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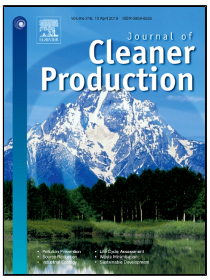

Who is in charge? A review and a research agenda on the 'human side' of the circular economy

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Who is in charge? A review and a research agenda on the 'human side' of the circular economy

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Who is in charge here? Unveiling the 'human side' of the circular economy

Abstract

The adoption of the circular economy (CE) at the firm level has rarely intersected with human resource management (HRM) – here called 'the human side of organizations' – and these two fields remain largely separate areas of knowledge. While the literature on the CE is expanding, discussion of its implementation in organizations is, so far, rare, along with exploration of the necessary alignment of the CE with green human resource management (GHRM). In this article, we extend the state-of-the-art literature on CE business models through the inclusion of the 'human side' of such issues. This goal is met by offering an original integrative GHRM framework for organizations developing CE. The theoretical lenses of stakeholders' theory and the resource based view (RBV) form the foundation of this framework, which represents a 'middle range theory'. We underline the practices and dimensions of the links between GHRM and the 'ReSOLVE' CE model. Through an exploration of this integrative framework, we propose a future research agenda along with original research propositions. Furthermore, the middle-range integrated theoretical framework we propose can serve both academics and practitioners in developing understanding of the human resource management (HRM) and change management aspects of the CE.

Keywords: circular economy; green human resource management; human resources; change management; sustainable supply chain.

1. Introduction

The state-of-the-art knowledge concerning the circular economy (CE) has recently seen significant growth in many areas (Stahel, 2016). This topic is currently of interest throughout the world, both in terms of sustainability in general, and more specifically in environmental and economic concerns (Murray et al., 2017). CE-related initiatives and policies have been adopted in national contexts such as China (Geng et al., 2013; Schroeder et al., 2018), in supply chains in Europe (Koh et al., 2017) and at the organizational level through the development of new business models to further the progression of the circular economy (Tse et al., 2015; Esposito et al., 2016). These policies are popular since they can help to decouple economic growth from environmental degradation, which is a prerequisite for sustainability (Geng et al., 2016).

Interestingly, and unfortunately, the 'human side' of the circular economy is underrepresented in the research literature. The 'human side' of organizations has been of interest to scholars for decades (McGregor, 1966), and is also referred as the 'soft side' of organizations (Wilkinson, 1992). Although there is no consensus on a crystal-clear definition of the 'human side' of organizations (Liu et al., 2017), in this work it is defined as the employment of human resource management (HRM) (Chen, 1997) along with management leadership (McGregor, 1996) to influence human interactions in the workplace (Teal and Blanchard, 2006), and which can contribute to successful organizational change management (Iacovini, 1993). The 'human side' or 'soft side' are terms which contrast with the 'hard', 'technological' and 'engineering' aspects of managing organizations (Boks, 2006; Song et al., 2018).

The focus of CE research so far has been on operations management (Koh et al., 2017), technology (Masi et al., 2018; Batista et al., 2018), historical factors (Smart et al., 2017), methodology (Tse et al., 2016), resource management (Steinmann et al., 2019; Fischer and Pascucci, 2017), innovation (Pieroni et al., 2019), CE indicators (Howard et al., 2018), limitations of the concept (Korhonen et al., 2018) and economic aspects of the CE (Subramanian et al., 2018). Issues concerning HRM, and the human side of the CE in general, have largely gone unnoticed in the literature (Esposito et al. 2015), and explorations of the role of HRM dimensions in the CE have been only recently begun. For example, Hopkinson et al. (2018), after analyzing more than 30 years of history in an exemplary case of CE business model implementation, concluded that human aspects – such as managerial competencies and capabilities – can be considered key elements of any CE initiative.

This study contributes to the existing conceptual foundations on CE business models (Planing, 2018; Korhonen, et al., 2018; Stahel, 2016; Geng et al., 2016; The Ellen MacArthur Foundation, 2015). It also expands the foundations of the circular economy by integrating GHRM

theory and practice (Dubois and Dubois, 2012; Res et al., 2018; Jackson et al., 2011, 2014; Renwick et al., 2013; Jackson et al., 2011; Wehrmeyer, 1996; Dumont et al., 2017; Zoogah, 2018). The purpose here is to develop an integrative theoretical framework (Wright and McMahan, 1992; Schuler et al., 1993) incorporating the vital role of GHRM in further strengthening CE practices and policy. Such a framework may also serve as a 'middle range theory' to help advance both fields, in order to avoid perpetuating a bifurcated trajectory.

The relevance of addressing the 'human side' of organizations is undeniable (McGregor, 1966). Quality management (Simmons et al., 1995), operations management (Boudreau et al., 2003), innovation (De Leed and Loise, 2005), lean manufacturing (Tortorella and Fogliatto, 2014) and green supply chains (Jabbour and Jabbour, 2016) are all organizational practices in which the importance of the human side of business has been understood and incorporated, and the list is longer than just these aspects.

While both the GHRM and CE business models have developed substantially over the past decade (Renwick, 2013; Winans et al., 2017), research at the nexus of the two disciplines has remained scarce and bifurcated. Awareness and understanding of CE principles is still relatively limited in society at large (Geng et al., 2016), while capacity building and development of competencies regarding CE are necessary (Hopkinson et al., 2018). Disregarding the human side of the CE has contributed to the fact that adoption of circular economy practices remains a risky endeavor for organizations.

While the technical side of the circular economy has been addressed (see for example, Dubey et al. 2017; Jabbour et al. 2018; Nobre and Tavares 2017), its human dimension requires further investigation. In this context, research on how the circular economy is spreading across all economic sectors, from manufacturing (Genovese et al. 2017; Esposito et al. 2016) to services (Bocken et al. 2017) and agriculture (Noya et al. 2017), is limited if it does not fully embrace the role of GHRM. As sustainability requires new forms of organizational arrangements (Brown 1991), the 'human side' of this complex process should be understood better. The power of human resources to facilitate sustainability initiatives goes beyond the boundaries of the firm, with the human side of sustainable supply chain management also attracting significant attention, as suggested by the work of Nejati et al. (2017). Arguably, environmental sustainability may be at the epicenter of emergent human resources research (Jackson et al. 2014).

Nevertheless, GHRM and the CE have certain similarities, and they can also generate certain synergies. By understanding the potential relationships between these areas, as well as what each can contribute, these synergies may be enhanced. Both sustainable human resources

(Huselid 1995) and the circular economy can affect firms' performance (Despeisse et al. 2017) and competitive advantage (Tse et al. 2015). Companies operating in a circular economy can be better off than those operating in a linear economy, especially given the possibilities of relative increases in resources from used products and material flows (McKinsey 2017; Nasir et al. 2017). The circular economy can contribute towards organizational sustainability by re-shaping the role of businesses in society (Koh et al. 2017; Winans et al. 2017; Rothenberg et al. 2017).

The present work aims to address the following emergent questions: (a) how can HRM and the CE be articulated theoretically? (b) what is the role of stakeholders' theory and the resource based view (RBV) in triggering this articulation?; (c) what are the main research propositions which can be derived from the relationship between HRM and the CE? Consequently, the three original contributions of this study are:

- Suggesting a new conceptualization of the 'human side' of CE business models by integrating GHRM and the CE.
- Showcasing an integrative, middle-range theoretical framework for this new field of research and practice, and identifying the latent inter-relationships triggered by a stakeholder-resource based perspective (Sodhi 2015).
- Presenting new research propositions which emerge from the integrative research framework.

As previously mentioned, in dealing with the complexity of exploring the nexus of GHRM and CE-based business models, we draw on two relevant organizational theories to understand how to build more sustainable organizations. The two pertinent theoretical lenses are stakeholder theory and the resource-based view (Sodhi 2015).

Stakeholder theory (Freeman et al. 2004) is important in the understanding of organizational change with the aim of developing sustainability goals (see Sarkis et al. 2010). This theory denotes HRM as key in both influencing and being influenced by sustainability management in organizations (Res et al., 2018; Sodhi 2015). Stakeholder theory argues that: (a) employees should be motivated towards sustainability engagement (Govindarajulu and Daily 2004; Graves et al. 2013); (b) a GHRM strategy should be deployed to enact this principle (Jackson et al. 2014); and (c) HRM systems should be aligned towards the sustainability objectives of organizations (Jabbour and Santos, 2008). Relevant empirical evidence has confirmed the positive role of the 'human side' of organizations in sustainability initiatives (Brio et al., 2008; Jabbour et al. 2015; Teixeira et al. 2012; Sarkis et al. 2010), an understanding which we look to extend by arguing that there is a crucial part to be played by HRM in unlocking firms' CE capabilities.

The resource-based view (RBV) of the firm (Wernerfelt 1984; Barney 2001) theoretically supports the positive effects of HRM (Wright et al., 1994), while its extension – the natural resource-based view (NRBV) – supports the positive effects of sustainability-related initiatives (Hart 1995; Hart and Dowell, 2011) on firm performance. By taking into account the natural resource based view (NRBV) of the firm, sustainability initiatives – such as circular economy practices – are believed to create unique and long-lasting competitive advantages for organizations (Chan 2005).

We aim to address the literature gap identified by Sodhi (2015) by uniquely blending stakeholder theory and the resource-based view theory to make the case for ending the hitherto bifurcated development of GHRM and organizational initiatives regarding the CE.

Moreover, this study relies on a number of recent research findings on the positive support which HRM provides in achieving organizational-level green sustainability goals (see for example Gholami et al. 2016; Guerci and Pedrini 2014; Renwick et al. 2013; Zibarras and Coan, 2015). These findings suggest that HRM, through training (Li et al. 2011), articulation of green teams (Beard and Rees 2000; Sroufe, 2017) and workforce empowerment (Daily et al. 2012) can advance organizational sustainability. Links to and support for eco-design (Govindarajulu and Daily, 2004), environmental management systems (Jabbour and Santos, 2008) and low-carbon management initiatives (Férnandez et al., 2017) are all organizational sustainability dimensions that can be advanced with HR.

The remainder of this paper begins by providing the conceptual background to GHRM, along with the fundamental aspects of organizational-level CE initiatives. We then propose our conceptualization of the 'human side' of the CE, based on an integrative framework. This framework sets the foundation for deriving testable theoretical prepositions for future research on GHRM-CE integration, with implications for firms' sustainability performance. The final section includes our conclusions, implications arising from this work for theory and practice, and pertinent limitations of the study.

2. Theoretical background

2.1 Green human resource management (GHRM) and firms' sustainability performance

Previous studies have firmly established the role that HRM can play in assisting the achievement of organizational goals and strategies, as well as the effects which HRM practices

can have on organizational performance (see for example Huselid 1995; Jiang et al. 2012). Human resources have become a central dimension of management (Jackson et al. 2014), and stakeholder theory suggests that human resources constitute the most relevant primary area of interest for any organization: its employees (Murrey 2012). Human resources practices incorporate a number of organizational actors, with employees constituting a central component of organizational development (Ferrary 2009). The resource-based view (Barney 2001) supports human resources as a unique and distinguishable resource which organizations may utilize in building strategic competitive advantage (Kamoche 1996; Wright et al. 1994).

Substantial progress has been made in environmental sustainability and human resources research through the use of the stakeholder and resource-based views as theoretical underpinnings. Environmentally focused sustainable HRM perspectives – here termed GHRM – concern the process of aligning HRM strategy, practices and systems with key organizational sustainability goals, as well as with targets for employee empowerment and organizational culture (Renwick et al. 2013; Renwick et al. 2016). Therefore, GHRM is a crucial factor in establishing desirable organizational sustainability initiatives (Jackson et al. 2014).

Areas included in GHRM research are: developing corporate reactions to climate change (Hoffman 2005); encouraging the development of more environmentally friendly products (Govindarajulu and Daily, 2004); and the possibility of synergy between GHRM workplace practices and organizational environmental goals (Renwick et al. 2013). In this way, HR may be the key to supporting organizations to introduce and sustain environmental management systems (Daily and Huang 2001) and green innovation (El-Kassar & Singh, 2018), as well as supporting the adoption and use of the ISO 14001 standard (Jabbour and Santos, 2008). HR practices have been studied from the perspectives of supporting low carbon management (Jabbour and Jabbour 2014), green training (Jabbour, 2013) and the use of 'green teams' (Moxen and Stratchan 2017; Sroufe, 2017).

Green HR initiatives are capable of improving employees' work-life balance (Muster and Schrader 2011) and are vital to improving the adoption of advanced green manufacturing practices (Sarkis et al. 2010). Links between employee motivation for sustainability, eco-innovation, and pro-environmental behaviors have also been found (Ramus & Steger, 2000; Graves et al., 2013). Put differently, company-level green-initiative strategies can also affect human resources management (see Férnandez et al. 2018; Hoffman 2005).

Connections have also been made between HR and supply chain sustainability (Nejati et al. 2017; Jabbour and Jabbour, 2016), and although these studies may be limited by their methodological approaches (for example, restricted sample), they may also provide insights into

the role played by human resources in more sustainable supply chains. Addressing the human side of sustainability in supply chains is relevant here, as fundamental aspects of the CE literature also share key principles with sustainable supply chains (see for example, Kirchherr et al. 2017; Koh et al. 2017). The green practice of extending producer responsibility for their products is one example. The literature on environmentally sustainable human resources and sustainable supply chains can be unified by combining theoretical proposals and practical findings (Nejati et al. 2017; Jabbour and Jabbour, 2016). This characteristic of these two topics supports the development of an integrated view of GHRM and the CE; such a view may prove beneficial for making theoretical and practical progress in both areas.

GHRM practices include many dimensions, such as eco-focused recruitment and selection, environmental training, green performance assessment and rewards, developing an environmental organizational culture, green teams and employee empowerment regarding environmental initiatives (Jabbour and Jabbour 2008, 2016; Renwick et al. 2013; Renwick et al. 2016). Key green supply chain practices, such as green supplier selection, green supplier development, reverse environmental logistics and eco-design, each combine strong employee and HR practices (Bai et al. 2016; Muduli et al. 2013; Nejati et al. 2017; Zhu and Sarkis 2004; Zhu et al. 2005). These studies reveal critical human success factors that support recent environmental developments, such low-carbon eco-innovations (Jabbour et al. 2015), exemplifying the way in which green training and employee empowerment are key enablers of such initiatives (Daily et al. 2012). Recent empirical data further supports a positive and significant relationship between GHRM activities and the successful operation of green supply chains (Nejati et al. 2017). Indeed, other studies also argue that the use of more green training, eco-aware recruitment and selection, environmental performance evaluation and eco-focused employee rewards could overcome challenges in implementing green supply chain practices (Jabbour et al. 2017).

Researchers have also suggested that GHRM can positively influence firms' sustainability performance. In this research, sustainability performance is defined using the triple bottom line of firm performance (Elkington, 1997), which is a perspective on business performance capable of encapsulating economic, social and environmental aspects of firm performance. To measure sustainability performance, various proposals of sustainability performance indicators have been made, such as Searcy (2012). Overall, as supported by previous works on GHRM, it is possible to suggest that GHRM practices can enhance firms' sustainability performance in terms of achieving better economic, environmental and social performance (Subramanian et al., 2019). The positive effect of GHRM on firms' sustainability-

related indicators is due to the fact that GHRM can enhance the workforce's green behavior (Pham et al., 2019; Kim et al., 2019). Thus, it is natural to consider GHRM as a part of emerging sustainable operations concepts (Walker et al., 2014), including CE business models (Koh et al., 2017), which will ultimately affect firms' performance.

2.2 Circular Economy (CE) business models for organizations

The CE is a major driver towards building a more sustainable society (UNEP 2006), with implications for societal wellbeing (Geng et al. 2016) and the economy through the development of eco-innovations (de Jesus and Mendonca 2018; Genovese et al. 2017). In macroeconomic terms, by adopting the CE model, European-based economies could enhance their resource productivity by 3%, generate cost savings of €600 billion a year, and add €1.8 trillion in other economic benefits by 2030 (McKinsey 2017). In microeconomic terms, CE business models can signify potential win-win opportunities for organizations (Esposito et al. 2016; Esposito et al. 2017; Jabbour et al. 2017; Tse et al. 2015).

The CE concept has evolved (Winans et al. 2017) from the traditional linear economy (Korhonen et al. 2018; Stahel 2016), which has influenced the design of the majority of existing production systems (Lieder and Rashid 2016). The basic foundational philosophy of the CE is that natural resources are considered to be finite (Ghisellini et al. 2016).

Although there are many definitions of the CE (Kirchherr 2017), it is predominantly understood as using post-consumption products, resources, and packaging to create new value through the exchange of linear flows of energy and materials for closed-loop systems of production and consumption. At the organizational level, principles of circularity have motivated organizations to develop and adopt disruptive technologies and business models 'based on longevity, renewability, reuse, repair, upgrade, refurbishment, servitization, capacity sharing and dematerialization' (Esposito et al. 2017; Moktadir et al., 2018). Consequently, the CE necessitates improved valuation and usage of resources, which in turn requires new and innovative business models to be developed.

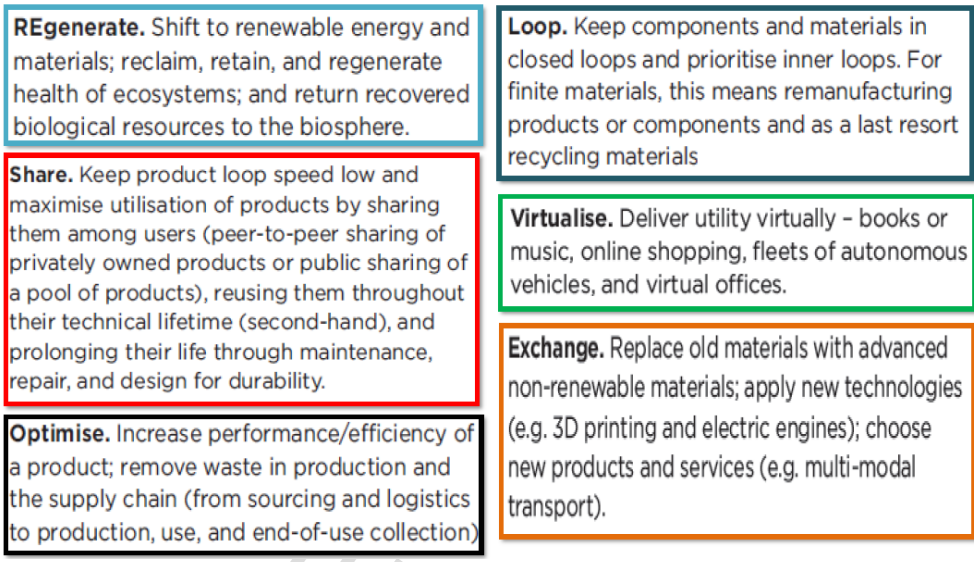
The CE model may also be understood through the synergy of two cycles: the biogeochemical cycle and the technical cycle (Murray et al. 2017). The biogeochemical cycle, also known as the biological cycle, concerns a decrease in the use of natural resources, alongside management of renewable resource flows. On the other hand, the technical cycle has the goal of applying the three 'R's – Reduce, Reuse, and Recycle – to recapture value from waste products by circulating them as novel material resources across supply chains.

Both the biogeochemical and the technical cycles may be implemented in the CE through the adoption of the following principles: (a) carefully controlling the equilibrium of finite stock and renewable resources; (b) making the use of components, products and materials more circular; and (c) reducing unwanted consequences of systems of production and consumption through the implementation of new CE business models (The Ellen MacArthur Foundation 2015).

At the organizational level, the CE can be deployed through the adoption of CE business models, as presented in the ReSOLVE model. The ReSOLVE framework has been developed to guide organizations through their transition towards the CE (The Ellen MacArthur Foundation 2015), providing six CE-based strategies for organizations to implement new business models (see Figure 1; The Ellen MacArthur Foundation 2015).

Figure 1 – CE business models based on the ReSOLVE framework.

Source: The Ellen MacArthur Foundation 2015



Much of the literature tends to focus on macroeconomic issues, such as innovation policy, when considering the difficulties involved in implementing the CE (McKinsey, 2017). However, the key role which GHRM can play within organizations in unlocking CE models has been largely overlooked. This more integrated approach between GHRM and the CE is now being further developed, and results of this exploratory integration can be found below.

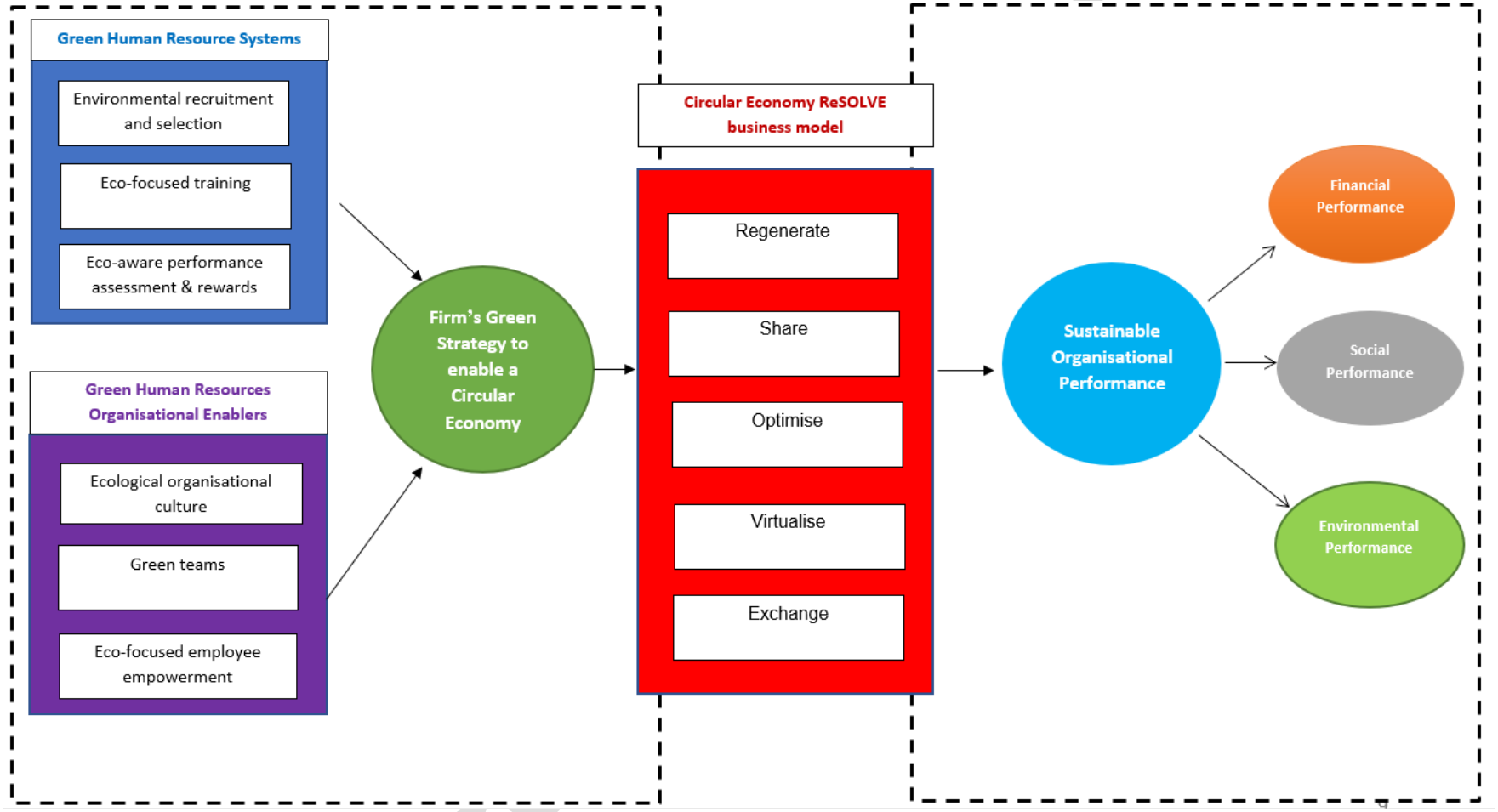
3. Proposal of a research framework integrating GHRM and CE business models

In addressing the issues surrounding the interface between GHRM and the CE, we now propose an integrative framework (see Figure 2). This framework enables us to capture the main relationships between these two emerging topics. In doing so, we expand the definition of GHRM (Jackson et al. 2011) by placing it squarely within the CE context. *We conceptualize GHRM for the CE at the organizational level thus: CE-enabling HRM aligns GHRM practices and dimensions (including recruitment and selection, training, performance assessment, rewards, culture, teamwork, and empowerment) with CE business models. These models represent corporate opportunities to enhance sustainability performance, thus contributing to a more sustainable society.*

The integrative framework encapsulates the human side of CE business models, and offers testable research propositions that draw upon several works which follow a similar development rationale (for instance, Schuler et al. 1993).

This framework is an important theoretical development and can be firmly placed within the middle-range theoretical boundary (Weick 1989). Middle-range theories and their associated frameworks may transition from an intermediary stage towards becoming more robust theories through testing and refinement in the light of empirical evidence (Carter and Rogers 2008). This work may contribute to a wider discussion on the interface of HR-operations management (Boudreau et al. 2003) and the links between HR and sustainability (Jackson et al. 2014). In particular, this work may contribute to the debate on the human side of supply chains (Schorsch et al. 2017).

Figure 2: An integrative framework representing the relationships between GHRM, the CE and sustainable organizational performance.



There is a substantial theoretical background which acts as scaffolding to our proposed integrative framework. Here, we draw upon:

- classic works (such as McGregor 1966) which suggest that the human side of organizations should be a focus of management research;
- the stakeholder-resource based view of the firm, which encapsulates both the differing perspectives of stakeholders (Barney 1991), and the view that organizations can increase their profits by investing in sustainability (Dowell and Hart 2011);
- links between GHRM and green supply chains, which support the consideration of GHRM as a vital element (Jabbour and Jabbour 2015) in the adoption of CE business models by organizations. If the topic of supply chains is relevant to understanding the current debate around the CE (De Angelis, et al., 2018), and if GHRM can affect green supply chains, it is natural to accept that GHRM can have implications for CE.

As such, our integrative framework suggests that the adoption of workplace-based GHRM practices may positively affect the development of a CE strategy within organizations.

Further supporting the middle-range theoretical development process, we have derived a number of research propositions based on our framework and the relevant literature. Formulating research propositions can stimulate further research and refinement of the proposed research framework through further theoretical development and empirical testing (Carter and Rogers 2008).

GHRM has positively influenced the adoption of a wide range of sustainability (Nejati et al. 2017) and corporate social responsibility practices in firms (Rothenberg et al. 2017). Organizational development and change initiatives are important aspects of encouraging organizations to use more sustainable policies and practices. GHRM policies in particular can facilitate transformation to create an environmentally friendly organizational culture (Ramus and Steger, 2000). Consequently, the adoption of GHRM practices may have a positive impact in implementing CE principles. Although the research on the direct effects of GHRM on the CE is in its infancy, Geng et al. (2013) and Geng & Doberstein (2008) have suggested that the provision of training and development schemes can be considered essential to the implementation of the CE at the national level. Thus, our first proposition is as follows:

Proposition 1: The adoption of GHRM can positively stimulate the deployment of CE business models at the firm level.

Human resources strategies and routines can also indirectly affect the connections between CE business models and firms' performance. Evidence has emerged that human resources practices, such as training, can improve the adoption of advanced environmental management and green supply chain practices (Sarkis et al. 2010), which may consequently improve firms' performance. As previously noted, a number of works (Macke and Genari, 2019; Wagner, 2013) suggest a potential positive impact of GHRM on firms' sustainability performance, through the alignment of HRM and proactive environmental management practices (Haddock-Millar et al., 2016).

Given that organizational CE practices can be viewed as related to both internal environmental management and external green supply chain practices, developing these complementary capabilities to enable the actual adoption of CE practices is central to the overall performance of an organization (Collins and Clark 2003; Rothenberg et al., 2017). Along these lines, it has also been found that various personnel-focused constructs are critical to the adoption of broader green supply chain practices, and ultimately to organizational performance (Yu et al. 2017). Hence, we arrive at a second research proposition, exemplifying the need for more nuanced flow relationships between such practices and organizational performance:

Proposition 2: The enactment of workplace-based GHRM practices can indirectly enhance company-level sustainable performance, as a mediator in the use of CE business models.

On the other hand, it is also believed that CE practices can maximize firms' efforts towards sustainability (Tse et al. 2015; Zhu et al., 2010). In this context, CE principles can mediate the already positive relationship between GHRM and firm performance. The CE can have a positive effect on firms' performance because it can promote innovation (Pieroni et al., 2019), better use of resources (Steinmann et al., 2019; Smart et al., 2019) and more efficient operations management (Batista et al., 2018; Govindan and Hasanagic, 2018). This is because proactive environmental attitudes among employees, triggered by GHRM initiatives (Paillé et al., 2014; Pham et al., 2019; Subramanian et al., 2019), can lead to more successful implementation of CE business models, which, in turn, will affect

the relationship between GHRM and firms' sustainability performance (Subramanian et al., 2018). Accordingly, our third proposition is as follows:

Proposition 3: CE business models positively mediate the relationship between organizational GHRM practices and firm-level sustainable performance.

After observing an exemplary case of CE business model implementation, Hopkinson et al. (2018) suggest that CE initiatives should involve human dimensions, such as managerial competencies and the use of capabilities as scaffolds. The human-focused dimensions of firms' operation – such as organizational culture, empowerment, and teamwork – can improve the success of sustainability initiatives, and it is possible to conclude that GHRM can help in the implementation of CE business models. These dimensions have generally been accepted as playing a special and long-term role in sustaining the adoption of green practices (Jabbour and Santos 2008; Graves et al., 2019). Such practices also play complementary and cross-influencing roles, and areas such as green climate (culture) and employee workplace behavior are strongly influenced by other GHRM practices (Dumont, et al. 2017). Broadly, studies have also found a positive link between green teams, green empowerment and firm performance (e.g. Daily et al. 2012). The synergistic development and improvement of green supply chain management principles has also been well developed, with the findings indicating that green employee empowerment (employees having strong environmental values) and green development and training have also had strong links with the adoption of green supply chain management (Nejati et al. 2017). Other mechanisms that may facilitate GHRM in positively affecting CE practices and firm performance are top management commitment, managerial leadership and employee motivation (Graves et al., 2019). Consequently, our next proposition is:

Proposition 4: Human-focused dimensions of firms, such as culture, teamwork, and empowerment, positively affect the adoption of CE business models at the company level.

Although there has been some contention (Christiansen 2017), the literature has been broadly supportive of the argument that 'doing good' helps companies 'do well' from a business perspective (Vardarajan and Kaul 2017). Green management practices, such as the adoption of green supply chain principles (Zhu et al. 2005) and environmental

management systems have shown positive relationships with firms' environmental and organizational performance. Similarly, CE business models are expected to positively influence firms' sustainability performance (The Ellen MacArthur Foundation 2015) due to various innovations in product and process designs to make them more conducive to cost-effective and efficient practices, such as in the ReSOLVE model. Zhu et al. (2010), in a study based on Chinese data, suggest that CE-related practices may be related to firms' sustainability performance. However, the positive effects of the CE on firm performance and on society will only be achieved if certain limitations on the current understanding of the CE are debated (Geissdoerfer et al., 2017; Korhonen et al., 2018). Thus, our last general proposition states:

Proposition 5: CE business models positively influence firm-level sustainable performance initiatives.

To further develop research in this new integrated field, we propose that researchers utilize a variety of methodological approaches, including qualitative and quantitative studies. Future studies may be able to refine and develop these theoretical propositions, moving from a middle-range theory to a more solid theoretical foundation (Carter and Rogers 2008) on the relationship between human resources and CE business models.

4. Conclusion and prospects

4.1 Conclusion

The proposed integrative framework linking GHRM and the CE business models detailed herein represents the first attempt made towards an in-depth consideration of the human side of the CE in organizations today. The state-of-the-art literature on GHRM has developed without a full consideration of the emergent topic of the CE. In parallel, CE business models have emerged as one of the most promising topics in terms of building a more broadly sustainable society. While the literature on the technical dimensions of the CE is relatively well established, its environmentally focused human side has been largely ignored. We can thus conclude that GHRM and CE business models have so far developed in a bifurcated fashion.

In this paper we argue that pursuit of the CE and the adoption of CE business models can only truly be achieved if adequate support from workplace-based GHRM

practices are fully considered and integrated. As such, our thinking takes into account the vital role of GHRM in contemporary organizations to promote firm-level sustainability initiatives, as well as recent studies which advocate that GHRM should support green supply chains (Jabbour and Jabbour 2015; Nejati et al 2017).

In order to capture the complexity of the relationship between GHRM and CE business models and their ultimate impact on firms' sustainable performance, an integrative framework helping to set the foundations for a middle-range theory was proposed (see Figure 2). This framework constitutes a map of potential interactions between GHRM and CE business models, furthering understanding of the CE phenomenon within organizations. This phenomenological perspective allows for the further investigation of a number of research propositions. In making these propositions, the purpose of our integrative framework is to add a new, fresh perspective to debates around the development of CE business models by adding a green, human side to them. We believe that this new perspective will inspire both academics and practitioners to revise, modify and further develop this field, building a stronger theoretical foundation for Green HRM, the CE and supply chain sustainability.

4.2 Implications for theory, practice and policy

Our work has a number of implications for theory. First, it contributes directly to the body of knowledge on human resources management. This work adds an integrated framework and an original conceptualization of the enablement of the CE through HRM. The proposals developed herein also have implications for developing theory to further understand the CE. We highlight that CE business models require clear support from human resources practices and enablers in order to contribute to sustainable organizational performance. We also offer five theoretical propositions to be tested through further research efforts in the field of the 'human side' of CE business models.

For managers and consultants dealing with CE policies and practices, this work adds a structured debate on how to unlock CE business models by carefully considering human aspects that may boost or hamper CE initiatives.

For CE policy makers, sustainability-focused non-governmental bodies and human resource associations, this work highlights the challenges of the discussions and actions which are necessary to address the human aspects of the CE. This means that governments should develop CE plans and targets which also have a clear human component, for example by providing training and building capacities. Human resources

associations may adopt the CE as a key priority in their efforts to contribute to a more sustainable society. Additionally, it has been suggested that CE initiatives could benefit from entering into a dialogue with higher education institutions, such as universities (Mendoza et al., 2019).

4.3 Research limitations and prospects

In this study, we elaborate an overarching theoretical framework and provide a foundation for additional theory building and empirical work by bridging two complementary sets of literature, concerning GHRM and the CE. Our paper has three major limitations, which are primarily related to the theoretical and integrative nature of the proposed study and represent opportunities for further research. First, while we present an integrative theoretical framework, we do not aim to provide an exhaustive or comprehensive model. Therefore, by incorporating other relevant literature, one could develop a more nuanced vision of relevant dimensions, such as specific technological, industrial, and procedural characteristics of both GHRM and the CE at the firm level. In addition, future research could also enrich our framework by expanding the list of variables and investigating more complex interactions between them. A multi-level perspective on the GHRM-CE relationship is suggested for further exploration (Hitt et al., 2007).

Second, for reasons of concision, we limited our considerations to the effects of GHRM on CE business models. Future extensions of this body of knowledge could suggest more complex reverse-causality relationships and examine impacts of CE business models on the development of GHRM practices in an organization. However, the possibilities of expanding the understanding of the GHRM-CE relationship relies on better understanding the limitations of the CE (Korhonen et al., 2018)

Third, empirical micro-level research and case studies could deepen our framework by providing insights into which GHRM practices are oriented towards the CE, and how and why these impact related business models and organizational performance. This research question has strong practical implications and requires empirical investigation that is beyond the scope of our deductive theoretical study.

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Highlights

Circular economy requires support from green human resources.

We use stakeholders' theory and resource based view to discuss this topic.

We add a discussion on the "human side" circular economy.

A framework for green human resource management and circular economy is proposed.

The framework suggests a number of original research propositions for future investigation.