and to provide a more comprehensive and more strongly supported set of interdisciplinary ERS competence themes.

### Consolidation Article Identification

To include articles with ERS management competences in non-business fields, we searched all journals covered by the multi-disciplinary Web of Sciences database. We added ‘management’ to the search criteria to ensure that only management practice articles were captured. This also avoided capturing organisation-level competences, which we had excluded by hand in the preliminary review. Our search for *compet\**, and (*ethic\**, or *responsib\**, or *sustainab\**), and *manage\** in the article title, keywords, or abstract yielded an initial list of 354 articles. The sample was narrowed down to 155 additional articles to be analysed, using the previous exclusion criteria.

### Consolidation Thematic Analysis

The consolidation coding rationale was to corroborate and update the preliminary framework. We corroborated whether preliminary themes also captured the additional set of competences that had emerged after 2014. Again, we first in-vivo coded the competences put forward in the additional articles, producing 4913 competence codes. We then deductively coded new codes into the preliminary framework by using the original NVivo file with the 6 domains, 36 themes, and 1821 codes from 2014. This coding consolidated the preliminary competence framework as follows:

- (a) We coded a very significant number of new competence codes into the elements (domains, dimensions, layers) of the preliminary framework. The compatibility of the new codes with the preliminary framework supports the robustness of the framework.
- (b) Whereas the preliminary coding had resulted in 87 subthemes, the updated coding led to 90 subthemes. While each subtheme was supported by only three to six codes in our preliminary coding, this increased to at least 25 codes per subtheme in the new coding.
- (c) We added some new themes to capture new clusters of codes that could not be captured by preliminary themes.

Similarly, several preliminary themes were relabelled to more closely correspond to the new codes included.

We also corroborated themes’ significance through the number of supporting codes allocated to each theme. If a theme was not sufficiently significant, it was dissolved and the codes under it reallocated. For instance, the preliminary ‘relational thought’ theme had less than 10 codes and was dissolved. If a preliminary theme had a sufficient number of codes but considerably fewer than other themes, it was downgraded to become a lower-level subtheme. For instance, the preliminary themes of ‘managing ERS issues & initiatives’ (61 codes) and ‘using ERS tools’ (48 codes) were joined as subthemes under the new first-order competence ‘managing ERS’.

Coding was concluded when each of the 6734 codes (preliminary + consolidation) had been allocated in the most suitable theme. We ensured a comparative degree of coverage between framework elements (e.g., 1000–1300 codes per competence domain).

## An Integrative RM Competence Framework

We now introduce the integrative competence framework, referencing its elements back to the papers analysed. We present the framework’s domains using the distinction between independent (*being, acting, knowing*) and interdependent (*becoming, interacting, thinking*) competence domains that emerged. The independent domains describe comparatively static and self-contained competences, while interdependent competences domains relate to contextual and more dynamic characteristics. Independent competences (*being, acting, and knowing* domains) exist in relative self-sufficiency and with limited dynamic engagement. Conversely, interdependent competences (*becoming, interacting, thinking* domains) revolve around the dynamic engagement with ‘something else’ or ‘some other’. They are constituted by it.

More specifically, we understand *being* to comprise competences related to one’s unique independent character (e.g., personal attitudes and values), while we understand *becoming* to be the maturing of the self in interaction with the world. Similarly, one can act alone, but *interacting* is constituted by interdependence, in relation to others, there is no such thing as solitary interaction. Seen from a reified perspective on knowledge, one may ‘have knowledge’, to know things independently from the use of that knowledge. *Thinking*, however, is constituted by the engagement with problems or an object of analysis.

We understand the independent-interdependent distinction as two ends of a spectrum, not as discrete categories. For instance, some competences in the independent *acting* domain involve some level of interdependence with issues

acted upon or with ERS management tools. This kind of interdependence is considerably less prevalent among more independent *acting* competences than it is among entirely interdependent *interacting* competences. Similarly, the independent *knowing* domain, can at times involve interdependence, for instance in processes of social construction of knowledge. In the independent *being* domain there is ‘sociability’, a personal characteristic that makes us prone to engage in relationships. It generates a predisposition for interdependence and lies closer to the middle of the interdependent-independent spectrum than other *being* competences. Following our final coding structure expressed in Fig. 3, we will now present the three independent RM competence domains (Being, Acting, Knowing) followed by the three interdependent domains (Becoming, Interacting, Thinking).

## Independent Competences

We now introduce the 16 competence themes included and how they are allocated to the three independent competence domains (*being, acting, knowing*) (see left part of Fig. 3). We use representative competence examples from the reviewed articles. The numbers in brackets throughout the figure express the number of competence codes identified per item.

### Being

*Being* domain competences constitute personal character. The domain is centred on personal competences, the rather stable personal characteristics (Vanaki & Memarian, 2009; Xue et al., 2020) that constitute an individual’s “character and personality traits” (Flentje et al., 2019, p. 6). The following competence themes all describe inner personal characteristics which together form a person’s self. The first competence theme, *ERS mindset*, comprises intellectual and emotional beliefs, mental attitudes, and inclinations that firmly place ethics, responsibility, and sustainability into a responsible manager’s character, the unique “gestalt” (Wals, 2010, p. 380) of their mindset that integrates ERS throughout (Pless et al., 2011). A first sub-competence is *positive affect* (Schneider et al., 2010, p. 23), an inclination to experience “positive feelings of attraction and interest” (Barth et al., 2014, p. 78) such as enthusiasm “for the profession” (Flentje et al., 2019, p. 19) or “passion for environmental protection” (MacDonald et al., 2020, p. 15). *ERS attitudes* are personal affects conducive to ERS competence. Examples include “critique as a necessary moral attitude” (Langenberg, 2004, p. 44), and a wide variety of “sustainability attitudes” (Stubbs, 2013, p. 28). *ERS aspirations* are clearly directed desires for ERS, “beliefs about desirable goals guiding individuals” (Biberhofer et al., 2018, p. 7).

They include, for instance, broadly the “willingness to do good” (Kulju et al., 2016, p. 401) or very concretely the “aim of developing... responsible leadership” (Broberg & Krull, 2010, p. 57).

We identified three character traits that are particularly conducive to RM competence. The first trait *moral-ity* includes *moral consciousness* (e.g., Langenberg, 2004) and personal *ethical and social values*, to “be a person with ethical values” (Hernández-López et al., 2020, p. 7), or “eco-centric values” (Dzhengiz & Niesten, 2020, p. 881). Secondly, personal *sociability* provides responsible managers with a high propensity to engage responsibly in the varieties of social relations necessary to excel in a RM practice. The sub-competences feeding into sociability are varied, including *empathy* (e.g., Sharma, 2017), *approachability* (e.g., Asgari et al., 2019), *respecting others* (e.g., Eizaguirre et al., 2019), *fairness* (e.g., Cappiello et al., 2011), and also *altruism* (e.g., Morales-Sánchez & Cabello-Medina, 2013). Finally, RM *being* competences also include strong personal *agency*, which builds on outstanding *self-efficacy*. Examples are “professional courage depicted as an attribute that motivates and enables individuals to take the right course of action” (Sekerka et al., 2009, p. 566) and on “self-confidence... the knowledge that one has the ability to deal with all kinds of ethical problems” (Kavathatzopoulos, 2003, p. 45). Agency also requires strong *action orientation* (Benito Olalla & Merino, 2019), an innate “desire to act” (Sekerka & Yacobian, 2016, p. 106), and people who are “willing to take initiative” (Ploum et al., 2018, p. 128).

### Acting

*Acting* domain competences constitute individual behaviour and practice. The domain is centred on individual action competences (e.g., Lans et al., 2014; López-Alcarria et al., 2021) and on “doing” (Muff et al., 2020, p. 2261), to “work independently” (Yoon et al., 2020, p. 8). The sub-competence theme *managing activity*, runs through the entire activity life-cycle. It starts from *resourcing activity*, for instance, “control of financial resources” (Fodor et al., 2021, p. 7), “using and protecting natural resources” (Lengieza et al., 2019, p. 3), and the competence to “use resources justly” (Watt-Watson et al., 2013, p. 25). Resourcing is followed by *organising activity* (e.g., “governance, structure and processes” (de la Cruz López et al., 2021, p. 18)) and its *implementation* (e.g., the “ability to implement sustainability practices” (Andrades & Dimanche, 2019, p. 12)). Activity life-cycle competences close with activity *completion*, for instance in the form of “achieving particular goals in relation to sustainability” (Ploum et al., 2018, p. 129).

Competences for *mainstream managing* translate general activity skills into administrative competences necessary for the competent enactment of management practices,

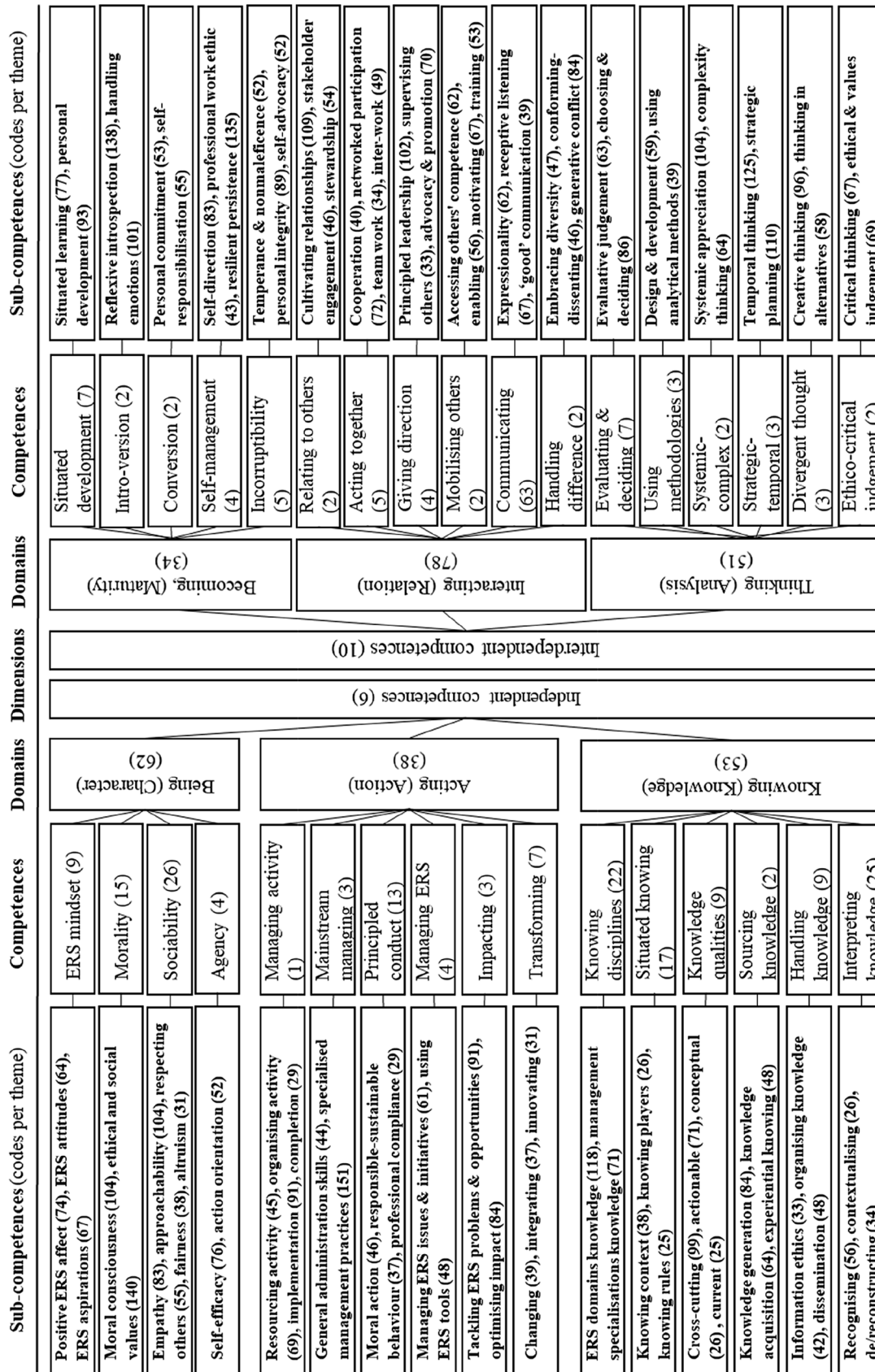


Fig. 3 Interdisciplinary RM competences

this is a “broad range of generalist skills with some deep and specific specialisms” (O’Rafferty et al., 2014). First, *general administration skills* include a variety of “general management skills” (Parker et al., 2019, p. 1), “administration abilities” (Xue et al., 2020, p. 4), and “core business competencies” (D’Souza et al., 2019, p. 310). Secondly, *specialised management practice* competences are as varied as the competences to engage in different kinds of “professional practice” (de la Cruz López et al., 2021, p. 18).

Mainstream management competences are complemented by ERS action-centred competences. Competences to engage in *principled conduct* facilitate “principled action” (Podger et al., 2010, p. 341) which means “acting consistently with principles, values, and beliefs” (Kim & Kim, 2013, p. 156). *Managing ERS* includes competences for *managing ERS issues & initiatives* (e.g., “respond to ethical dilemmas dealing with race and racism” (Starke et al., 2018, p. 1)), and *using ERS tools*, for instance, those proposed by Stubbs (2013, p. 34), “eco-efficiency, five capitals, lifecycle assessment, ecological footprint or sustainability balanced scorecard.”

Another set of two *acting* domain competences is centered on the effects of action. *Impacting* competences are the “ability to create a significant social impact” (Miller et al., 2012, p. 353). They require both *tackling ERS problems & opportunities* (e.g., to “respond to social, scientific and ethical issues... in work” (Guillén et al., 2007, p. 415)) and *optimising impact* (e.g., to “decrease... negative externalities on the environment and primary audiences” (Alberton et al., 2020, p. 1)). Secondly, *transforming* competences are the ones geared to “break with established action patterns and which lead to new... ways of taking action” (Barth et al., 2007, p. 424), transforming “organizational practice” (Helth, 2019, p. 1). Transforming requires competences for *changing* towards ERS (e.g., to “change and improve procedures” (Andrades & Dimanche, 2019, p. 13)), and *integrating* ERS, for instance, to “manage the integration of corporate responsibility practice into the heart of business strategy and practice” (Wilson & Pickard, 2007, p. 110). Often, transforming requires novel practices that emerge through *innovating*, for example, “green process innovation” (Pham et al., 2021, p. 6).

## Knowing

*Knowing* competences constitute intellectual knowledge. The domain is centred on “knowledge literacy” (Parker, 2010, p. 334) including both declarative “individually held knowledge” (Von Weltzien Hoivik, 2002, p. 3) and processes like “collecting, assessing and applying knowledge” (Bootsma & Vermeulen, 2011, p. 174). *Knowing disciplines* mobilises “disciplinary knowledge” (Du et al., 2013, p. 87) to draw from “natural scientific and technical disciplines

as well as socio-economic disciplines” (Bootsma & Vermeulen, 2011, p. 174). *ERS domain knowledge* includes, for instance, “ethical literacy” (Pless et al., 2011, p. 249) and knowledge of the “domains of CSR and stakeholder management” (Miska et al., 2013, p. 550). Such ERS knowledge needs to be complemented by *management specialisations knowledge*, such as “basic vocational knowledge” (Tezcan & Kuleyin, 2019, p. 288). *Situated knowing*, is an “understanding of [the] site” in which the RM practice is situated (Jamieson & Jamieson, 2019, p. 593), a type of “local and/or indigenous knowledge” (Parker, 2010, p. 329). It involves *knowing context*, for instance, “understanding of the social context of business activities” (Stubbs, 2013, p. 32). Similarly situated knowing requires *knowing rules* of the local RM game (e.g., “understandings of the regulatory and normative frameworks” (Collins et al., 2018, p. 1)), and *knowing players*, for instance, to “understand the differing perspectives of the various stakeholders” (Jamieson & Jamieson, 2019, p. 593).

RM *knowledge qualities* describe the type of knowledge which RM benefits from. *Cross-cutting* knowledge involves combining “numerous... streams of knowledge into one another and integrating them in new ways” (Sipos et al., 2008, p. 78). Such knowledge goes “beyond discipline and culture” (Lansu et al., 2013, p. 131). RM knowledge needs to be *actionable* for managers to know “how to act responsibly” (Elrayah, 2021, p. 3). It also needs to be *conceptual* for managers to “identify connections among theories and concepts as they relate to different issues” (Spurgin, 2004, p. 281). RM knowledge needs to be *current* for managers to stay “current on evolving approaches and technologies in the sustainability field” (MacDonald et al., 2020, p. 15).

The *knowing* domain also includes a set of competences for knowledge life-cycle practices. *Sourcing knowledge* that is necessary for the competent enactment of RM includes *knowledge generation* (e.g., “undertake research and create new knowledge” (Thomas & Day, 2014, p. 219)), *knowledge acquisition* (e.g., “acquiring environmental protection information” (Pham et al., 2021, p. 6)), or *experiential knowing*, “knowledge... gained from doing an activity” (Bodea et al., 2010, p. 179). *Handling knowledge* is the “competency for using, shaping, handling and sharing different sets of information” (Burandt & Barth, 2010, p. 660). It includes varieties of sub-competences for knowledge to be “classified, processed, assessed, reflected upon and shared” (Burandt & Barth, 2010, p. 660). *Information ethics competence* is centred on moral characteristics of knowing, such as “informed consent, ... confidentiality” (Jones & Knowles, 2021, p. 475), and “truth” (Kim & Kim, 2013, p. 156). Handling knowledge also includes *organising knowledge* (e.g., “ability to work with qualitative and quantitative data... data management... modelling” (Rosenberg et al., 2018, p. 8)), and its *dissemination* (e.g., “carbon foot printing and labelling,...

governance disclosure... [and] financial carbon accounting and reporting” (Ascuí & Lovell, 2012, p. 57)). Knowledge life-cycle competences close with *interpreting knowledge*, particularly important “interpretational competences in a post-truth era” (Lambrechts et al., 2018, p. 561). It involves *recognising* knowledge (e.g., “recognise ethical issues” (Rodríguez Gomez et al., 2020, p. 476)), *contextualising* it, and *de/reconstructing* knowledge, “to reflect on the assumptions underlying knowledge” (Stubbs, 2013, p. 28).

## Interdependent Competences

We now illustrate the 17 interdependent competence themes distributed across the domains of *becoming*, *interacting*, and *thinking* (see right part of Fig. 3).

### Becoming

*Becoming* competences enable continuous maturing with and within the personal environment. The domain revolves around the development of “individual moral maturity” (Adobor, 2006, p. 65), a type of becoming in interrelation with the world in which managers construct “a new life-world... self and the world” (Pless et al., 2011, p. 237), and “transform oneself and society” (Benito Olalla & Merino, 2019, p. 243). It involves both the “ethical shaping of daily life...[and]...free ethical shaping of the self” (Langenberg, 2004, p. 46). A crucial competence for becoming is *situated development*. It requires managers’ general capacity for *personal development*, a life-long “values-led learning” (Dzhengiz & Niesten, 2020, p. 891), in which they become “protagonists of their own development” (Sastre-Merino et al., 2013, p. 219). *Situated learning* is in-situ “habituation of character... acquired and exercised in the context of social practices” (Tsoukas, 2018, p. 330).

Another set of *being* competences focuses on exploring oneself and committing that self to responsibility. *Introversión* competence is centered on turning inward to find “personal awareness” (Habron et al., 2012, p. 382) and to shape one’s internal emotional life world. *Reflexive introspection* is a frequent sub-competence. It features introspection, for instance for managers to “reflect on their own ideas, values and attitudes about sustainability” (Stubbs, 2013, p. 30). *Handling emotions* requires actors to “manage emotions and feelings” (López-Alcarria et al., 2021, p. 11), for instance, to deal with the “moral distress [that] arises when there is an inconsistency between one’s beliefs and one’s actions” (Dudzinski & Shannon, 2006, p. 611). *Conversion* competence means to convert oneself towards RM. Conversion requires the development of a *personal commitment*, for instance “commitment to moral principles” (Von Weltzien Hoivik, 2002, p. 3) and “commitment to foster sustainability” (Fabregá et al., 2020, p. 1). It also requires

*self-responsibilisation*, responsively “accepting responsibility” (Vanaki & Memarian, 2009, p. 285), and proactively “taking responsibility” (Sharma, 2017, p. 14).

The final two *becoming* themes center on the ability to navigate demands of the environment. *Self-management* helps to stay on track in spite of the many situational demands interfering with RM practice. Self-management requires both *self-direction* (e.g., “self-motivation... [and] capacity for self-organisation” (Barth et al., 2007, p. 242)) and a *professional work ethic* (e.g., “hard work, dependability and propensity towards achievement” (Bews & Rossouw, 2002, p. 384)). The most prominent subtheme, however, was *resilient persistence*, built on “resilience, flexibility, pragmatism, ...[and] adaptive capacity” (Osagie et al., 2019, p. 377) in order to steer through the personal setbacks and complexities that characterise the RM process. *Incorruptibility* competence matters where situational demands go against one’s own principles or interests. It protects “purity” (Schmocker et al., 2021, p. 9), an aspiration guided by the insight that “to be bad, you only need one bad thing” (Bastons, 2008, p. 398). *Temperance and nonmaleficence* competence is to abstain from tempting irresponsible practices and ensure “nonmaleficence (doing no harm)” (Jose, 2010, p. 456). Competence for *personal integrity* enables “congruence between what you stand for, what you say, and what you do” (Osagie et al., 2019, p. 378). It connects to *self-advocacy* enabling managers to “express who they are and... seek appropriate actions” (Tsoukas, 2018, p. 329).

### Interacting

*Interacting* competences enable behaviour in relation with others. The domain is centred on responsible relations for “multi-stakeholder interaction” (Wals, 2014, p. 13). Similar competence domains have previously been labelled as “interpersonal competency” (Biberhofer et al., 2018, p. 7) and “social skills” (Miller et al., 2012, p. 353).

*Relating to others* is centred on creating and fostering responsible relationships. It involves *cultivating relationships*, for instance, to “build trust, a shared vision and agreement on basic values” (Kleef & Roome, 2007, p. 46). Interacting with counterparts in these relationships requires *stakeholder engagement*. *Stewardship* competence enables responsible managers to cater to the needs of stakeholders, to “seek the course of action which is in the[ir] best interests” (Kendall, 2000, p. 204). *Acting together* includes *cooperation* (e.g., “cooperate with suppliers and customers in solving environmental problems” (Pham et al., 2021, p. 6)), *networked participation* (e.g., “participation in transformative actions” (López-Alcarria et al., 2021, p. 1)), and *teamwork* (e.g., “true and cooperative teamwork... in cultural change” (Pless & Maak, 2004, p. 136)). *Inter-work* competence, enables work “across traditional boundaries, while working in

interaction with actors/ stakeholders” (Lansu et al., 2013, p. 125). It includes, work that is “interdisciplinary and transdisciplinary” (Gil-Doménech et al., 2021, p. 11), “multicultural, and international” (Ferrerias-Garcia et al., 2021, p. 5).

A second set of *interacting* competences is aimed at facilitating others’ practicing of RM. *Mobilising others* involves *accessing others’ competence*, for instance, being “able to engage in binding partnerships with partners that are complementing... own competences” (Broberg & Krull, 2010, p. 74). To do so might require *enabling* others, for instance, to “enable individuals to effectively participate” (Benito Olalla & Merino, 2019, p. 243). It also requires *motivating* (e.g., “motivate higher management... to invest in sustainability” (Ploum et al., 2018, p. 129)), and *training* others (e.g., “going through professional codes during work orientation” (Poikkeus et al., 2014, p. 797)). Among the competences for *giving direction principled leadership*, such as “responsible leadership” (Pless et al., 2011, p. 246) and “eco-centric leadership” (Dzhengiz & Niesten, 2020, p. 891), was prominent. They also include competences for *supervising others* and *advocacy & promotion* competences, for instance, to “promote positive environmental initiatives” (Fabregá et al., 2020, p. 8).

A final set of competences is centred on exchanging and engaging with different points of view. *Communicating* is centred on the dialogic nature of communication. RM communicators require both *expressional* competences like the “ability to articulate sustainability issues” (O’Rafferty et al., 2014, p. 182) and *receptive listening*, a responsible manager “listens more consciously... to understand things from other’s point of view” (Pless et al., 2011, p. 246). ‘Good’ communication therefore includes a varied set of communicative qualities for positive interpersonal effects. Examples include communication that is engaging (Meng et al., 2015, p. 697) and emancipative (Langenberg, 2004, p. 39). *Handling difference* is centred on addressing “expression[s] of difference” (Barth et al., 2014, p. 78) typical for RM communication. It also includes competences to enact RM practice that “reconciles differing values, and thereby develops a shared perspective on business behaviour acceptable to and honoured by all” (Moon & Woolliams, 2000, p. 112). It requires *embracing diversity*, the “importance that people with diverse backgrounds, values and motivations work together” (Lengieza et al., 2019, p. 3). *Conforming-dissenting* competence is centred on a generative balance between agreeing and disagreeing. For instance, RM competence requires complying with “ethical rules that are expected” (Elrayah, 2021, p. 3) and also “operating outside the established regime” (Drottberger et al., 2021, p. 9). Responsible managers need to be able to engage in *generative conflict*, for instance, to manage “conflict as a possible development, not as a fatal crash” (Langenberg, 2004, p. 49).

## Thinking

*Thinking* competences enable analysis in engagement with intellectual problems. The domain features competence themes related to various cognitive analysis processes. It centrally involves competences for the key cognitive processes of *evaluating & deciding*, including *evaluative judgement* (e.g., being “able to evaluate the implications of solutions to CSR challenges” (Osagie et al., 2016, p. 241), as well as *choosing & deciding* (e.g., “dealing with decision-making processes full of conflicts” (Barth et al., 2007, p. 424)). Frequently cognitive processes are supported by *using methodologies*. A first type was to use methodologies for *design & development*, “design methods, methodologies and processes” (O’Rafferty et al., 2014, p. 184), emphasising the creation of ERS outcomes, and “design for X’s (e.g., recycling, disassembly, re-use, remanufacture)” (O’Rafferty et al., 2014, p. 184). *Using analytical methods* instead centred on existing outcomes, for instance, to “apply methods and software tools of sustainability accounting” (Hesselbarth & Schaltegger, 2014, p. 33).

Another set of competences emphasises the need to think holistically, in systems and across time scales. *Systemic-complex* thought includes *systemic appreciation* suggesting that a “holistic view should be taken that takes into account all system dynamics and their various interdependencies and interactions” (Burandt & Barth, 2010, p. 660). Similarly, *complexity thinking* requires managers to “analyse complex systems across different domains and scales” (Biberhofer et al., 2018, p. 7), for “comprehending complex economic and social relationships” (Fisk & Ahearn, 2006, p. 948), and appreciating “moral complexity” (Petrick & Quinn, 2001, p. 336). *Strategic-temporal* thinking provides a holistic perspective related to time. *Temporal thinking* enables “foresighted, anticipatory and future thinking” (Sandri et al., 2018, p. 5). *Strategic planning* enables managers to envision desired outcomes over time (e.g., to plan “interventions, transitions, and transformative strategies” to redirect current systems towards a sustainable future state” (Remington-Doucette et al., 2013, p. 410).

A third set of competences is centred on thought that opens up what seems to be taken for granted, problematises and relativises. *Divergent thought* taps into *creative thinking* competences’ “inventiveness, imagination, [and] creativity” (de la Cruz López et al., 2021, p. 18), and into *thinking in alternatives*, for instance, when “rethinking key management concepts and principles” (Pless & Maak, 2004, p. 138). Finally, *ethico-critical judgement* combines *critical thinking* (e.g., “think critically... about sustainability problems” (Habron et al., 2012, p. 380)) with *ethical & values judgement* (e.g., “moral judgment competence” (Desplaces et al., 2007, p. 75)).

**Table 4** The competence framework

	Independent	Interdependent
Personal	<i>Being (Character):</i> Competences constituting personal character 1. ERS mindset 2. Morality 3. Sociability 4. Agency	<i>Becoming (Maturity):</i> Competences enabling continuous maturing with(in) the personal environment 17. Situated development 18. Intro-version 19. Conversion 20. Self-management 21. Incorruptibility
Behavioural	<i>Acting (Practice):</i> Competences constituting individual behaviour and practice 5. Managing activity 6. Mainstream managing 7. Principled conduct 8. Managing ERS 9. Impacting 10. Transforming	<i>Interacting (Relation):</i> Competences enabling behaviour in relation with others 22. Relating to others 23. Acting together 24. Giving direction 25. Mobilizing others 26. Communicating 27. Handling difference
Intellectual	<i>Knowing (Knowledge):</i> Competences constituting intellectual knowledge 11. Knowing disciplines 12. Situated knowing 13. Knowledge qualities 14. Sourcing knowledge 15. Handling knowledge 16. Interpreting knowledge	<i>Thinking (Analysis):</i> Competences enabling analysis in engagement with intellectual problems 28. Evaluating & deciding 29. Using methodologies 30. Systemic-complex 31. Strategic-temporal 32. Divergent thought 33. Ethico-critical judgement

## Competence Framework

Through our thematic analyses, the higher-level competence framework presented in Table 4 emerged. We have already discussed the framework's independent and interdependent dimensions. We now theorise the framework's layers of personal, behavioural, and intellectual competences. The dimensions and layers organise our six competence domains of *being*, *becoming*, *acting*, *interacting*, *knowing*, and *thinking* into one coherent framework.

Our framework can be seen as a theoretical extension of the well-known knowledge, skills, attitudes (KSA) framework which had been the point of departure for our thematic analysis. The resulting new framework still relates to but goes beyond KSA by proposing the wider layers of intellectual competences (extension of knowledge), behavioural competences (extension of skills), and personal competences (extension of attitudes). Most importantly, each of these layers of personal, behavioural, and intellectual competences is divided into independent and interdependent domains, thereby spanning a 3 × 2 matrix framework. We now introduce the framework's layers while illustrating how the independent-interdependent distinction manifests in the respective context of our layers of personal (*being-becoming*), behavioural (*acting-interacting*), and intellectual (*knowing-thinking*) competences.

In the first part of the findings section, we have described the framework's six domains drawing from the reviewed literature. Our framework description in this second part of

the findings section is instead presented in more theoretical terms. This serves the purpose of opening up its conceptual and practical affordances to the wider, more generic competence discussion.

### Personal Competences Layer

The personal competence layer includes competences that constitute and transform an individual's distinctive personality. The terms of independent and interdependent (Franz, 1998) competences, which we have used above, originally stem from their use in the discussion around conceptions of personality in the identity area (Cross & Markus, 1994; Markus & Kitayama, 1991). This literature conceptualises independence-interdependence as the distinction between interdependent self and independent self. The underlying question is how a person construes their self: on their internal characteristics, the independent self, and on their interaction with the outside world, the interdependent self (Cross & Markus, 1994; Markus & Kitayama, 1991). The independent self focuses on one's own, internally contained values and preferences, while the interdependent self is directed towards an individual's context and competences relevant to public behaviour (Cross & Markus, 1994).

We build on this distinction dividing the personal layer into the independent *being* (character) domain and to the interdependent *becoming* (maturity) domain. The *being* domain describes self-contained personal competences primarily influenced by internal processes rather independent



of the personal environment. The *becoming* domain describes competences in which the self interacts with its environment and about how we mature and grow to our full human potential.

### Behavioural Competences Layer

In the behaviour layer, the theoretical distinction of independent from interdependent competence domains has been introduced by Delors et al., (1996a, p. 37), who pointed out the importance of interaction competence with diverse stakeholders. They complement action competence, to do alone and independently, with interaction competence, to do with others in interdependence. They propose both an independent practical skill-related domain of “learning to do” and an interdependent social competences domain of “learning to live together”. Accordingly, Delors et al., (1996a, p. 37) emphasise the importance of not only doing independently from others, but being able to interdependently relate oneself to others and to interact.

Their distinction corresponds to what we call independent *acting* (practice) and interdependent *interacting* (relation). These domains are also closely related to the OECD (2005) perspective on competences for acting autonomously (independently) and for interacting with others (interdependently). It also resembles the distinction between procedural and social competences (Erpenbeck & Heyse, 2007; Tawil & Cougoureux, 2013).

### Intellectual Competences Layer

This layer is centred on intellectual competences (Bloom, 1956; Huitt, 2004), including those arising from knowledge, and from cognitive processes. It covers knowledge in the widest sense, including knowledge storage ‘in the head’, accessing the ‘commodity’ of knowledge stored elsewhere, and knowing embedded in practicing (Gherardi, 2016). Analytical competences are understood as intellectual in engagement with a problem or object (Krathwohl, 2002; Winterton et al., 2006).

We have put forward the intellectual domains of independent *knowing* (knowledge), and interdependent *thinking* (analysis) competences. Knowledge as an intellectual ‘stock’ or ‘repository’ of what we know is conceptualised as independent, until it is made interdependent through active thought processes in engagement with a particular problem.

## Discussion

Our framework has important implications and contributions both for advancing the RM learning agenda and for the wider competence debate. We first discuss the research

and pedagogical implications of our two salient contributions: (1) of the interdependent competence dimension, and (2) of our interdisciplinary competence framework. We then explore how the limitations of our work can provide a toe-hold for future research before we conclude. We would be happy to support future initiatives by making the NVivo file underlying the competence framework available on request for both research and educational use.

### From Interdependent Competence to Response-able Management

The most common competence domains framework is ‘KSA’, knowledge (*knowing*), skills (*acting*), and attitudes (*being*) (e.g., Boyles, 2012; Hunter, 2004). There are very similar frameworks like heads (*knowing/ thinking*), hands (*acting*), heart (*being*) (Ivanaj et al., 2014; Sipos et al., 2008), the competence learning domains propagated by UNESCO, learning to know (*knowing*), do (*acting*), be (*being*), and live together (*interacting*) (Delors et al., 1996b), as well as the cognitive, conative, and affective meta competences (Kurczewska et al., 2018; Snow et al., 1996). These most salient frameworks are strongly skewed towards independent competences. However, our interdependent dimension highlights how RM competence is not something a person can gain or enact in isolation. RM competence requires interrelating *with* situations (*becoming*), others (*interacting*), and problems (*thinking*).

This emphasis of how RM requires competence or ability to respond closely relates to the notion of response-ability. For instance, Nonet et al., (2016, p. 728), suggest that RM means being “response-able, to be able to respond in an aware and conscious manner, encompassing interaction, knowledge gathering, and decision-making”. “A responsible manager is really someone who is able... to respond to a specific situation... responding to the world” (Carroll et al., 2020, p. 61). RM practice should be understood as response-ability, “an engaged practice for relating to the Other” (Gherardi & Laasch, 2021, p. 1).

This focus on a response to/in the world lends itself to future research that studies RM competence as responseability. In particular, Barad’s (2007) iconic work on responseability is centred on how we as human beings respond as part of the world, in entanglement with everything else that is out there. Competence for such responseable ways of engaging with the world (Haraway, 2016), needs to be understood as an ability to intraact as part of the world, not as a separate entity (Kleinman, 2012). This notion pushes our conceptualisation of the interdependent competence domains further. It implies that *thinking*, *interacting*, and *becoming* competences all recognise managers as an intimately entangled part of the world: “response-ability is not solely or simply the taking up of responsibility ... [but] the distributive relations

that we inherit and that constitute our being and becoming” (Higgins, 2017, p. 93). This means that RM competence exists “*between* individuals, things and the environment” (Fukukawa, 2019, p. 251, emphasis added), interdependently not merely independently *in* individuals.

How could we study RM competence as intra-dependent response-ability? Such research could build on the response-ability discussion’s advances in educational designs (e.g., Bozalek, 2017; Higgins & Tolbert, 2018). It could harness the response-ability research apparatus to study how interdependent RM processes “in the wild” (Laasch et al., 2020a) ‘produce’ situated response-ability (or not) (e.g., Greenhough & Roe, 2010; Stengel, 2004), respectively RM competence.

### From Interdisciplinary Framework to Whole Person Pedagogy

Our framework of six competence domains has important implications for RM learning and education’s sub-discussions of teaching responsible management, which has centred on pedagogical approaches (Cullen, 2020). A core characteristic is the framework’s holistic interdisciplinarity, integrating ethics, responsibility, and sustainability across our *being, becoming, acting, interacting, knowing, and thinking* domains.

We know from previous research that whole person competence is essential (e.g., Anteby et al., 2015; Cheetham & Chivers, 1996; Podger et al., 2010), and how it can be developed, for instance, through recent advances in using flourishing education, character education, positive education, or wisdom education in ERS (Huynh & Grossmann, 2020; Jordan, 2021). However, business school-based management education seems to foster only a very narrow subset of competences. Business schools’ signature pedagogies of lecturing and case studies are centred on the *knowing* and *thinking* competence domains, and include some basic *interacting* where group work is involved (Jenkins, 2012; Schmidt-Wilk, 2010). Of course, pedagogies centred on the remaining domains of *acting* (e.g., project-based learning), *being* (e.g., reflexive pedagogy), and *becoming* (e.g., transformational learning) competence domains seem to be far less prevalent.

We had originally positioned our paper in the need to integrate ERS in the learning of RM competences. However, considering management education’s skewed attention, it appears that integration of ERS into existing management learning can only achieve part of the goal of enabling students to develop RM competence. The other part requires a rebalancing of business schools’ pedagogies to enable the learning of ERS competence across all competence domains.

We believe that our framework can be an important instrument for such efforts. Many of the articles from which

we have extracted the ERS competences included pedagogical advice for developing these competences. The wider ERS disciplines literature offers ample further pedagogical know-how. Future research integrating the pedagogical roots of competences across domains and disciplines would be an important contribution to pedagogy development. Another key question for the development of interdisciplinary holistic RM pedagogies can be the exploration of how to best address the development of different competence domains. For instance, are they best developed by focusing on one at a time with specialised pedagogies for each, or perhaps instead by interweaving many of them using the same pedagogy? What sequencing of learning RM competence in these domains proves to be the most effective, and in what context?

### From Limitations to a Future Research Agenda

We would like to explicitly invite colleagues to participate in answering questions in which our article is limited. There appear three particularly salient areas of opportunity for such future research.

#### Extending Inclusiveness and Comprehensiveness

A main limitation of the competence themes covered in our framework is that they can only remain comprehensive if they also include future developments across the ERS disciplines. Given these disciplines’ ongoing development, periodic future research will be required to keep the framework’s themes comprehensive. A second comprehensiveness-related limitation is that we only include competences as a research term, but not cognate human capabilities, qualities, and capacities (Sandberg et al., 2017). For instance, future research could adjust the framework to correspond to Sen’s (1993) capabilities approach including the link between capability, wellbeing, and the human environment. A third comprehensiveness limitation is the exclusive coverage of English-language articles. Our framework might lack ERS competences prevalent in other-language articles. This might be understood as an act of colonialisation, as competences presented in English language dominate other-language contributions. Future research could use the structure provided by our framework as a vessel to code into them ERS management competences from other-language discussions. Future research could alternatively use our framework as a ‘counter-concept’ against which to position a radically different framework based on indigenous worldviews (Henry & Pene, 2001).

## Studying Competence Patterns of Effectiveness

Ironically, seeking comprehensiveness limits the framework in other ways. It shows a full ‘buffet’ of interdisciplinary ERS competences for any kind of RM practice. However, we did not answer questions about which particular competences are more important for particular types of RM practice. From disciplinary ERS management research we know that sub-competences in established competence sets are of different effectiveness for different practices. For instance, “a one-fit-for-all approach in... sustainability competences is not feasible” (Lambrechts et al., 2018, p. 561), and distinct ERS competences vary considerably in their relative importance for practices of different CSR roles (Osagie et al., 2019). Future research should explore which specific competences or patterns of competence combinations are to what degree essential, effective, or possibly might even be counter-productive for the enactment of particular RM practices. Such research might also study interdisciplinary inter-competence dynamics being synergetic, detrimental, or even mutually exclusive.

For instance, future research could translate the framework’s interdisciplinary competence into survey items in order to quantify inter-competence relationships. This way we could probe for patterns of effectiveness in enabling the many unique types and combinations of RM practices (Gherardi & Laasch, 2021) across roles, industries, and cultures. Conversely, future research could identify the interdisciplinary RM core competences that are most effective across RM practices. Such quantitative research could corroborate the validity of our competence framework, including dimensions, domains, layers, and themes.

## From Competence to ‘Competencing’ Framework

Our framework is also limited by its focus on ‘domains’ of competences. Thinking in ‘competence boxes’ makes it difficult to see interconnections in-between. Based on processual and relational competence approaches (Gherardi & Strati, 2018; Laasch et al., 2020b; Sandberg et al., 2017), future research could produce a version of the framework that shifts the emphasis from domains as entities of competences to processes of ‘competencing’ (Feldman & Worline, 2011; Hellermann, 2018). Such research could thematically re-analyse the competence codes that apply to more than one competence domain, as these competence descriptions can be understood as the processes through which competence domains are interconnected. The result could be a *competencing* model of ‘the arrows’ that make competence, instead of the boxes that are competences. Such research could push further our framework’s initial move away from the old-established independent KSA and towards fully interdependent competence.

## Conclusion

The purpose of this article was to integrate competences from the ethics, responsibility, and sustainability disciplines into one interdisciplinary RM competence framework. Our framework includes six domains of such competences, namely *being, becoming, acting, interacting, knowing, and thinking*. They are organised in independent and interdependent dimensions and in layers of personal, behavioural, and intellectual competences. We believe our comprehensive interdisciplinary RM competence framework offers an important contribution to preparing managers for the inherently interdisciplinary challenges of the practicing RM.

Beyond this primary contribution, we believe our study generates the following further implications and foundations for future research. First, our novel appreciation of the ‘interdependent’ competence dimension may serve as a conceptual undergirding for managerial response-ability. Second, our framework contributes to advancing RM theory and practice. It does so by providing a foundation for the development of holistic interdisciplinary pedagogies. Finally, we have proposed salient areas for future research grounded in the limitations of our framework.

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## Declarations

**Employment** We declare that all authors are employed by academic institutions that may benefit from the publication of this manuscript, e.g., through improved institutional rankings and the relevance of publications to accreditations. We further declare that all authors ensure future employment and thus future salaries and potentially future promotions and bonus payments through the publication of this work.

**Financial Interests** We declare to have no financial interests other than the ones declared in “Employment”.

**Non-Financial Interests** We apply the framework and pedagogies developed in this manuscript in our own teaching and the lead author has used the framework to structure parts of a textbook he published. Publishing this manuscript will enhance the credibility of the textbook and our teaching approaches. One of the authors is JBE editorial board member.

**Ethical Approval** This research is conceptual work that did not involve human participants or biological material. The applications of the theoretically developed concepts were in line with the involved institutions' common teaching procedures.

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