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Human competences for sustainable strategic management: evidence from Brazil

Sustainable
strategic
management

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Abstract

Purpose – The purpose of this paper is to identify how human competences are associated with sustainable strategic management (SSM) within organisations.

Design/methodology/approach – This is a qualitative study in two phases: first, a theoretical phase is developed, resulting in a proposal for the role of human competences in organisational sustainability; second, an empirical phase including instrumental case studies of two large, sustainability-oriented Brazilian companies. Data were obtained from interviews and companies' reports. The authors used Atlas.ti software to perform the thematic content analysis.

Findings – Despite the importance of human competences in SSM, the authors find evidence that this concept has not been developed, even for companies with a consolidated position in sustainability. Human competences are a requirement for effective SSM.

Research limitations/implications – Coexisting elements within an organisation, often referred to as elements of organisational and human behaviour, can influence the dynamics of the expected interrelationships between human competences and sustainability management, in addition to the influencing factors presented in this study.

Originality/value – In general, studies advocate that the relationships among organisational competences, human competences and organisational strategies must be aligned and reinforced. Nevertheless, these relationships are not that solid as they should be as stated in both the literature and the conventional discourse of practitioners.

Keywords Organizational sustainability, Competences management, Human competences, Sustainable strategic management

Paper type Research paper

1. Introduction

Sustainability has been understood and defined in different ways and from different perspectives (Glavič and Lukman, 2007). The outcome of a worldwide survey among business executives (Lacy *et al.*, 2010) shows that sustainability in organisations is perceived in two ways: the first, by understanding the Brundtland Commission Report, when it refers to considering the needs of future generations, by preserving natural resources today (WCED, 1987); second is the triple-bottom-line (TBL) approach that could lead an organisation to contribute to economic prosperity, environmental quality and social justice, simultaneously (Elkington, 1998). In this paper, we understand organisational sustainability as being the demonstration of the systemic and balanced integration of social, environmental and economic aspects of business strategy.

Regardless of the way companies understand sustainability, this broad-reaching concept should be an important component of their strategies. Previous studies have discussed the association between strategy and sustainability within organisations (e.g. Borland *et al.*, 2016; Fowler and Hope, 2007; Hart and Dowell, 2011; Husted and Allen, 2007; Parnell, 2008; Porter and Kramer, 2006). The main argument, here, is that when a business integrates



sustainability into its organisational strategies, this means it is effectively taking practical rather than discursive approaches to this issue (Azapagic, 2003; Bonn and Fisher, 2011). Sustainable strategic management (SSM) provides conditions for overcoming shallow, inaccurate and/or inconsistent discourses concerning the practice of sustainability (Stead and Stead, 2008).

The literature advocates the pursuance of sustainability within organisational systems. It has come to the point where the discourse has moved beyond the question of whether organisations will incorporate sustainability to one of how they will do so (Glavas and Mish, 2015). From this perspective, the questions that remain are those that address the main mechanisms for developing and implementing sustainability strategies within organisations.

The resource-based view (RBV) is one of the most influential theories on strategy and the foundation of organisational and human competences (Barney, 1991; Wernerfelt, 1984); it also forms the basis of the concepts in this study. The RBV states that the strategy-formulation and the competency-development processes form part of a dynamic cycle where each part feeds the other (Prahalad and Hamel, 1990; Barney *et al.*, 2001). The influence of the RBV has also been widely discussed in studies on sustainability or corporate social responsibility (Borland *et al.*, 2016; Fowler and Hope, 2007; Hart, 1995; Hart and Dowell, 2011; Russo and Fouts, 1997). The management literature also addresses the competences approach as a fundamental element for sustainability management (e.g. Wilkinson *et al.*, 2001; Berényi, 2012; Murthy, 2012; Borland *et al.*, 2016; Wesselink *et al.*, 2015). As Wiek *et al.* (2011) argued, the development of organisational competences is associated with a peculiar interconnected and interdependent set of human competences that enable organisations to respond to sustainability challenges. Thus, it is reasonable to affirm that, in a long-term perspective, if an organisation's competences are strategically managed, then sustainability will be inherent to its development.

Competences have received some prominence in the literature on the association between resources, sustainability strategies and competitive advantages (Hart and Dowell, 2011). From this perspective, human resources and human competences should play key roles in formulating a sustainability strategy (Husted and Allen, 2007), as long as this strategy involves people and management processes that incorporate new competences into the organisation and permit them to propagate (DuBois and DuBois, 2012). In other words, addressing the challenges that sustainability brings requires the development of specific competences, both at the organisational and individual level (Osagie *et al.*, 2016).

All of the above discussion confirms the importance of making connections between strategy and sustainability management (Bonn and Fisher, 2011; Fowler and Hope, 2007; Galpin *et al.*, 2015; Porter and Kramer, 2006). Nevertheless, there is still a need to enrich our knowledge on the competence approach. Admittedly, there remains a scarcity of empirical findings in the literature on the linkage between strategy and organisational and human competences, despite the significant contributions of previous authors (Hart, 1995; Mills *et al.*, 2002; Sanchez, 2004; Boyatzis, 2009). When addressing this topic from a sustainability viewpoint, we can affirm that these connections are even more blurred, as we will explore in this paper.

This study aims to identify how human competences can be associated with SSM within organisations. To accomplish this, we conduct a qualitative study, consisting of two phases: a theoretical phase, in which we present a conceptual proposal of human competences for organisational sustainability, based on the literature, and an empirical investigation that consists of instrumental case studies of two Brazilian companies. From the instrumental-case-study method, we look for empirical evidence of the conceptual proposal of our theoretical construct, and the factors that both assist and impede its operationalisation. The data were gathered through interviews and companies' reports, and we used Atlas.ti software to perform the thematic content analysis.

The theoretical contributions of this study are that it adds to our knowledge of the field of sustainability management and provides a conceptual proposal for human competences for SSM, based on both the literature and empirical evidence. It also poses new questions and insights for other disciplines, such as people management, organisational psychology and strategy, regarding complex and recurrent problems when it comes to organisational sustainability. From a managerial perspective, we not only hope to encourage managers to adopt human competences for SSM, we also offer findings that can be used as tools and practices in people management and in stimulating the creation of the achievement of sound standards for monitoring and evaluating sustainability practices and performance.

This paper is structured in eight sections. The next section covers the main theoretical discussions on competences and their relationship to organisational strategy and sustainability management; it includes results from a systematic review of the literature and our preliminary model and propositions. In Section 3, we present a discussion of SSM and its relationship to the literature. Section 4 has the research methods. In Section 5, we show the results of the two case studies. Section 6 presents the main results and analyses, followed by the discussion in Section 7. Section 8 presents the conclusions and provides some recommendations for future investigations that are based on the study.

2. Theoretical background

2.1 *Organisational sustainability and the sustainable strategic management*

The literature has taken several different approaches to and addressed a number of different concepts of the topic of organisational sustainability. Although the literature lacks consensus on a single definition for sustainability within an organisational scope, several authors have signed their studies on this subject (e.g. Dyllick and Hockerts, 2002; van Marrewijk, 2003; Santos *et al.*, 2013; Smith and Sharicz, 2011; Vithessonthi, 2009). Previous works have predominantly used the TBL approach (Elkington, 1998). Despite some reasonable criticisms and questions (Norman and MacDonald, 2004; Smith and Sharicz, 2011), this approach is considered the guiding reference for several studies and companies. In this paper, we understand organisational sustainability as being the demonstration of the systemic and balanced integration of social, environmental and economic aspects of business strategy.

Parnell (2008) saw the demand for integrating a sustainability strategy in what he called SSM, which refers to “the strategies and related processes associated with the continuity of superior performance – broadly defined – from both market and environmental perspectives”. Although the author’s study calls for an interdisciplinary approach, the narrow focus on environmental management is not sufficient to carry sustainability complexity.

Stead and Stead (2008) took a wider perspective when they suggested that SSM includes strategic management processes that are simultaneously economically competitive, socially responsible and in balance with the cycles of nature. These authors noted that SSM can potentially result in improved TBL performance as well as develop the firm’s capabilities for sustainability (Stead and Stead, 2013).

Borland *et al.* (2016) enhanced the discussion and advocated for a transformational strategy that organisations can use to adopt sustainability. This requires a sustainability vision that takes an ecological approach, where humans and nature together form ecosystems. For organisations, this means the need to develop eco-centric dynamic capabilities to achieve a competitive advantage that is based on sustainability.

From the contributions of Parnell (2008), Stead and Stead (2008, 2013) and Borland *et al.* (2016), it is reasonable to say that strategically managing sustainability implies positioning the organisation according to socio-economic and ecological systems. It is also notable that demand for capabilities/competences in development addresses sustainability in terms of both short- and long-term requirements. Organisational performance is then affected by such systems and competences, as well as new conceptions about obtaining competitive advantages.

Additionally, we point out that incorporating sustainability management from a strategic perspective means having an organisational vision that reflects sustainability and, therefore, includes it in the organisation's decision-making process and its strategy content, and having it supported by the organisational culture (Bonn and Fisher, 2011). The three dimensions of sustainability (TBL) are considered in a systemic, balanced and integrated perspective within the business strategy. Incorporating sustainability in business strategy must be conducted with the interests of various stakeholders in mind (van Marrewijk and Werre, 2003), and it must recognise the trade-offs inherent in this process (Hahn *et al.*, 2010). Also, SSM considers the organisation's reality (van Marrewijk and Werre, 2003), thereby aiming to contribute to the sustainable development of society as a whole.

Thus, SSM can be seen as a differentiated source of innovation and also as enabling organisations to achieve a competitive advantage. It facilitates risk reduction, reputation building and maintenance, and the development of valuable organisational competences (Husted and Allen, 2006). Additionally, when an organisation helps its employees to personally relate to the principles of sustainability, then in return it receives employee morality, loyalty and levels of productivity that are, in themselves, sources of differentiation. Another source may come from the organisation's leveraging of stakeholder expertise so as to complement its own competences. The sharing of those competences represents a valuable source for strategic differentiation (Valente, 2012).

2.2 *The competences approach*

Although the debate on organisational and individual/human competences has assumed increasing importance, beyond academia, this concept does not find consensus in the literature (Thach *et al.*, 2002). The RBV is at the theoretical core of the competences approach (Barney, 1991; Wernerfelt, 1984). The work of Prahalad and Hamel (1990) is considered the most representative academic landmark on the competences approach at the organisational level.

That said, we understand organisational competence as an "acting", or an action in the organisation's progress (Maggi, 2003), which involves the mobilisation of resources (tangible and intangible) to achieve specific strategic results (Mills *et al.*, 2002). These competences "represent what the organisation is known for, what it is good at doing, and how it patterns activities to deliver value" (Ulrich and Dulebohn, 2015). Competences should be the focus of the organisation's strategy and practice at all levels (Prahalad and Hamel, 1990).

Organisational competences are formed from a combination of resources and multiple individual competences so, when combined, the overall result is greater than the sum of its parts (Berényi, 2012). Organisational competence occurs in interaction with favourable environmental conditions; it also occurs in interaction within and between people, where one can highlight the role of the collective (Spanos and Prastacos, 2004; Buller and McEvoy, 2012). An organisation should constantly be updating and improving its competences, so that it is constantly changing (Wright *et al.*, 2001).

Human competences enable the development and delivery of organisational competences. Therefore, while the influence of other factors should be recognised, such as organisation's culture and contextual conditions, the performance of organisational competences depends on the competence of its members (Wright *et al.*, 2001). In this sense, one of the challenges in competence management is to segregate and harmonise the tools that provide the necessary conditions for their use and development.

The definition of human competence goes beyond a description of a few particular features; it is contextually and culturally dependent on the organisation (Haland and Tjora, 2006; Sandberg, 2000). This is the reason why these competences can be differently manifested when demonstrated by different people who are placed in the same situation (Capaldo *et al.*, 2006). As with organisations, human competences should also be constantly updated and improved (Wilkinson *et al.*, 2001).

By human competences, we understand this to mean a condition/potential for acting through the mobilisation of resources in seeking to deliver a certain performance. By resources, we mean a set of knowledge, skills, attitudes and values (Chen and Naquin, 2006; Haland and Tjora, 2006). The development of these competences involves a continuous and interdependent process of the formation and development of “knowings”, and “actings” (Maggi, 2003) engaged with different levels of mastery that aim at a certain goal and lead to a set level of delivery (Chen and Naquin, 2006). This process occurs through interaction with other employees and stakeholders under environmental conditions (Barth *et al.*, 2007).

Comprehending organisational and human competences also involves defining “deliveries” (Woodruffe, 1992). Deliveries correspond to the objectification of competences: they are the “results” that should arise from competences since they are subjective elements – or a set of expected behaviours (Boyatzis, 2008) – in action (McLagan, 1996). The deliveries can portray to managers the conditions or shortcomings of non-delivery, which should be the focus of attention for further decision and action. Despite being a concept that was originally intended to define the scope of the individual, it can also be used to measure organisational competences (Berényi, 2012).

The fact that a person holds a competence does not necessarily imply that the organisation directly benefits from it; it is the “delivery” that indicates whether or not there is a benefit. The same logic applies to the organisational dimension. In both cases, a favourable organisational environment is also required; this should include both the necessary resources and structure (Berényi, 2012).

Researchers point to the need for companies to explore and develop their competences in a manner that is consistent with competitive strategies and market demand (Prahalad and Hamel, 1990; Hart, 1995; Boyatzis, 2009). Vakola *et al.* (2007) argued that if competences are developed in line with the organisational strategy, then they can be used as powerful communication tools to translate behavioural strategies that are more easily understood and applied. Therefore, as Berényi (2012) observed, developing human competences, and measuring and following up on their delivery, in line with the organisational strategy, are key factors for organisational development, itself. To that end, models of competence management are essential; without the aid of tools and procedures for their implementation, competences have no impact (McLagan, 1996); they do not make sense in the organisation.

3. SSM and its relation to the human competences: a systematic review of the literature

To deal with the challenges and complex problems associated with sustainability, and for the organisation to be able to reap the benefits of sustainability practices, specific competences are required at both the organisational and individual level (Osagie *et al.*, 2016). Following the arguments of Wiek *et al.* (2011) and Lambrechts *et al.* (2013), we assume that there is the need for specific human competences for SSM; we also assume that these competences are differentiated from other more common ones within the organisation, which are termed “regular” competences, such as critical thinking and basic communication skills (Wiek *et al.*, 2011). A company should not ignore the importance of applying these other competences to its various levels of management. In addition, a peculiar set of interdependent and interrelated competences is also required because sustainability-related problems have peculiar characteristics that require analysing and solving. Either way, the integration and/or interaction between human competences for SSM with other ordinary competences within the organisation is expected for sustainability management within organisations.

Thus, we conducted a systematic review of the literature on human competences for SSM, covering the period 2000–2015. This method is considered adequate to respond to the paper’s objective since it is recommended in areas of uncertainty that require further study (Petticrew and Roberts, 2006). As we previously pointed out, there remain gaps in

comprehending human competences in SSM. The systematic review was carried out according to the methods of Petticrew and Roberts (2006).

We employed an electronic search using EBSCO Host and Web of Science databases and concentrated our search on peer-reviewed academic journal papers. We did not apply any filter for language, although only papers written in English were included in the final analysis. The following keywords were used in our search for abstracts of articles: “competenc* OR capabilit* AND sustainab* OR corporate social responsibility”. The symbol (*) has the function used for including any variation of the terms searched.

The data were analysed using thematic content analysis (Guthrie *et al.*, 2004; Krippendorff, 2004). We used deductive categories from prior literature reviews that were consistent with the study’s objectives in terms of the methodology, research techniques and scope. The inductive categories that emerged during the data interpretation consisted of: defined human competences, reference authors and indications on the development of human competences for sustainability. The qualitative data analysis software Atlas.ti 7.5 was used to organise the documents and to do the coding process for the deductive and inductive categories. The results of this stage are presented in Section 5.1.

By performing this systematic literature review, which covers 15 years of scientific publications summarised in 43 articles, we could verify more than 100 different terms for “human competences for sustainability”. We chose this term rather than “human competences for sustainable strategic management” because it is simpler and more generic, to make it possible to covering a greater number of articles.

The analyses of the deductive categories for the data referred to the year of publication; journal; scope; methodology; and the research technique of the articles selected. These articles suggest that: the theme “Human Competences for Sustainability” is recent in academic publications; some periodicals deal with the topic in terms of competences in administration; the scope of studies substantially covers the area of education; and methodological choices reveal an exploratory approach to the subject, with predominantly qualitative procedures and techniques.

In short, the analyses of the inductive categories on human competences made it possible for us to realise that: the range of competences is broad, and although we could find some consensus, the need to contextualise human competences may be a factor in their diversity; confusion is evident among competences, knowledge, behaviours and values, again denouncing the supposition of the fragile basis for knowledge construction in this field; the peculiarity of the proposals for human competences in education can make it difficult to apply them in a corporate environment; and the contributions in the literature are mainly limited to the definition of human competences. Even more lacking are their alignment to organisational strategy and such aspects as their development and evaluation.

Therefore, the findings show that the academic knowledge on the subject is in its initial stages, especially in the area of administration where discussions on this topic are only superficial. Due to this limitation, other researches were sought to provide some background on human competences for SSM, which is the conceptual proposal of this paper. Among the best references on this topic are the following: Haan (2006), Van Kleef and Roome (2007), Roorda (2010), Wiek *et al.* (2011) and Osagie *et al.* (2016). Table I outlines six human competences and their operational descriptions and references.

Table I shows that all six competences refer to the condition of acting towards an objective, i.e., a given delivery. We can observe that three competences emphasise references to management (EEM, SEEnM and SEcM), while three others place greater emphases on innovation (EcI, EnI and SI). The justification for the latter follows the argument of Van Kleef and Roome (2007) who noted that for change towards sustainability to be effective, certain competences that enable innovation are required. Further, although they asserted that the idea of innovation is associated with sustainability and starts with specific actions

| Human competence for sustainable strategic management | Operational definition | Supportive references |
|---|--|--|
| Eco-efficient management (EEM) | The necessary condition for acting in the face of resource-management demands, facts, assumptions and opinions that are in line with the principles of organisational sustainability and the strategies required for offering products and services, at competitive prices, that satisfy human needs and improve the quality of life | Roorda (2010), Wiek <i>et al.</i> (2011), Osagie <i>et al.</i> (2016) |
| Socio-environmental management (SEnM) | The necessary condition for acting to seek the development and application of management tools that align with and achieve organisational and individual goals respecting the organisation's culture, politics and procedures in the interests of building a fair and equal environment | Haan (2006), Roorda (2010), Wiek <i>et al.</i> (2011), Osagie <i>et al.</i> (2016) |
| Socio-economic management (SEcM) | The necessary condition for acting in order to stimulate and to provide qualification to the individuals impacted by the organisation, so that they are capable of autonomous and conscious decisions, able to meet both their social and economic needs, at the same time contributing to organisational goals | Haan (2006), Roorda (2010), Wiek <i>et al.</i> (2011) |
| Economic innovation (Ecl) | The necessary condition for acting to visualise, develop and implement new economic solutions in the development of products/services/processes that reflect the organisation's goals of competitiveness and consider the autonomy and quality of life of its stakeholders | Haan (2006), Van Kleef and Roome (2007), Roorda (2010), Wiek <i>et al.</i> (2011) |
| Environmental innovation (EnI) | The necessary condition for acting to visualise, develop and implement new environmental solutions in products/ services/processes concerning the organisational goals of competitiveness and consistency with the organisation's objectives and the principles of justice | Haan (2006), Van Kleef and Roome (2007), Roorda (2010), Wiek <i>et al.</i> (2011) |
| Social innovation (SI) | The necessary condition for visualising, developing and implementing new social solutions in processes and procedures that accord with the organisation's objectives and the principles of justice while considering the autonomy and quality of life of its stakeholders | Haan (2006), Van Kleef and Roome (2007), Roorda (2010), Wiek <i>et al.</i> (2011) |

Table I.
A proposal for six human competences for SSM

and the use of so-called “environmentally friendly” technologies, it is already possible to find a broader and more dynamic perspective (Smith *et al.*, 2010), in which innovation drives sustainability within organisations (Pujari, 2006).

When structured in a management model, the idea is that the six specific human competences for sustainability are both integrated and interrelated with each other and also to other regular existing competences. Having specific human competences directed towards sustainability does not imply ignoring the relevance of the organisational competences that already exist, such as change management or communication. Moreover, these competences are assumed to integrate with each organisation's particular model of competence management, thereby providing opportunities for flexibility in assessment, for example. Also, resources in knowledge, skills, attitudes and values must be defined for each of these human competences, accordingly to their deliveries and the organisation's reality and internal and external demands (Freitas *et al.*, 2012).

Although it is suggested that human competences for SSM should be disseminated to all people working within the organisation, they are especially designed for higher level managers, i.e., the organisation's leaders. This is because these people are often the decision makers and their actions have more influence and impact across an organisation, which, in

turn, affects the direction it takes towards sustainability (DuBois and DuBois, 2012; Osagie *et al.*, 2016; Wasiluk, 2013).

Thus, human competences can contribute to SSM as they are extended across all organisational, strategic, tactical and operational levels, thereby favouring coordinated practices, behaviours and changes throughout the organisation. Once a choice for sustainability is made, the objectives, goals, plans, processes, relationships and practices are redefined, measured and re-measured in a new way (van Marrewijk, 2010). In the context of our study, this can be done by the people in and around the organisation, who are oriented by specific organisational and human competences.

Translating sustainability according to the competences approach means that it will no longer be present only in the organisational discourse and but will translate into potential action. We say “potential action”, because competences are the mechanisms that make sustainability practical, but they need to be aligned with the organisation’s strategic proposal and its reality, i.e., there is a claim for SSM, otherwise there is a risk of reinforcing staticity or even sophism (Stead and Stead, 2008).

From the above discussion, we present the first proposition of this study:

P1. Human competences for SSM are associated with the organisational strategy.

It takes time to embed sustainability within a business. This requires, above all, to make deep internal and external changes, both in material terms – structure, processes and resources (Vithessonthi, 2009), and also on more subjective issues, such as culture and organisational identity (Scully-Russ, 2012). These changes typically begin with the development of a vision of sustainability and a strategy that aims to change work processes and behaviours (DuBois and DuBois, 2012). In this sense, the competences approach becomes relevant, given the development of human competences plays a significant role in contributing to people’s education, for changing their attitudes towards their working practices and for changing their perceptions of reality (Boyatzis, 2008).

Undertaking these changes should be seen as both a challenge and an opportunity to advance an understanding of what it means to be “competent” and to define which competences companies want to develop in their actors (Brunstein and Rodrigues, 2014; Wesselink *et al.*, 2015). When facing this challenge, it is important for organisations that are committed to sustainability to select people with appropriate profiles, as well as to help active professionals to develop the skills they either do not yet possess or possess at a low level (Osagie *et al.*, 2016). These circumstances directly affect whether the organisation achieves its strategic objectives.

From these arguments, we present the second proposition of this study:

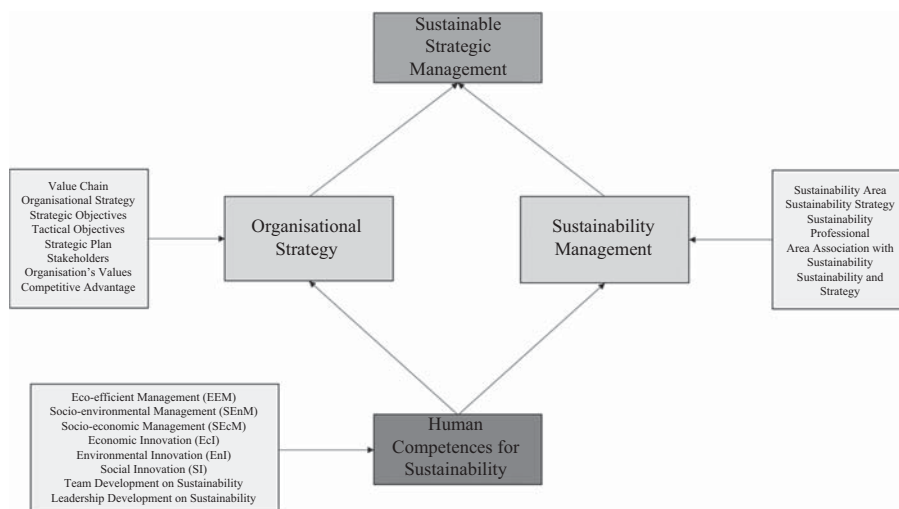
P2. Human competences for SSM are associated with sustainability management.

From the literature and our attempt to achieve the aim of our research, we propose a conceptual model that includes our propositions, as shown in Figure 1.

These are the foundations for the empirical part of the research, as explained and described in the next sections.

4. Method

This research is qualitative as it is based on an objectivist approach and is exploratory-descriptive in nature. The study is divided into two steps. First, we carried out a literature review so as to explore and define a set of human competences for SSM (see Section 3). Next, we conducted our empirical research, which consists of two instrumental case studies. Here, our aim was to deepen our preliminary conceptual model so that it adheres to the organisational environment (Yin, 2014). This method has proved to be adequate to this research since it is relevant to generating insight or refining theoretical aspects about the object of the study, as recommended by Stake (2005).



Source: The authors

Figure 1.
Conceptual
research model

Consequently, the cases/units of analysis, themselves, were of secondary relevance. The organisations for the case studies were selected from the group of Brazilian companies that publicly report their sustainability outcomes for at least five years (2010–2015), according to the Global Reporting Initiative's "Guidelines for Sustainable Reports". The publication the "150 Best Companies to Work for In Brazil – 2014" was also checked (PROGEP-FIA, 2014), so that the selected companies could be recognised according to their practices in people management, and specifically in competence management. Given these criteria, two companies from among a group of just over a dozen possible organisations agreed to participate: Zeta Petrochemical and Gama Bank (both fictitious names of companies in the top positions of their sectors).

Initially, we collected internal and/or external secondary documents that were available in electronic format; we requested other relevant documents by contacting the organisations. In total, 16 documents were compiled, 8 from each organisation, related to the themes of competences and sustainability (see Table AI).

We also conducted focussed interviews, supported by a flexible road map, with managers at strategic and tactical levels in the organisations; ten from Zeta Petrochemical and nine from Gama Bank (see Table AII).

The questions were focussed on identifying the necessary and developed human competences for the performance of the manager and his/her employees, the connections with sustainability, and the demands placed on the managers in terms of adhering to the organisation's strategies. In addition to specific questions, respondents were asked to give examples of situations where they believed that human competences for SSM were developed, both for themselves and for their subordinates. All the interviews were recorded, with permission of the participants, and were transcribed later.

The data obtained from the documents and the transcriptions were analysed using Atlas.ti software version 7.5. A thematic content analysis was conducted, which involves an analysis of the written text and the definitions of the various groups of categories by selected criteria, so as to collect the information in a systematic manner (Guthrie *et al.*, 2004; Krippendorff, 2004). Following the recommendations of Miles *et al.* (2014), for the qualitative data analysis we used software and conducted

BJJ

data processing that followed these stages: data condensation, data display and conclusion drawing.

In the condensation of the data, through a hybrid, interactive perspective between inductive and deductive approaches (Boyatzis, 1998), we created codes, super codes (code grouping) and families (groupings of super codes and codes). Here, we used an approach that was complementary to the emerging codes (inductive approach); that is, we used a prior listing of codes, also called a “codebook”, as suggested by Crabtree and Miller (1999) (deductive approach). Beyond the main terms and concepts, we anticipated seeing in the data (e.g. human competences, sustainability management and sustainability strategy), we applied references from Hounaux Junior *et al.* (2017) to code the elements related to organisational strategy (see Table AIII). Atlas.ti analysis tools offered the necessary support for the data display, which entailed co-occurrence matrices. For the conclusions, our interpretations were drawn by observing the patterns of the data, the possible explanations, flows and propositions, and the triangulation of the research methods (Yin, 2014).

In case study quality assurance, according to Yin (2014), three elements should be taken into account: construct validity, external validity and reliability. Regarding construct validity, or the extent to which the empirical evidence matches the concepts to be sought, we followed interview protocols that are based on those concepts previously listed. We conducted multiple interviews and used several internal and external (public) documents as other sources of evidence. External validity (this refers to the possibility of the study’s generalisability) can be split into empirical – here, the study can also be applied to companies with both SSM and competences management – and analytical, again, reinforced by the use of an initial framework and an extensive theoretical review. Finally, reliability, i. e., the possibility of others achieving the same results by following the same procedures, we devised a case-study protocol for both cases, procedures for data gathering and analyses, and detailed reports. The results from this stage are presented in Section 5. Section 6 provides a discussion on both the theoretical and empirical phases of this research. Figure 2 synthesises the entire empirical research process.

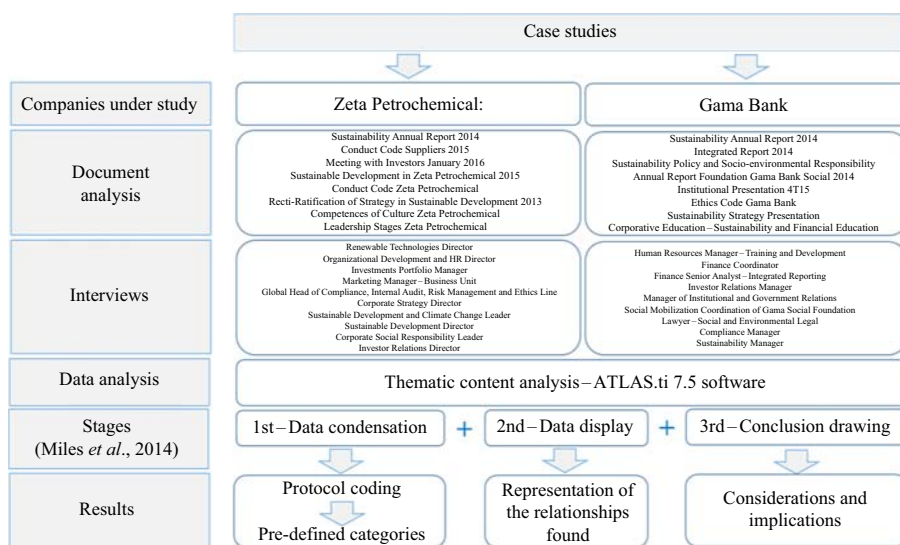


Figure 2. Empirical research process

Source: The authors

5. Results

5.1 Data presentation and discussion from the case studies

From the transcripts of the 19 interviews and the additional 16 documents obtained along with the 2 case studies, 62 codes were assigned for 1,959 citations. After the codification and its due revision, we proceeded to identify relationships and to group the codes into super codes, which gave rise to nine categories of analysis that subsequently merged into the formation of two themes, as shown in Table II.

To identify possible associations between codes, we present in the co-occurrence matrix the codes of each category of analysis. Given the volume of data, we opted to separate the analysis through two-way interrelations of the themes. First, we consider the associations between Competences and Organisational Strategy; second, we do the same for Competences and Sustainability Management.

The next step is to analyse the relationships between the elements presented in Table II, according to our conceptual model and our preliminary propositions (see Figure 1).

5.2 Human Competences for Sustainable Strategic Management and Organisational Strategy

In this section, we analyse our first proposition. Here, five codes from the theme Competences were excluded as they were found to not be associated with the theme Organisational Strategy. Excluded are three from the category “Human Competences”, one from “Human Competences for SSM”, and one from “Competences Management”. In addition, two codes from “Organisational Strategy” were excluded for the same reasons. These are Vision and Mission.

This analysis can highlight the fragility of the linkage between the competences-management model and the organisation’s strategy, since the latter represents a consolidation of the organisation’s mission, together with a vision that defines a desired future state (Hourneaux Junior *et al.*, 2017), indicating that the organisational objectives have been achieved. If competence management is disconnected from these two basic elements of the strategy, then it is likely that the strategy does not fulfil its

| Theme (family) | Category of analysis (super codes) | Designation |
|---------------------------|--------------------------------------|--|
| Competences | Human competences | In this category, information is provided on human competences and their components, such as attitudes, knowledge and values |
| | Competences management | This category concerns the management of human competences and their practical implications for organisations, their operationalisation, and for their connections to people-management systems and tools |
| | Human competences for sustainability | This category refers to the general data about human competences for sustainability and its development, as well as the six competences defined in the conceptual proposal |
| Sustainability management | Sustainability management | This category consists of subjects related to the understanding and management of sustainability within organisations: the definition of strategies that involve practices, policies and procedures; its relation with organisational strategy and with the organisation’s competences. It also includes information on the area, within the organisation, that is responsible for sustainability, as well as the interactions of other areas within the theme of sustainability |
| Organisational strategy | Organisational strategy | This category includes the elements of organisational strategy as defined by Hourneaux Junior <i>et al.</i> (2017). Also added are the emerging codes “Tactical objectives” and “Competitive advantage” |

Table II.
Themes and categories of analysis from the empirical research

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purpose and becomes an obstacle within the organisation (Markus *et al.*, 2005; Vakola *et al.*, 2007). Concerning SSM, the statement remains the same, and it is even worth adding the implication that if the fundamentals of competence management are strategically limited in their design and implementation, then the same is likely to be true for sustainability management. We called attention to this point once it became evident from the documented sources and interviews with managers in the two organisations under review; i.e., those who had a certain level of maturity and competence that meant they were considered to be good representatives of sustainability and competences management.

Regarding frequency, in the theme Competence, in the category “Human Competence”, the code Delivery of Human Competence receives the most prominence. For the theme and category Organisational Strategy, the code Stakeholders presents a greater volume of connections. Regarding distribution, in the theme Competences, and the category Human Competences for SSM, the code Eco-efficient Management has the largest distribution of co-occurrences, followed by Delivery of Human Competence. For the theme and category Organisational Strategy, the code Stakeholders also has a higher distribution of co-occurrences, followed by the code Organisational Strategy.

The data obtained from the co-occurrence matrix (see Table AIV) provide the design of the graph in Figure 3; it excludes the codes that did not present in least three associations. The codes and respective categories of the theme Competences are presented on the horizontal axis. The codes from the theme Organisational Strategy are represented in the bars, which are distributed in different colours according to their labels.

As we can observe from Figure 3, under Organisational Strategy, the codes for the category “Competences Management” include People Development and Leader Development. These are located in two documents and two interviews obtained from Zeta Petrochemical, and two interviews from Gama Bank. In general, the citations refer to people and leadership development programmes that are based on the organisation’s strategy. This point is relevant to the conception and operationalisation of our proposal since, based on their competences, the development of people and leaders is a fundamental part of and a linkage to the organisation’s strategy.

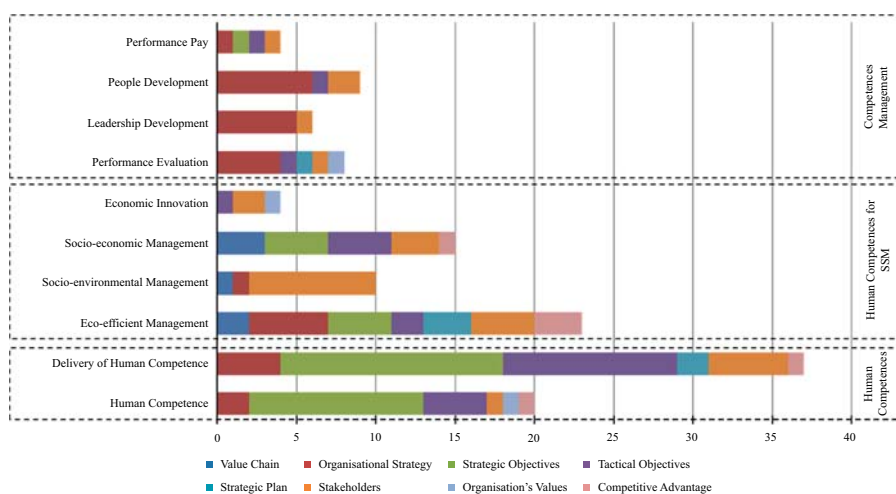


Figure 3. Human competences for SSM and organisational strategy

Source: The authors

From the category “Human Competences for SSM”, first, we should emphasise that the codes that are related to Social and Environmental Innovation did not have enough co-occurrences to be included in Figure 3. Nevertheless, all three are connected to the category and theme Organisational Strategy, under the codes Tactical Objectives, Stakeholders Values and Organisational Values, according to the co-occurrence matrix. The citations in the analysed documents and interviews reveal associations, such as with the definition of tactical leaders’ deliveries that are related to innovations, as presented in one of the documents (DocZ-7); and also in terms of innovative solutions found in partnerships with internal and external stakeholders, according to the interviews with two interviewees from Gama Bank; and in the mention of “innovation being in the company’s DNA”, i.e., innovation being one of the organisation’s values, according to an interviewee also from Gama Bank.

The reports provide elements of resource mobilisation, actions performed and results obtained; this information allowed us to consider EcI, EnI and SI competences, which are present in both Zeta Petrochemical and Gama Bank and which have some association with organisational strategy. However, in comparison to the other proposed “Human Competences for SSM” (EEM, SEnM and SEcM), these connections are not very evident. This can be due to the gradual movement of innovations towards sustainability, in general (Smith *et al.*, 2010), which may also be a particularity of the units of analysis used in this research. In our proposal, we noted that these observations can be used to refine the definition of deliveries for EcI, EnI and SI competences and also to balance them, for example, according to the levels and/or the relationship of the business’s competences to the innovation, itself, in order to be a core competence (Prahalad and Hamel, 1990).

Still, in the category “Human Competences for SSM”, the distribution of the co-occurrences of Socio-economic Management and Eco-efficient Management among the codes of the Organisational Strategy theme is evident, while the only connection for Socio-Environmental Management is with the Stakeholders code. The relationships for this category were found in two documents obtained from Zeta Petrochemical and one from Gama Bank, and in four interviews from each of the two companies, i.e., eight in total. The paragraph below is taken from an interview with Zeta Petrochemical’s sustainable development director (Z-SDD):

We have to involve our chain of customers, our supply chain and other companies that we do not relate with through business but with whom we have an affinity in terms of thinking together. This is why Zeta Petrochemical is strong today in the Global Compact; it plays a strong role in the Brazilian Business Council for Sustainable Development; that is, there are a series of forums wherein we seek to act so that this walk is not an isolated walk.

The interviewee mentions engagement with stakeholders from the value chain when it comes to sustainability. We noted the company’s proximity with an understanding of SEnM competence, once the interviewee Z-SDD explained the actions taken when seeking to align the company with and to achieve the organisational and individual goals of other stakeholders that are interested in building a fair and equal environment. Although the operational definition of Socio-Environmental Management contains strategic elements (see Table I), perhaps this fact can be explained by reason of the greater weight this social dimension holds as it includes a greater emphasis on stakeholders. Even so, when it comes to the operationalisation of competences, in the face of these data it is valid to say that the interrelations between the SEnM and the organisational strategy could be better explained through the deliveries that are to be established.

As an example of the connections between the category “Human Competences for SSM” and “Organisational Strategy”, the following paragraph refers to the co-occurrence between Socio-economic Management, Strategic Objectives and Tactical Objectives. The code Delivery of Human Competence, in the same category, has also been assigned. The quoted text comes from DocZ-7, a guide to the stratification and evaluation of Zeta Petrochemical’s

human competences as they refer to the delivery of the “Planned Delegation” competence to a leader in this area (considered to be at a tactical level within the company):

To Plan – the challenges of the area are based on the Plan of Action and are to define the priorities in conjunction with the managerial leaders, through properly analysing the degree of difficulty of the tasks and projects. He/she innovates the items within the Action Program and encourages the leaders to do the same, enhancing a synergy and productivity that is focused on serving the Customer/User. (DocZ-7)

We note that the delivery mentioned in the text is close to the EEM proposal as it can be considered that to “innovate the items of its Programme of Action – that is, its personal development programme – and to encourage the leaders to do the same” presents a certain correspondence to “the necessary condition for acting in order to stimulate and to provide qualification to the individuals impacted by the organisation” – that is, the operational definition indicated to the SEcM. The issue “Plan – the challenges of the area based on the Plan of Action” concerns the Tactical Objectives, while “focussed on serving the Customer/User” refers to one of the Strategic Objectives of the organisation, provided in the EEM’s operational definition: “the necessary condition for acting in the face of resource-management demands, facts, assumptions and opinions that are in line with the principles of organisational sustainability and the strategies required for offering products and services, at competitive prices, that satisfy human needs and improve the quality of life”. This example demonstrates the plausibility of the existence of the referred competence and its deliveries in an organisational context. By the way, the above paragraph could reasonably be conceived as referring to an EEM’s delivery.

Finally, from the category “Human Competences”, the most substantial co-occurrences appear among the codes Strategic Objectives and Delivery of Human Competence and Human Competence. Additionally, there are connections with the codes Tactical Objectives and Strategic Planning. All co-occurrences are found in the document DocZ-7. As in the previous example for Socio-economic Management, associations are made in the operational designations of human competences and their respective deliveries. It is possible to infer, therefore, that in one of the organisations studied – Zeta Petrochemical – human competences management demonstrates direct linkages to the strategic questions, a prerogative to the adequate strategic management of sustainability through competences.

In short, according to the data found in the research, human competences are more associated with Strategic and Tactical Objectives, mainly from their deliveries. Concerning the relationships between Competences and Organisational Strategy, we could verify that despite the complexity that surrounds these themes (Vakola *et al.*, 2007), they are possible and recognised.

5.3 Human for Sustainable Strategic Management × Sustainability Management

Next, we analyse our second proposition. It should be noted that ten codes of the theme Competences were eliminated from this analysis because they did not present any association with the theme Sustainability Management. Four of these ten were from the category “Competences Management”, three were from “Human Competences” and three were from “Human Competences for SSM”. In the theme Competences, some codes presented only one co-occurrence with the codes from the theme Sustainability Management: Knowledge of the leader, Experience and Performance evaluation.

Such circumstances indicate the probable disconnection between these elements in the studied organisations, especially with human competences. This is not surprising, given that, in the academic literature, there is also little empirical evidence on competences and sustainability in organisations, as we have demonstrated through the systematic review of the literature in this paper. Nevertheless, we reinforce that its pertinence is admissible, investigated and demanded (Husted and Allen, 2006; Osagie *et al.*, 2016; Wiek *et al.*, 2011).

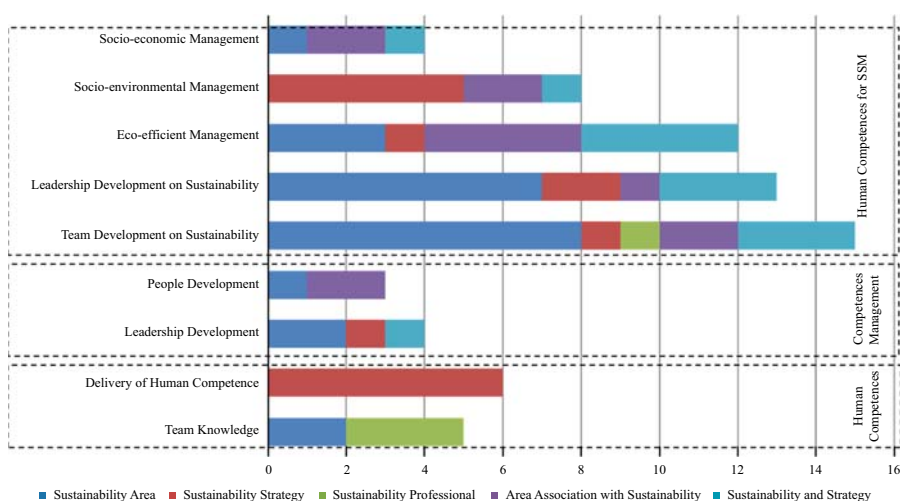
The most expressive co-occurrences between Competences and Sustainability Management are between the codes Team Development on Sustainability and Leadership Development on Sustainability, both from the category “Human Competences for SSM”, from the former theme and from Sustainability Area, in the latter. It is worth noting that Team Development on Sustainability is the only code that presents co-occurrences with all other codes of Sustainability Management. From the category and theme Sustainability Management, the codes that most present associations with Competences are Sustainability Area, Sustainability Strategy and Sustainability and Strategy.

From the data obtained in the co-occurrence matrix (see Table AV), we elaborated the graph in Figure 4, excluding the codes that did not present in at least three associations. The horizontal axis shows the codes and respective categories of the theme Competences. The codes from the theme Sustainability are represented in different colours in the bars, according to the labels.

In the category “Human Competences for SSM”, we emphasise Socio-Environmental Management and Eco-efficient Management in co-occurrence with the codes of the category and theme Sustainability Management. These are located in two documents from Zeta Petrochemical and in the interview reports, two from Zeta Petrochemical and two from Gama Bank.

The co-occurrences between Socio-environmental Management and Sustainability Strategy also coincide with the co-occurrences between Delivery of Human Competence, from the category “Human Competences”; and Sustainability Strategy. These are located in the document DocZ-7 and concern the delivery of human competences to the different levels of the organisation’s leadership. These deliveries mention the understanding, practice, dissemination and influence the lead one to comply with the procedures and principles of social responsibility, and Zeta Petrochemical’s code of conduct and ethics. While the latter is part of a defined strategy for the company’s sustainability, the actions refer to the definition stipulated for SEnM about the condition to act while respecting the culture, power and politics associated with building a fair and equitable environment.

Regarding the code Eco-efficient Management and its associations with “Sustainability Management”, this category’s codes Sustainability Area and Area Association with Sustainability



Source: The authors

Figure 4.
Human competences
for SSM and
sustainability
management

Sustainability were generally attributed to a common citation in the interviews. The following report, from the interview with G-COMP, who is responsible for compliance at Gama Bank, exemplifies a co-occurrence between the above code and Area of Sustainability and Area Association with Sustainability:

We are in an area that welcomes all of the rules that come out in the market; we distribute them through the organisation and check whether or not they have an impact. If they have an impact, then what is the action plan? We adhere to this action plan, within the organisation, along with several other business areas. [...] And, in my area, as I take care of socio-environmental risk management, it is very closely linked with the area of sustainability. The [Area of] Sustainability brings to our level opportunities that they see ahead about the environment. Because I look at the risk, right, everything that brings me risk and mitigation. So they bring many opportunities, we have many linkages; we act very much together like this. Sustainability, socio-environmental law and compliance are very connected. (G-COMP)

The G-COMP's speech presents elements that indicate the presence of EEM competence in the sense of this manager presenting the condition to act according to the demand for resources, facts, assumptions and opinions, in line with the organisation's assumed principles of sustainability, when speaking of his/her professional attributions. The manager sees the association between the Compliance Area and the Sustainability Area as something "very connected", while the interface with the theme of sustainability is based on the socio-environmental risks and the demands that surround them.

Other cases like this have appeared in the empirical resources, mainly in the interviews with both organisations. The managers from the departments of marketing (Z-MKTBU1), strategy (Z-CS), legal (G-SEL), institutional relations (Z-IR) and finance (G-FINC), for example, claim to have frequent interactions with the descriptions that involve the definition and delivery of Eco-Efficient Management within the company's Sustainability Area. It was noted, in the data, that these relationships are connected to some extent to the development of human competences for SSM.

Still in the category "Human Competences for SSM" and in continuity with the above subject, the codes Team Development on Sustainability and Leadership Development on Sustainability appear in association with the codes Sustainability Area and Sustainability and Strategy, mostly in the interviews with four managers at Zeta Petrochemical and one at Gama Bank, G-HR, but also Gama Bank's Annual Sustainability Report 2014 (DocG-1). In this document, for example, the connection between Leadership Development on Sustainability and Sustainability Strategy concerns the goals set out for sustainability at Gama Bank and the actions completed in developing through training leaders in the topic of diversity management.

On the issues of Team Development on Sustainability, the manager responsible for human resources at Gama Bank (G-HR) gave a speech that mentions efforts in spreading awareness, offering support and the dissemination of the theme throughout the company. Leadership Development on Sustainability is mentioned in terms of the aspects that are not so simple when involving businesses in sustainability actions and, from there, the attribution of the code Sustainability and Strategy. It is interesting to observe that even in an organisation recognised for sustainability practices, such as Gama Bank, there are still gaps when it comes to engaging senior leaders.

Finally, in the category "Human Competence", the code Team Knowledge presented associations with Sustainability Professional; this was located in a speech by the interviewee Z-SDL, the leader of sustainable development and climate change area at Zeta Petrochemical. For this manager, specific knowledge – one of the resources for human competence (Maggi, 2003; Sandberg, 2000) – in sustainability is paramount for professionals working in the field. These connections also give rise to points of discussion regarding the extension of human competences for SSM to all professionals within the organisation and

the development of these competences, as well as establishing sustainability strategies and the role of the area of sustainability, again within the organisation.

The empirical evidence shows that Sustainability Area is a factor that is active in promoting corporative practices of developing competences for sustainability, within the organisations studied, as we can see from its connections in Figure 4. The existence of a sustainability area can represent a focal point from which to facilitate and coordinate activities (Bonn and Fisher, 2011). However, studies also show that the existence of such a department usually only occurs after a structural change. It is common for the area to be neglected in terms of its wider and more strategic integration and for it to become an end in and of itself (Aldama *et al.*, 2009). If this is the case, then it will hardly represent a factor of great influence for the development of competences or the strategic management of sustainability.

To sum up, the data obtained make it possible to infer the existence of an association between Sustainability Management and Competences in both of the organisational contexts studied. These are mainly based on human competences for SSM, which, although not explicitly considered in organisations, present signs and of their presence and openness to their development. These competences are shown to be associated with the sustainability strategy and the definitions, discussions, policies and practices concerning sustainability and a strategy to put this practice in place. However, the data do not allow us to affirm that these associations are consolidated or legitimised.

6. Discussion

From the data and the network tools provided by Atlas.ti, we could unify the analysis about the associations between the categories “Human Competences for Sustainable Strategic Management”, “Organisational Strategy” and “Human Competences” and “Sustainability Management”. Figure 5 provides a graphical visualisation of the network view shown in our final model. The referred categories are represented in light grey, and their respective codes are connected by an arrow to a box that is lighter grey. The darker grey boxes “Regular Human Competences” and “Competences Management” represent the categories found in the empirical research; their respective codes are connected in lighter grey boxes. The black arrows indicate

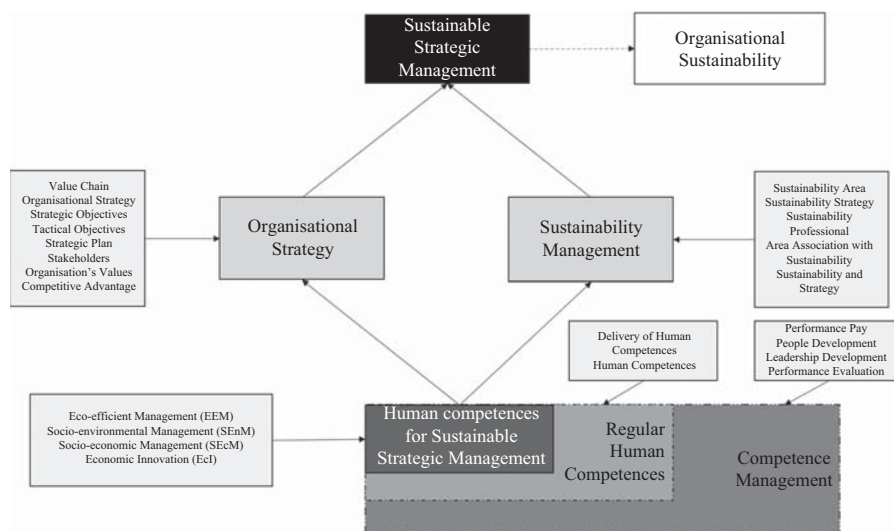


Figure 5.
Final model

Source: The authors

the relationship found between the various categories. SSM is presented in the black box, which shows the results of the ideas developed in *P1* and *P2* and defended in this paper.

From Figure 5, we can observe that there is evidence in this research to support both *P1* and *P2*. We considered the categories discussed in the analyses, instead of the themes, to better focus on the objectives of our research. However, it is worth mentioning that “Competences Management” and “Human Competences for SSM” also have associations in these understandings, as previously discussed in the theoretical background and in the presentation of the empirical results. The categories “Regular Human Competences” and “Competence Management” were included due to the results found in the case studies. Both show important aspects that should be involved in the discussion, planning and decision-making processes regarding human competences for SSM.

Considering the first proposition, the connections between “Human Competences for SSM” and “Organisational Strategy” find support for their viability in the organisational context. In general, from the empirical data, it has been demonstrated that the operational definitions for the competences proposed, for their integration with strategic elements, and their insertion in the dynamics of a competences-management approach, are plausible and already occur within the organisational environment.

With respect to the second proposition, the data analysis of the association between “Human Competences for SSM” and “Sustainability Management” makes it possible to also infer that, in the organisations studied, discussions in this field have already been initiated and there is a certain openness for linking these elements in a more systematised way. We found support in the empirical data for the academic claims about the business community’s recognition of the real demand, relevance and contribution of competences in sustainability management. Similar to the analyses on “Human Competences for SSM” and “Organisational Strategy”, evidence was presented that shows that, to some extent, human competences for SSM already exist in the organisational context although it is not explicitly assumed or formally recognised and managed.

The support for the two propositions in this paper allows us to infer that the development and management of human competences for SSM, in association, or alignment, with organisational strategy, provide conditions for SSM. From here, we reinforce the opportunities competence management generates and also the challenges posed to sustainability management within organisations. The latter refers to a condition of providing objective means for aligning decisions and actions to strategies for sustainability and verifying their coherence through the analysis of deliveries; the opportunity to establish feasible references for the changes required for incorporating sustainability in the organisational context; and, finally, the opportunity to concomitantly guide the decision-making process from a systemic and integrating model of deliveries in environmental, social and economic issues, from human and organisational perspectives.

We also assume that some conceptually discovered points with possible operational implications were observed from the analysis. Initially, there is a need for a greater linkage between human competences for SSM related to innovation (Eci, EnI and SI) and socio-environmental management and the issues related to organisational strategy. Another issue raised is the extension of human competences to all professionals in the organisation, other than only to strategic leaders. We consider it necessary to make some recommendations to remedy these points.

Concerning the narrowing of the interrelationships between human competences for SSM and elements of organisational strategy, we indicate the need to include them more explicitly – through strategic objectives – into the operational definitions and deliveries of human competences. This recommendation is justified because, admittedly, delivery provides a measure of competence; assessments of deliveries should favour behavioural changes that aim to achieve organisational objectives.

As for increasing the extent of human competences for all professionals in an organisation, this can be accomplished by stratifying competences at all work levels. These concern the ability of professionals to make decisions, while considering the variables involved and their implications over time (McMorland, 2005). The concepts of competence and work levels can be combined by establishing expectations for competence at each level. In general, the authors recommend five to seven work levels (McMorland, 2005), which should vary according to each organisational structure. We believe that solving the questions pointed out in our research, with the assistance of the two organisations that are recognised for their sustainability and competences, should help facilitate the operationalisation and management of human competences for SSM.

In spite of the existing discussions on the development of organisational (Berényi, 2012; Osagie *et al.*, 2016) and human competences for sustainability (Roorda, 2010; Wiek *et al.*, 2011), the management of human competences has not been explicitly considered, nor has it been deeply explored. This poses obstacles to making human competences in sustainability a viable operable option for organisations. From an exploratory perspective, we intended to advance this field of knowledge, to fill the gaps in the literature and to generate new insights for scholars and managers.

7. Conclusion and final remarks

7.1 Theoretical implications

Throughout this study, we aimed to identify how human competences are associated with SSM within organisations. We challenged the alleged assumptions that competence management is consistent with organisational strategy and its “micro” perspective that human competences would lead organisations to embed and develop sound competences for sustainability.

First, in terms of its theoretical implications, this paper contributes to the field of knowledge on organisational sustainability. Since it is an area driven by recurrent problems in search of complex and systemic solutions, sustainability is in continuous evolution, and old and new ideas can be constantly refined or rejected. By providing dynamic and reflexive connections between individuals, organisations and strategies, the competences-management approach offers a holistic and integrated lens with which to study, propose and develop empirical interventions. This has been demonstrated in *P1* and *P2* and in the conceptual model, which the two case studies have confirmed and supplemented.

Based on research and debate, new research questions can arise in the field of sustainability management, such as:

- RQ1.* Who should be responsible for developing human competences for SSM?
- RQ2.* How do we evaluate the delivery of these competences in the face of such diffuse concepts?
- RQ3.* What are the appropriate tools for its development?
- RQ4.* How do we include stakeholders in a discussion of the development of human and organisational competences for sustainability?
- RQ5.* How do we to include inter- and trans-disciplinary content to accommodate people from different backgrounds?
- RQ6.* How do we to integrate this content into such different processes and mindsets?

The answers to these questions should involve not only the topics of people management and Sustainability, but also organisational psychology and strategy, among others. We suggest that studies on inter- and trans-disciplinary efforts should be encouraged.

7.2 *Managerial implications*

This study also has some implications for management practitioners. We hope to encourage managers to reflect on the adoption of human competences for SSM. We believe that organisations should pay greater attention to the identification, creation and development of specific human competences for SSM. This should occur in shared iterative processes within the organisation, itself and within its supply chain, as well as in the search for joint ventures with universities and other partners.

From there, some people-management tools and practices could be revisited to integrate those competences. We hope to stimulate the interest of organisations that wish to act sustainably, thereby to adjust their processes so as to attract and select people with profiles that are consistent with sustainability and also to help professionals develop the competences they may either lack or be low in, in terms of their performance. According to Pfeffer (2010), the benefits of attracting and retaining employees who are a “sustainable fit” can overcome the limitations in the internal environment, and this can also contribute to building a reputation that could attract additional consumer demand.

We recommend establishing delivery standards for human competences for SSM, through various work levels according to the organisation’s structure. Periodical competence assessments are recommended for an organisation’s regular internal reviews, depending on how it adopts specific human competences for SSM. Added to this, we suggest self-reflection and critical discussions among peers. Associations between individuals, groups and organisations in the development of sustainability can and should be made, in terms of measuring strategic results and identifying gaps or areas that need to be reinforced, including deliveries, competences and resources.

Finally, organisational and performance indicators can and should support this movement. The ideas built herein incentivise the creation of robust achievement standards for monitoring and evaluating sustainability practices. Therefore, we also contribute to organisations by presenting an opportunity to enter into discourses and practices concerning sustainability, in more objective ways. Strategically, managing sustainability through the development of competences means that sustainability will no longer be present only in organisational speeches, but it will also become “potential action”. We talk about potential action because competences are mechanisms that provide the conditions required to put the objectives of sustainability into practice. For it to be in action, sustainability needs to be in line with the organisation’s proposed strategies and the reality of its experience; otherwise, we run the risk of reinforcing stativity or even sophistry. Without competences and the respective alignment with organisational strategy, the odds are great that we will continue to hear empty speeches as greenwashing practices, and philanthropy that is disguised as social responsibility.

8. Limitations and future studies

As a limitation of the study, we recognise that it is possible that even a planned, encouraged and facilitated strategic alignment would not guarantee the development of human competences for SSM. Other coexisting elements within the organisation, often referring to organisational and human behaviours, such as power disputes and individual interests, can influence the dynamics of the expected interrelationships and, consequently, prevent or hinder the strategic management of the factors of sustainability in accordance to what has been proposed. Furthermore, we assume our study has limitations regarding the inherent complexity of the theme in terms of perspective; this could be the result of what could have caused some misapprehension during the interviews. The profile of the units of analysis, of the different sectors and their sizes, and the fact that both companies were “good examples” of sustainability and competences-management practices, may also have had some influence on the analyses and the results obtained. The research on competences and

sustainability management is recent, and the soundness required must be achieved over time, with progress in both theoretical and empirical studies.

Further, while claims of sustainability have taken on global proportions, very little is known about its actual practice in developing countries compared to the developed ones (Jamali and Mirshak, 2007). According to Cruz and Boehe (2010), emerging economies face distinct kinds of social and environmental challenges due to transition problems (Eastern Europe), extreme growth rates (China) or high inequality (Brazil and India). Therefore, there is value in exploring sustainability and other associated issues in a developing country context (Jamali and Mirshak, 2007). In Brazil, in particular, the context of this study, the “sustainability phenomenon”, can be observed in different spheres. For example, in the organisational field, companies are showing growing interest in disclosing their performance in environmental, social and economic dimensions (Melé *et al.*, 2006). There are also pressures coming from consumer behaviour and the inherent expectation of seeing sustainability practices coming from organisations (Delai and Takahashi, 2013).

Finally, we suggest that a broad empirical study could map human competences for SSM in companies in both Brazil and in emerging economies, through surveys that are based on the conceptual proposal presented in this paper. The aim, here, would be to better understand the differences from the point of view of traditional competences. From there, we recommend studies to structure and validate with experts a proposal to integrate human competences for SSM into a management model. Opportunities and obstacles for the operationalisation of human competences could also be investigated. Finally, we recommend in-depth research to expand our understanding of how to integrate human and organisational competences and strategies, based on qualitative data from interviews, in loco observations and quantitative data from document analysis.

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Appendix 1

| Ref. | Documents – Zeta Petrochemical | Ref. | Documents – Gama Bank |
|--------|--|--------|--|
| DocZ-1 | Sustainability Annual Report 2014 | DocG-1 | Sustainability Annual Report 2014 |
| DocZ-2 | Conduct Code Suppliers 2015 | DocG-2 | Integrated Report 2014 |
| DocZ-3 | Meeting with Investors Jan 2016 | DocG-3 | Sustainability Policy and Socio-environmental Responsibility |
| DocZ-4 | Sustainable Development in Zeta Petrochemical 2015 | DocG-4 | Annual Report Foundation Gama Bank Social 2014 |
| DocZ-5 | Conduct Code Zeta Petrochemical | DocG-5 | Institutional Presentation 4T15 |
| DocZ-6 | Recti-Ratification of Strategy in Sustainable Development 2013 | DocG-6 | Ethics Code Gama Bank |
| DocZ-7 | Competences of Culture Zeta Petrochemical | DocG-7 | Sustainability Strategy Presentation |
| DocZ-8 | Leadership Stages Zeta Petrochemical | DocG-8 | Corporate Education – Sustainability and Financial Education |

Table AI.
Documents collected
from the units
of analysis

| Ref. | Interviewees – Zeta Petrochemical | Ref. | Interviewees – Gama Bank |
|--------|--|--------|---|
| Z-RT | Renewable Technologies Director | G-HR | Human Resources Manager – Training and Development |
| Z-ODHR | Organisational Development and HR Director | Z-FINC | Finance Coordinator |
| Z-IP | Investments Portfolio Manager | Z-FINA | Finance Senior Analyst – Integrated Reporting |
| Z-MKT | Marketing Manager – Business Unit | G-IR | Investor Relations Manager |
| Z-COMP | Global Head of Compliance, Internal Audit, Risk Management and Ethics Line | G-IGR | Manager of Institutional and Government Relations |
| Z-CS | Corporate Strategy Director | G-SMC | Social Mobilisation Coordinator of Gama Social Foundation |
| Z-SDL | Sustainable Development and Climate Change Leader | G-SEL | Lawyer – Social and Environmental Legal |
| Z-SDD | Sustainable Development Director | G-COMP | Compliance Manager |
| Z-CSR | Corporate Social Responsibility Leader | G-SUST | Sustainability Manager |
| Z-IR | Investor Relations Director | | |

Table AII.
Interviewees from the units of analysis

Appendix 3

| Elements | Authors | Definition |
|------------------------|---------------------------|--|
| Strategy | Steiner and Miner (1977) | The strategy is the forging of company missions, setting objectives for the organisation in light of external and internal forces, formulating specific policies and strategies to achieve objectives, and ensuring their proper implementation so that the basic purposes and objectives of the organisation will be achieved |
| | Mintzberg (1979) | The strategy is a mediating force between the organisation and its environment: consistent patterns of streams of organisational decisions to deal with the environment |
| | Hitt <i>et al.</i> (2005) | A strategy is an integrated and coordinated set of commitments and actions designed to exploit core competencies and gain a competitive advantage |
| Mission | Hill and Jones (2001) | A company's mission describes what the company does |
| | Hitt <i>et al.</i> (2005) | A mission specifies the business or businesses in which the firm intends to compete and the customers it intends to serve |
| Vision | Hill and Jones (2001) | The vision of a company lays out some desired future state; it articulates, often in bold terms, what the company would like to achieve |
| Values | Hill and Jones (2001) | The values of a company state how managers and employees should conduct themselves, how they should do business, and what kind of organisation they should build to help a company achieve its mission |
| Strategic Plan | Mintzberg (1979) | A formalised procedure to produce an articulated result, in the form of an integrated system of decisions. What to us captures the notion of planning above all – most clearly distinguishes its literature and differentiates its practice from other processes – is its emphasis on formalisation, the systemisation of the phenomenon to which planning is meant to apply |
| Strategic Objectives | Williams (2001) | The strategic objective is a clear, concise statement of the needed result of the strategic change effort ahead |
| Strategic Intent | Hamel and Prahalad (1989) | Strategic intent is the leveraging of a firm's resources, capabilities and core competencies to accomplish the firm's goals in the competitive environment |
| Stakeholders | Freeman (1984) | Any group or individual who can affect or is affected by the achievements of the organisation's objectives |
| | Hitt <i>et al.</i> (2005) | Stakeholders are the individuals and groups who can affect the firm's vision and mission, are affected by the strategic outcomes the firm achieves through its operations, and who have enforceable claims on the firm's performance |
| Value Chain | Porter (1980) | A set of activities that a firm operating in a specific industry performs in order to deliver a valuable product or service for the market |
| Environmental Analysis | Hitt <i>et al.</i> (2005) | The external environmental analysis process has four steps: scanning, monitoring, forecasting and assessing. Through environmental analyses, the firm identifies opportunities and threats |

Source: Hourneaux Junior *et al.* (2017)

Table AIII.
Definitions for
strategy category

Table AIV.
Co-occurrence matrix
for competences and
organisational
strategy

| Competences | Environmental analysis | Value chain | Strategic intent | Organisational strategy | Organisational strategy | | | Stakeholders | Organisation's values | Competitive advantage | Total |
|--------------------------------------|------------------------|-------------|------------------|-------------------------|-------------------------|---------------------|----------------|--------------|-----------------------|-----------------------|-------|
| | | | | | Strategic objectives | Tactical objectives | Strategic plan | | | | |
| Human competences | | | | | | | | | | | |
| Human competences | 0 | 0 | 0 | 2 | 11 | 4 | 0 | 1 | 1 | 1 | 20 |
| Experience | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| Personal values | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| Human competences for sustainability | | | | | | | | | | | |
| Human competences for sustainability | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Team development on sustainability | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Eco-efficient management | 3 | 2 | 1 | 5 | 4 | 2 | 3 | 4 | 0 | 3 | 27 |
| Socio-environmental management | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 8 | 0 | 0 | 10 |
| Socio-economic management | 0 | 3 | 0 | 0 | 4 | 4 | 0 | 3 | 0 | 1 | 15 |
| Environmental innovation | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 3 |
| Economic innovation | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 4 |
| Social innovation | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 3 |

(continued)

| | Environmental analysis | | Value chain | | Strategic intent | | Organisational strategy | | Organisational strategy | | | Stakeholders | Organisation's values | Competitive advantage | Total |
|--------------------------------|------------------------|-------|-------------|----------|------------------|---------------------|-------------------------|----------------------|-------------------------|---|---|--------------|-----------------------|-----------------------|-------|
| | analysis | chain | intent | strategy | objectives | Tactical objectives | Strategic plan | Strategic objectives | | | | | | | |
| Competences management | | | | | | | | | | | | | | | |
| Performance evaluation | 0 | 0 | 0 | 4 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 8 |
| Leader development | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 6 |
| People development | 0 | 0 | 0 | 6 | 0 | 1 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 9 |
| Delivery of human competence | 0 | 0 | 1 | 4 | 14 | 11 | 2 | 5 | 5 | 0 | 1 | 0 | 0 | 1 | 38 |
| Personal development programme | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Performance payment | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 4 |
| Total | 3 | 6 | 2 | 31 | 34 | 29 | 7 | 33 | 33 | 7 | 7 | 6 | 6 | 6 | |

Sustainable strategic management

Table AIV.

Table AV.
Co-occurrence matrix
for competences and
sustainability
management

| Competences | Sustainability area | Sustainability management | | | | | Total |
|--------------------------------------|---------------------|---------------------------|--------------------------------|-----------------------------|--------------------------------------|-----------------------------|-------|
| | | Sustainability strategy | Sustainability via competences | Sustainability professional | Area association with sustainability | Sustainability and strategy | |
| Human competences | | | | | | | |
| Team knowledge | 2 | 0 | 0 | 3 | 0 | 0 | 5 |
| Leader knowledge | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Experience | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| Delivery of human competence | 0 | 6 | 0 | 0 | 0 | 0 | 6 |
| Competences management | | | | | | | |
| Performance evaluation | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Personal development programme | 1 | 0 | 1 | 0 | 0 | 0 | 2 |
| Leader development | 2 | 1 | 0 | 0 | 0 | 1 | 4 |
| People development | 1 | 0 | 0 | 0 | 2 | 0 | 3 |
| Human competences for sustainability | | | | | | | |
| Human competences for sustainability | 1 | 0 | 0 | 0 | 1 | 0 | 2 |
| Team development on sustainability | 8 | 1 | 1 | 1 | 2 | 3 | 16 |
| Leader development on sustainability | 7 | 2 | 0 | 0 | 1 | 3 | 13 |
| Eco-efficient management | 3 | 1 | 0 | 0 | 4 | 4 | 12 |
| Socio-environmental management | 0 | 5 | 0 | 0 | 2 | 1 | 8 |
| Socio-economic management | 1 | 0 | 0 | 0 | 2 | 1 | 3 |
| Economic innovation | 1 | 0 | 0 | 0 | 0 | 1 | 2 |
| Total | 29 | 16 | 2 | 5 | 14 | 14 | |